Essex County Council

# Cabinet

| 10:15 | Tuesday, 12 September 2023 | Council Chamber County Hall, Chelmsford, CM1 1QH |
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**For information about the meeting please ask for:**
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| * | **Meeting Arrangements**<br><br>In accordance with paragraph 14.7 of the Council's Constitution, the Leader has agreed that all members may take part in the meeting and vote if they are present via Zoom. The link to the Zoom meeting has been sent to members separately. Members of the public may watch on YouTube and there will of course be the normal public access to the meeting room in County Hall, from which any member of the public may observe the meeting and make representations. | |
| 1 | **Membership, apologies, substitutions and declarations of interest** | 5 - 5 |
| 2 | **Minutes: 18 July 2023** | 6 - 20 |

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| **3** | **Questions from the public**<br><br>A period of up to 15 minutes will be allowed for members of the public to ask questions or make representations on any item on the agenda for this meeting. No statement or question shall be longer than three minutes and speakers will be timed.<br><br>On arrival, and before the start of the meeting, please register with the Democratic Services Officer. | |
| **4** | **Procurement of block contract for residential places (FP/146/06/23)**<br><br>The Equalities Comprehensive Impact Assessment (ECIA) is available via this link – please scroll to bottom of page | **21 - 32** |
| **5** | **Block contracts for mainstream residential placements for children and young people (FP/155/06/23)**<br><br>The Equalities Comprehensive Impact Assessment (ECIA) is available via this link – please scroll to bottom of page | **33 - 44** |
| **6** | **Launch of public consultation on draft Waste Strategy for Essex (FP/194/08/23)**<br><br>The Equalities Comprehensive Impact Assessment (ECIA) is available via this link – please scroll to bottom of page | **45 - 306** |
| **7** | **Decisions taken by or in consultation with Cabinet Members (FP/181/07/23)** | **307 - 309** |
| **8** | **Date of next meeting**<br><br>To note that the next meeting of the Cabinet will take place at 10.15am on Tuesday 10 October 2023 at County Hall, Chelmsford, CM1 1QH. | |

**9 Urgent Business**

To consider any matter which in the opinion of the Chairman should be considered in public by reason of special circumstances (to be specified) as a matter of urgency.

## Exempt Items

(During consideration of these items the meeting is not likely to be open to the press and public)

The following items of business have not been published on the grounds that they involve the likely disclosure of exempt information falling within Part I of Schedule 12A of the Local Government Act 1972. Members are asked to consider whether or not the press and public should be excluded during the consideration of these items. If so it will be necessary for the meeting to pass a formal resolution:

**That the press and public are excluded from the meeting during the consideration of the remaining items of business on the grounds that they involve the likely disclosure of exempt information falling within Schedule 12A to the Local Government Act 1972, the specific paragraph(s) of Schedule 12A engaged being set out in the report or appendix relating to that item of business.**

**10 Urgent Exempt Business**

To consider in private any other matter which in the opinion of the Chairman should be considered by reason of special circumstances (to be specified) as a matter of urgency.

**Agenda item 1**

**Committee:** Cabinet

**Enquiries to:** Emma Tombs, Democratic Services Manager
Emma.tombs@essex.gov.uk

**Membership, Apologies, Substitutions and Declarations of Interest**

**Recommendations:**

To note:

1. Membership as shown below
2. Apologies and substitutions
3. Declarations of interest to be made by Members in accordance with the Members' Code of Conduct

| **Member** | **Portfolio** |
|---|---|
| (Quorum: 3) | |
| Cllr Kevin Bentley | Leader of the Council (Chairman) |
| Cllr Louise McKinlay | Deputy Leader, Levelling Up and the Economy (Vice-Chairman) |
| Cllr Tony Ball | Education Excellence, Lifelong Learning and Employability |
| Cllr Tom Cunningham | Planning a Growing Economy |
| Cllr Mark Durham | The Arts, Heritage and Culture |
| Cllr Beverley Egan | Children's Services and Early Years |
| Cllr Peter Schwier | Climate Czar, Environment, Waste Reduction and Recycling |
| Cllr Lee Scott | Highways Maintenance and Sustainable Transport |
| Cllr John Spence | Health, Adult Social Care and ICS Integration |
| Cllr Chris Whitbread | The Chancellor of Essex |

**Minutes of a meeting of the Cabinet which took place in the Council Chamber at County Hall, Chelmsford at 10.15am on Tuesday 18 July 2023**

**Present:**

| Councillor | Cabinet Member Responsibility |
|---|---|
| Cllr Tony Ball | Education Excellence, Lifelong Learning and Employability (Chairman) |
| Cllr Tom Cunningham | Planning a Growing Economy |
| Cllr Mark Durham | The Arts, Heritage and Culture |
| Cllr Beverley Egan | Children's Services and Early Years |
| Cllr Peter Schwier | Climate Czar, Environment, Waste Reduction and Recycling |
| Cllr Lee Scott | Highways Maintenance and Sustainable Transport |
| Cllr John Spence | Health, Adult Social Care and ICS Integration |
| Cllr Chris Whitbread | The Chancellor of Essex |

Cllrs Susan Barker, Jane Fleming, Ivan Henderson, Mike Mackrory, Bob Massey, Mark Platt, Lee Scordis and Laureen Shaw were also present. Cllr David King attended remotely via Zoom.

**Emma Tombs, Democratic Services Manager, in the Chair**

**1. Election of Chairman for the Meeting**

In the absence of the Chairman and Vice-Chairman, and upon the motion of Cllr Lee Scott, seconded by Cllr Tom Cunningham and duly carried, it was:

**Resolved**

To elect Cllr Tony Ball, Cabinet Member for Education Excellence, Lifelong Learning and Employability as Chairman for the meeting.

**Cllr Tony Ball, Cabinet Member for Education Excellence, Lifelong Learning and Employability, in the Chair**

**2. Membership, Apologies, Substitutions and Declarations of Interest**

The report of Membership, Apologies and Declarations was received, and the following were noted:

1. Changes to Cabinet membership and portfolios had taken place since the last meeting and the current position was as set out in the report.

2. Apologies for absence had been received from Cllrs Kevin Bentley, Leader of the Council and Louise McKinlay, Deputy Leader and Cabinet Member for Levelling up and the Economy. The Chief Executive, Gavin Jones, had

also sent apologies and was being represented at the meeting by Nicole Wood, Executive Director for Corporate Services.

3. Cllr Mark Durham declared an interest in agenda items 7 and 8 (Care Market New Funding Allocations and Better Care Fund Plan 2023-25) in that he is a former director of Essex Partnership University Trust (EPUT). Minutes 9 and 10 below refer)

## 3. Minutes: 20 June 2023

The Minutes of the previous meeting, held on 20 June 2023, were approved as a correct record and signed by the Chairman.

## 4. Variation in the Order of Business

Upon the proposal of the Chairman, it was agreed to vary the order of the agenda to enable Agenda Item 12 (Option Agreement for Land at Warren and Parker's Farm, Little Canfield) to be considered as the next but one item of business.

## 5. Questions from the public

Questions were asked as follows in relation to Agenda Item 12 (Option Agreement for Land at Warren and Parker's Farm, Little Canfield):

1. Cllr Patricia Barber, Takeley Parish Council, attending via Zoom

   Cllr Barber presented the Parish Council's views regarding the proposed option agreement, requesting the removal from it of the land identified as Parcel 3 (as shown on the Plan appended to report 476/08/22) and the subsequent transfer of this land to the Parish Council. The Council's intention would be to use the land for the benefit of the community through retention in agricultural use of the land surrounding the working farmstead and creation of a community woodland.

   It was agreed that the Parish Council's detailed statement would be circulated with these minutes.

2. Cllr Susan Barker, Essex County Councillor for Dunmow electoral division

   Cllr Barker supported the Parish Council's statement, explaining that the rural location of Parcel 3 distinguished it from Parcels 1 and 2 which were near to existing housing developments. Takeley had accommodated high levels of housing development in recent years, and this was continuing at an unsustainable rate, particularly given the lack of infrastructure.

Cllr Barker requested that consideration of the proposed option agreement be deferred to allow Councillor Whitbread, as Cabinet Member, time to consider the issues set out in the Parish Council's statement.

**Response by Cllr Chris Whitbread, Chancellor of Essex**

Cllr Whitbread thanked Cllrs Barber and Barker for their questions. He stated that the report before the Cabinet reflected the outcome of discussions and a site visit during which he had met with parish councillors and other interested parties. He believed that the proposal being presented was the best available option and would allow both local parish councils to participate in production of a masterplan setting out the different land uses over the entire site.

For these reasons, and given that the report had been postponed previously, Cllr Whitbread did not support the request for deferral.

## 6. Option Agreement for Land at Warren and Parker's Farm, Little Canfield (FP/476/08/22)

This report was considered in conjunction with a confidential appendix – minute 20 below refers.

Cabinet's approval was sought for the Council to enter into an option agreement with Hill Residential Ltd for the disposal of its interest in the land at Little Canfield outlined red on the plan appended to the report.

The Chancellor of Essex responded to questions by Cllr Mike Mackrory, stating that the sites within the option agreement would be promoted for inclusion within the new Uttlesford Local Plan when the relevant stage of the Plan process was reached.

**Resolved:**

1. Agreed that the Council enter into an option agreement with Hill Residential Ltd for the disposal of its interest in the land at Little Canfield outlined red on the plan at Appendix 1 to report FP/476/08/22.

2. Agreed that the Head of Property is authorised to agree the terms of the option agreement after taking advice from the Council's property advisor and the Monitoring Officer.

## 7. Variation in the Order of Business

Upon the proposal of the Chairman, it was agreed to vary the order of the agenda to enable the following agenda items to be considered as the next items of business:

| Item | Title |
|---|---|
| 6. | Southend, Essex and Thurrock Mental Health Strategy |
| 7. | Care Market New Funding Allocations 2023-24 |
| 8. | Better Care Fund Plan (FP/2023-25 |
| 9. | Recommissioning of Sensory Services |

## 8. Southend, Essex and Thurrock Mental Health Strategy (FP/106/04/23)

The Cabinet received a report seeking endorsement for the draft Southend, Essex and Thurrock Mental Health Strategy, together with the establishment of a Strategy Implementation Group to support and co-ordinate collaborative working across partners to implement the Strategy.

In presenting the report, the Cabinet Member for Health, Adult Social Care and ICS Integration highlighted a minor amendment to the report's recommendations to reflect that the Strategy document had been circulated separately from the agenda pack for the meeting.

The Cabinet Member provided the following information in response to questions by Cllr Mike Mackrory.

- All partners agreed on the importance of collaboration, as indicated in the Strategy, and it would be for them to ensure that this translated into practice. Cllr Spence was content with the level of engagement from partners he had seen to date.

- Approval of the Strategy would be followed by a process to procure and award contracts ensuring that all the identified needs, including those of young people, could be addressed. The long-term aim was to move away from treating illness to a focus on prevention.

**Resolved:**

1. Agreed to adopt the draft Southend, Essex and Thurrock Mental Health Strategy as published with the agenda papers, which has been developed collaboratively with partners and is consistent with the NHS Integrated Care Partnership Strategy and Joint Forward Plans.

2. Agreed that the Council will support the establishment of a Strategy Implementation Group to support and co-ordinate collaborative working across partners to implement the Strategy.

## 9. Care Market New Funding Allocations 2023-24 (FP112/05/23)

Cllr Mark Durham, Cabinet Member for the Arts, Heritage and Culture, declared an interest in this item, minute 2 above refers.

The Cabinet received a report setting out how the Council would deploy further Social Care Grant funding made available by the Government to support the care sector for improving capacity and resilience. This was consistent with the direction set out in the Essex Market Shaping Strategy and Market Sustainability Plans approved by the Cabinet on 21 March 2023.

The Cabinet Member for Adult Social Care, Health and ICS Integration responded as follows to questions by Cllr Ivan Henderson:

- The mechanisms for assessing whether additional funding made available to care providers was reaching the workforce were set out in the report. Cllr Spence would be pleased to provide further detail outside the meeting if required.

- Reliance on spot-purchasing had been reduced, partly for financial reasons but also due to the impact of longer-term relationships on attracting and retaining high-quality providers and staff. The preference was to make greater use of existing framework agreements, although further work was needed to improve their level of attractiveness to care providers.

**Resolved:**

1. Agreed to draw down £6.8m in 2023/24 from the ASC Transformation Reserve to fund a Care Workforce Retention Claims Fund for ECC contracted care providers and agree that it may be spent on claims meeting the criteria set out in paragraphs 3.4-3.6 of report FP/112/05/23).

2. Agreed to draw down £3.8m om 2023/24, and £5.4m from the ASC Transformation Reserve to fund a new Direct Payment guide rate of £15.08 per hour for Personal Assistants and £22.32 per hour for Direct Payments used to purchase support from Domiciliary Care agencies.

3. Agreed to implement the support initiatives in Appendix C to report FP/112/05/23 and to fund this via a drawdown of £1.1m in 2023/24 from the ASC Transformation Reserve.

4. Agreed to undertake an engagement exercise with care providers and operation staff on the content, implementation and potential impacts of an Essex Care Workers Charter, and to develop and test a dependency tool for Older People's IRN (Integrated residential and nursing / care home sector) care home provision to aid in determining when care is considered complex and thus attracting a higher payment under the framework agreement and agree to the drawdown of £245,000 in 2023/24 from the ASC Transformation Reserve to fund this work.

5. Agreed to delegate to the Executive Director for Adult Social Care, in consultation with the Cabinet Member for Health, Adult Social Care and ICS Integration and the Monitoring Officer, approval of any contractual mechanisms required for distribution of these funds.

## 10. Better Care Fund Plan 2023-25 (FP/140/06/23)

Cllr Mark Durham, Cabinet Member for the Arts, Heritage and Culture, declared an interest in this item, minute 2 above refers.

The Cabinet received a report seeking approval for the Better Care Fund Plan for Essex 2023-25.

The Cabinet Member responded as follows to questions by Cllrs Ivan Henderson and David King:

- A response would be published after the meeting regarding numbers of people, having been discharged from hospital too early, were subsequently readmitted.

- Targets which appeared unambitious were often more challenging than they seemed, and in any case, the aim was always for actual performance to exceed the target set.

- While longer-term funding would be welcome, the current emphasis on short-term arrangements was mitigated by sufficient confidence in the system that funding would be provided in some form.

**Resolved:**

1. To agree the Better Care Fund for Essex 2023-25 in the form appended to report FP/140/06/23.

2. Agreed to enter into a new Section 75 agreement with all three Integrated Care Boards (ICBs) in Essex (Mid and South Essex (MSE), Hertfordshire and West Essex (HWE), Suffolk and North East Essex (SNEE)) and simultaneously terminate the current Section 75 county-wide BCF agreements.

3. Agree to authorise the Executive Director for Adult social Care to vary the section 75 agreement to reflect the agreed Plan.

4. Noted that although the plan covers the period to 31 March 2025, it does not include funding or targets after 31 March 2024. It will therefore be necessary for the Cabinet or Cabinet Member to make a decision relating to these in Spring 2024.

## 11. Recommissioning of Sensory Services (FP/143/06/23)

The Cabinet received a report seeking agreement for the new sensory support service to be delivered, as before, by ECL, but also with a greater role for voluntary and community organisations, and with a new, up-to-date focus on addressing the issues of importance to those who will use the service.

In presenting the report, the Cabinet Member for Adult Social Care, Health and ICS Integration referred to an error in the report's second recommendation, which should refer to 30 September 2028 rather than 2029.

Responding to a question by Cllr Mackrory, the Cabinet Member advised that the report concerned the services offered by the Council to those with sensory impairment and did not include those provided by the NHS. The Council's aim was to liaise with the NHS to ensure that the service received by those in need was seamless.

**Resolved:**

1. Agreed to commission a new Sensory Support Service commencing on 1 October 2023 at a total value of £8.7m as detailed in Resolutions 2-6 below.

2. Agreed to earmark £2.5m within the Adults Transformation Reserve to fund part of the £8.7m and to draw down £1.6m to part fund the service over the period to 30 September 2028. The balance of £900,000 to be held within the Adults Transformation Reserve whilst demand is assessed and to be drawn down at the discretion of the commissioners.

3. Agreed to award a contract to ECL for a period of five years commencing on 1 October 2023 for delivery of sensory reablement and rehabilitation and triage elements of the sensory pathway as reference in paragraph 3.9 of report FP/143/06/23.

4. Agreed that the Executive Director, Adult Social Care, is authorised to agree the final terms of the ECL contract including utilising a break clause to enable the termination of the triage elements of this service as referenced in paragraph 3.17 of report FP/143/06/23.

5. Agreed to award six contracts to the Voluntary and Community Sector (VCS) organisations listed in paragraph 3.10 to report FP/143/06/23 for a period of three years commencing on 1 October 2023 to undertake low level sensory provision and provision of an Information, Advice and Guidance Service.

6. Agreed that the Executive Director, Adult Social Care, is authorised to agree the final terms of the contracts with the VCS organisations listed in paragraph 3.10 of report FP/143/06/23.

## 12. Essex Climate Action Plan 2023-2025 (FP/144/06/23)

The Cabinet received a report seeking agreement to a revised Climate Action Plan, updated to bring it into line with the current budgetary position.

The Climate Czar and Cabinet Member for Environment, Waste Reduction and Recycling, assisted by the Cabinet Members for Highways Maintenance and Sustainable Transport and for Education Excellence, Lifelong Learning and Employability, responded as follows to questions by Cllrs Ivan Henderson, Mike Mackrory and Lee Scordis,

- Cllr Schwier encouraged members of the public to support the provision of clear and well-maintained public rights of way by reporting any problems online, thereby contributing to the promotion of walking and cycling.

- In addition to the provision of grants towards the cost of tackling domestic flooding, the issue of Property Flood Resilience (PFR) would in due course be addressed through developments in the planning regime. At present, consideration was being given to promoting the availability of the grants, bearing in mind that reaching the right person was essential, especially in the case of private rented properties where responsibility for flood resilience lay with the landlord.

- An evaluation of recent school building projects was in progress to assess whether they were delivering on their net zero commitments and provision of financial benefits to the schools concerned. The outcome would be communicated in due course.

- Guidance contained within the Council's Tree Management Plan, adopted earlier in 2023, was expected to result in improved survival rates for newly planted trees, with an aim of 90%. Advice would be taken on the desirability of introducing performance measures relating to this issue bearing in the mind the resources required.

- It was agreed to amend the 'Transport' session of the Climate Action Plan to reflect ongoing developments in aviation technology.

- The scheme to provide additional bus shelters was due to progress next month with procurement of the shelters.

Cllr Schwier also undertook to provide written responses on the following:

- the geographical distribution and impact of the grants mentioned in paragraph 3.12 of the report;
- progress regarding the establishment of community energy groups; and
- an overview of the take up of solar panels, including by low-income families.

**Resolved:**

1. Agreed to adopt the revised Climate Action Plan as appended to report FP/144/06/23.

2. Noted that the Plan includes investments by the Council funded from the existing Medium Term Resource Strategy (MTRS).

## 13. Consideration of Annual Governance Statement (FP145/06/23)

The Cabinet received a report which presented the Annual Governance Statement 2022/23 for information. In introducing the report on behalf of the Leader of the Council, the Chancellor of Essex advised that the issues identified in the Statement were either already the subject of extensive consideration or were being addressed as far as possible. He proposed therefore that the recommendation at point 2., below was moved in place of that listed at 2.2 of the agenda report in order to reflect this position.

In presenting the report the Chancellor of Essex highlighted an error in paragraph 3.6, in which the words 'do not' should be inserted between 'ECC' and 'represent'. The paragraph would then read, "With respect to the findings of maladministration, the cases at ECC **do not** represent a disproportionate number compared to other local authorities.".

Responding to a question by Councillor Mackrory, Cllr Whitbread undertook to provide a written response on the existence of data to show how the number of complaints in which the Ombudsman had found fault compared with that in other similar authorities.

**Resolved:**

1. To note the Annual Governance Statement 2022/23, previously considered by the Audit, Governance and Standards Committee.

2. Agreed that matters identified are already being sufficiently addressed.

## 14. 2023/24 Financial Overview as at the First Quarter Stage (FP/035/02/23)

The Cabinet received a report setting out the current forecast financial position of Essex County Council's revenue and capital budgets as at the first quarter stage of the 2023/24 financial year.

Cllr Chris Whitbread, Chancellor of Essex, provided the following information in response to questions by Cllrs David King and Ivan Henderson.

- The ECC-wide staffing review would cover all service areas. Extending the deadline for full delivery of the £5m saving into 2024/25 was an acknowledgement of what could realistically be achieved in the current year.

- In Cllr Whitbread's view, the Council's track record on effective delivery of capital projects demonstrated that care was taken to ensure that the correct resources, including staffing, were in place.

Cllr Mark Durham, Cabinet Member for the Arts, Heritage and Culture, commented that work was in hand to address ongoing challenges in the Youth Service regarding staff recruitment and retention. He expected these issues to be the subject of discussion as part of the scrutiny process.

**Resolved:**

1. To draw down funds from reserves as follows:

   i. **£1.4m** from the Waste Reserve to the Climate Czar, Environment, Waste Reduction and Recycling portfolio relating to project expenditure previously approved in Cabinet Member Actions which have now time lapsed. Further detail can be found in section 5 (section 5.2.iii)

   ii. **£1.2m** from the Essex Climate Change Commission Reserve to the Climate Czar, Environment, Waste Reduction and Recycling portfolio relating **to** project expenditure previously approved in Cabinet Member Actions which have now time lapsed. Further detail can be found in section 5 (section 5.2.iii)

   iii. **£1.2m** from the Adults Investment Reserve to the Health, Adult Social Care and ICS Integration portfolio relating to the Cabinet Member Action **FP**/421/05/22 Health and Care Act 2022 – Adult Social Care Reforms, previously approved, but has now time lapsed (section 5.5.v)

   iv. **£943,000** from the Private Finance Initiatives (PFI) Equalisation Reserves to the Education Excellence, Life Long Learning and Employability **portfolio** in relation to Clacton secondary schools PFI **£452,000,** and Debden Park PFI **£491,000** (section 5.4.ii)

   v. **£792,000** from the Childrens Transformation Reserve to the Children's Services and Early Years portfolio to: offset placement cost pressures, **£500,000**, towards Divisional Based Intervention Team (DBIT) solution focused practice centre of excellence**, £222,000** and an Anti Racism Practitioner, **£70,000** (section 5.1.iii)

   vi. **£695,000** from the Private Finance Initiatives (PFI) Equalisation Reserves to the Highways Maintenance and Sustainable Transport portfolio in relation to the A130 PFI (section 5.6.ii)

   vii. **£362,000** from the Technology and Digitisation Reserve to the Chancellor of Essex RSSS portfolio relating to various Technology projects (section 5.16.ii)

   viii. **£350,000** from the Everyone's Essex Reserve to the Highways Maintenance and Sustainable Transport portfolio, relating to the

Transport Strategy, previously approved by a Cabinet Member Action but now time lapsed (section 5.6.ii)

ix. **£307,000** from the Ambition Fund Reserve. £161,000 to the Levelling Up and the Economy RSSS portfolio relating to the Just About Managing project, and £146,000 to the Education Excellence, Life Long Learning and Employability portfolio relating to the Education Recovery Taskforce, both previously approved in Cabinet Member Actions but have since time lapsed (sections 5.14.ii & 5.4.ii)

x. **£146,000** from the Community Initiatives Fund Reserve to the Levelling Up and the Economy portfolio to fund payments to community groups that have been awarded small grants (section 5.8.ii)

xi. **£25,000** from the Waste Reserve to the Climate Czar, Environment, Waste Reduction and Recycling portfolio towards the Mechanical and Biological Treatment facility (MBT) ongoing legal costs and other associated costs (section 5.2.iii)

xii. **£16,000** from the Waste Reserve to the Climate Czar, Environment, Waste Reduction and Recycling portfolio following the settlement of the rent review at Courtauld Road (section 5.2.iii)

xiii. **£12,000** from the Covid Equalisation Reserve to the Chancellor of Essex RSSS portfolio relating to the disposal of out-of-date PPE (section 5.16.ii)

xiv. **£9,000** from the Emergency Reserve to the Highways Maintenance and Sustainable Transport portfolio towards fuel support for Local Bus operators (section 5.6.ii)

2. To appropriate funds to reserves as follows:

   i. **£1.1m** to the Essex Technology and Digitisation Reserve from the Chancellor of Essex RSSS portfolio for anticipated future costs relating to devices and for use in 2024/25 (section 5.16.ii)

   ii. **£63,000** to the Private Finance Initiatives (PFI) Equalisation Reserve from **the** Education **Excellence**, Lifelong Learning and Employability portfolio in relation to the Building Schools for the Future PFI (section 5.4.ii)

3. To approve the following adjustments:

   i. Vire **£480,000** to the Chancellor of Essex RSSS portfolio from the Health, Adult Social Care and ICS Integration portfolio to realign Business Support budgets for the Countywide Duty Team (sections 5.16.ii and 5.5.v)

ii. Vire **£120,000** within the Highways Maintenance and Sustainable Transport portfolio from Essex Highways Operations to Transport Strategy policy lines to align staffing budgets (section 5.6.ii)

iii. Vire **£57,000** to Climate Czar, Environment, Waste Reduction and Recycling portfolio from the Planning a Growing Economy portfolio to align budget relating to an Executive post between the Economy, Investment and Public Health Management team and the Climate, Environment and Customer Services Management team (section 5.2.iii and 5.9.ii)

iv. Vire **£41,000** to The Arts, Heritage and Culture portfolio from the Chancellor of Essex portfolio to realign staffing budgets to enable proposed restructures in the Libraries Service (section 5.10.ii and 5.11.ii)

v. Vire **£31,000** from the Climate Czar, Environment, Waste Reduction and Recycling portfolio to the Highways Maintenance and Sustainable Transport portfolio to align staffing budgets (sections 5.2.iii & 5.6.ii)

vi. To rename the 'Adults Transformation Reserve' to be called the 'Adults Investment Reserve' with the purpose for the reserve to provide resources to support change capacity to deliver ongoing future sustainability work (section 9.3)

vii. To close the Adults Digital Programme Reserve and transfer the residual balance of **£28,000** to the Adults Investment Reserve (section 9.4)

viii. To transfer the remaining balance of **£1.1m** relating to Cabinet Member Action FP/474/07/22 Purchasing of Voice & Data Network, approved in September 2022 from the Transformation Reserve to the Technology and Digitisation reserve to ensure effective oversight of the funding allocated to the programme in a single reserve (section 9.2)

ix. Transfer **£28,000** from the Property Investment Reserve to the Reserve for Future Capital Funding for the purposes of completing the works on the roof at 45 Clarendon Road in the 2023/24 financial year (section 9.5)

x. Adjust the original approved profile of spend relating to the Cabinet Member Action "FP/263/12/21 Financial Wellbeing Programme and Community Challenge Fund" to **£371,000** in 2023/24 and **£371,000** in 2024/25 in order to reflect the current anticipated spend.

xi. Amend the capital budget as shown in Appendices C (i) and C (ii) which allows for capital slippage of **£36.1m,** with £23.4m slipped into 2024/25, and £12.7m into 2025/26**.** Capital budget additions of **£21.4m,** capital budget reductions of **£1.4m** and advanced works of **£1.7m** from 2024/25. (see section 7.2).

## 15. Colchester A133 Rapid Transit System Section C – Procurement of Construction Works (FP/142/06/23)

This report was considered in conjunction with a confidential appendix – minute 19 below refers.

The Cabinet's agreement was sought to procure a construction contract for Section C of the Colchester Rapid Transport Scheme (St Andrew's Avenue – east of the Greenstead Roundabout) using a call-off contract from the Pagabo Public Sector Framework.

Responding to a question by Cllr Ivan Henderson, the Cabinet Member for Highways Maintenance and Sustainable Transport acknowledged the importance of holding bus operators to account for service quality as a means of encouraging increased use of public transport. The Cabinet Member for Planning a Growing Economy commented on work to plan the bus service across the Garden Community and undertook to arrange a briefing for interested councillors from Tendring District and Essex County Councils. He also agreed to liaise with Cllr Henderson outside the meeting.

Responding to Cllr David King, the Cabinet Member for Planning a Growing Economy committed to progress on funding challenges for the RTS and the A120/A133 link road being achieved during the second half of the current financial year. He also advised that the link road was on schedule for completion as planned, with no noticeable delays reported. Finally, Cllr Cunningham undertook to provide a written reply concerning the removal of acoustic and visual screening along the route of the Northern Approach Road and how the effects could be mitigated.

**Resolved:**

1. Agreed to procure a construction contract for Section C of the Colchester Rapid Transport Scheme (A133 St Andrew's Avenue – east of the Greenstead Roundabout) using a call-off contract from the Pagabo Public Sector Framework.

2. Agreed that the high-level tender evaluation criteria for the mini competition be a 50/50 Price/Quality split with 10% of the quality score assessing Social Value and 5% of the quality score assessing carbon impact to the extent that these elements are consistent with the most economically advantageous tender.

3. Agreed that the Director, Highways and Transportation, in consultation with the Section 151 Officer and the Director, Legal and Assurance, is authorised to award the construction contract for RTS Section C subject to the returned cost aligning to the estimated cost within the Confidential Appendix to report FP/142/06/23 and being within the Capital Programme

budget allocation and funding envelope, and the scheme overall being agreed as deliverable within the parameters set by Homes England.

4. Agreed the profile changes to the Capital Programme for current and future years as outlined in the Confidential Appendix to report FP/142/06/23.

**16. Decisions taken by or in consultation with Cabinet Members (FP/156/06/23)**

The report was noted.

**17. Date of next meeting**

Noted that the next meeting of the Cabinet would take place at 10.15am on Tuesday 12 September 2023 in the **Council Chamber** at County Hall, Chelmsford, CM1 1QH.

**18. Urgent business**

There was no urgent business.

**Exclusion of the Press and Public**

**Resolved:**

That the press and public be excluded from the meeting during consideration of the remaining item of business on the grounds that it involves the likely disclosure of exempt information as specified in paragraph 3 of Schedule 12A of the Local Government Act 1972 – information relating to the financial or business affairs of any particular person).

**19. Confidential Appendix: Colchester A133 Rapid Transit System Section C – Procurement of Construction Works (FP/142/06/23)**

The confidential appendix to report FP/142/06/23, to which minute 11, above, refers, was noted.

**20. Confidential Appendix: Option Agreement for Land at Warren and Parker's Farm, Little Canfield (FP/476/08/22)**

The confidential appendix to report FP/476/08/22, to which minute 12, above, refers, was noted.

## 21. Urgent Exempt Business

There was no urgent exempt business.

There being no further business, the meeting closed at 12.10pm.

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**Chairman**
**12 September 2023**

**Forward Plan reference number:** FP/146/06/23

| | |
|---|---|
| **Report title: Procurement of block contract for residential places** | |
| **Report to:** Cabinet | |
| **Report author:** Councillor Beverley Egan, Cabinet Member for Childrens Services and Early Years | |
| **Date**: 12 September 2023 | **For:** Decision |
| **Enquiries to:** Clare Burrell - Head of Strategic Commissioning, email clare.burrell@essex.gov.uk Tracey Curtis, Commissioning Manager - Tracey.curtis@essex.gov.uk | |
| **County Divisions affected:** All Essex | |

## 1. Everyone's Essex

1.1 Everyone's Essex sets out four strategic aims and 20 commitments to residents with specific commitments to improve outcomes for the most vulnerable and disadvantaged groups including Children in Care, Care Leavers and Children with SEND working with partners across the system.

1.2 The system refers to: organisations both commercial, public sector and voluntary sector; children, young people and their families, schools and communities and other partners who support young people to achieve their full potential which is fundamental to the work of the Council as Corporate Parents.

1.3 In June we were once again recognised by Ofsted, as being outstanding in the care that we provide, however that does not mean that we should be complacent or ignore the challenges that some children and young people with additional support needs face.

1.4 Some of the children and young people in our care have very specific needs which mainstream accommodation cannot meet appropriately. The cost of these placements can be very high as we often have to 'spot' purchase placements because of the very specific needs these children. Because of the high costs for these placements and the unpredictability, one or two more children over the anticipated numbers during the year, causes significant financial impacts which we cannot predict or mitigate as effectively as we would like. Poor availability in the market means that we sometimes have to use places which are not registered with Ofsted.

1.5 This decision aims to reduce the costs for these specialised placements through block booking around young people's specific needs rather than spot purchasing to reduce costs, increase availability and through better partnership work with the market reduce the financial risks to the council.

1.6 This decision supports our Sufficiency Duty and is part of the wider workstreams which will contribute to our revised approach to residential accommodation to better support our young people.

1.7 The recommendations have no adverse impacts on the Council's climate objectives. By securing access to local placements, having enhanced access to local capacity, there will be a reduction travel associated with out of county placements.

## 2 Recommendations

2.1 Agree to undertake a single stage open procurement to secure block contracts of up to nine places in Ofsted registered children's home for those children and young people in unregistered placements, who may not be able reside in multi-occupancy homes.

2.2 Agree that each contract will be for an initial period of one year, but with the possibility of extension for up to three years in total with a potential total cost of £20.6m.

2.3 Agree that each contract will contain a clause entitling the Council and provider to terminate on 6 months' notice clause to reduce the financial liability and risk to the Council and to providers entering the arrangement.

2.4 Agree the Executive Director, Children's, Families and Education, in consultation with the Monitoring Officer, is authorised to

(a) Determine the procurement procedure to be followed including lots, geography and ranges of needs; and
(b) award the contracts to successful bidders.

## 3 Background and Proposal

3.1 The Children Act 1989 requires the Council to secure accommodation for children in their care. Accommodation needs to be appropriate, and it is recognised that placement within 20 miles of home and within local authority boundaries is best if possible and appropriate.

3.2 The Council's Sufficiency Strategy for Children in Care and Care Leavers (2023-2026) sets out how the Council plans to fulfil its duty to meet the needs of the children and young people in our care, and care leavers. The Council has an ambition (aligned to the Co-parenting Strategy) that children and young people who come into care are placed in high-quality provision; access the right homes at the right time and are in placements where they feel safe.

3.3 As part of the reforms to improve the standards in children's social care, the Department for Education changed the law in September 2021 to require Local Authorities to only use residential accommodation which is registered with

Ofsted. 'Unregistered placements' arise when we place someone in residential care which is not registered.

3.4 This change in the law did not take account of the fact that local authorities were not using unregistered placements through choice, but because there was no suitable registered accommodation. The Council has had no choice but to continue to use unregistered placements. The number of young people in such placements has moved between six and thirteen, although the average is nine. The current average length of stay in unregistered placements is 86 days, with a range of 4 – 301 days. We do everything possible to minimise the length of stay.

3.5 Covid had a significant impact on the ability of providers of residential placements to develop their services and respond to the needs of Children in Care. It is clear from Ofsted registered national data that new homes opening within the years 2020-2022 slowed significantly. The cost of living crisis continues to have an impact on providers' ability to secure funding, capital, and open new homes in Essex, where property is more expensive than in some other places.

3.6 Further, the residential workforce capacity has diminished, and it is challenging to recruit well-trained, expert staff to support children who have experienced trauma and neglect.

3.7 As a result, it has become increasingly difficult to tackle the need to grow the number of places for children and young people in mainstream registered placements. Particularly as the needs of some young people mean that it can necessary to have a provision which only accommodates one child or young person, whereas most registered placements take a number of young people.

3.8 Where the Council has no alternative other than to place within an unregistered setting it adopts robust quality assurance processes to ensure the provider is appropriately and safely supporting the child or young person. Regular checks and visits are made.

3.9 Local and stable placements lead to better outcomes for most Children and Young People by building on existing networks and enhancing access to services. Registered placements provide assurance that standards are being met, although the Council believes that its own checks provide similar assurance.

3.10 As of May 2023, there were 315 registered children's home placements in Essex, Southend on Sea and Thurrock. The placements within the Council's boundary are in high demand from neighbouring Councils. The Council does not have any block arrangements meaning that it is competing for places with other local authorities.

3.11 The Council has previously attempted to canvas interest in from providers in meeting the needs of this cohort in registered provision for very small numbers of children who are not able to live in larger groups. This took place in June 2022 but we got a very limited response from the market and concluded that there was little interest at that time.

3.12 Significant work has also been undertaken to improve relations with the local Essex residential market which has gained traction. Notably the well-received Commitment statement (rated 4.5 out of 5 by the market) and a clear, transparent fee uplift process.

3.13 It is clearly sub-optimal to use unregistered placements so in January 2023 a Prior Information Notice (PIN) was again placed to see if what interest was now there from providers to provide solo children's homes, with the aim to reduce the Council's use of unregistered placements.

3.14 This attracted a much more positive response from the market with more than 30 providers expressing an interest, six of whom are local, have Ofsted registered settings already and have a track record of good performance. That's not to say that the others won't be viable.

3.15 Many of the providers who responded to this PIN have accommodation in Essex but have not taken active referrals from the Council into their existing provision (under either the framework or spot arrangements). It appears this is probably due to the Council not offering a guaranteed term, making it difficult to justify investing in new provision, given that placements for this cohort are likely to have no more than two places. The creation of places requires acquiring premises, making them fit for use, recruiting, and training staff and securing an Ofsted registration. This is a significant undertaking when the Council provides is no guarantee of use.

3.16 In addition, Officers have undertaken significant market engagement work with the local providers to increase their willingness to work with the Council.

3.17 Following this engagement Officers are now confident that a different approach, output specifications and block contracts, will result in a positive market response. The purpose of this report is to secure agreement to capitalise on this promptly.

**Proposed new approach.**

3.18 It is proposed to procure up to nine block bookings of places, initially of a year, with the possibility of extension for a further two years, with the Council and provider being able to terminate on six months' notice. This reduces the financial liability and risk to the Council and to providers entering the arrangement. Giving providers more financial security means that they are more likely to be able to justify the investment. They also have more autonomy and freedom on how to best meet the needs of children and young people.

3.19 We are also reminding the market of our recently launched 'Commitment statement' and the implementation of care cubed – a consistent, transparent approach to fee uplift requests.

3.20 We are also intending to be more flexible with the market. Engagement with the residential sector has established that providers wish to have full autonomy over their own services whereas the Council has previously sought to impose a rigid service specification.

3.21 It is proposed to support a localised agenda, preferring relationship and partnership approaches. This commissioning would be at a child specific level as opposed the usual cohort approach, using output specifications.

3.22 An output specification steps back from the detail of how the Council expects a supplier to achieve our goals and provides them instead with what the output is expected to be, leaving the provider to propose how it will be delivered. This gives providers the freedom to develop the best approach to the specified result for the young person. Output specifications do not need to be any less informative or detailed, they simply take a different approach.

3.23 Output specifications are individually focused and are a much more innovative approach. Providers will also be basing their proposed package of care on a specific child, and therefore it will likely be a better match for their individual needs.

3.24 The evaluation criteria will be 70% price and 30% quality. Providers will be required to meet a robust service specification and submit method statements to enable us to evaluate the quality weighting effectively.

3.25 Officers would look to mobilise a residential experienced care leaver panel to support the evaluation process to ensure services are contracted with are that which children and young people endorse.

3.26 This proposal is complementary to the decisions for mainstream residential placements which are set out elsewhere on the Cabinet agenda.

3.27 Officers anticipate this approach will reduce the Council's use of unregistered placements and we may eventually, considering the developments under the wider long-term strategy, avoid the need to regularly use short term placements. That said, it is unlikely that we will ever be able to entirely rule out using unregistered placements

3.28 The need for residential care can arise quickly. Therefore, it is necessary for the Council to have direct access to a range of reliable and effective residential care options to deliver safe, local, registered placements for children and young people. Providers report hundreds of referrals per vacancy. This report proposes we block purchase beds from a range of providers. A block bed can only be occupied by someone referred by the Council, which guarantees its availability for an Essex child in need.

3.29 Each contract will be awarded for a duration of one year with the possibility of extension for up to a further two years in total. Provision will be made in the contract to allow for a young person, placed near the end of the contract, to stay beyond the duration of the contract if appropriate and in accordance with their care plan.

3.30 We will aim to have places in the geographical area of current unregistered placements, representing a spread of beds across Essex. As the unregistered

cohort changes daily, this would be instigated upon authorisation with social care determining the specifics.

3.31 Our experience is not dissimilar to that of other local authorities. Local Authorities are exploring a mixed economy of inhouse services and purchased services via block arrangements or partnerships. Suffolk, Hertfordshire, Norfolk, Oxfordshire and West Sussex have each moved to block purchased placements to some extent.

**Risk**

3.32 Block beds result in a financial liability as the Council is responsible for paying for beds even if vacant. This can be mitigated against operationally by planning early, having active early vacancy discussions, and supporting high occupancy levels as well as seeking to ensure that provision is flexible enough to meet a range of needs.

3.33 Whilst increasing the use of block beds is a financial liability, it also gives more financial certainty as the cost is known at the point of entering the contract with the provider. The cost of spot purchasing unregistered placements, as we are currently, is difficult to accurately forecast and is predicated to increase.

3.34 To further mitigate this risk the Council's placement team will operate under a service level agreement (SLA) with external providers to ensure best use of places bought under the block contract. This will include performance indicators such as the placements team referral timescales and the providers assessments timescales.

3.35 In addition, the Council will ensure that the placements team is trained, supported and managed effectively to make the best use of the placements and there will be an identified liaison worker to manage all block placements.

3.36 This approach reduces the risk of ECC not meeting its Sufficiency Duty, by moving children and young people from unregistered to registered placements and keeping them in Essex.

**Size of block**

3.37 The Council's average number of non-Ofsted registered placements has risen since 2021 and is on average nine young people at any one time. The average length of stay in unregistered placements is 86 days. It is proposed that the optimum size of the block is nine. Officers would recommend awarding to less providers if there were insufficient providers who met the evaluation criteria.

3.38 Providers in this instance will need to be able to demonstrate that they can take young people from the start of the contract.

3.39 Once providers have been secured, they will be expected to work with social care under a collaborative arrangement whereby if a place becomes available due to the successful move on of a children or young person they will cooperate to

decide between them who is best placed to take the next child or young person. We will need to ensure that as far as possible all places are full.

**Longer term strategy**

3.40 The Council is intending to create a Dynamic Purchasing System which will replace the current framework.

3.41 By 2025 it is anticipated that the Council will have started to operate its own in-house provision. It is anticipated that the need for the block contracts of this nature will reduce as we will have better ways of meeting the needs of young people who are currently placed in unregistered placements.

3.42 The Council intends to work with the voluntary community sector with the intention of developing a strategic partnership to increase the amount of provision available in Essex.

## 4 Links to our Strategic Ambitions

4.1 This report links to the following aims in the Essex Vision

- Provide an equal foundation for every child

4.2 Approving the recommendations in this report will have the following impact on the Council's ambition to be net carbon neutral by 2030 by further reducing the number of out of county placements and the associated travel by visiting social work teams.

4.3 This report links to the following strategic priorities in the emerging Organisational Strategy 'Everyone's Essex':

- Health wellbeing and independence for all ages
- A good place for children and families to grow

## 5 Options

Current risks around sufficiency, costs, a reduction in providers engaging with procurement and current capacity within the market have been considered for all options, arriving at the recommended option.

| **Option 1 (Recommended) – To run a full procurement exercise to acquire providers who can support 1 or more of our current unregistered cohort. Directly moving a Child or Young Person out of an unregistered placement, into a registered placement.** |
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| This option is recommended after extensive consultation with this sector and other placing Local Authorities. Officers have considered this directly in response to the |

unprecedented evidenced market response to the PIN earlier this year. This option has been recommended by the Function Leadership Team.

The intention would be to not only procure these services but create a partnership amongst those providers who commit to support to improve the unregistered position the Council is in. Officers would consider the benefits of creating a similar partnership / group for young people who have been experience of unregistered settings to generate a peer support network.

An output specification methodology would be used to allow experienced providers to detail how they can best meet the needs of a child as opposed to a placing local authority mandating particular of when, how, how much and how often. This will generate several different models, responses and services which can better meet the needs of our Children and Young People as opposed to the traditional one response which would be as per a mandated service specification.

**Benefits**

- Providers have indicated that they wish to work with The Council in this way.
- Demonstrates the Council is being proactive and responsive to improving the unregistered position in line with the Everyone's Essex intentions.
- Can mobilise before February 2024 (Option 2) to move young people from unregistered placements in to registered placements.
- Increases the number of local residential placements and formalises access to those placements.
- Supports The Council's Sufficiency Duty.
- Provides better stability and safeguarding (Ofsted compliant) for young people and enables KPIs to be used to monitor outcomes.
- Reduces risk of The Council being prosecuted.
- Creates a partnership with Providers to support sufficiency and positive working relationships.
- Output specification gives Providers flexibility over how they meet the needs of young people.
- Formalises existing unregistered spend – budget planning.
- Short contracts, and a 6-month break clause, avoid over committing The Council.
- The Output specification method will be lean to incite a market response and competition
-

**Disadvantages**

- Commits The Council to pay for 'vacancies'- this can be mitigated against with considered move on planning, and the placement team working closely with the Provider. Practice Guidance, the contract and KPIs will also support this.
- Whilst increasing the use of block beds is a financial commitment, it also provides more financial certainty as the cost is known at the point of entering the contract with the provider. The cost of spot purchasing unregistered placements, as we are currently, is difficult to accurately forecast and is predicted to increase. This cost is largely unbudgeted and was £5.3m in 2022/23.

| |
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| - Costs have been estimated, based on other comparable, recent tenders to provide a good indication of the contract values. We will have certainly once the tender takes place. To mitigate against this 'cost' is 70% of the evaluation criteria. |

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| **Option 2 (Not Recommended) – Do nothing and wait for the conclusion of the framework review ('Alternative to the Framework' cabinet paper). The replacement is due to be launched by February 2024.** |
| This option is not recommended owing to the unsatisfactory position of unregistered placements currently – the framework is not due to be replaced until February 2024. |
| **Benefits:**<br>- Does not commit The Council to further budgeted spend on registered placements until at least February 2024, but the existing, unbudgeted, spend on unregistered placements will almost certainly continue. £5.3m in 2022/23. |
| **Disadvantages:**<br>- It removes the autonomy and innovation possible in responses from the procurement activity proposed here from a provider perspective under the Output approach which is unique to the proposal under the 'response to the PIN' and not intended under 'the alternative to the framework blocks.'<br>- The traditional block is better suited to group care not for unregistered or solo placements.<br>- Does not support with moving young people from unregistered placements until February 2024 at the earliest if at all.<br>- Providers are beginning to be prosecuted for providing unregistered placements – the availability of unregistered provision may dimmish over time.<br>- This is not the preferred option of the Functional Leadership Team. |

## 6 Issues for consideration

### 6.1 Financial implications

6.1.1 The recommended option is to run a procurement exercise in order to identify providers for placements for young people currently in unregistered provision, which has been unlawful since September 2021. There were nine young people in unregistered provision at as 31st July 2023, at an average weekly cost of £11,500. In 2022/23 the Council spent £5.3m on unregistered placements at an average of £14,450 per week.

6.1.2 The exact full volume and cost will not be known until the procurement exercise is run. However, other recent tender exercises provide a good indication of the anticipated costs. For example, a solo placement at Roach Vale (owned by the Council) resulted in a weekly cost of £13,866 per week. A solo placement at River Lodge (owned by a private provider) resulted in a weekly cost of £14,088 per

week. We would expect provider costs to be within this region, although they will vary according to the needs of the individual young people. 70% of the evaluation criteria will be attributed to 'cost' to ensure value for money.

6.1.3 The financial estimate of £20.6m (£3.285m for the remaining six months of 2023/24, or £6.6m per annum at 2023/24 prices) is based on an average cost of **£14,000** per week per placement, on the assumption that they will be solo placements. Expected inflation has been added into future years, and the table below shows the potential commitment over the Medium-Term Resource Strategy (MTRS) period.

6.1.4 The budget for mainstream residential placements in the MTRS is shown below. It is expected that any contracts with providers will be supported through this budget in the first instance.

6.1.5 In 2022/23, £5.3m was spent on unregistered placements. Although the placement of young people in unregistered provision is unlawful, there was an element of the residual placement budget aligned to this where there was no suitable alternative. Alongside the mainstream residential outturn, the final position was a £20.9m spend, which was a £6.0m overspend against the £14.9m budget. The draft budget position in future years is also shown below, although some of this funding has already been assigned to other workstreams, notably the Solo Properties.

Roach Vale, Woodlands and New Farm Road are expected to provide six mainstream residential placements between them. The framework alternative is also based on block bookings, and there is a separate decision paper on this agenda setting out that proposal.

| Cost centre | 2023/24 Budget £000s | 2024/25 Draft Budget £000s | 2025/26 Draft Budget £000s | 2026/27 Draft Budget £000s |
|---|---|---|---|---|
| Mainstream Residential North | 4,646 | 4,614 | 4,415 | 4,200 |
| Mainstream Residential Mid | 2,632 | 2,614 | 2,501 | 2,379 |
| Mainstream Residential West | 3,266 | 3,244 | 3,104 | 2,952 |
| Mainstream Residential South | 4,780 | 4,747 | 4,542 | 4,321 |
| **Total Mainstream Residential** | **15,323** | **15,219** | **14,562** | **13,852** |
| Unregistered budget | 1,280 | 1,280 | 1,280 | 1,280 |
| **Total budget** | **16,603** | **16,499** | **15,842** | **15,132** |
| Roach Vale (approved) | (422) | (723) | (723) | (723) |
| Woodlands (in governance) | (800) | (800) | (800) | (800) |
| New Farm Road (at Design Authority) | 0 | (1,000) | (1,500) | (1,500) |
| **Residential places for young people coming into care (block bookings)** | **(3,285)** | **(6,754)** | **(6,956)** | **(3,582)** |
| Block contracts for mainstream residential placements (block bookings) | (1,399) | (2,877) | (2,963) | (4,578) |
| **Remaining unallocated budget** | **10,698** | **4,346** | **2,900** | **3,949** |

6.1.6 Budgets will continue to be monitored closely for early identification of financial risks. The sufficiency and residential strategies will deliver savings over time by reducing the need for the costliest placements. We will continue to improve operational placement practices and innovate in procurement processes that aim to secure best value when making placements. We continue to strengthen our early help systems to prevent young people coming into care in the first place. There are of course unpredictable pressures, particularly in respect of separated migrant children, but we will continue anticipate and respond to these as they arise.

6.1.7 Option 2 is not recommended and would continue the current position whereby some young people are placed in unregistered accommodation due to the difficulties in sourcing placements. In 2022/23, £5.3m was spent on unregistered placements. The majority of this spend was not budgeted for and contributed to the in-year placement overspend.

6.2 **Legal implications**

6.2.1 Section 22G of the Children Act 1989 places the council under a general duty to secure, so far as reasonably practicable, that it is able to place children we look after in accommodation in Essex which meets their needs, so far as is consistent with their welfare.

6.2.2 In taking steps we must have regard to the benefit of having
(a)a number of accommodation providers in their area that is, in their opinion, sufficient to secure that outcome; and
(b)a range of accommodation in their area capable of meeting different needs that is, in their opinion, sufficient to secure that outcome.

6.2.3 It will be seen from this report that this report is very much focussed on ensuring that there is a number of providers and a range of accommodation which meets the needs of our residents.

6.2.4 As set out in the report the Council sometimes has to place children in accommodation other than with a foster carer or a registered childrens home. Such placements are in breach of the statutory duty. The Council does everything it can to avoid this and puts stringent additional safeguards in place when it does so. This issue has already been identified in the annual governance statement for 2022/23 which was reported to Cabinet in July 2023.

6.2.5 Procurement of a block contract for these services is subject to the ‘light touch’ regime meaning that the procurement opportunity has to be advertised, competitive, transparent and fair but can otherwise follow a process determined by the council. It is important to ensure that we do comply with these rules especially given the need for geographical spread of places as well as suitability to meet a range of needs.

## 7 Equality and Diversity Considerations

7.1 The Public Sector Equality Duty applies to the Council when it makes decisions. The duty requires us to have regard to the need to:

(a) Eliminate unlawful discrimination, harassment and victimisation and other behaviour prohibited by the Act. In summary, the Act makes discrimination etc. on the grounds of a protected characteristic unlawful

(b) Advance equality of opportunity between people who share a protected characteristic and those who do not.

(c) Foster good relations between people who share a protected characteristic and those who do not including tackling prejudice and promoting understanding.

7.2 The protected characteristics are age, disability, gender reassignment, pregnancy and maternity, marriage and civil partnership, race, religion or belief, sex, and sexual orientation. The Act states that 'marriage and civil partnership' is not a relevant protected characteristic for (b) or (c) although it is relevant for (a).

7.3 The Equalities Comprehensive Impact Assessment indicates that the proposals in this report will not have a disproportionately adverse impact on any people with a particular characteristic. After evaluating the impact of the proposal against all groups that could be potential impacted the proposal is expected to have a medium level of a positive impact.

## 8 List of Appendices

Equalities Comprehensive impact Assessment

## 9 List of Background papers

Framework Review

**Forward Plan reference number:** FP/155/06/23

| | |
|---|---|
| **Report title: Block contracts for mainstream residential placements for Children and Young people** | |
| **Report to:** Cabinet | |
| **Report author:** Councillor Beverley Egan, Cabinet Member for Childrens Services and Early Years | |
| **Date:** 12 September 2023 | **For:** Decision |
| **Enquiries to:** Clare Burrell, Head of Strategic Commissioning and Policy email Clare.Burrell@essex.gov.uk | |
| **County Divisions affected:** All Essex | |

## 1. Everyone's Essex

1.1 Everyone's Essex sets out four strategic aims and 20 commitments to residents with specific commitments to improve outcomes for the most vulnerable and disadvantaged groups including Children in Care, Care Leavers and Children with SEND working with partners across the system.

1.2 The system refers to: organisations both commercial, public sector and voluntary sector; children, young people and their families, schools and communities and other partners who support young people to achieve their full potential which is fundamental to the work of the Council as Corporate Parents.

1.3 In June we were once again recognised by Ofsted, as being outstanding in the care that we provide, however that does not mean that we should be complacent or ignore the challenges that some children and young people (as well as their families) are facing as the long-term impact of Covid on families continues to be felt.

1.4 We want to develop appropriate mainstream residential accommodation within Essex, in partnership with the market, so that we can provide support to children and young people as close to home as is practical, giving them a stable home, the opportunity to return to their families if this is appropriate, and minimise, where possible, the disruption to their lives.

1.5 This decision will enable the Council to secure improved provision of Ofsted registered, local residential mainstream placements so that Children in Care have the accommodation and support they need as part of our Sufficiency Duty. We will have better access to appropriate placements protecting the availability of accommodation in Essex for Essex children, by reducing the impact on availability that other authorities placing children into Essex have which currently reduces availability for our residents.

1.6 This decision also provides better value for money for Essex residents, using a different approach to providing accommodation by reducing our use of "spot"

purchasing where costs can be much higher. The aim with this decision is to reduce our costs which will help us to mitigate increasing demand within the available financial envelope, better managing what is a an unpredictable, and increasing demand.

1.7 The recommendations have no adverse impacts on the Council's climate objectives. By securing access to local placements, having enhanced access to local capacity, there will be a reduction travel associated with out of county placements.

## 2 Recommendations

2.1 Agree to invite tenders for block contracts for service providers across Essex for purchasing between 6 and 18 residential places for Children in Care which:

- is procured using a competitive single stage process.
- is for an initial period of one year but is capable of being extended for a total period of three years (1+1+1).
- is procured using evaluation criteria based on a price: quality ratio of 70:30.
- seeks to book no more than five places in any setting.
- covers a range of needs.

2.2 Authorise the Cabinet Member for Children and Families to award the block contracts.

## 3 Background and Proposal

3.1 The Children Act 1989 requires the Council to secure accommodation for children in their care. Accommodation needs to be appropriate, and it is recognised that placement within 20 miles of home and within local authority boundaries is best if possible and appropriate.

3.2 As of May 2023, there were 1,150 children in care in Essex. Forecasts shows numbers may rise to 1,250 within the next two years, considering pressures from increased separated migrant children, post Covid court delays, the potential impact of the cost-of-living crisis and increased referrals into social care. If that materialised, we could anticipate a need for a further eight residential placements.

3.3 As will be seen from the other report on this agenda the Council needs to increase the availability of care for the cohort of children where the Council currently has no choice but to place in unregistered placements. The other report sets out how the council will seek to provide regulated accommodation for that group, with the aim of reducing their needs so that they can move on to more mainstream accommodation.

3.4 The Council's Sufficiency Strategy for Children in Care and Care Leavers (2023-2026) sets out how the Council plans to fulfil its duty to meet the needs of the children and young people in our care, and care leavers. The Council has an

ambition (aligned to the Co-parenting Strategy) that children and young people who come into care are placed in high-quality provision; access the right homes at the right time and are in placements where they feel safe.

3.5 The Children and Families Residential Programme team has a residential plan that will meet the complexity and challenges of securing sufficient residential placements, whilst meeting cost of care, availability of property and external provider workforce challenges. This has compounded since the pandemic and the cost-of-living crisis.

3.6 This plan will see the Council is increasing capacity and access to supply by:

- Working with the market to increase access to externally provided placements in more innovate ways.
- Developing its own inhouse provision.
- Developing its own managed placements by securing properties and commissioning external organisations to provide the support and care within those properties.

**Current position**

3.7 Analysis of the residential sector by Revolution Consulting shows that nationally 97% of residential placements are spot purchased, including the use of frameworks and 3% were block purchased.

3.8 The Council currently operates under a framework, which replaced the Councils previous approach of spot purchasing. It launched in February 2020 and was a 4-year framework with three lots:

- children with disabilities,
- children with social emotional mental health and
- same day emergency placements.

3.9 When placements can't be made on the framework, we must make spot placements, which can be expensive as they depend on what terms can be negotiated 'on the day', which may be influenced by the level of demand and whether or not there is anyone outside.

3.10 Spot purchasing is not a secure and resilient way of securing sufficiency. The Council has recently observed other local authorities entering into block contracts of residential care places in Essex. This reduces the number of places available for us.

3.11 Whilst the current framework does help us meet our needs, it does not give us access to enough accommodation. in 2020/21 only 20% of residential placements were made via the framework, rising to 24% in 2021/22. The Council had anticipated it would be higher.

3.12 Providers nationally are experiencing difficulties with access to affordable capital, and securing staff.

3.13 Our experience is not dissimilar to that of other local authorities. Local Authorities are instead exploring a mixed economy of in-house services and purchased services via block arrangements or partnerships. Suffolk, Hertfordshire, Norfolk, Oxfordshire and West Sussex have each moved to block purchased placements to some extent.

3.14 These authorities have told us that their block bookings are around 90% occupied.

3.15 We have spoken to providers of accommodation in Essex. Providers told us that they prefer block contracts as this gives them financial security and transfers the risk of places lying empty to ECC. This is of particular importance to smaller private providers, and it would reduce the risk of settings closing at short notice as a result of financial failure. It also means that ECC can be assured of being able to place in several settings, rather than competing with placements made by other local authorities. Accommodating local children is better for providers as it makes it easier for the young person to maintain social links.

**Current provision in Essex**

3.16 Within Essex, Thurrock and Southend on Sea, there are currently 315 registered children's home places, all run by the private sector and none are run by the voluntary sector. This is unusual as most local authorities have some voluntary sector homes in their area, although nationally there has been a large decline in voluntary sector run children's homes since the 1970s.

3.17 As of May 2023, of the 1,150 children in care there are 63 children in mainstream residential placements. In addition to these 63 we need to work to find registered places for those who are currently in an unregistered placement – and there is a report elsewhere on this Cabinet agenda explaining how we aim to do that.

3.18 The overall demand for residential placements has remained steady for the last two years, with 5.6% of children in care in mainstream residential placements. There has been an increase in demand for placements that can support young people with more complex needs and vulnerabilities, including those at risk of gang involvement, substance misuse and Child Sexual Exploitation (CSE).

3.19 This shows that numerically there is sufficient capacity within the market in Essex to meet our needs, however other authorities, particularly London local authorities make placements within Essex, which reduces availability for the Council.

**Proposed Block Contracts**

3.20 It is proposed to have block contracts with providers under which they will hold beds for ECC. We need to ensure that there is a range of accommodation which

can meet different needs, and which is located across the County so that young people can be accommodated as close as possible to home.

3.21 We anticipate contracts with up to eight providers, booking no more than five beds in suitable accommodation. It is proposed that we would block book up to 18 beds which is a third of our current needs. The block booking would be for three years if we exercised the extensions in the contracts.

3.22 The evaluation criteria will be 70% price and 30% quality. Providers will be required to meet a robust service specification and submit method statements to enable us to evaluate the quality weighting effectively.

3.23 Bids will be ranked and scored based on the outcome of the evaluation of their respective quality and price submissions. Provider quality will be assessed against set criteria that will ensure quality provision involving coproduction with children and young people. Providers' scores for quality and price will then be added together to produce an overall score.

3.24 Research by ICHA shows that a third of providers refuse to engage with formal procurement exercises. We need to encourage as many providers as possible to bid and we therefore want to make the process as simple and lean as possible, give providers an extended period to bid and implement a new procurement vehicle different to the traditional spot of framework approaches all whilst being consistent with a procurement which results in a high-quality service.

3.25 Significant preparatory work has also been undertaken to improve relations with the local Essex residential market which has gained traction. Notably the well-received Commitment statement (rated 4.5 out of 5 by the market) and a clear, transparent fee uplift process.

3.26 The Council will continue to undertake regular engagement with providers to review local capacity and developments, develop stronger relationships, where these will support strategic intentions. The Council will continue to collaborate with neighbouring local authorities to share best practice. This includes membership of the Children's Cross Regional Arrangements Group (CCRAG) alongside 20 other Local Authorities.

3.27 The Council are currently working to publish a full Market Position Statement in 2024 to enhance engagement and transparency of the needs our children and young people.

3.28 In 2023 the Council were successful in securing £1.8 million of DfE funding to pilot Staying Close, supporting children and young people in care who have experience of residential placements. This is a multifaceted approach, wrapping support around a child and young person up to aged 24.

3.29 Post implementation of these block contracts the intention would be to set up a Dynamic Purchasing System (DPS) by the end of 2024 to make it easier to source beds outside the block contract arrangements, given the framework will no longer exist.

3.30 It should be noted that the success of a block contract is entirely dependent on the social work placements teams making efficient use of the block bookings – otherwise the Council will be overpaying for provision. Significant work, such as the practice guide, the Service Level agreement, KPI's and key point of contact, will need to be achieved to make sure that placements are made efficiently, whilst still meeting the needs of young people for whom we are responsible for.

3.31 This has factored significantly in early planning for this approach, which was co-produced with the Placements team, the Residential Programme Group, Functional Leadership Team and endorsed by the Head of Placements, Sufficiency and Fostering. It has also factored into reaching the recommended 10%-30% block ambition, noting that higher than this figure being too ambitious at the time.

**Longer term strategy**

3.32 It's proposed that the Council will in future start to operate a Dynamic Purchasing System which will replace the current framework.

3.33 By 2025 The Council aim to have opened two internal residential settings which directly provide care. As this provision materialises it is anticipated that the need for the block contracts of this nature will reduce.

3.34 The Council intends to work with the voluntary community sector with the intention of developing a strategic partnership to increase the amount of provision available in Essex.

## 4 Links to our Strategic Ambitions

4.1 This report links to the following aims in the Essex Vision

- Provide an equal foundation for every child

4.2 Approving the recommendations in this report will have the following impact on the Council's ambition to be net carbon neutral by 2030 by further reducing the number of out of county placements and the associated travel by visiting social work teams.

4.3 This report links to the following strategic priorities in the emerging Organisational Strategy 'Everyone's Essex':

- Health wellbeing and independence for all ages
- A good place for children and families to grow

## 5 Options

5.1 Current risks around sufficiency, costs, a reduction in providers engaging with procurement and current capacity within the market have been considered for all options, arriving at the recommended option.

### Option 1 (recommended)

| **Block contract (as set out above) with providers who can work exclusively with ECC.** | |
|---|---|
| **Benefits** | • Material difference to the current framework.<br>• Clear partnership route.<br>• Reduces operational challenges of CYP from other Local Authorities being placed alongside Essex's CYP.<br>• Benefit from a more exclusive relationship including consultancy, workforce, and training support.<br>• Social value – Essex pound.<br>• Choice and flexibility.<br>• Needs led.<br>• Clearly defined neighbourhood issues and support.<br>• Clear quality assurance support for homes under performing if supports only ECC homes.<br>• Reduces the risk of prosecution from Ofsted.<br>• Is complimentary of the approach recommended under 'The response to the PIN'.<br>• Certainty of placement cost over the blocked period.<br>• Unregistered placements are likely to dimmish if Ofsted starts prosecuting – this Option provides alternative provision. |
| **Risks** | • **ECC carrying the total risk of voids, vacancies, and occupancy levels.** *This will be mitigated against via the proposed SLA, KPIs, the contract and a practice guide. Which will all support the Placement Team to send timely, appropriate referrals. These same documents set out expectations around the Provider accepting appropriate referrals. The terms and conditions will also contain a 6-month break clause that The Council can enact*<br>• Performance issues during the contract term *the terms and conditions will include a break clause inclusive of poor performance and or Ofsted compliance*<br>• Implementation of new placement processes.<br>• Potential to create a divided market, those who block with the Council and those who don't.<br>• Lack of response, some providers have expressed an unwillingness / ability to block.<br>• May mean a relatively small pool of providers therefore less market resilience in the event of difficulty or failure. |

### Option 2

| - **10-year DPS**<br>- **Specific lot to bring specialist out of county providers into Essex in years 3-5.**<br>- **Specific lot for 3 block bed individual homes.** | |
|---|---|
| **Benefits** | • Symbolic difference to the framework.<br>• Mutually beneficial for providers and placing local authorities, with a commitment and partnership element.<br>• Pushes a localised agenda.<br>• Term of the contract allows for out of county providers to influence their business plans and move into the county. |

| | |
|---|---|
| | • Would enhance Sufficiency.<br>• Allows new providers to join.<br>• Reduces the administrative task and onus on providers to continually rebid for work.<br>• Creates an electronic referral system facilitating targeted referrals. |
| **Risks** | • Providers may continue to operate under spot purchase arrangements and may not bid.<br>*The evaluation process will be as lean as legally possible to reduce the ask on providers.* |

## Option 3

| **'Do nothing' allow the framework to end, spot purchase only (reverting to pre framework arrangements) focusing on relational commissioning. Explore retainers on individual local beds which meets the needs of our children.** | |
|---|---|
| **Benefits** | • This is often a provider's preference.<br>• Promotes planned moves via vacancy discussions.<br>• Removes a lot of bureaucratic challenges and delays.<br>• Allows for flexible vacancy and first refusal discussions.<br>• Will allow for the Regional Collaboration Cooperatives pilots to conclude and ECC to consider the learning. |
| **Risks** | • New providers may require more financial certainty.<br>*Smaller and newer providers could benefit from instead bidding for the 'response to the pin tender'*<br>• Reduced contractual safety net.<br>• Prices subject to market forces. |

## Option 4

| **Recommission the framework – Not recommended.** | |
|---|---|
| **Benefits** | • Easy to mobilise. |
| **Risks** | • Evidenced low levels of purchasing activity via this route so high levels of spot purchasing likely.<br>• Providers won't engage – the market has been clear there is no merit in this approach. |

# 6 Issues for consideration

## 6.1 Financial implications

6.1.1 The recommended option is to procure block contracts for 10-30% of the mainstream residential cohort, with providers who can work exclusively with ECC. This represents between 6 and 18 placements, based on the current mainstream residential cohort of 63 (June 2023). The Cabinet report elsewhere on this agenda requests permission to block several solo placement beds and any block through that route will contribute to the total of up to 18 requested in this report.

6.1.2 The actual contractual commitments will be dependent on a range of variables, including but not limited to, availability and length of placements, complexity of need, demand and individual service cost of each provision.

6.1.3 Option 1 (Recommended) costs would be dependent on the number of providers bidding. It is expected that the costs would be similar to current rates paid through current spot purchasing arrangements, with a potential lower cost due to the contract certainty provided by a block. This would be balanced against the potential that ECC could be paying for periods of void, although this will be actively managed to try to keep voids to a minimum. In the first four months of financial year 2023/24, the average rate agreed for new mainstream residential placements has been £5,963 per week.

6.1.4 It is therefore estimated that up to nine group care block bookings at this rate (total £1.399m), plus the additional nine blocked solo placements as a result of the Residential places for young people coming into care paper (total £3.285m), could cost up to £4.7m in the remaining six months of 2023/24 (or **£9.3m** per annum at 2023/24 prices). Expected inflation has been added into future years, and the table below shows the potential commitment over the Medium-Term Resource Strategy (MTRS) period.

6.1.5 The figures outlined account for nine solo placements being block booked for 36 months as per the Residential places for young people coming into care paper, with a further nine placements being block booked in group care homes under the strategy outlined in this paper. At the end of 36 months, 9 group care placements are costed for as the solo placements come to an end.

6.1.6 The budget for mainstream residential placements in the MTRS is shown below. It is expected that any contracts with providers will be supported through this budget in the first instance, and full cost of all placements will need to be managed within this budget envelope.

| Cost centre | 2023/24 Budget £000s | 2024/25 Draft Budget £000s | 2025/26 Draft Budget £000s | 2026/27 Draft Budget £000s |
|---|---|---|---|---|
| Mainstream Residential North | 4,646 | 4,614 | 4,415 | 4,200 |
| Mainstream Residential Mid | 2,632 | 2,614 | 2,501 | 2,379 |
| Mainstream Residential West | 3,266 | 3,244 | 3,104 | 2,952 |
| Mainstream Residential South | 4,780 | 4,747 | 4,542 | 4,321 |
| **Total Mainstream Residential** | **15,323** | **15,219** | **14,562** | **13,852** |
| Unregistered budget | 1,280 | 1,280 | 1,280 | 1,280 |
| **Total budget** | **16,603** | **16,499** | **15,842** | **15,132** |
| Roach Vale (approved) | (422) | (723) | (723) | (723) |
| Woodlands (in governance) | (800) | (800) | (800) | (800) |
| New Farm Road (at Design Authority) | 0 | (1,000) | (1,500) | (1,500) |
| Residential places for young people coming into care (block bookings) | (3,285) | (6,754) | (6,956) | (3,582) |
| **Block contracts for mainstream residential placements (block bookings)** | **(1,399)** | **(2,877)** | **(2,963)** | **(4,578)** |
| **Remaining unallocated budget** | **10,698** | **4,346** | **2,900** | **3,949** |

6.1.6 Option 2 to secure ECC's guaranteed access to provision of all options comes with the highest associated financial liabilities for ECC. At 10% of current mainstream residential spend this would represent a £1.52 million annual commitment. Although full costs wouldn't be known until post procurement.

6.1.7 Option 3 is predicated based on operating retainers. This represents a 4 weekly commitment as opposed to the above 52-week commitments but doesn't secure the usage solely for ECC children and young people.

6.1.8 Option 4 it not recommended as the current position is that Essex do not have access to enough placement options within County. The lack of sufficiency has impacted the increased number of unregistered placements which is untenable for the Council.

## 7. Legal implications

7.1 Section 22G of the Children Act 1989 places the council under a general duty to secure, so far as reasonably practicable, that it is able to place children we look after in accommodation in Essex which meets their needs, so far as is consistent with their welfare.

7.2 In taking steps we must have regard to the benefit of having

(a) a number of accommodation providers in their area that is, in their opinion, sufficient to secure that outcome; and
(b) a range of accommodation in their area capable of meeting different needs that is, in their opinion, sufficient to secure that outcome.

7.3 It will be seen from this report that this report is very much focussed on ensuring that there is a number of providers and a range of accommodation which meets the needs of our residents.

7.4 As set out in the report the Council sometimes has to place children in accommodation other than with a foster carer or a registered children's home. Such placements are in breach of the statutory duty. The Council does everything it can to avoid this and puts stringent additional safeguards in place when it does so. This issue has already been identified in the annual governance statement for 2022/23 which was reported to Cabinet in July 2023.

7.5 Procurement of a block contract for these services is subject to the 'light touch' regime meaning that the procurement opportunity has to be advertised, competitive, transparent and fair but can otherwise follow a process determined by the council. It is important to ensure that we do comply with these rules especially given the need for geographical spread of places as well as suitability to meet a range of needs.

## 8 Equality and Diversity Considerations

8.1 The Public Sector Equality Duty applies to the Council when it makes decisions. The duty requires us to have regard to the need to:

(a) Eliminate unlawful discrimination, harassment and victimisation and other behaviour prohibited by the Act. In summary, the Act makes discrimination etc. on the grounds of a protected characteristic unlawful

(b) Advance equality of opportunity between people who share a protected characteristic and those who do not.

(c) Foster good relations between people who share a protected characteristic and those who do not including tackling prejudice and promoting understanding.

8.2 The protected characteristics are age, disability, gender reassignment, pregnancy and maternity, marriage and civil partnership, race, religion or belief, sex, and sexual orientation. The Act states that 'marriage and civil partnership' is not a relevant protected characteristic for (b) or (c) although it is relevant for (a).

8.3 The Equalities Comprehensive Impact Assessment indicates that the proposals in this report will not have a disproportionately adverse impact on any people with a particular characteristic.

## 9 List of Appendices

Equalities comprehensive impact assessment.

## 10 List of Background papers

Framework Review

**Forward Plan reference number: FP/194/08/23**

| | |
|---|---|
| **Report title: Launch of Public Consultation on draft Waste Strategy for Essex** | |
| **Report to:** Cabinet | |
| **Report author:** Councillor Peter Schwier, Climate Czar and Cabinet Member for Environment, Waste Reduction and Recycling | |
| **Date**: 12 September 2023 | **For:** Decision |
| **Enquiries to:** Sam Kennedy, Director Environment and Climate Action email: Sam.kennedy@essex.gov.uk or Jason Searles, Head of Waste Strategy and Circular Economy email Jason.searles@essex.gov.uk | |
| **County Divisions affected:** All Essex | |

## 1. Everyone's Essex

1.1 The way Essex collects and disposes of waste is an issue that affects every resident in the county. We all produce waste which is collected, treated, and disposed of by the Borough, City and District Councils, and Essex County Council working in partnership. The way we do this going forward is now being presented to the public for their view. It is important for our environment and our aim to hit net zero that we reduce our waste and increase recycling. Every person plays a part in this important issue.

1.2 It is not feasible to continue to landfill waste in the future because it is not good for the environment and is also cost prohibitive. We also need to look carefully at how we collect and treat waste so we can maximise reuse and recycling. Therefore, all Councils in Essex, called the Essex Waste Partnership, have come together to discuss this very carefully to put together a strategy for decades to come. It is a vital decision and therefore it is important to consult with people to gain their view.

1.3 For ECC this is part of our ambitious 'Everyone's Essex' plan and this is an issue that absolutely affects everyone.

1.4 The Essex Waste Partnership have undertaken a great deal of work to ensure greater access to reuse and recycling opportunities and to improve sustainability and this has led to giant steps being taken towards our goal. We are extremely proud of our record and the response of the public for this achievement so far but recognise more needs to be done.

1.5 Essex councils have jointly developed the updated Waste Strategy for Essex to reset and reinvigorate our waste ambition, priorities, and targets for the next 30 years. Our commitment to tackling waste growth and enhancing recycling opportunities, while protecting the environment, remain at the forefront of our strategic plan. This is borne out by proposals to work to recycling and waste reduction ambitions that exceed national targets.

1.6 The purpose of this report is to seek approval to undertake this consultation on the draft joint Waste Strategy for Essex on behalf of the Essex Waste Partnership. Seeking the view of residents, business and local communities on this ambition and approach will ensure a fully rounded and robust final strategy is developed which draws on a wide range of views and expertise.

## 2 Recommendations

2.1 Agree to launch a 10-week public consultation commencing in September 2023 on the draft Waste Strategy for Essex on behalf of the Essex Waste Partnership. ECC will facilitate the consultation asking for views and feedback from Essex residents, communities, businesses, and councils that use waste services or are affected by the proposals in the draft strategy.

2.2 To note that an independent organisation will be appointed to collate and analyse consultation responses and produce a report for publication on Citizen space.

2.3 Note that a revised version of the draft strategy will be prepared by the Essex Waste Partnership following the consultation process which will then be considered for adoption by ECC. The adoption of a Waste Strategy for Essex will be subject to a separate formal decision which will be taken independently by each Essex Waste Partnership member authority.

## 3 Background and Proposal

3.1 ECC has a statutory duty to maintain, with the twelve borough, city, and district councils of Essex, a joint strategy for the management of local authority collected waste.

3.2 The thirteen councils have formed the Essex Waste Partnership (‘EWP’) which has developed a new draft Waste Strategy for Essex (WSfE) to comply with this duty.

3.3 The councils wish to seek the views of Essex residents and others as part of the development of a final strategy for adoption. The EWP has jointly agreed the contents of the draft WSfE consultation documents and the consultation approach to be followed. ECC will manage the consultation on behalf of the EWP, with the support of all Essex Councils. A future decision on adoption of a WSfE will be taken separately and independently by each Council.

3.4 Development of the current adopted waste strategy for Essex (the Joint Municipal Waste Management Strategy for Essex 2007-2032) started almost 20 years ago. Whilst much of it remains relevant, a great deal has changed since it was adopted. The updated WSfE, covering the period 2024 to 2055, provides an updated strategic framework for how ECC manages waste to meet corporate ambitions to reduce the environmental impact of waste management and deliver high quality services. It will also ensure alignment with national waste policy and new and emerging legislative requirements.

3.5 The draft WSfE and supporting background information accompanying the WSfE detail the reasons for our proposed approach; the principles of what we will do; and the targets that we will strive to meet. The draft WSfE can be seen in full in Appendix 2.

3.6 The draft WSfE contains the priorities areas of focus for the EWP and associated targets to deliver a shared vision where waste is reduced, the environment protected, and resources are conserved. To achieve the strategy aims it is critical that the EWP works closely with all sectors of society in adopting the principles of the Circular Economy, where finite natural resources are used efficiently. The strategy also seeks to further embed the Waste Hierarchy into the design and delivery of waste services. The Waste Hierarchy is a legal framework which ranks waste management options according to what is best for the environment.

3.7 To deliver the overarching strategy vision, the EWP has identified the following priorities:

**Move to a Circular Economy:**

- Realise the opportunities arising from the circular economy model that will bring wider benefits to Essex.

**Deliver the Waste Hierarchy:**

- Deliver a system that puts waste reduction at its centre.
- Work together to encourage and support reuse and repair initiatives.
- Increase recycling by delivering comprehensive services and supporting residents to recycle as much as possible.
- Use technologies for the treatment of food and non-recyclable waste that aim to minimise the environmental impact of waste and maximise energy and material recovery.

**Collaborate and Innovate:**

- Innovate and work collaboratively with each other and with the Government, business, and institutions to create a more sustainable waste system.

**Educate and Engage:**

- Listen to residents and deliver information and initiatives to encourage changes in attitudes and behaviour to reduce waste and recycle more.

3.8 Within the draft WSfE, the EWP propose to adopt the government's national targets as a minimum standard together with stretch ambitions and aspirations to deliver greater change and impact more quickly:

**Net Zero Greenhouse Gas Emissions:**

- We will contribute to reducing the county's greenhouse gas emissions to net zero by 2050.

**Waste Reduction**

- We will halve the amount of residual waste produced per person by 2042.

- We aim to reduce waste by 10% by 2030.
- We aspire that Essex will be a zero-waste county by 2055.

**Recycling**

- We will reuse, recycle, or compost 65% of waste by 2035.
- We aim to reuse, recycle or compost at least 70% of waste by 2030.

**Waste Disposal**

- We will send no more than 10% of waste to landfill by 2035.
- We aim to send zero waste to landfill by 2030.

**Collection Services**

- We will ensure that all Essex residents have access to separate food waste collections by 2026.
- We will ensure that all Essex residents have access to comprehensive recycling services for plastic, paper and card, metal, glass, food, and garden waste, by 2026.

3.9 The draft WSfE has been developed to align with current and emerging legislation, national policy and local targets and considers climate challenges, deliverability, and behaviour change. The draft WSfE allows the EWP to work together to minimise the impact that waste management has on the environment, whilst offering value for money to the taxpayer. Through this draft WSfE, the members of the EWP will coordinate the design and delivery of services to achieve the vision and aspiration to be a zero-waste county. By working together, we will reduce waste, protect the environment, and conserve resources. By setting ambitious and measurable targets, residents will be able to hold the EWP to account for achieving its aims.

3.10 In developing this draft WSfE, the EWP has considered a range of research to help inform priorities and to assess deliverability of the vision, targets, and ambitions. The EWP has used national and local research on current attitudes and behaviours towards recycling and considered different approaches to waste management.

3.11 The key findings of this research and analysis are:

- Following the waste hierarchy and embracing a circular economy is the best approach to minimising the environmental impact of managing Essex's waste.
- The partnership needs to support residents and businesses to reduce and reuse.
- Collecting a comprehensive range of recyclables from all households and businesses is necessary if we are to reach our recycling targets.
- Recovering energy is likely to be the best option available for waste that cannot be recycled.
- The EWP needs to innovate to take opportunities to decarbonise waste management operations.

3.12 The EWP has completed some system modelling activity to look at the type and volume of waste currently in Essex, how this may change in future and some different scenarios for managing the waste. The systems modelling has examined waste collection and disposal methods, and the environmental and deliverability implications of alternative scenarios. The system modelling shows that although the EWP's draft WSfE is ambitious, the targets are achievable.

3.13 Prior to adoption, the WSfE will be subject to a Strategic Environmental Assessment ('SEA') in consultation with statutory consultees and the public in accordance with the Environmental Assessment of Plans and Programmes Regulations 2004. A scoping approach for this SEA has been agreed with the statutory consultees and is attached at Appendix 4. This assessment ensures a high level of protection for the environment and sustainability is at the forefront of the draft WSfE.

3.14 The public consultation process is designed to gather the views of the public and other interested parties on the draft WSfE. These findings will be considered by the EWP in the development of a final strategy before adoption and future action planning. The consultation will take the form of a survey which will ask respondents to indicate to what degree they agree with the vision, aims, proposals and targets contained in the draft WSfE. The consultation will also provide respondents the opportunity to provide comment on any additional areas of focus they believe need to be included in any adopted WSfE.

3.15 The consultation methodology has been designed in line with the HM Government code of practice, and the Gunning principles. It will be promoted through a robust and strong communications plan to ensure all residents and organisations are aware of the draft WSfE and have the opportunity to participate in the consultation process. The consultation will be facilitated by ECC on behalf of the EWP and will be available for a 10-week period.

3.16 The draft consultation questions can be seen in Appendix 3.

3.17 Following the completion of the consultation, all responses will be analysed by an independent external body and a full analysis and consultation report produced. The EWP will use this consultation report to consider any revisions necessary to the strategy prior to decisions being taken on adoption.

3.18 It is anticipated that the completion of the consultation process will lead to the development of a final WSfE that will be suitable to recommend for adoption. Each partner organisation of the EWP, including ECC, will independently consider the post consultation strategy document for adoption. A formal decision on adoption of a final WSfE will be taken separately by each of the 13 councils in accordance with their decision-making procedures.

## 4 Links to our Strategic Ambitions

4.1 This report links to the following aims in the Essex Vision:

- Strengthen communities through participation.
- Develop our County sustainably.
- Connect us to each other and the world.

4.2 Approving the recommendations in this report will enable residents and stakeholders to fully participate in the development of our future plans and proposals for the delivery of sustainable waste management practices in Essex.

4.3 This report links to the following strategic priorities in the Organisational Strategy 'Everyone's Essex':

- A strong, inclusive, and sustainable economy
- A high-quality environment

## 5 Options

5.1 **Option 1: The Joint Municipal Waste Management Strategy for Essex 2007-2032 is retained and is not subject to any significant update.**

5.1.1 This option is not recommended as the current waste strategy is outdated, with the waste environment changing significantly since its adoption. A strong policy framework is needed to support future decisions and system design within waste management to ensure opportunities are embraced. The current waste strategy is no longer aligned to national waste policy, nor does it reflect ECC's or the EWP's targets and ambitions.

5.2 **Option 2: (Recommended) Launch a public consultation in September 2023 to seek feedback on the draft Waste Strategy for Essex for the purpose of informing the development of a final strategy.**

5.2.1 ECC has a statutory responsibility with the Borough, City and District Councils to maintain a joint waste strategy for the management of local authority collected waste. The updated draft strategy allows the EWP to drive significant change to reach ambitious targets and ensure alignment with national policy.

5.2.2 Consulting on the draft strategy will ensure the proposals that are contained within any adopted strategy are robust and has allowed residents to have their say. The draft strategy will form part of the journey to delivering key commitments published in Everyone's Essex: Zero waste to landfill by 2030 and contributing to the Council's ambition to be net carbon neutral by 2050.

## 6 Issues for consideration

### 6.1 Financial implications

6.1.1 The costs associated with the consultation have already been approved to be funded from the Waste Reserve in a Cabinet Member Action dated 14 October 2022. There are no further financial implications from this decision requesting to

launch the consultation and analyse the responses. Any financial implications resulting from adopting the strategy will be included in a future decision.

6.2 **Legal implications**

6.2.1 In two-tier areas, the Waste Disposal Authorities and the Waste Collection Authorities are required by section 32 of the Waste and Emissions Trading Act 2003 (the "2003 Act") to produce and agree a Joint Municipal Waste Strategy (JMWS).

6.2.2 The JMWS should outline the management of waste from households, and other waste similar to waste from households, in accordance with the National Waste Strategy.

6.2.3 Section 32(3) of the 2003 Act, requires authorities in a two-tier area to undertake consultation in such a manner as they consider appropriate before formulating a JMWS. The publication of the draft strategy and the consultation of the same enables ECC to discharge its duties under this section of the 2003 Act.

6.2.4 The draft strategy seeks to improve performance within the legal framework governing ECC as Waste Disposal Authority.

6.2.5 This decision relates to the draft strategy being consulted on. A separate decision will be taken to adopt any post consultation strategy.

## 7. Equality and Diversity Considerations

7.1 The Public Sector Equality Duty applies to the Council when it makes decisions. The duty requires us to have regard to the need to:

(a) Eliminate unlawful discrimination, harassment and victimisation and other behaviour prohibited by the Act. In summary, the Act makes discrimination etc. on the grounds of a protected characteristic unlawful.
(b) Advance equality of opportunity between people who share a protected characteristic and those who do not.
(c) Foster good relations between people who share a protected characteristic and those who do not including tackling prejudice and promoting understanding.

7.2 The protected characteristics are age, disability, gender reassignment, pregnancy and maternity, marriage and civil partnership, race, religion or belief, gender, and sexual orientation. The Act states that 'marriage and civil partnership' is not a relevant protected characteristic for (b) or (c) although it is relevant for (a).

7.3 The equality impact assessment indicates that the proposals in this report will not have a disproportionately adverse impact on any people with a particular characteristic.

## 8. List of Appendices

Appendix 1 – Equality Impact Assessment
Appendix 2 – Draft Waste Strategy for Essex
Appendix 3 – Waste Strategy for Essex Consultation Survey
Appendix 4 – Strategic Environmental Assessment Scoping Report
Appendix 5 – Strategic Environmental Assessment Environment Report

## 9. List of Background Papers

None

Essex Waste Partnership

DRAFT

# WASTE STRATEGY FOR ESSEX

2024 - 2054

**RETHINKING**
OUR WASTE



Working together for Essex

**Essex County Council, Essex District, Borough and City Councils**

# CONTENTS



# 1. EXECUTIVE SUMMARY

**The Waste Strategy for Essex sets out the vision and objectives of the Essex Waste Partnership (EWP). It provides a framework detailing how we will manage the waste that is produced by homes and businesses in the county for the next 30 years.**

## WHAT IS A WASTE STRATEGY AND WHY DO WE NEED ONE?

The previous waste strategy for Essex was developed in 2007 and while much of it is relevant today, a great deal has changed since then. It is important we refresh and review our plans to ensure we have the right approaches to deliver the best outcomes for Essex.

This new Joint Municipal Waste Management Strategy (JMWMS) covering the period up to 2054, brings a new focus on how we will deliver an effective, efficient and sustainable service for the future. Following the Environment Act 2021, national policy and the findings of the Essex Climate Action Commission 2020, the new strategy updates the EWP's approach to reducing the impact that waste management has on climate change. The strategy is research-based and sets out the reasons for our approach, the principles of what we will do and the targets we will strive to meet.

**The Essex Waste Partnership is made up of the 12 district, borough and city councils in Essex and the county council. The partnership aims to ensure cost-efficient and sustainable waste management across the county.**


## THE ESSEX WASTE PARTNERSHIP'S VISION

### RETHINKING OUR WASTE

**We aspire to be a zero-waste county. By working together we will reduce waste to protect the environment and conserve resources.**

## OUR STRATEGY

**Zero waste in Essex means maximising the reuse, recycling and recovery of resources, rather than treating them as waste.**

This strategy commits the Essex Waste Partnership to work together to minimise the impact that waste management has on the environment, while offering value for money to the taxpayer. The best way of doing this is through embracing the circular economy. This means minimising our waste, recycling more and rethinking how we will manage the waste that cannot be recycled to conserve resources. Through this strategy the members of the EWP will coordinate the design and delivery of services to achieve the vision, targets and ambitions of this strategy. The EWP will support residents and businesses to reduce their waste and recycle more. The EWP will be an active voice in influencing government and encouraging businesses to adopt this approach. By setting ambitious and measurable targets, residents will be able to hold the partnership to account for achieving our aims.

## OUR PRIORITIES

To deliver our vision, the EWP has identified the following priorities for Essex:

| | |
|---|---|
| **Move to a circular economy** | ■ Realise the opportunities arising from the circular economy model that will bring wider benefits to Essex. |
| **Deliver the waste hierarchy** | ■ Deliver a system that puts waste reduction at its centre.<br>■ Work together to encourage and support reuse and repair initiatives.<br>■ Increase recycling by delivering comprehensive services and supporting residents to recycle as much as possible.<br>■ Use technologies for the treatment of food and non-recyclable waste that aim to minimise the environmental impact of waste and maximise energy and material recovery. |
| **Collaborate and innovate** | ■ Innovate and work collaboratively with each other and with government, business and institutions to create a more sustainable waste system. |
| **Educate and engage** | ■ Listen to residents and deliver information and initiatives to encourage changes in attitudes and behaviour to reduce waste and recycle more. |

## OUR TARGETS, AMBITIONS AND ASPIRATIONS

The targets are things we are committed to doing. They are the government's current national targets and are the minimum we need to achieve.

We would like to go beyond these targets. Therefore we have added further ambitions and aspirations to help us have a bigger impact more quickly.

### Net zero greenhouse gas emissions

**We will contribute to reducing the county's greenhouse gas emissions to net zero by 2050.**

### Waste reduction

**We will halve the amount of residual waste produced per person by 2042.**

**We aim to reduce waste by 10% by 2030.**

**We aspire that Essex will be a zero waste county by 2055.**

### Recycling

**We will reuse, recycle, or compost 65% of waste by 2035.**

**We aim to reuse, recycle or compost at least 70% of waste by 2030.**

### Waste disposal

**We will send no more than 10% of waste to landfill by 2035.**

**We aim to send zero waste to landfill by 2030.**

### Collection Services

**We will ensure that all Essex residents have access to separate food waste collections by 2026.**

**We will ensure that all Essex residents have access to comprehensive recycling services for plastic, paper and card, metal, glass, food and garden waste, by 2026.**

The EWP will create plans, publish our progress and regularly review this strategy to ensure it is fit for purpose. The EWP will seek further involvement from residents throughout the life of this strategy.

# 2. WHY DO WE NEED TO ACT?

## RETHINKING OUR WASTE

**We aspire to be a zero waste county. By working together we will reduce waste, protect the environment and conserve resources.**

**In Essex, we need to rethink waste to meet our ambitious targets designed to minimise the environmental impact and cost of waste management.**

**Several drivers will influence what we need to do:**

- climate change
- the circular economy
- we have too much waste
- people and lifestyles
- cost and affordability
- managing what can't be recycled
- government legislation

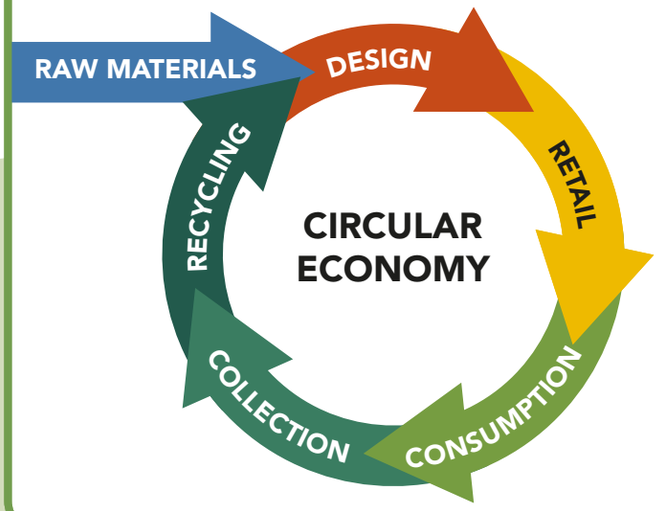

### CLIMATE CHANGE

A significant climate change challenge lies ahead. We need to take action now to address the impacts of climate change and achieve the goal of Essex becoming a net zero county by 2050.

Waste management is a major contributor to climate change and is currently responsible for about 4% of greenhouse gas emissions in the UK. Improving environmental efficiency by making different choices about how we collect and treat waste will help reduce the amount of greenhouse gas emissions generated. Waste prevention can also deliver benefits by reducing greenhouse gas emissions in other sectors, such as agriculture, transport and manufacturing.

## THE CIRCULAR ECONOMY

The best way to deliver change is to move towards a circular economy where our finite resources are conserved and used efficiently. Most products are still designed and created using a linear economy model where resources are taken, manufactured, used and disposed of. We have moved into a recycling economy where a proportion of materials are recycled but not retained at their highest quality.




The transition to a circular economy requires us all to rethink how resources are valued and managed. The model relies on designing products that are durable, easy to maintain and repair. This encourages and enables individuals to reuse products many times. Finally, products should be designed to enable straightforward recycling when they can no longer be reused or repaired.

## WE HAVE TOO MUCH WASTE

Despite improvements to recycling services and greater awareness about the need to reduce, reuse and recycle we still produce too much waste. Although we have increased the proportion of waste recycled from 21% in 2000/01 to 52% in 2020/21 this has plateaued over recent years and in some areas is falling. We also continue to produce more waste than other areas in the country. A significant change is needed to achieve our targets. Although we need to recycle more, we also need to address the problem that we create too much waste.

To read more about where we are now, visit **Appendix 1: Current performance summary and key data**

## PEOPLE AND LIFESTYLES

Residents have told us they are becoming more concerned about climate change and the environment. They want to see real change from businesses to help them reduce their waste.

An increasing number of smaller properties and flats – with limited space and facilities for recycling – will require us to consider the future design of waste collection services.

Multi-generational living and an ageing population may also impact both waste collection and the types of waste we need to manage. Overall, the population in Essex is forecast to grow by 6% from around 1.5 million to 1.6 million. Higher population levels equal greater amounts of waste produced and disposed of in the county.

It is important that waste services respond to these trends and changing attitudes and behaviours, so we can deliver improvements in the way we manage waste.

## COST AND AFFORDABILITY

If we avoid producing waste altogether or recycle it, it is much cheaper than trying to treat or dispose of it. Waste generated by Essex residents costs the taxpayer more than £130 million a year. Without changing how we operate, waste management will cost more in future. All council budgets are facing significant pressures and this compels us to look at what we do and to consider whether we should do things differently.

## MANAGING WHAT CAN'T BE RECYCLED

Essex still relies too heavily on landfill as the main method for disposing of waste. In 2022 we sent around 350,000 tonnes of residents' waste to landfill.

Even if we achieve our reduction and recycling targets, we will still have large amounts of non-recyclable waste. It is important we have a suitable approach for this. Landfill is the least preferred option and we must act now to ensure that the impact of waste disposal is minimised for future generations.

**350,000 tonnes of residents' waste is taken to landfill sites per year – that's almost as heavy as the Empire State building in New York.**

## GOVERNMENT LEGISLATION

In recent years, the government has introduced new policy and legislation, the most important being the Environment Act 2021, to guide the management of waste and help us realise the benefits of a circular economy. Although these measures will take time to be fully embedded – and further changes are expected – they will change the type and amount of waste we manage and place new requirements on councils and businesses.

The government's legislative and policy changes will help the UK transition to a more circular economy by:

- encouraging residents to reduce and recycle their waste
- incentivising businesses that use packaging to design out waste and take greater responsibility for the environmental impact of their packaging
- promoting closed-loop recycling

To read more about relevant policy and legislation, visit **Appendix 4: Summary of national policy & legislation**

# 3. WHAT DOES OUR RESEARCH TELL US?

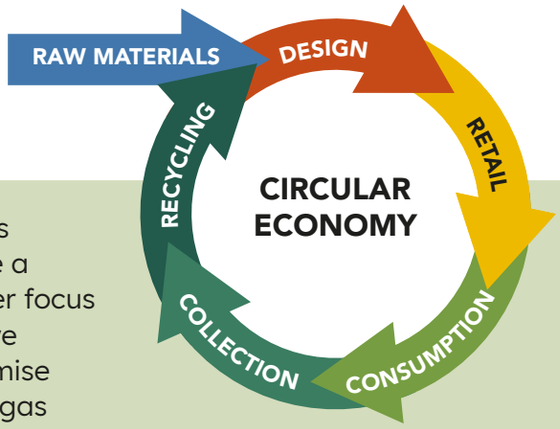
**To develop this draft strategy, the Essex Waste Partnership (EWP) has considered a range of research to help inform our priorities and to test the deliverability of our vision, targets and ambitions.**

## TACKLING CLIMATE CHANGE

Climate change is one of the biggest challenges we face, both globally and locally. The Climate Change Committee (CCC), an independent body that advises government and the Essex Climate Action Commission (ECAC) agree that changing waste management approaches can have a significant impact on reducing greenhouse gas emissions.


The CCC report can be found at: **www.theccc.org.uk**

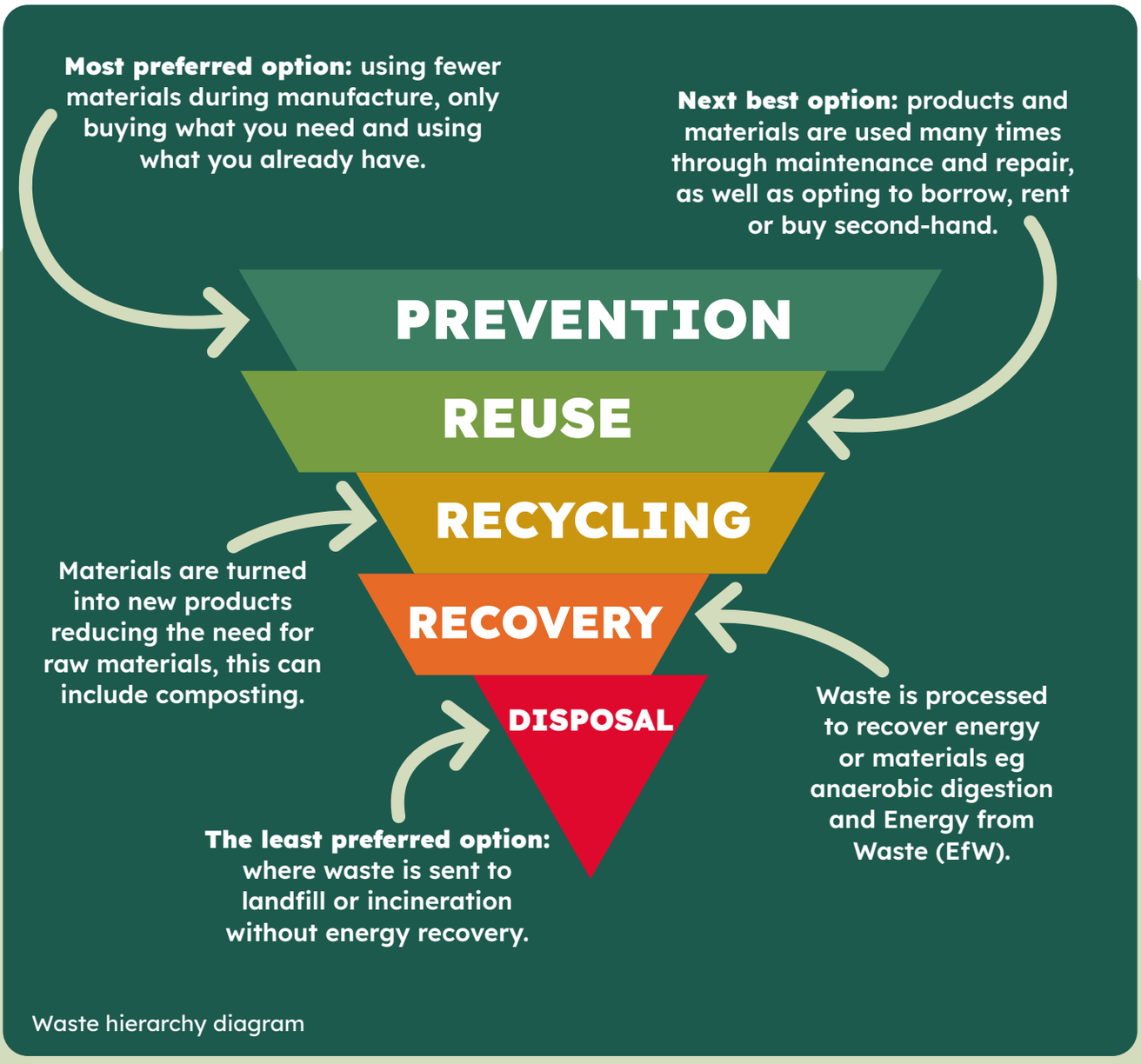
The ECAC Net Zero: Making Essex Carbon Neutral Report, includes several policy statements on how to reduce greenhouse gas emissions in the waste sector. **www.essexclimate.org.uk/reports**




The EWP has reviewed these reports and recognises that reducing greenhouse gas emissions will require a transformational approach in waste. A much greater focus is needed on delivering a circular economy where we use resources efficiently, minimise waste and maximise recycling. These studies also recognise greenhouse gas emissions are impacted by the composition of waste and the type of waste treatment used. It is important that we send less waste to disposal, phase out the use of landfill and reduce the amount of biodegradable and plastic waste sent for recovery and disposal. The use of Energy from Waste (EfW) to treat residual waste will be required. Energy from Waste is a recovery process that takes residual waste and turns it into electricity. However, these facilities need to be correctly and flexibly sized, efficient and designed with emerging technologies in mind, to ensure we further reduce greenhouse gas emissions and improve efficiency in the future.

## THE WASTE HIERARCHY

We are committed to managing waste in an efficient way that reduces the environmental impacts. The waste hierarchy is a legal framework that ranks waste management options according to what is better for the environment. The waste hierarchy ranks waste prevention as having the least impact and disposal having the most. In line with the waste hierarchy, products and materials should be kept in use, recycled when they are no longer useable and only sent for recovery or disposal as a last resort.




Waste hierarchy diagram

Adopting the waste hierarchy will ensure we take the correct decisions about waste and the services we develop.

Reducing waste through prevention and increasing reuse and recycling will bring benefits to environmental sustainability by reducing greenhouse gas emissions, through economic opportunities and efficient, value-for-money service delivery.

## BEHAVIOUR CHANGE INSIGHT

We have used national and local research on current attitudes and behaviours towards recycling and waste to inform our priorities, targets and ambitions.

The Waste and Resources Action Programme (WRAP) Recycling Tracker Report (Autumn 2022) available at **www.wrap.org.uk/resources/report/recycling-tracker-report-autumn-2022** provides insights through an annual survey of UK recycling attitudes, knowledge and behaviour. The research shows that recycling is a day-to-day activity for most citizens. However, opportunities are missed to recycle common items and many people place items in the recycling that are not accepted. Better communications help to increase correct use of recycling services.

In 2022, the EWP commissioned research on Essex residents' attitudes and behaviours to waste and recycling, prevention and reuse. The findings showed that the impact of waste on the environment is not fully understood. Many residents find reducing their waste difficult and want to see real change from businesses and the wider economy – for example, to change the amount of packaging used. However, almost all residents told us they had recently engaged in some form of reuse or repair, often using online marketplaces. Using the waste hierarchy to explain the priorities for waste reduction, recycling and recovery – and clearly stating the environmental impact of waste and benefits of waste reduction – will be important to future information and education programmes.

For full details of the research undertaken by the EWP, "Resident attitudes towards waste and recycling" visit **Appendix 9**.

SMALL CHANGES, **BIG DIFFERENCE**

## SYSTEMS MODELLING

The EWP has completed systems modelling activity to look at the type and volume of waste currently in Essex, how this may change in the future and different ways of managing waste. The systems modelling has examined waste collection and disposal methods and the environmental and cost implications of alternative scenarios.

The systems modelling shows that although the EWP's draft strategy is ambitious, the targets are achievable. Further opportunities exist in Essex to reduce waste and recycle more, providing residents and business are fully engaged and services are well designed. However, the systems modelling shows non-recyclable waste will continue to be produced. The methods for dealing with non-recyclable waste are limited and landfill is not a viable long-term solution.

This systems modelling has helped to inform the priorities, targets and ambitions within the draft strategy. We will need to undetake further detailed work as part of any future service design changes and decision making.

Further details of the systems modelling undertaken by the partnership can be found at **Appendix 5: Executive Summary of Technical Options and Appendix 6: Full report on Technical Options**

The partnership has undertaken a Strategic Environmental Assessment (SEA) on this strategy. The purpose of a SEA is to evaluate the likely effects of a strategy to ensure environmental considerations are incorporated into planning and decision making. Our approach to the SEA process can be found at **Appendix 7: Strategic Environmental Assessment (SEA) Scoping Report and Appendix 8: Strategic Environmental Report (SEA) - Full report.**

## RESEARCH FINDINGS

The key findings of our research and analysis are that:

- although our targets and ambitions are challenging, they can be achieved if councils, residents and businesses all play their part
- following the waste hierarchy and embracing a circular economy is the best approach to minimise the environmental impact of managing Essex's waste
- supporting residents and businesses to reduce and reuse is essential to achieving our environmental ambitions and tackling rising costs
- collecting a comprehensive range of recyclables from all households is necessary if we are to reach our recycling targets and that these services should be accessible for residents and enable the collection of high-quality materials for recycling
- offering a comprehensive range of recycling services to businesses will be necessary to reduce the environmental impact of business waste in Essex
- recycling garden waste into compost and recovering energy and materials from unavoidable food waste, is the best approach for these material streams
- although we can recycle more, we cannot recycle everything
- some non-recyclable waste will persist and this has the biggest impact on the environment, as well as costing the most to deal with
- we need to design our future waste collection services to reduce the amount of non-recyclable waste
- landfill is not a long-term option for non-recyclable waste – being environmentally the worst option and likely to continue to cost more than other waste management options
- once we have reduced, reused and recycled all we can, using Energy from Waste (EfW) with heat capture to recover energy is likely to be the best remaining option for what is left
- taking opportunities to decarbonise waste management operations and treatment technologies will further reduce the climate impact of managing Essex's waste

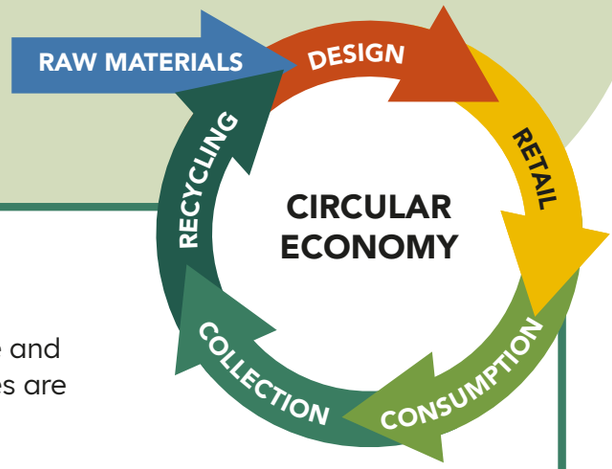
New research and best practice will emerge over time and the EWP will carry out further research in future reviews of this strategy and the planning that will sit alongside it.

# 4. WHAT IS OUR APPROACH?

**Our approach to addressing the waste management challenge and to achieve the vision, targets and ambitions of the Essex Waste Partnership (EWP) is built upon:**

- supporting the move to a circular economy
- services that deliver the waste hierarchy
- driving down cost and environmental impacts
- partnership working to maximise the impact of our work
- supporting residents to reduce their waste and recycle more

The EWP is committed to continuously reviewing good practice to inform our approach and publishing our plans, progress and performance.




## MOVE TO A CIRCULAR ECONOMY

The best way to deliver change is to rethink our waste and embrace a circular economy where our finite resources are conserved and used efficiently.

There are clear environmental benefits from reducing waste during manufacture and by designing products that are easy to repair and recycle. The transition to a circular economy can also deliver opportunities for green growth and jobs.

**Realise the opportunities arising from the circular economy model that will bring wider benefits to Essex.**

To deliver this priority, the EWP will:

- encourage the growth of the green business sector and jobs in Essex to deal with waste in innovative ways
- support businesses to adopt circular economy principles and practices
- integrate the principles of the circular economy in council strategies and policies
- support communities to reduce their waste and reuse and repair more
- design services that increase closed-loop recycling where waste is collected and recycled to make the same type of product

## DELIVER THE WASTE HIERARCHY

The best environmental approach to waste management is to apply the principles of the waste hierarchy. When designing services and making decisions, the EWP will apply the waste hierarchy prioritising waste prevention and minimising disposal. Applying the waste hierarchy will help us achieve our vision of a zero-waste county.

## PREVENTION

**The preferred option on the waste hierarchy is to prevent waste being produced in the first place.**

**Deliver a system that puts waste reduction at its centre.**

Businesses can help by reducing the amount of packaging used in products and services to improve circularity and increase reuse of products and materials.

Residents can help by only buying what they need and reusing what they already have.

To deliver this priority, the EWP will:

- develop and deliver information and activities to help and inspire residents to reduce their waste
- design future waste collection services to encourage residents to reduce their waste
- work with government to seek stronger legislation and regulation to hold businesses to account
- support local businesses that operate sustainably or encourage waste reduction


### Case study:

Through microgrants and promotional activity, we have supported local organisations, individuals and schools with projects that create or inspire a reduction in household waste. Refill shops, clothes swaps and repair services across the county are just some of the activities that have received support. These initiatives help and inspire people and communities to reduce their waste and be more sustainable.

# REUSE

**The next best option is to reuse products as much as possible.**

**Work together to encourage and support reuse and repair initiatives.**

Businesses can help by designing products that are durable, easy to maintain and repair.

Residents can help by using repair services, borrowing rather than buying and renting or buying second-hand.

To deliver this priority, the EWP will:

- support business to deliver reuse and repair services
- support communities to deliver local reuse and repair initiatives
- develop and deliver information and activities to help and inspire residents to reuse and repair more
- support sharing platforms that promote reuse
- develop enhanced reuse services through Essex County Council's network of recycling centres
- lobby government to accelerate a repair and reuse culture within business


## Case study:

The Essex Waste Partnership has funded and promoted the provision of a free-to-use online platform for reuse that enables residents to give and get items for free. With nearly 90,000 members in Essex, this initiative helped households swap 14,000 items in 2022-23.

## RECYCLING

**If waste cannot be prevented or products and materials reused, then turning materials into new products by recycling is the next option on the waste hierarchy.**

**Increase recycling by delivering comprehensive services and supporting residents to recycle as much as possible.**

Businesses can help by designing products and packaging using materials that can be easily recycled and by providing community collection points and return initiatives.

Residents can help by making full use of the recycling services provided at home, in community collection points, out and about and at recycling centres.

To deliver this priority, the EWP will:

- provide collection services, recycling centres and local community recycling facilities that deliver high quality material for recycling
- ensure that all Essex residents have access to separate food waste collections
- ensure that all Essex residents have access to frequent and comprehensive services for recycling plastic, paper and cardboard, metal, glass, food and composting garden waste
- continue to explore extending the range of materials that can be collected for recycling
- ensure residents have the right information to recycle as much as possible
- continue to support home composting

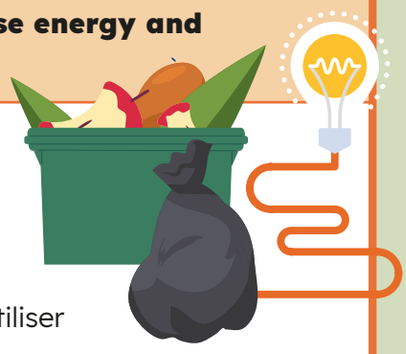
### Case study:

In January 2023 Maldon District Council launched a pilot for the collection of plastic bags and wrapping as part of normal recycling collections. Plastics such as plastic bags, confectionary wrappers, foil-lined packaging, plastic film, bubble wrap, pet food pouches and more will be collected from approximately 6,500 households. If successful, the service will expand to all residents in the district by 2025. This trial will help make recycling plastic bags and wrapping more convenient, increase the amount of plastic packaging recycled and reduce the amount of plastics going to landfill.

## RECOVERY

**The waste hierarchy shows that if we can't prevent, reuse or recycle, then recovery of energy and materials from the waste is preferable to disposal. By rethinking our waste and recovering energy, we can ensure that the climate impact of managing food and non-recyclable waste is minimised and reduce our reliance on disposal by landfill.**

**Use technologies for the treatment of food and non-recyclable waste that aim to minimise the environmental impact of waste and maximise energy and material recovery.**



To deliver this priority, the EWP will:

- reduce our reliance on disposal by landfill
- use anaerobic digestion as the most viable technology for the treatment of unavoidable food waste to recover energy and fertiliser
- use Energy from Waste (EfW) as the most viable technology for the treatment of residual waste to recover energy and materials
- aim to capture and use heat from Energy from Waste (EfW) facilities to improve the efficiency of treatment facilities for residual waste
- continue exploring new technologies to improve the efficiency of treatment facilities, such as carbon capture, utilisation and storage
- continue working to reduce the amount of plastic material in residual waste

### Energy from Waste (EfW)

**Energy from Waste is a recovery process that takes residual waste and turns it into electricity. Capturing and using the heat generated significantly increases the overall efficiency of the process and the environmental benefits.**

### Case study:

If you recycle food waste in your kitchen caddy, we send it to anaerobic digestion plants. Recycling food creates renewable energy for homes and businesses and fertiliser for agriculture. Food recycling also eliminates greenhouse gas emissions released by food waste in landfill.

## Collaborate and innovate

**The partnership will look beyond the operation of collection and treatment services to identify innovative opportunities to reduce waste, recycle more and reduce the environmental impact of waste management. We can achieve more when we work together and in partnership with others, learning from each other and trying new things.**

**Innovate and work collaboratively with each other and with government, business and institutions to create a more sustainable waste system.**

To deliver this priority, the EWP will:

- work to reduce the carbon impact of waste operations by increasing use of alternative fuels for our vehicles and equipment and making waste transport routes as efficient as possible
- work together to make the network of recycling centres, waste transfer stations and depots as efficient as possible
- explore carbon capture, utilisation and storage, and carbon offsetting to mitigate unavoidable greenhouse gas emissions
- stay abreast of innovation, trends and examples of best practice to shape service design
- work together and maximise opportunities to increase recycling in public spaces and reduce litter
- be an active voice striving to shape government policy, legislation and regulation through engagement, consultations and lobbying
- work together to develop opportunities for employment, environmental benefit and reduced costs

## Case study:

In 2023, the partnership is working together to tackle food waste. Roughly 25% of waste thrown away in the general rubbish bin is food. Throwing away food that could have been eaten adds £60 a month to the average food shopping bill. Not only is this a waste of money but it also damages the environment. Funded and delivered by the partnership, households in Essex will receive support to reduce food waste and recycle more.

Through the year-long Love Essex, Love Food campaign, the partnership is providing ideas and inspiration to help residents reduce food waste at home. By replacing lost food caddies, providing a roll of free caddy liners and providing information and tips, the partnership aims to increase the proportion of food waste recycled. We have also secured long-term treatment options for separately collected food recycling, so we can generate renewable energy from this waste.

## Educate and engage

**Supporting residents with information and education that inspires changes in attitudes and adoption of new behaviours is essential to achieving our vision for a zero-waste county.**

**Listen to residents and deliver information and initiatives that encourage changes in attitudes and behaviour to reduce waste and recycle more.**

To deliver this priority, the EWP will:

- engage regularly with residents to understand barriers, improve service design and increase participation in waste prevention and recycling services
- examine the composition of recycling and waste to identify which initiatives to target and how to better design services
- provide service information and develop and deliver a programme of activities and education to embed waste as an environmental issue and inspire residents to make changes


## Case study:

The Love Essex brand created for the Essex Waste Partnership enables the partner councils to deliver better results for residents through cost effective campaigns and services. With consistent messages, the Love Essex campaigns and services inspire behaviour change with the goal of reducing waste, recycling more and making Essex a better place to live.

## RESEARCH, PLAN AND PERFORMANCE MONITOR

The targets are things we are committed to doing. They are the government's current national targets and are the minimum we need to achieve.

We would like to go beyond these targets. Therefore we have added further ambitions and aspirations to help us have a bigger impact more quickly.

### Net zero greenhouse gas emissions

**We will contribute to reducing the county's greenhouse gas emissions to net zero by 2050.**

### Waste reduction

**We will halve the amount of residual waste produced per person by 2042.**

**We aim to reduce waste by 10% by 2030.**

**We aspire that Essex will be a zero waste county by 2055.**

### Recycling

**We will reuse, recycle, or compost 65% of waste by 2035.**

**We aim to reuse, recycle or compost at least 70% of waste by 2030.**

### Waste disposal

**We will send no more than 10% of waste to landfill by 2035.**

**We aim to send zero waste to landfill by 2030.**

### Collection Services

**We will ensure that all Essex residents have access to separate food waste collections by 2026.**

**We will ensure that all Essex residents have access to comprehensive recycling services for plastic, paper and card, metal, glass, food and garden waste, by 2026.**

We know our targets and goals are ambitious and we expect our progress towards achieving them to fluctuate and to take time to accelerate. However, we want residents to be able to hold the partnership to account for achieving our aims, therefore we will:

- create action plans to set out clear milestones and pathways to delivering our vision, targets and ambitions
- adopt best practice indicators to monitor performance and track progress
- review and publish performance and progress annually against the vision, targets and ambitions of this strategy

We recognise things will change during the life of this strategy. New national policies and legislation will arise. Waste composition and the volume of our waste will be different. New technologies will emerge and our attitudes to waste will change. As a result, this strategy and the services and initiatives delivered by the EWP should be updated to reflect this.

The EWP will seek further involvement from residents throughout the life of this strategy. The EWP will comprehensively review this strategy every five years to ensure we are aligned with any changes in national policy and legislation, trends in waste generation and the development of new approaches and technologies.

# 5. CONSULTATION AND NEXT STEPS

**This document is a draft version of the Waste Strategy for Essex 2024-2054.**

**On behalf of the Essex Waste Partnership (EWP), Essex County Council is facilitating a consultation asking for views and feedback from residents, communities, businesses and councils that use the services or are affected by the proposals in this strategy.**

## WHAT IS A CONSULTATION?

Consultations are a way for you to tell us your views about a proposed project or change to services. Public participation is very important to how we develop our services, projects and policies. Feedback is carefully considered and can have a big effect on the direction we take.

This consultation on the draft Waste Strategy for Essex 2024-2054 and The Strategic Environmental Assessment is carried out in line with the best practice guidelines from the Consultation Institute (see The Consultation Charter at **www.consultationinstitute.org**) and the Gunning Principles at **www.local.gov.uk**.

Visit **www.consultations.essex.gov.uk/rci/waste-strategy-for-essex-consultation** where you will find the draft strategy documents and the Public Consultation Questionnaire. You can also read copies in your local library. The questionnaire is available for 10 weeks. If you wish to request another format of the strategy and questionnaire, please email **wastestrategyforessex@essex.gov.uk** or call 0345 603 7625.

**The consultation period will open on 13 September and closes on 22 November 2023. Paper copies will be accepted via post for a further five days, closing on 29 November 2023.**

## WHAT HAPPENS NEXT?

A summary report of the consultation feedback will be published on Citizen Space after consultation is complete and responses have been analysed.

The feedback obtained from responses to the Public Consultation Questionnaire and other consultation mechanisms will be used to develop and publish a final version of the Waste Strategy for Essex and Strategic Environmental Assessment. The councils in the EWP will take local decisions on adoption of the final version of the strategy.

The Waste Strategy for Essex will act as a framework for waste management in Essex informing the design of local collection services and disposal arrangements. Collection arrangements will continue to be managed by district, borough and city councils in a way that is appropriate to their residents and communities. The EWP will seek further involvement from residents throughout the life of this strategy.

# 6. GLOSSARY

## Anaerobic digestion (AD)

A process where biodegradable material (typically food) is enclosed in a container and the oxygen is removed, which encourages the material to break down. The process produces biogas, a renewable energy which can be used to generate heat and electricity and it can produce solids/liquid known as digestate which can be used as fertiliser and compost.

## Carbon capture, utilisation and storage

Carbon capture, utilisation and storage is a technology to prevent carbon emissions produced by industrial activity being released into the atmosphere. Carbon captured is either stored deep underground where it cannot enter the atmosphere, or used in other industrial processes.

## Carbon offsetting

Carbon offsetting can help individuals and organisations to compensate for any emissions they cannot avoid or reduce by paying for an equivalent amount of emissions to be reduced or removed elsewhere.

## Circular economy

A circular economy is an economic system designed with the intention that maximum use is extracted from resources and minimum waste is generated for disposal.

## Climate change

Climate change refers to a change in the state of the climate, causing changes in weather patterns on a global scale and for an extended period. Effects include changes in rainfall patterns, sea level rise, potential droughts, habitat loss and heat stress.

## Closed-loop recycling

Closed-loop recycling is a process where waste is collected and recycled to make the same type of product. For example, glass bottles can be remade into more glass bottles.

## Composting (windrow)

Shredded waste is placed in elongated heaps, called windrows, normally outdoors. The windrows are turned mechanically periodically to push air into the composting waste. The process takes at least 16 weeks. At the end, the compost weighs around half of the original waste and is distributed for agricultural and domestic use.

## Decarbonisation

Decarbonisation is the term used for removal or reduction of carbon dioxide ($CO_2$) output into the atmosphere. We achieve decarbonisation by switching to low carbon energy sources derived from fossil fuels.

## DEFRA – Department for Environment, Food and Rural Affairs

The government department responsible for the environment, food and rural affairs. DEFRA's remit within the environment includes waste management.

## Energy from Waste (EfW) with heat capture

Energy from Waste is a recovery process that takes residual waste and turns it into electricity. Capturing and using the heat generated significantly increases the overall efficiency of the process and the environmental benefits.

## Essex Waste Partnership (EWP)

A partnership comprising all 12 district, borough and city councils and the county council in Essex (**see Appendix 12: Essex Waste Partnership Terms of Reference**). The partnership was set up to ensure cost-efficient and sustainable waste management across the county.

## Fossil fuels

Fuels such as coal, petroleum and natural gas, which contain carbon and release energy in combustion.

## Greenhouse gas

Gases that trap heat in the atmosphere and contribute to climate change. This causes the greenhouse effect. Water vapour, carbon dioxide, nitrous oxide, methane and ozone are the primary greenhouse gases in the atmosphere.

## Home composting

The manufacture of compost material at home (from the breakdown of food and garden waste) using a compost heap, a purpose-made container or a wormery.

## Joint Municipal Waste Management Strategy (JMWMS)

A JMWMS is a joint strategy which sets out how county, district, borough and city councils will work together to manage waste. It is a legal requirement under the Waste Emissions and Trading Act 2003.

## Landfill or landfill sites

Land in which waste is deposited, often disused quarries.

## Local Authority Collected Waste (LACW)

Local Authority Collected Waste is household waste and any other waste that is collected for treatment and disposal by a local authority. LACW comprises of waste from households, recycling centres for household waste, street sweepings and local authority-collected commercial waste.

## Non-recyclable waste

Materials that are not collected for recycling at kerbside, recycling centres, through take back schemes or at community collection points.

## Procurement

The process of buying goods, works and services from third parties and in-house providers. This refers to all stages of the process from identifying what is needed, to the end of a service contract or the end of the useful life of an asset.

## Recovery

In recovery, a waste treatment process is used to recover energy and new raw materials from the waste. Recovery waste treatment processes include anaerobic digestion and Energy from Waste (EfW).

## Recycling

The reprocessing of waste materials into the same products or different ones.

## Residual waste

Waste that is not reused, recycled, composted or anaerobically digested.

## Resources

Materials that can be used to create products. Resources can be virgin materials or secondary raw materials.

## Reuse

In the commercial sector - using products designed to be used many times, such as reuseable packaging.

In homes, reuse includes buying products that use refillable containers or reuse plastic bags. It contributes to sustainable development and can save raw materials, energy and transport costs.

## SEA – Strategic Environmental Assessment

SEA is the environmental assessment of plans, programmes, or strategies. It seeks to provide high level protection for the environment; integrate the environment and sustainable development into planning processes; promote sustainable development; and promote a more open, transparent and evidence-based planning culture.

## Waste hierarchy

The waste hierarchy sets out the order in which options for waste management should be considered based on environmental impact. It is a legal framework that has become a cornerstone of sustainable waste management.

## Waste reduction (waste prevention)

Action to prevent waste being produced to reduce or minimise the amount of waste requiring final disposal. Minimising waste saves on collection and disposal costs and helps to reduce the demand for raw materials.

## Waste treatment

The mechanical, chemical, thermal or biological processing of certain wastes to make them harmless, reduce volumes before landfilling or recycle them.

## Zero waste

Zero waste means minimising the population's demand on primary resources and maximising the reuse, recycling and recovery of resources, rather than treating them as waste.

This information is issued by:
Essex County Council (on behalf of Essex Waste Partnership)
Recycling and Waste

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**wastestrategyforessex@essex.gov.uk**
**0345 743 0430**

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The information contained in this document can be translated and/or made available in alternative formats, on request.

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## WORKING TOGETHER FOR ESSEX

Basildon Council – Basildon · Billericay · Wickford
Braintree District Council
Brentwood Borough Council
castlepoint – benfleet | canvey | hadleigh | thundersley
Chelmsford City Council
Colchester City Council
Epping Forest District Council
Essex County Council
Harlow Council – Working together for Harlow
Maldon District Council
Rochford District Council
Tendring District Council
Uttlesford District Council – It's Our Community

Essex County Council

# WASTE STRATEGY FOR ESSEX

CONSULTATION SURVEY

**Why Your Views Matter**

We want to know what you think to help us make sure we get things right for the future management of waste in Essex and understand what our strategy means for residents of Essex.

This is an opportunity for you to have your say on the draft strategy and Strategic Environmental Assessment. We want to understand whether you think the vision, priorities, targets and ambitions in the strategy are the right ones. We want to know if there is anything else you think we should consider.

We will review all the feedback we receive. Each response will help to shape the final version of the Waste Strategy for Essex.

We want to ensure that everyone who wants to have their say is able to do so. If you would like a large print version of this document, a paper copy, or to discuss alternative options, please contact 0345 6037625 or email wastestrategyforessex@essex.gov.uk.

**Data protection**

Essex County Council is facilitating this consultation on behalf of the Essex Waste Partnership. Essex County Council fully complies with information legislation. If you would like the full details of how we use personal data, and the rights you have about its use, please go to www.essex.gov.uk/privacy-adults or call 03457 430430.

**Taking Part**

You can fill in our online feedback form at:
www.consultations.essex.gov.uk/rci/waste-strategy-for-essex-consultation

You can send back a paper feedback form to: Freepost RTKH-XUBZ-CJZS, Essex County Council, Waste Strategy for Essex, County Hall, Chelmsford, CM1 1QH. However, if you want to help the council save money, please use a stamp, and send to this address: Waste Strategy for Essex, Essex County Council, County Hall, Chelmsford, CM1 1QH. You may wish to keep a copy of your response to our consultation for your own records.

The consultation period will open on **Wednesday 13 September 2023** and closes on **Wednesday 22 November 2023**. Paper copies will be accepted by post for a further five working days, closing on Wednesday 29 November 2023.

Your opinions are valuable to us. Thank you for taking the time to read this and respond. Please ignore any questions that you do not wish to answer.

Essex County Council

# WASTE STRATEGY FOR ESSEX

CONSULTATION SURVEY

1. **Are you completing the consultation**

◯ as an individual ◯ on behalf of an organisation (please state below)

2. **If you are responding as an individual, which of the following best describes you?**
**Then continue from Question 8**

◯ private citizen ◯ an elected councillor or office holder
◯ other

**If you are responding on behalf of an organisation:**

3. **Please select which organisation type (Please select only one item)**

◯ Town or parish council ◯ Registered charity ◯ Community group
◯ Special interest group (please specify) ◯ Private business
◯ Public service organisation (e.g. Police, NHS) ◯ Other (please specify)

4. **Does your organisation primarily work with or represent people from any of these groups?**

◯ Older people ◯ Children/ young people ◯ Disabled people
◯ Pregnant people and new mothers ◯ Black and ethnic minority people ◯ Religious or faith communities
◯ Transgender people ◯ Women ◯ Men
◯ Lesbian, gay or bisexual people ◯ Other (please specify)

5. **Which district(s), borough(s) or city does your organisation cover? Please tick all that apply**

◯ Basildon ◯ Colchester ◯ Tendring
◯ Braintree ◯ Epping Forest ◯ Uttlesford
◯ Brentwood ◯ Harlow ◯ Southend
◯ Castle Point ◯ Maldon ◯ Thurrock
◯ Chelmsford ◯ Rochford ◯ Another neighbouring county
◯ Other (please state) ◯ Prefer not to say

6. **What is the name of your organisation?**

7. **Please provide an email address for your organisation:**

# Our Vision

To help us move towards our net zero targets, the partnership has drafted a vision for the future:

> *We aspire to be a zero waste county. By working together we will reduce waste, protect the environment and conserve resources.*

Achieving zero waste in Essex means reusing and recycling as much as possible, and recovering as many resources as possible from the waste that remains.

**What is the Essex Waste Partnership?**

A partnership comprising all 12 district, borough and city councils and the county council in Essex (see appendix 13). The partnership was set up to ensure cost-efficient and sustainable waste management across the county.

**Net Zero** means a state where there is a balance between the amount of greenhouse gases released into the atmosphere by a human activity, and the amount which is removed. A commitment to net-zero carbon is associated with a commitment to reduce greenhouse gas emissions to achieve this balance.

**Resources** means materials that can be used to create products. Resources can be virgin materials or secondary raw materials.

**Recovery** means a waste treatment process that is used to recover energy and new raw materials from the waste. Recovery waste treatment processes include anaerobic digestion and Energy from Waste (EfW).

**8. To what extent do you agree or disagree with this vision statement for the Waste Strategy for Essex?**

| ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|
| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |

**9. Is there anything else you'd like to tell us about the vision?**

# Our Targets

We believe we should, as a minimum, commit to achieving national waste targets set by the government. Therefore, our proposed targets are:

| | |
|---|---|
| **Net zero greenhouse gas emissions** | We will contribute to reducing the county's greenhouse gas emissions to net zero by 2050 |
| **Waste reduction** | We will halve the amount of residual waste produced per person by 2042 |
| **Recycling** | We will reuse, recycle, or compost 65% of waste by 2035 |
| **Waste disposal** | We will send no more than 10% of waste to landfill by 2035 |
| **Collection Services** | We will ensure that all Essex residents have access to separate food waste collections by 2026.<br>We will ensure that all Essex Residents have access to comprehensive recycling services for plastic, paper and card, metal, glass, food and garden waste by 2026. |

# Current Performance

In 2020 Essex councils collected over 725,000 tonnes of waste and recycling, the equivalent weight of roughly 58,000 London buses.

On average, each resident in Essex produces around 463 kg of waste per year which is 16% more than the national average. In 2020/21 the recycling rate in Essex was 52% which is higher than the national average of 44%.

As one of the largest waste partnerships in the country, the EWP recognises it has a key role to play in delivering a more circular economy in the UK and contributing to the achievement of national waste and recycling targets. Setting targets enables the partnership to track its performance against its vision and strategic aims. To find out more about national targets, please visit **Appendix 4 National Legislation.**

**Greenhouse gas** means gases that trap heat in the atmosphere and contribute to climate change. This causes the greenhouse effect. Water vapour, carbon dioxide, nitrous oxide, methane and ozone are the primary greenhouse gases in the atmosphere.

**10. Which of the following statements best describes your thoughts on the targets in the draft strategy?**

| I would prefer more ambitious targets | I think the targets are about right | I would prefer less ambitious targets | I would prefer no targets at all | I'm not sure |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

**11. If you answered “more ambitious” targets, which of the following best describes your view?**

| | | |
|---|---|---|
| ○ I would prefer higher targets | ○ I would prefer the targets to be achieved sooner | ○ I would prefer higher targets that are achieved sooner |

**12. If you answered “less ambitious” targets, which of the following best describes your view?**

| | | |
|---|---|---|
| ○ I would prefer lower targets | ○ I would prefer the targets to be achieved at a later date | ○ I would prefer lower targets that are achieved at later date |

**13. Is there anything else you’d like to tell us about the targets**

## Our Ambitions

The strategy also sets out stretching ambitions and aspirations that the partnership will aim for to deliver greater change and impact more quickly.

| | |
|---|---|
| **Waste reduction** | We aim to reduce waste by 10% by 2030 We aspire that Essex will be a zero waste county by 2055 |
| **Waste Disposal** | We aim to send zero waste to landfill by 2030. |
| **Recycling** | We aim to reuse, recycle or compost at least 70% of waste by 2030 |

Achieving zero waste in Essex means reusing and recycling as much as possible, and recovering as many resources as possible from the waste that remains.

The partnership will create plans, publish our progress, and regularly review this strategy to ensure it is fit for purpose.

To find out more about how our targets and ambitions are defined, please visit **Appendix 10 Targets and Ambitions Definitions.**

**14. Which of the following statements best describes your thoughts on the ambitions in the draft strategy? Please select only one item**

- ○ I would prefer higher ambitions
- ○ I think the ambitions are about right
- ○ I would prefer lower ambitions
- ○ I would prefer no ambitions at all
- ○ I'm not sure

**15. If you answered "higher ambitions", which of the following best describes your view?**
Please select only one item

- ○ I would prefer higher ambitions
- ○ I would prefer the ambitions to be achieved sooner
- ○ I would prefer higher ambitions that are achieved sooner

**16. If you answered “lower ambitions”, which of the following best describes your view?**

- ○ I would prefer lower ambitions
- ○ I would prefer the ambitions to be achieved at a later date
- ○ I would prefer lower ambitions that are achieved at later date

**17. Is there anything else you’d like to tell us about the ambitions**

## Approach to Partnership Vision

The next section of the consultation survey asks you questions about the approach the partnership proposes to follow to deliver the partnership’s vision, targets and ambitions.

The priorities cover:

- Supporting the move to a circular economy
- Services that deliver the waste hierarchy
- Partnership working to maximise the impact of our work
- Supporting residents to reduce their waste and recycle more

## What is the waste hierarchy?

The Waste Hierarchy sets out the order in which options for waste management should be considered based on environmental impact. It is a legal framework that has become a cornerstone of sustainable waste management.

## What does it mean in practice?

Under the waste hierarchy, activities that prevent waste and increase recycling are shown to have the least impact. Applying the waste hierarchy when designing services and making decisions will help the partnership take the right decisions and achieve our vision of a zero waste county.

Achieving zero waste in Essex means reusing and recycling as much as possible, and recovering as many resources as possible from the waste that remains.

## Move to a Circular Economy

The best way to reduce the environmental impact of waste is to embrace a circular economy. In a circular economy, our finite resources are conserved and used efficiently. That's why the circular economy is a priority in this strategy and the partnership proposes to:

*Realise the opportunities arising from the circular economy model that will bring wider benefits to Essex*

To deliver this priority, the EWP will:

- Encourage the growth of the green business sector and jobs in Essex to deal with waste in innovative ways
- Support businesses to adopt circular economy principles and practices
- Integrate the principles of the circular economy in council strategies and policies
- Support communities to reduce their waste and reuse and repair more
- Design services that increase closed loop recycling where waste is collected and recycled to make the same type of product.

## What is a circular economy?

A circular economy is an economic system designed with the intention that maximum use is extracted from resources and minimum waste is generated for disposal.

## Why is the circular economy a good thing?

There are clear environmental benefits from reducing waste in manufacturing, and designing products that are easy to repair and recycle. The transition to a circular economy can also provide opportunities for green growth and jobs.

## Where are we now?

Most products are still designed and created using a linear economy model where resources are taken, manufactured, used and disposed of. We have moved into a recycling economy where a proportion of materials are recycled but not retained at their highest quality.

## How do we get to a circular economy?

The transition to a circular economy requires us all to rethink how resources are valued and managed. The model relies on designing products that are durable, easy to maintain and repair. This encourages and enables individuals to reuse the products many times. Finally, the products should be designed to enable straightforward recycling when they can no longer be reused or repaired.

## What is closed loop recycling?

Closed-loop recycling is a process where waste is collected and recycled to make the same type of product. For example, glass bottles can be remade into more glass bottles.

**18. To what extent do you agree or disagree with this priority?**

| ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|
| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |

**19. Is there anything else you'd like to tell us about the priority or approach to delivering this priority?**

## Services that Deliver the Waste Hierarchy - Prevention

The best way to reduce the impact of waste is to prevent waste being produced in the first place. We can do this by using less materials during manufacture, only buying what we need, and using what we already have. The partnership is proposing to deliver services that follow the waste hierarchy with priority given to waste prevention:

*Deliver a system that puts waste reduction at its centre*

To deliver this priority, the EWP will:

- Develop and deliver information and activities to help and inspire residents to reduce their waste
- Design future waste collection services to encourage residents to reduce their waste
- Work with government to seek stronger legislation and regulation to hold businesses to account
- Support local businesses that operate sustainably or encourage waste reduction

**What is waste prevention (waste reduction)?**
Action to prevent waste being produced to reduce or minimise the amount of waste requiring final disposal. Minimising waste saves on collection and disposal costs and helps to reduce the demand for raw materials.

**Why is waste prevention important?**
Although we need to recycle more, we need to address the problem that we create too much waste. On average, each resident in Essex produces around 463kg of waste per year (equivalent to roughly half the weight of a Fiat 500) that's almost 8% less waste per person compared to 2010-11, but 16% more than the national average.

**What is the waste hierarchy?**
The Waste Hierarchy sets out the order in which options for waste management should be considered based on environmental impact. It is a legal framework that has become a cornerstone of sustainable waste management.

**What does it mean in practice?**
Under the waste hierarchy, activities that prevent waste and increase recycling are shown to have the least impact. Applying the waste hierarchy when designing services and making decisions will help the partnership take the right decisions and achieve our vision of a zero waste county.

Achieving zero waste in Essex means reusing and recycling as much as possible, and recovering as many resources as possible from the waste that remains.

**20. To what extent do you agree or disagree with this priority?**

| ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|
| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |

**21. Is there anything else you'd like to tell us about the priority or approach to delivering this priority?**

## Services that deliver the Waste Hierarchy - Reuse

The waste hierarchy shows that the next best option is to re-use products as much as possible by maintenance and repair, as well as borrowing, renting or buying second-hand. That's why Reuse is a priority in this strategy and the partnership proposes to:

*Work together to encourage and support reuse and repair initiatives*

To deliver this priority, the EWP will:

- Support business to deliver reuse and repair services
- Support communities to deliver local reuse and repair initiatives
- Develop and deliver information and activities to help and inspire residents to reuse and repair more
- Support sharing platforms that promote reuse
- Develop enhanced reuse services through Essex County Council's network of Recycling Centres
- Lobby government to accelerate a repair and reuse culture within business

### What does reuse mean?

For businesses, reuse means designing products to be used many times, such as reusable packaging. In homes, reuse includes buying products that use refillable containers or reuse plastic bags. It contributes to sustainable development and can save raw materials, energy and transport costs.

### Why is re-use important?

Although we need to recycle more, we need to address the problem that we create too much waste. On average, each resident in Essex produces around 463kg of waste per year (equivalent to roughly half the weight of a Fiat 500) that's almost 8% less waste per person compared to 2010-11, but 16% more than the national average. If we reuse more products, we can reduce the amount of waste generated.

**What is the waste hierarchy?**

The Waste Hierarchy sets out the order in which options for waste management should be considered based on environmental impact. It is a legal framework that has become a cornerstone of sustainable waste management.

**What does it mean in practice?**

Under the waste hierarchy, activities that prevent waste and increase recycling are shown to have the least impact. Applying the waste hierarchy when designing services and making decisions will help the partnership take the right decisions and achieve our vision of a zero waste county. Achieving zero waste in Essex means reusing and recycling as much as possible, and recovering as many resources as possible from the waste that remains.

**22. To what extent do you agree or disagree with this priority?**

| ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|
| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |

**23. Is there anything else you'd like to tell us about the priority or approach to delivering this priority?**

# Services that deliver the Waste Hierarchy - Recycle

If waste cannot be prevented or products and materials reused, then turning materials into new products by recycling is the next option on the waste hierarchy. That's why Recycling is a priority in this strategy and the partnership proposes to:

*Increase recycling by delivering comprehensive services and supporting residents to recycle as much as possible*

To deliver this priority, the EWP will:

- Provide collection services, recycling centres, and local community recycling facilities
- Ensure that all Essex residents have access to separate food waste collections
- Ensure that all Essex residents have access to frequent and comprehensive services for recycling plastic, paper and cardboard, metal, glass, food, and composting garden waste
- Ensure residents have the right information to recycle as much as possible
- Continue to support home composting

**What does recycling mean?**
The reprocessing of waste materials into the same products or different ones.

**Where are we now?**
Our recycling rate varies in each area of Essex and has plateaued over recent years. A significant change is needed to achieve our targets.
By improving recycling collections and the introduction of kerbside food collections, we have increased the proportion of waste recycled from 21%in 2000/01 to 52% in 2020/21. But our recycling rate varies in each area of Essex and has plateaued over recent years.

Roughly 25% of waste thrown away in the general rubbish bin is food waste. Not only is this a waste of money but it's also damaging the environment. When food waste is sent to landfill, it doesn't just safely breakdown. Instead, it lets off harmful greenhouse gases which contribute to climate change. However, when food waste is recycled at the kerbside, it is transformed into energy and fertiliser. It's amazing to think that recycling just six tea bags generate enough energy to boil a kettle to make another cuppa!

Disposing of food waste in the general rubbish is also costly. In fact, it's costing Essex taxpayers £9 million a year to dispose of! Currently not all households in Essex have access to a separate food waste collection.

**24. To what extent do you agree or disagree with this priority?**

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

**25. Is there anything else you'd like to tell us about the priority or approach to delivering this priority?**

# Services that deliver the Waste Hierarchy - Recovery

The waste hierarchy shows that if we can't prevent, reuse or recycle, then recovery of energy and materials from the waste is preferable to disposal. By rethinking our waste and recovering energy, we can ensure that the climate impact of managing food and non-recyclable waste is minimised and reduce our reliance on disposal by landfill. That's why Recovery is a priority in this strategy and the EWP proposes to:

*Use technologies for the treatment of food and non-recyclable waste that aim to minimise the environmental impact of waste, and maximise energy and material recovery*

To deliver this priority, the EWP will:

- Reduce our reliance on disposal by landfill
- Use anaerobic digestion as the most viable technology for the treatment of unavoidable food waste to recover energy and fertiliser
- Use Energy from Waste (EfW) as the most viable technology for the treatment of residual waste to recover energy and materials
- Aim to capture and use heat from Energy from Waste (EfW) facilities to improve the efficiency of treatment facilities for residual waste
- Continue exploring new technologies to improve the efficiency of treatment facilities, such as carbon capture and storage
- Continue working to reduce the amount of plastic material in residual waste

### What does landfill mean?

Landfill or Landfill sites means land in which waste is deposited, often disused quarries. Essex still relies too heavily on landfill as the main method for disposing of waste. In 2022 we sent around 350,000 tonnes of resident's waste to landfill. Landfill is not a long-term option for non-recyclable waste. According to the waste hierarchy, it is environmentally the worst option and is likely to continue to cost more than other waste management options.

### What does Anaerobic Digestion mean?

Food waste in the majority of Essex is collected by waste and recycling crews and taken to local processing plants. Anything that is not food waste, such as caddy liner bags or packaging, is separated from the load.

Food waste is then processed and transformed into a biogas that is rich in methane, and fertiliser. This biogas is used to generate green energy that can be used across Essex. By using this green energy, it reduces our need to use fossil fuels.

### What does recovery mean?

In recovery, a waste treatment process is used to recover energy and new raw materials from the waste. Recovery waste treatment processes include anaerobic digestion and Energy from Waste (EfW).

### What does Energy from Waste (EfW) mean?

Energy from waste is a recovery process that takes residual waste and turns it into electricity.

Energy from Waste facilities need to be correctly and flexibly sized, efficient and be designed with emerging technologies in mind, to ensure we further reduce greenhouse gas emissions and improve efficiency in the future. Capturing and using the heat generated from EfW processes significantly increases the overall efficiency of the process and the environmental benefits.

### What does Carbon capture, utilisation and storage mean?

Carbon capture, utilisation and storage is a technology to prevent carbon emissions produced by industrial activity being released into the atmosphere. Carbon captured is either stored deep underground where it cannot enter the atmosphere, or used in other industrial processes.

**26. To what extent do you agree or disagree that the EWP should reduce the use of landfill?**

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

**27. To what extent do you agree or disagree that adopting the use of anaerobic digestion for the treatment of food waste is the right solution?**

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

**28. To what extent do you agree or disagree that, after recycling everything we can, adopting Energy from Waste (EfW) for residual waste is the right solution?**

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

**29. Is there anything else you'd like to tell us about the priority or approach to delivering this priority?**

# Collaborate and Innovate

We can achieve more when we work together and in partnership with others, learning from each other and trying new things. That's why collaboration and innovation is a priority in this strategy and the partnership proposes to:

> *Innovate and work collaboratively with each other and with government, businesses and institutions to create a more sustainable waste system*

To deliver this priority we will

- Work to reduce the carbon impact of waste operations by increasing use of alternative fuels for our vehicles and equipment, and making waste transport routes as efficient as possible.
- Work together to make the network of recycling centres, waste transfer stations and depots as efficient as possible
- Explore carbon capture and carbon offsetting to mitigate unavoidable greenhouse gas emissions.
- Stay abreast of innovation, trends and examples of best practice to shape service design
- Work together and maximise opportunities to increase recycling in public spaces and reduce litter.
- Be an active voice striving to shape government policy, legislation, and regulation through engagement, consultations, and lobbying.
- Work together to develop opportunities for employment, environmental benefit, and reduced costs.

**What is the Essex Waste Partnership?**
A partnership comprising all 12 district, borough and city councils and the county council in Essex (see appendix 13). The partnership aims to ensure cost-efficient and sustainable waste management across the county.

**What does carbon offsetting mean?**
Carbon offsetting can help individuals and organisations to compensate for any emissions they cannot avoid or reduce by paying for an equivalent amount of emissions to be reduced or removed elsewhere.

**What does carbon capture, utilisation and storage mean?**
Carbon capture, utilisation and storage is a technology to prevent carbon emissions produced by industrial activity being released into the atmosphere. Carbon dioxide is captured and either stored deep underground where it cannot enter the atmosphere, or used in other industrial processes.

**30. To what extent do you agree or disagree with this priority?**

| ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|
| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |

**31. To what extent do you agree or disagree that Collaboration and Innovation should be achieved through the following means:**

Work to reduce the carbon impact of waste operations by increasing use of alternative fuels for ourvehicles and equipment, and making waste transport routes as efficient as possible.

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

Work together to make the network of recycling centres, waste transfer stations and depots as efficient as possible

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

Explore carbon capture, utilisation and storage, and carbon offsetting to mitigate unavoidable greenhouse gas emissions

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

Stay abreast of innovation, trends and examples of best practice to shape service design

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

Work together and maximise opportunities to increase recycling in public spaces and reduce litter.

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

Be an active voice striving to shape government policy, legislation, and regulation through engagement, consultations, and lobbying

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

Work together to develop opportunities for employment, environmental benefit, and reduced costs

| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |

**32. Is there anything else that you'd like to tell us about the priority or approach to delivering this priority?**

# Educate and Engage

Supporting residents with information and education that inspires changes in attitudes and adoption of new behaviours is essential to achieving the partnership's vision, targets and ambitions for a zero waste county. That's why education and engagement is a priority in this strategy and the partnership proposes to:

> *Listen to residents and deliver information and initiatives to encourage changes in attitudes and behaviour to reduce waste and recycle more*

To deliver this priority, the EWP will:

- Engage regularly with residents to understand barriers, improve service design and increase participation in waste prevention and recycling services
- Examine the composition of recycling and waste to identify opportunities to target initiatives and design of services
- Provide service information and develop and deliver a programme of activities and education to embed waste as an environmental issue and inspire residents to make changes

The Love Essex brand created for the Essex Waste Partnership enables the partner councils to deliver better results for residents through cost effective campaigns and services. Providing consistent messages, the Love Essex campaigns and services inspire behaviour change with the goal of reducing waste, recycling more and making Essex a better place to live.

**33. To what extent do you agree or disagree with this priority?**

| ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|
| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |

**34. Is there anything else you'd like to tell us about the priority or approach to delivering this priority?**

# Research, planning and performance monitoring

We want residents to be able to hold the partnership to account for achieving our aims. Therefore the partnership will:

- Create action plans to set out clear milestones and pathways to delivering our vision, targets and ambitions
- Adopt best practice indicators to monitor performance and track progress
- Review and publish performance and progress annually against the vision, targets, and ambitions of this strategy

We recognise that national policy and legislation, the composition and volume of our waste, and the attitudes and behaviours toward waste will change over time. As a result, this strategy and the services and initiatives delivered by the partnership will need to be updated to reflect this.

The partnership will:

> *Comprehensively review this strategy every five-years to ensure alignment with any changes in national policy and legislation, trends in waste generation, and the development of new approaches and technologies.*

To find out more about national targets, please visit Appendix 4 National Legislation.

To find out more about how our targets and ambitions are defined, please visit Appendix 10 Targets and Ambitions Definitions.

**35. To what extent do you agree or disagree with this approach to research, planning and performance monitoring?**

| ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|
| Strongly Disagree | Mostly Disagree | Not sure | Mostly Agree | Strongly Agree |

**36. Is there anything else you'd like to tell us about the approach to research, planning and performance monitoring?**

**Final opportunity to comment on the content of the strategy**

**37. Is there anything else that needs to be considered around the draft Waste Strategy for Essex?**

## Strategic Environment Assessment Questions

The partnership has commissioned a Strategic Environmental Assessment (SEA). The Environmental Report (Appendix 8) presents the findings of the SEA and has been prepared in accordance with the SEA regulations. This assessment ensures a high level of protection for the environment and that sustainability is at the forefront of the strategy.

In this section of the survey, you have the opportunity to give us your views on the Environmental Report on the Strategic Environmental Assessment. If you don't wish to provide feedback on the SEA, you can click 'no' to move to the final section of the survey.

**To view the Environmental Report (SEA) in full, please view Appendix 8 which can be found at** www.consultations.essex.gov.uk/rci/waste-strategy-for-essex-consultation

**38. Do you wish to provide any comments on the Environmental Report?**

◯ Yes ◯ No

*If 'Yes', proceed to question 39.*
*If 'No', proceed to question 42.*

**39. Does the Environmental Report correctly identify the likely significant effects of the draft Strategy?**

◯ Yes ◯ No

*If 'Yes', proceed to question 41.*
*If 'No', proceed to question 40.*

**40. What are your views on the likely significant environmental effects of the draft Strategy?**

**41. Is there anything else you would like to tell us about the Environmental Report?**

# Equality and Diversity Monitoring Questions

Thank you for answering the questions so far. In this final section we ask you to let us know a bit more about you, so we understand who we are hearing from.

All responses are anonymous and your answers will be kept completely confidential. It is voluntary to disclose this information. If you choose not to answer these questions, it will not affect your participation

**42. Which district(s), borough(s) or city does your organisation cover? Please tick all that apply**

- ◯ Basildon
- ◯ Braintree
- ◯ Brentwood
- ◯ Castle Point
- ◯ Chelmsford
- ◯ Other (please state)
- ◯ Colchester
- ◯ Epping Forest
- ◯ Harlow
- ◯ Maldon
- ◯ Rochford
- ◯ Prefer not to say
- ◯ Tendring
- ◯ Uttlesford
- ◯ Southend
- ◯ Thurrock
- ◯ I live in another neighbouring county

**43. Which age group do you belong to?** Please select only one option.

- ◯ Under 16
- ◯ 16 - 24
- ◯ 35 - 34
- ◯ 35 - 44
- ◯ 45 - 54
- ◯ 55 - 64
- ◯ 65+
- ◯ Prefer not to say

**44. What is your gender?**

- ◯ Male
- ◯ Female
- ◯ Non-binary
- ◯ Prefer to self-describe (option to state below)
- ◯ Prefer not to say

**45. What is your ethnicity? Please tick all that apply**

- ◯ White British
- ◯ White Irish
- ◯ White Other
- ◯ Gypsy/ Roma
- ◯ Traveller of Irish Heritage
- ◯ Black or Black British African
- ◯ Black or Black British Caribbean
- ◯ Mixed White/Black African
- ◯ Mixed White/Black Caribbean
- ◯ Black Other
- ◯ Asian or Asian British Pakistani
- ◯ Asian or Asian British Indian
- ◯ Asian or Asian British Other
- ◯ Mixed White/Asian
- ◯ Asian Other
- ◯ Chinese
- ◯ Mixed Other
- ◯ Not Known
- ◯ Prefer not to say
- ◯ Other, please state

**46. What is your religion/ faith?** Please select only one option

- ◯ Christian
- ◯ Muslim
- ◯ Hindu
- ◯ Buddhist
- ◯ Sikh
- ◯ Jewish
- ◯ None
- ◯ Not sure
- ◯ Other, please specify

**47. Do you consider yourself to have an impairment? Please select all that apply.**

- ◯ No impairment
- ◯ Hearing impairment/deaf
- ◯ Visual impairment/blind
- ◯ Deafblind
- ◯ Mental Health Needs
- ◯ Drug or alcohol addiction
- ◯ Physical impairment
- ◯ Learning difficulties/disabilities
- ◯ Autism spectrum disorder
- ◯ Other (please specify)
- ◯ Prefer not to say

# WASTE STRATEGY FOR ESSEX

## Strategic Environmental Assessment (SEA) Scoping Report

Report for: Essex County Council

Ref. ED15623100

Ricardo ref. ED15623100 Issue: 2 14/02/2023



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Date:
14/02/2023

# CONTENTS

# 1. INTRODUCTION

## 1.1 BACKGROUND AND PURPOSE OF REPORT

This Strategic Environmental Assessment (SEA) Scoping Report sets out the approach to the SEA of the Waste Strategy for Essex. The Waste Strategy will provide a strategic framework for waste management in Essex to enable the delivery of the Essex Waste Partnership's (EWP) vision for waste.

Essex County Council (ECC) is the statutory Waste Disposal Authority (WDA) for Essex and is obligated under the Environmental Protection Act 1990 to provide a range of waste services for the treatment and disposal of Local Authority Collected Waste (LACW).

To optimise the delivery of its statutory waste functions ECC works in partnership with the twelve Essex Waste Collection Authorities (WCAs) (comprising the district, city and borough councils of Essex), collectively known as the Essex Waste Partnership (EWP). There is a stated ambition that effective partnership working as the EWP will ensure that:

- appropriate infrastructure can be provided and utilised
- complimentary systems and services can be implemented to deliver effective waste operations
- resources can be used in a manner which maximises beneficial impacts.

Essex County Council (ECC) is obliged to maintain a Joint Strategy setting out how household and similar wastes are to be managed. The current Joint Municipal Waste Management Strategy (JMWMS) was adopted in 2008, and was expected to be in place until 2032. The development of new legislative and policy drivers by government have resulted in the current JMWMS becoming outdated; ECC have therefore taken the decision to review, update and develop the Strategy to ensure it better reflects current needs and legislative requirements. As with the development of the current JMWMS, it is intended that, although the project will be led by ECC, it will be carried out in partnership with EWP members, including engagement with wider stakeholders facilitating 'buy-in' at all levels of the Partnership.

The current JMWMS needs to be refreshed to take account of new targets for waste management that go beyond 2020. This project is designed to assist the EWP in producing a refreshed Joint Strategy, the "Waste Strategy for Essex" which will provide a clear, concise and target-driven guide on how waste is to be managed for the next 25 years. The refreshed Strategy will consider national waste policy, the latest legislation, performance targets and define a collective EWP ambition. The Strategy will be based on a good understanding of current waste flows and how these may change over the lifetime of the plan to ensure that a sustainable resource management solution is delivered.

### 1.1.1 Strategic Framework

A series of workshops was held, involving various EWP stakeholders, in order to shape and guide the vision, objectives and priorities for the Waste Strategy for Essex, with the goal of understanding and capturing the diverse views across the EWP and to identify areas where there is consensus already within and across the groups.

The workshops supported the shape of the proposed strategic framework for the Waste Strategy for Essex, as presented in Figure 1.1.

The Vision Statement *"Zero waste, zero carbon, more impact"* was broken down into five main themes:

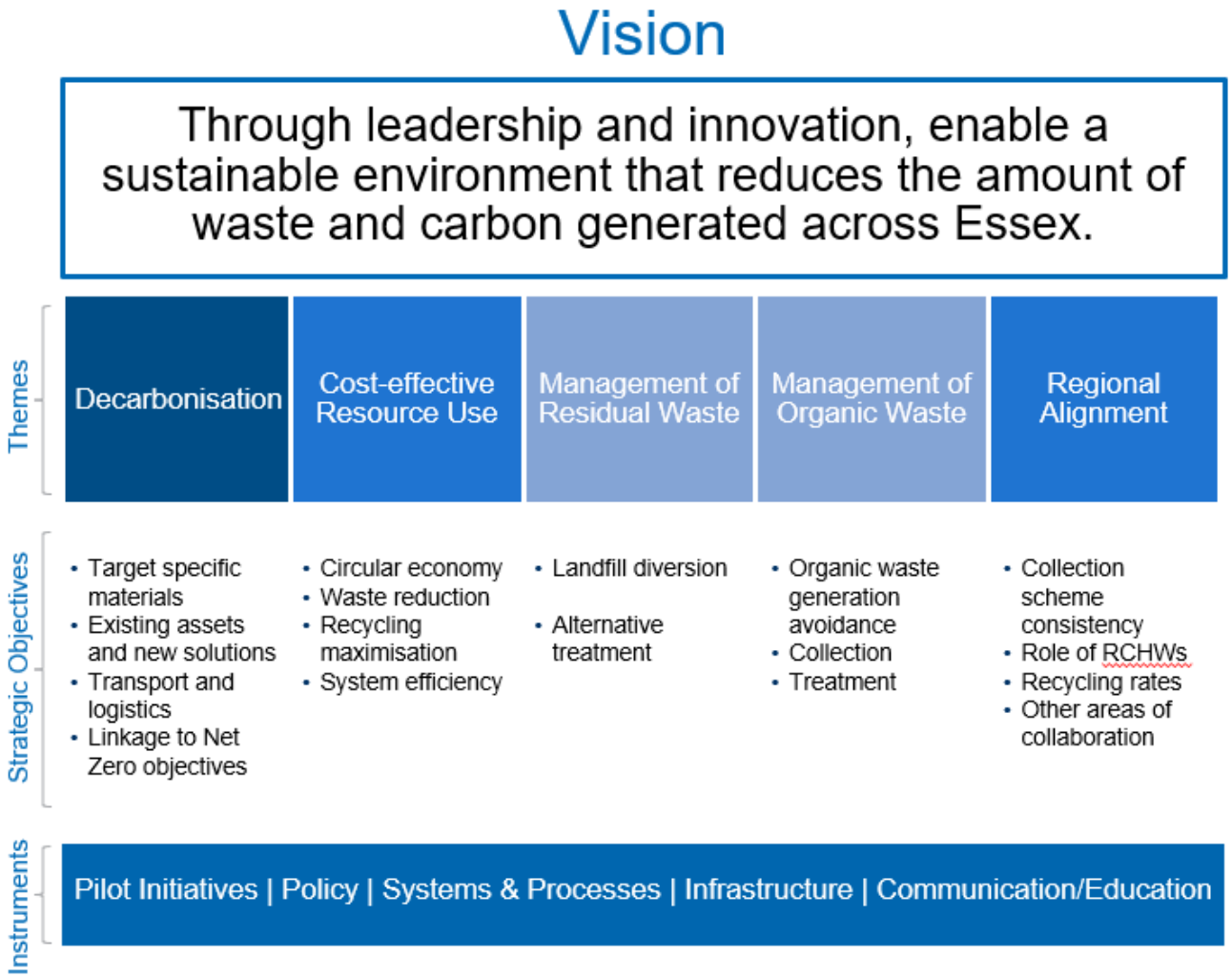
- decarbonisation
- cost-effective resource use
- management of residual waste
- management of organic waste
- regional alignment

For each theme, strategic objective areas were identified as listed with any targets or objectives to be achieved. The chart also represents the instruments and tools that will enable the implementation of the Waste Strategy for Essex.

It should be noted that the elements presented as part of the Strategic Framework summarise what was discussed during the workshops and are not an exhaustive list of the themes and objectives that will be included in the Strategy. It is expected that further conversations will take place during the development of the Waste Strategy for Essex. The workshop sessions were used as a starting point to agree the whole system collection and treatment options to be modelled.

Further information regarding the development of the Strategy and the options to be assessed is provided in Section 4.2.

Figure 1.1: Strategic framework




## 1.2 STRATEGIC ENVIRONMENTAL ASSESSMENT

SEA is a statutory requirement under the SEA Regulations[1]. SEA became a statutory requirement following the adoption of Directive 2001/42/EC (the SEA Directive) on the assessment of effects of certain plans and programmes on the environment as transposed into national legislation by the Environmental Assessment of Plans and Programmes Regulations 2004 (Statutory Instrument 2004 No. 1633) (hereafter referred to as "the SEA Regulations"). From December 31 2020, following the exit of the UK from the European Union, the SEA Regulations are now the principal legal basis for SEA.

This report has been prepared in accordance with the SEA Regulations. The SEA Regulations require all qualifying policies, plans, programmes and strategies (referred to generally as plans) to undergo a SEA. The

[1] The Environmental Assessment of Plans and Programmes Regulations 2004 (Statutory Instrument 2004 No. 1633) apply to any plan or programme which relates solely or in part to England.

SEA process provides a systematic process for identifying, reporting and mitigating the environmental impacts of the proposed plan.

The SEA process comprises the following distinct stages:

- **Screening** – determining whether a plan requires a SEA;
- **Scoping** – establishing significant environmental topics, setting the environmental baseline, developing appropriate SEA objectives and consulting via a Scoping Report;
- **Environmental Assessment** – assessing the potential environmental impact of the Strategy and consulting on both the draft plan and Environmental Report;
- **Post Adoption Statement** – how the assessment and the consultation results have been considered within the finalised plan. Developing the monitoring strategy to assess progress once adopted;
- **Monitoring**- monitoring significant environmental effects and taking appropriate remedial action for any unforeseen significant environmental effects

The objective of SEA is:

> *"to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans with a view to promoting sustainable development."*

The SEA Regulations require certain plans and programmes to undergo environmental assessment, and as criteria for consideration includes biodiversity, flora and fauna, population and human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the inter-relationships between these issues.

The UK Government has produced SEA guidance[2] that sets out the stages of the SEA process.

The Strategy is a qualifying plan in accordance with the SEA Regulations and therefore a SEA is required (see Figure 1.2). This report sets out the findings of the SEA Scoping undertaken on the Waste Strategy for Essex.

### 1.2.1 Purpose of the Scoping Report

This Scoping Report represents the first formal output of the SEA process. The purpose of the report is to provide sufficient information to statutory consultees to enable them to comment on the proposed scope of the SEA. Specifically, the Scoping Report sets out:

- The main objectives and contents of the Waste Strategy for Essex.
- A summary of other relevant plans, programmes or strategies that can influence the Strategy.
- A summary of the environmental characteristics of the area covered by the plan.
- A statement about whether any environmental topics are being scoped out of the assessment and the reasons why.
- A brief description, of the type and range of reasonable alternatives that are considered.
- A summary of the intended approach to the assessment and its level of detail.
- The proposed period of consultation on the Environmental Report.

## 1.3 REQUIREMENTS FOR SEA OF THE WASTE STRATEGY FOR ESSEX

The UK Government's SEA guidance[3] sets out the stages of the SEA process. Under the SEA Regulations, as a Responsible Authority, Essex County Council is required to determine whether the Waste Strategy falls within the scope of the SEA Regulations and whether an SEA must be undertaken.

[2] Office of the Deputy Prime Minister (2005). A Practical Guide to the Strategic Environmental Assessment Directive.
[3] Office of the Deputy Prime Minister (2005). A Practical Guide to the Strategic Environmental Assessment Directive.

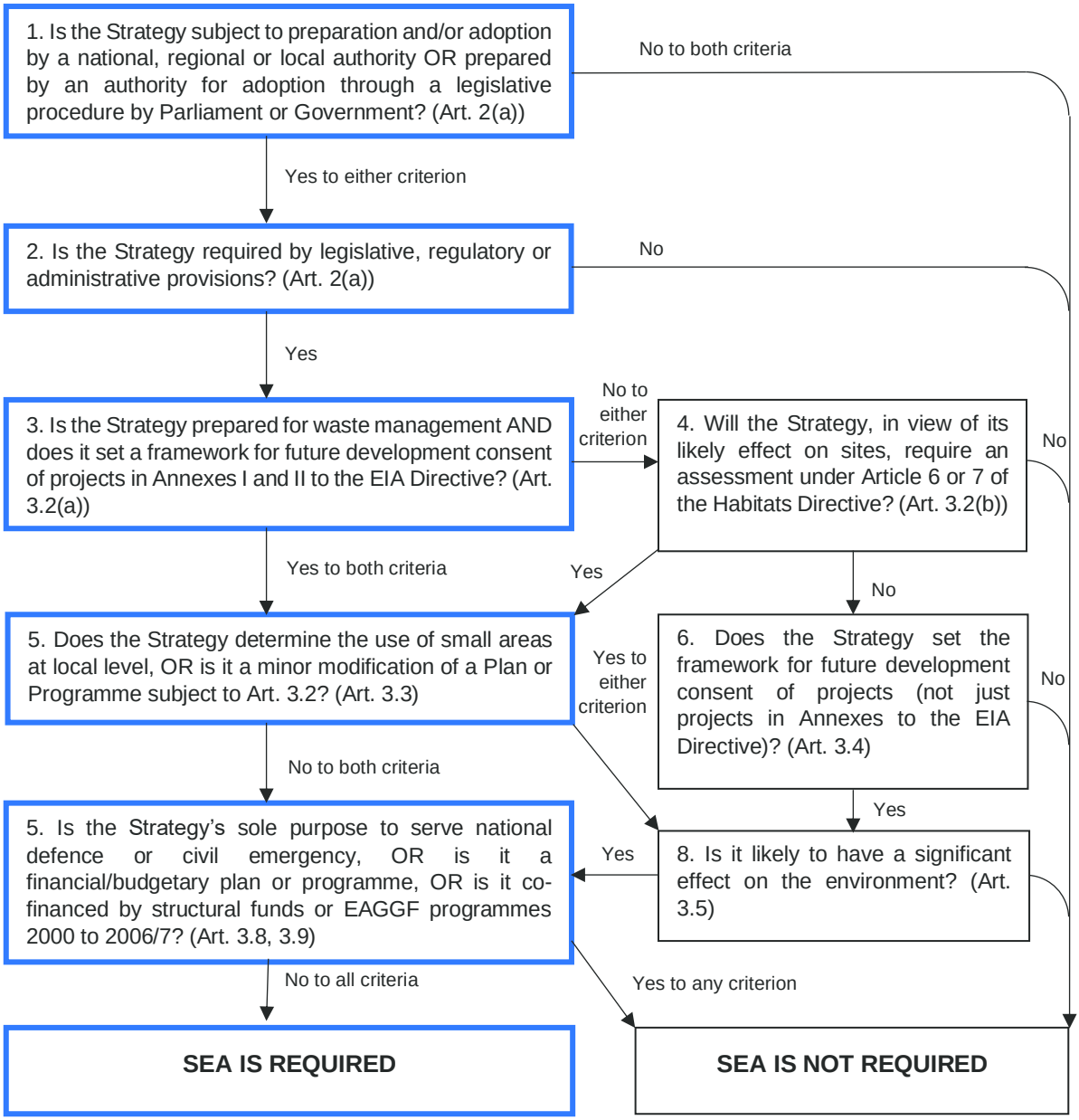
The SEA Guidance, from which Figure 1.2 is adapted, provides directions as to how the requirement for SEA should be determined. The boxes and arrows highlighted in blue on Figure 1.2 describe the provisions and route through the flow chart applicable to the Waste Strategy for Essex and demonstrate that the Strategy falls within the scope of the SEA Regulations.

## 1.4 SEA AND WASTE MANAGEMENT

The purposes of the SEA of the Strategy are to:

- identify the potentially significant environmental effects of the strategy in terms of the waste strategy options being considered by Essex County Council;
- help identify the best practicable environmental option (BPEO) from the 6 short-listed options to best avoid, reduce or manage potentially adverse effects and to enhance beneficial effects associated with the implementation of the Strategy where possible;
- give the statutory SEA bodies, stakeholders and the wider public the ability to comment upon the effects that the draft Strategy may have on them, their communities, and their interests, and encourage them to make responses and suggest improvements; and inform Essex County Council of waste strategy options to be taken forward into the final Strategy.

Figure 1.2 SEA Requirement in relation to the Waste Strategy for Essex




## 1.5 SEA APPROACH

SEA incorporates the following generic stages:

- Stage A: Setting the context, identifying objectives, problems and opportunities, and establishing the environmental baseline (scoping)
- Stage B: Developing and refining options and assessing effects (impact assessment)
- Stage C: Preparing the Environmental Report (recording results)
- Stage D: Consulting on the Draft Plan and the Environmental Report (seeking consensus)
- Stage E: Monitoring the significant effects of the plan or programme on the environment (verification)

**Table 1.1** is an extract from the ODPM Practical Guide[4] that sets out the main stages of the SEA process and the purpose of each task within the process. This Scoping Report represents Stage A: Tasks A1 to A4 of the SEA process.

Table 1.1 SEA Stages and Tasks

| SEA Stages and Tasks | Purpose |
|---|---|
| **Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope** | |
| Task A1. Identifying other relevant plans, programmes and environmental protection objectives | To establish how the plan or programme is affected by outside factors to suggest ideas for how any constraints can be addressed, and to help identify SEA objectives. |
| Task A2. Collecting baseline information | To provide an evidence base for environmental problems, prediction of effects, and monitoring; to help in the development of SEA objectives. |
| Task A3. Identifying environmental problems | To help focus the SEA and streamline the subsequent stages, including baseline information analysis, setting of the SEA objectives, prediction of effects and monitoring. |
| Task A4. Developing SEA Objectives | To provide a means by which the environmental performance of the plan or programme and alternatives can be assessed. |
| Task A5. Consulting on the scope of the SEA | To ensure the SEA covers the likely significant environmental effects of the plan or programme. |
| **Stage B: Developing and refining alternatives and assessing effects** | |
| Task B1. Testing the plan or programme objectives against SEA objectives | To identify potential synergies or inconsistencies between the objectives of the plan or programme and the SEA objectives and help in developing alternatives. |
| Task B2. Developing strategic alternatives | To develop and refine strategic alternatives. |
| Task B3. Predicting the effects of the plan or programme, including alternatives | To predict the significant environmental effects of the plan or programme and its alternatives. |
| Task B4. Evaluating the effects of the plan or programme, including alternatives | To evaluate the predicted effects of the plan or programme and its alternatives and assist in the refinement of the plan or programme. |
| Task B5. Mitigating adverse effects | To ensure that adverse effects are identified and potential mitigation measures are considered. |
| Task B6. Proposing measures to monitor the environmental effects of plan or programme implementation | To detail the means by which the environmental performance of the plan or programme can be assessed. |
| **Stage C: Preparing the Environmental Report** | |
| Task C1. Preparing the environmental report | To present the predicted environmental effects of the plan or programme, including alternatives, in a form suitable for public consultation and use by decision-makers. |

[4] Office of the Deputy Prime Minister (2005). A Practical Guide to the Strategic Environmental Assessment Directive.

| SEA Stages and Tasks | Purpose |
|---|---|
| **Stage D: Consulting on the Draft Plan or programme and the Environmental Report** | |
| Task D1. Consulting the public and consultation bodies on the draft plan or programme and the Environmental Report | To give the public and the consultation bodies an opportunity to express their opinions on the findings of the Environmental Report and to use it as a reference point in commenting on the plan or programme.<br>To gather more information through the opinions and concerns of the public |
| Task D2. Assessing significant changes | To ensure that the environmental implications of any significant changes to the draft plan or programme at this stage are assessed and taken into account. |
| Task D3. Making decisions and providing information | To provide information on how the Environmental Report and consultees opinions were taken into account in deciding the final form of the plan or programme to be adopted. |
| **Stage E: Monitoring the significant effects of the plan or programme on the environment** | |
| Task E1. Developing aims and methods for monitoring | To track the environmental effects of the plan or programme to show whether they are as predicted; to help identify adverse effects. |
| Task E2. Responding to adverse effects | To prepare for appropriate responses where adverse effects are identified. |

## 1.6 STRUCTURE OF THE SCOPING REPORT

This Scoping Report sets out the activities required under Stage A of the SEA process as described in Section 1.4. It has been prepared to facilitate consultation and agreement on the scope and approach of the SEA of the Waste Strategy for Essex. The Scoping Report is structured as follows:

- Section 1 (this section) – describes the requirement for, purpose and process of the SEA, and its context in relation to the Waste Strategy.
- Section 2 – policy context; identifies key messages and environmental protection and social objectives from a review of relevant policies and plans.
- Section 3 – environmental baseline review; draws out the key environmental and social issues that Essex County Council intends to consider in the SEA. Identifies the current and future baseline conditions within the area of potential influence of the Waste Strategy.
- Section 4 – proposed assessment framework; develops the basis of the assessment, and introduces the assessment approach and framework to consider the environmental and social effects of the options, and the Waste Strategy.
- Section 5 – next steps; sets out the next stages and tasks in undertaking the SEA, and presents a proposed structure for the Environmental Report.

# 2. PLANS AND PROGRAMMES

## 2.1 OVERVIEW

The SEA Regulations require a report containing "*an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes"* (Schedule 2(1)) as well as "*The environmental protection objectives, established at international, (European) Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation"* (Schedule 2(5)),

Identifying other relevant plans, policies and programmes, as well as environmental protection and social objectives, is one of the first steps in undertaking SEA. The review demonstrates how the Waste Strategy for Essex might be influenced by other plans, policies, programmes and identifies other objectives which the Waste Strategy should consider. This information helps to identify and inform the assessment framework for the SEA process.

Relevant plans, policies and programmes have been identified from the wide range that has been produced at an international, national, regional and local level. Plans and programmes that have no likely interaction with the Waste Strategy (i.e. they are unlikely to influence the Waste Strategy, or be influenced by it), have been excluded from the review.

A review of relevant plans, policies and programmes is presented in **Appendix 1**. A summary of key messages derived from the review is presented in Table 2.1.

Alongside the current and future baseline information reviewed in Section 3, the key messages have been used to develop proposed assessment framework for the SEA (see Section 4).

Table 2.1 Summary of Plans, Policies and Programmes

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| Material Assets and Waste Management | Promote sustainable production and consumption whilst seeking to reduce the amount of waste generated by using materials, energy and water more efficiently.<br>Contribute to a resource efficient, green and competitive low carbon economy.<br>Minimise the production of waste, ensure waste management is in line with the waste hierarchy, and eliminate waste sent to landfill.<br>Promote the sustainable management of natural resources.<br>Promotion of the 'waste hierarchy' of 'reduce, re-use, recycle and recover' with the aim of reducing the proportion of waste sent to landfill.<br>Maintaining consistently high recycling rates.<br>Identify steps to promote a circular economy. | *International*<br>United Nations Economic Commission for Europe (1998) Aarhus Convention - Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters<br>Paris Agreement (2015)<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Community (EC) Directive 1999/31/EC on the landfill of waste<br>European Commission (2009) Promotion of the use of energy from renewable sources Directive (2009/28/EC)<br>European Commission, Urban Waste Water Treatment Directive (1991/271/EC)<br>United Nations (2002), Commitments arising from the World Summit on Sustainable Development, Johannesburg<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>Waste Management Plan 2021 |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | | Resources and Waste Strategy<br>Industrial Strategy White Paper (2017)<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Department for Energy and Climate Change (2020) Energy White Paper: Powering our Net Zero Future<br>Department of energy and climate change (2011) Planning our electric future: a White Paper for secure, affordable and low carbon electricity<br>Defra (2011) Government Review of Waste Policy in England (2011)<br>HM Government (2018) Our Waste, Our Resources: A Strategy for England<br>Defra (2002) The Strategy for Sustainable Farming and Food – facing the future<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>The Energy Act 2013<br>Environment Act, 2021<br>Environment Act, 1995<br>The Environmental Damage (Prevention and Remediation) (England) Regulations 2015<br>HM Government (2016) National Infrastructure Delivery Plan 2016-2021, Infrastructure Projects Authority<br>National Policy Statement for Wastewater (2012)<br>Circular Economy Package, 2020<br>Integrated Radioactive Waste Strategy, 2019<br>National Planning Policy for Waste, 2014<br>Control of Pollution Act 1974<br>National Policy Statement: Hazardous Waste, 2013<br>The Waste Regulations, 2011<br>Resource and Waste Strategy, 2018<br>*Regional*<br>Essex and Southend on Sea Waste Local Plan, 2017<br>Relevant waste collection authority (WCA) waste plans/strategies |
| Biodiversity, Flora and Fauna | Conservation and enhancement of the natural environment, in particular internationally and nationally designated sites, priority habitats and species, taking into account future climate change. | *International*<br>Ramsar Convention: The Convention on Wetlands of International Importance (1971)<br>The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)<br>The Bonn Convention on the Conservation of Migratory Species of Wild Animals (1983) |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | Avoid activities likely to cause irreversible damage to natural heritage.<br>Support the function of ecosystems and enhance ecological networks and resilience.<br>Protection, conservation and enhancement of natural capital. Ecosystem services from natural capital contributes to the economy and therefore should be protected and, where possible, enhanced.<br>Avoidance of activities likely to cause the spread of Invasive Non-Native Species (INNS).<br>A need to protect the green infrastructure network. | European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Commission (2011), Our life insurance, our natural capital: an EU biodiversity strategy to 2020<br>European Commission, Environmental Liability Directive (2004/35/EC)<br>European Commission (1992), Habitats Directive (1992/43/EC)<br>European Commission (2009), Birds Directive (2009/147/EC)<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>Conservation of Habitats and Species Regulations 2017 (Amendment) (EU Exit) Regulations (2019)<br>The Natural Environment and Communities Act 2006 (NERC Act)<br>Defra (2004) Rural Strategy<br>Defra (2002) The Strategy for Sustainable Farming and Food – facing the future<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Defra (2020), The Draft Environment Bill 2020, and content related to the development of Nature Recovery Networks (parts 6 and 7)<br>Environment Act, 2021<br>Environment Act, 1995<br>Wildlife and Countryside Act, 1981 (as amended)<br>Natural Capital Committee (2020) State of Natural Capital Annual Report 2020 |
| Population and Human Health | To ensure all communities have a clean, safe and attractive environment in which people can take pride.<br>Access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and wellbeing of communities.<br>Promotion of healthy communities and protection from risks to health and wellbeing.<br>Promotion of sustainable economy supported by access to essential utility and infrastructure services. | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>The Environment Noise Directive (Directive 2002/49/EC)<br>European Commission, Environmental Liability Directive (2004/35/EC)<br>United Nations (2002), Commitments arising from the World Summit on Sustainable Development, Johannesburg<br>*National* |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | To promote sustainable growth. | The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>The Countryside and Rights of Way (CROW) Act, 2000<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Defra (2005) Securing the Future: Delivering UK Sustainable Development Strategy<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Environment Act, 2021<br>Environment Act, 1995<br>The Environmental Damage (Prevention and Remediation) (England) Regulations 2015<br>HM Treasury (2020) National Infrastructure Strategy<br>Build Back Better: our plan for growth, 2021<br>*Regional*<br>Essex Green Infrastructure Strategy, 2020<br>Levelling Up Essex Strategy, 2022<br>Essex Joint Health and Wellbeing Strategy, 2022-2026<br>Economic Plan for Essex, 2014 |
| Water | Promote sustainable water resource management.<br>Improve the quality of the water environment and the ecology which it supports.<br>Prevent deterioration of water quality status.<br>Promote measures to enable and sustain long term improvement in water efficiency.<br>Develop a resilient and flexible water management approach to cope with changing climate, population and economic conditions.<br>Reduce flood risk to people, residential and non-residential properties, community facilities and key transport links, as well as designated nature conservation sites and heritage assets and landscapes of value. | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Commission, Urban Waste Water Treatment Directive (1991/271/EC)<br>European Commission, Directive on the Assessment and Management of Flood Risks (2007/60/EC)<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Environment Act, 2021<br>Environment Act, 1995<br>Environment Agency (2009), Water Resources Strategy for England and Wales<br>The Environmental Damage (Prevention and Remediation) (England) Regulations 2015<br>Environment Agency (2018) The Environment Agency's approach to groundwater protection<br>The Water Act, 2003 (as amended) |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | | The Water Environment (WFD) (England and Wales) Regulations, 2003<br>National Flood and Coastal Erosion Risk Management Strategy for England (2020)<br>National Policy Statement for Wastewater (2012)<br>*Regional*<br>Essex County Council, Local Flood Risk Management Strategy, 2018 |
| Soil, Geology and Land-use | Ensure that soils will be protected and managed to optimise the varied functions that soils perform for society (e.g. supporting agriculture and forestry, protecting cultural heritage, supporting biodiversity, as a platform for construction), in keeping with the principles of sustainable development.<br>Encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value.<br>To reduce the reliance on landfill sites. | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Community (EC) Directive 1999/31/EC on the landfill of waste<br>Council of Europe (2003) European Soils Charter<br>European Commission (2006) Thematic Strategy for Soil Protection<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>Defra (2009) Safeguarding our soils – A Strategy for England<br>Defra (2004) The First Soil Action Plan for England<br>Defra (2004) Rural Strategy<br>Defra (2002) The Strategy for Sustainable Farming and Food – facing the future<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Environment Act, 2021<br>Environment Act, 1995<br>Integrated Radioactive Waste Strategy, 2019<br>Resource and Waste Strategy, 2018 |
| Air and Climate | Reduce greenhouse gas emissions. Targets include:<br>Reduce the UK's greenhouse gas emissions by at least 80% (relative to 1990 levels) by 2050.<br>Reduce the effects of air pollution on ecosystems. Improve overall air quality.<br>Minimise energy consumption, support the use of sustainable / renewable energy and improve resilience to climate change. | *International*<br>The Cancun Agreement (2011) & Kyoto Agreement (1997)<br>Paris Agreement (2015)<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Commission (2008) The 2008 ambient air quality directive (2008/50/EC)<br>European Commission, Thematic strategy on air pollution (2005) |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | Build in adaptation to climate change to future planning and consider the level of urgency of associated risks of climate change impacts accordingly.<br>Achieve and sustain compliance with and contribute towards national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. | European Commission (2009) Promotion of the use of energy from renewable sources Directive (2009/28/EC)<br>European Commission, Directive on the Assessment and Management of Flood Risks (2007/60/EC)<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>The Climate Change Act 2008<br>The Climate Change Act 2008 (2050 Target Amendment) Order 26 June 2019<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Department for Energy and Climate Change (2020) Energy White Paper: Powering our Net Zero Future<br>Department of energy and climate change (2011) Planning our electric future: a White Paper for secure, affordable and low carbon electricity<br>Defra (2017) The UK Climate Change Risk Assessment 2017 Evidence Report<br>Defra (2007) The Air Quality Strategy for England, Scotland and Wales<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>The Energy Act 2013<br>Environment Act, 2021<br>Environment Act, 1995<br>UK Climate Projections UKCP18. UKCIP, 2018<br>Defra (2018), The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting |
| Archaeology and Cultural Heritage | Promote the conservation and enhancement of the historic environment, including the promotion of heritage and landscape as central to the culture of the region and conserve and enhance distinctive characteristics of landscape and settlement.<br>Conserve and enhance the historic environment, heritage assets and their settings. | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>Charter for the Protection and Management of Archaeological Heritage (1990)<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>DCLG (2012) National Planning Policy Framework (as amended 2019) |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | | Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment<br>Planning (Listed Buildings and Conservation Areas) Act 1990<br>Ancient Monuments and Archaeological Areas Act 1979<br>Defra (2004) Rural Strategy<br>Department for Culture, Media and Sport (2001) The Historic Environment – A Force for the Future<br>Historic England (2020) Heritage at Risk 2020<br>Historic England (2008) Climate Change and the Historic Environment<br>Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment<br>Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3<br>Historic England (2017) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3, 2nd Edition |
| Landscape and Visual Amenity | Protection and enhancement of landscape (including designated landscapes, landscape character, distinctiveness and the countryside).<br>Enhance the value of the countryside by protecting the natural environment for this and future generations.<br>Improve access to valued areas of landscape character in sustainable ways to enhance its enjoyment and value by visitors and stakeholders. | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>Council of Europe (2006), European Landscape Convention<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>The Countryside and Rights of Way (CROW) Act, 2000<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Defra (2004) Rural Strategy<br>Defra (2011) The Natural Choice: securing the value of nature, The Natural Environment White Paper<br>Natural England (2016), Conservation 21 – Natural England's Conservation Strategy for the 21st Century<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Natural Capital Committee (2020) State of Natural Capital Annual Report 2020 |

# 3. ENVIRONMENTAL BASELINE REVIEW

## 3.1 INTRODUCTION

The SEA Regulations require a report containing:

*"Relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme" (Schedule 2(2));*

*"The environmental characteristics of areas likely to be significantly affected" (Schedule 2(3));*

*"Any existing environmental problems which are relevant to the plan or programme" (Schedule 2(4)).*

An important part of the SEA process is to identify the current baseline conditions, and how they might change over time, in absence of the Strategy. With the knowledge of baseline conditions potential impacts of the Strategy can be identified, monitored, and if necessary mitigated.

The temporal period covered by the Strategy is 25 years, which may introduce uncertainty in considering future baselines.

The analysis of baseline information is presented for the SEA assessment area (hereafter referred to as the 'assessment area') for the following topics:

- Material Assets and Waste Management
- Biodiversity, Flora and Fauna;
- Population and Human Health;
- Water;
- Soils, Land Use and Geology;
- Air Quality and Climate;
- Archaeology and Cultural Heritage; and
- Landscape and Visual Amenity.

Baseline data has been drawn from a range of sources, including a number of the plans, policies and programmes reviewed and summarised in Table 2.1 and Appendix 1. The sections below also summarise the likely future baseline (where information is available). The key issues arising from the baseline review are summarised at the end of each sub-section.

### 3.1.1 Limitations of the data and assumptions made

Principal limitations which surround the future social and environmental baseline are where there are substantial differences in the availability and temporal resolution of robust projections across the various SEA topic areas. For example, the Strategy is intended to cover 25+ years and climate change estimates extend to up to 80 years, regional population and housing projects only extend up to the 2040s. Forecasts of changes in the natural environment are shorter still, and subject to considerable uncertainty.

The area under consideration for this SEA covers different geographical and social regions, which makes establishing an all-encompassing baseline challenging. There are also challenges around extrapolating information from data collated at differing spatial resolutions. Relevant spatial data have been used where appropriate to summarise the extensive datasets involved. In some instances, reporting cycles mean that the available information may have been superseded.

SEA is a high-level assessment aimed at highlighting potential environmental concerns. The environmental data to be used in this assessment is based on that which is readily available from existing sources such as statutory organisations. No primary research or survey work has been carried out specifically to inform the SEA and therefore it is possible that at the individual option level additional environmental issues could influence a Waste Strategy option. At a later stage during implementation of the options, some schemes, that have the potential to give rise to likely significant environmental effects and depending on their extent and nature, would be subject to further environmental appraisal including EIA where appropriate.

The baseline information presented within this report may not identify specific, localised issues that are reflective of the general trends of the region. For example, this may include locally important sites for recreation or nature conservation.

## 3.2 MATERIAL ASSETS AND WASTE MANAGEMENT

### 3.2.1 Baseline

#### *3.2.1.1 Resource use and waste*

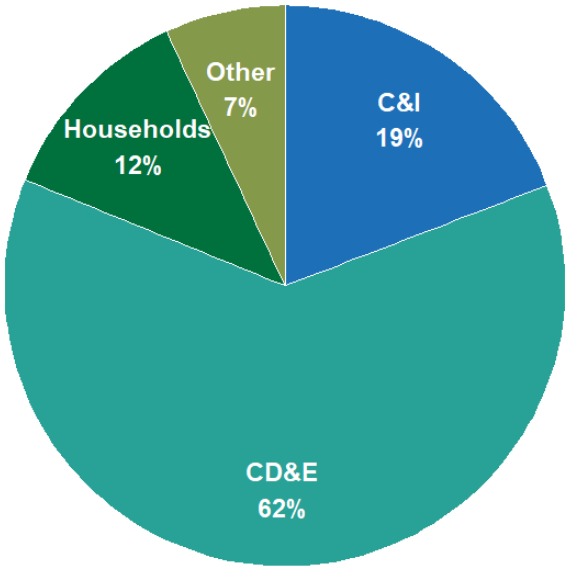
There is a need for society to reduce the amount of waste it generates, by using materials more efficiently, and improving the management of waste that is produced in order to achieve sustainable living.

The majority of municipal waste which is received at landfill is classified as 'mixed' waste (i.e. waste that cannot be routinely identified as being a part of a certain waste stream e.g. food waste). In 2020, a total of 10,425 thousand tonnes of municipal waste were sent to landfill in England[5]. Biodegradable municipal waste (BMW) is municipal waste which will decompose within landfill producing greenhouse gases such as methane. Typically, BMW includes food waste, green waste, cardboard and paper. In the UK BMW has reduced each year since 2010 (expect in 2016), with 6.1 million tonnes of BMW sent to landfill in 2020[6].

Household recycling rates in England have climbed to almost 45% (from 11.2% in 2000). In 2020, the recycling rate for England was 44% which has seen no significant change from 2015 (44.3%); waste generated by businesses declined by 29% in the six years to 2009 and business recycling rates were above 50% in 2011[78]. Approximately, 37.2 million tonnes of commercial and industrial (C&I) waste were generated in 2018 in England[9].

A total of 2,886 thousand tonnes of waste were collected in the East of England with the region having the smallest proportion of waste sent for incineration. Through 2018-2020, the East of England had the second highest recycling rates across the UK with approximately 47%, with the South West, the highest, having an approximate 49% recycling rate[10]. In line with the widely adopted 'waste hierarchy', best practice for waste management is to prevent, re-use, recycle and recover[11], and only then should disposal (or storage) in landfill be considered.

Figure 3.1 Waste generation split by source in 2018




Data on waste arisings is collected in a range of categories; Commercial and Industrial; Construction, demolition and excavation (CD&E); Households; and Other [consisting of waste from mining, agriculture,

[5] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[6] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[7] Defra (2011) Government Review of Waste Policy in England 2011. pb13540-waste-policy-review110614.pdf (publishing.service.gov.uk)
[8] UK statistics on waste - GOV.UK (www.gov.uk) Section 4, Table 1
[9] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[10] Defra (2021) Statistics on waste managed by local authorities 2019 (publishing.service.gov.uk)
[11] Waste hierarchy evidence summary (publishing.service.gov.uk)

forestry and fishing]. Table 3.1 and Table 3.2[12] outline the waste generation from each of these categories in the UK. Construction, demolition and excavation generated approximately 62% of total UK waste in 2018, with Commercial and Industrial (C&I) accounting for 19% [13].

Table 3.1 Waste generation split by responsible economic activity in the UK [million tonnes][14]

| Year | Commercial & Industrial | Construction, demolition & excavation (includes dredging) | Households | Other | Total |
|---|---|---|---|---|---|
| 2016 | 39.8 | 136.2 | 27.3 | 15.0 | 218.3 |
| 2018 | 42.6 | 137.8 | 26.4 | 15.4 | 222.2 |
| Change | 7.0% | 1.2% | -3.3% | 2.8% | 1.8% |

The Essex County Council and Southend-on-Sea Borough Council Waste Local Plan (2017) outline the existing waste management capacity with data from the Plan presented in Table 3.2[15].

Table 3.2 Summary of Existing Waste Management Capacity in Essex

| Facility Type | Operating and Under Construction | |
|---|---|---|
| | Number | Number Estimated Capacity (tonnes) |
| Transfer | 116 | 1,776,928 |
| Non-Inert Materials Recovery | 120 | 2,262,963 |
| Biological Treatment | 13 | 280,938 |
| Inert Materials Recovery | 39 | 2,072,073 |
| Energy Recovery | 2 | 21,792 |
| Disposal Landfill | 12 | 17,964,802 |
| Hazardous Landfill | 0 | Previous facility closed in April 2014 |
| Total | 168 | 22,602,560 |

The East of England is a large consumer of electricity, with a total domestic consumption in 2020 of 11,344GWh, the 4th highest region in the UK. Non-domestic electricity consumption follows a similar trend, being the 4th highest region in the UK. Renewable electricity generation in the UK fell by 9.3% in 2021 compared to 2020. The East of England is a large producer of renewable electricity generation having a capacity of 6,269GW (56% from wind and 34% from Solar PV). Two new large schemes were also set to be installed in 2021 in Eastern England and are both now operational[1617]; Little Staughton Solar PV (50MW) which and Colony Farm Anaerobic Digestion (4MW)[18]. It is important to note that neither of these new schemes are within the Essex County Council area.

[12] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[13] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[14] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[15] Essex County Council and Southend-on-Sea Borough Council (2017) waste-local-plan-2017-compressed.pdf (ctfassets.net)
[16] Colony Farm - CNG Services
[17] Staughton Solar PV Park, UK (power-technology.com)
[18] BEIS (2021) Regional renewable electricity in 2021 (publishing.service.gov.uk)

### 3.2.2 Future Baseline

The Government's National Infrastructure Strategy[19] (2020) outlines a legal commitment to decarbonise the economy by 2050, strategies to rebuild the economy following the COVID-19 pandemic and plans to 'level-up' UK cities and regional powerhouses. Throughout the strategy, waste is a prominent theme with focus on investment in the waste sector. Plans for green-growth clusters in formerly industrial areas and investment via the Towns Fund[20] could benefit the Essex region in terms of the economy, industry, resource usage and the built environment. The UK Government also plans to accelerate the deployment of green technology through private sector investment in the retrofitting of existing stock, carbon capture and low-carbon hydrogen[21].

The 25 Year Environment Plan (2018)[22] runs alongside the Industrial Strategy (2017)[23] and outlines the government's approach to safeguarding the environment and sustainable management of the economy. A prominent theme within the plan is "Increasing resource efficiency and reducing pollution and waste". Specific commitments made in the 25 Year Environment Plan are:

- Make sure resources are used more efficiently and kept in use for longer to minimise waste and reduce its environmental impacts by promoting reuse, remanufacturing and recycling
- Work towards eliminating all avoidable waste by 2050 and all avoidable plastic waste by end of 2042
- Reduce pollution by tacking air pollution in the Clean Air Strategy and reduce the impact of chemicals

The Resources and Waste Strategy (2018)[24] sets out actions, in line with the 25-Year Environment Plan, on how the UK will preserve stock of material resources by minimising waste, promote resource efficiency and move towards a circular economy. This overall aim of the strategy is to set out a blueprint for *"eliminating avoidable[1] plastic waste over the lifetime of the 25 Year Plan, doubling resource productivity, and eliminating avoidable waste of all kinds by 2050"*[25].

### 3.2.3 Key Issues

The key sustainability issues arising from the baseline assessment for Material Assets and Resource Use are:

- The need to minimise the consumption of resources, including water and energy.
- The need to follow the 'waste hierarchy' of 'reduce, re-use, recycle and recover' with the aim of reducing the proportion of waste sent to landfill.
- The need to maintain consistently high recycling rates.
- The need to promote and move towards a regenerative circular economy.
- The need to support regional and national commitments to decarbonisation.

[19] HM Treasury Infrastructure UK (2020). National Infrastructure Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938539/NIS_Report_Web_Accessible.pdf

[20] Ministry of Housing, Communities and Local Government (2019). Towns Fund Prospectus. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/924503/20191031_Towns_Fund_prospectus.pdf

[21] HM Treasury Infrastructure UK (2020). National Infrastructure Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938539/NIS_Report_Web_Accessible.pdf

[22] HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

[23] HM Government (2017) Industrial Strategy. Building a Britain fit for the future. https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future

[24] Defra (2018 Our waste, our resources: a strategy for England. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf

[25] Defra (2018) Resources and waste strategy: at a glance. https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england/resources-and-waste-strategy-at-a-glance

## 3.3 BIODIVERSITY, FLORA AND FAUNA

### 3.3.1 Baseline

Biodiversity is the variety of plants (flora) and animals (fauna) in an area, and their associated habitats. The importance of preserving biodiversity is recognised from an international to a local level. Biodiversity has importance in its own right, and has value in terms of quality of life and amenity. The Essex region has a number of valuable and rare habitats for flora and fauna, including coastal saltmarshes, mudflats, wetlands, ancient woodlands and veteran trees.

The Essex County area includes a number of sites that are designated as important for biodiversity at an international level, namely 13 Special Protection Areas (SPA)[26], 3 Special Areas of Conservation (SAC)[27] and 11 Ramsar[28] sites.

86 Sites of Special Scientific Interest (SSSI)[29] and 7 National Nature Reserves (NNRs)[30] are located within the County area. SSSIs and NNRs relate to the country's best wildlife and geological sites. Local Natural Reserves (LNRs (51)) together with areas of Ancient Woodland are also located throughout the Essex County Council region. A number of non-statutory designated sites are also present in the region including 1,600 local wildlife sites (LWSs).

### 3.3.2 Future Baseline

The Defra 25 Year Environment Plan[31] includes a commitment to restoring 75% terrestrial and freshwater protected sites to favourable condition and to create or restore 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits. The 25 Year Plan also proposed an adoption of 'Biodiversity Net Gain'[32] approach to development, an approach introduced into national planning policy in 2019 and which is mandated in the Environment Act.

The 25-year Plan also includes a commitment to support land management at landscape and catchment level and to support the adoption of long-term sustainable land management practices to significantly expand wildlife habitat and provide opportunities for species and ecosystem recovery.

Climate change is anticipated to have an impact on wildlife in the future by exacerbating existing pressures such as changes to the timing of seasonal activity, and water scarcity. It is acknowledged that there is a need to allow wildlife to adapt to the impacts of climate change. Climate may limit species' distributions indirectly though the impact of invasive species on native species along climatic gradients[33]. It will affect the abundance and diversity of natural enemies, competitors and species that constitute resources, as well as a species' ability to compete for resources or resist natural enemies.

### 3.3.3 Key Issues

The key sustainability issues arising from the baseline assessment for biodiversity are:

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[26] Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds (79/409/EEC), also known as the Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds, listed in Annex I to the Birds Directive, and for regularly occurring migratory species. www.jncc.org.uk

[27] Special Areas of Conservation (SACs) are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). www.jncc.org.uk

[28] Ramsar sites are wetlands of international importance designated under the Ramsar Convention.

[29] Natural England has responsibility for identifying and protecting the SSSIs in England under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000). www.naturalengland.org.uk

[30] NNRs are protected under Sections 16 to 29 of the National Parks and Access to the Countryside Act, 1949 and the Wildlife and Countryside Act, 1981.

[31] https://www.gov.uk/government/publications/25-year-environment-plan

[32] Biodiversity Net Gain is an approach in which biodiversity enhancement can be embedded into a development or project to demonstrate the importance of biodiversity's vital function in society and the economy. An important feature of BNG is avoiding and minimising biodiversity loss as much as possible, and then achieving net gains that are measurable which contribute towards local and strategic biodiversity priorities (CIEEM (2019) Biodiversity net gain. Good practice principles for development. https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf)

[33] Pateman & Hodgson (2015) Biodiversity Climate change impacts report card technical paper. Available from: http://www.nerc.ac.uk/research/partnerships/lwec/products/reportcards/biodiversity/papers/source06/

- The need to protect or enhance the region's biodiversity, particularly protected sites designated for nature conservation.
- The need to avoid activities likely to cause irreversible damage to natural heritage.
- The need to take opportunities to improve ecological resilience.
- The need to control the spread of Invasive Non-Native Species (INNS).
- The need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of the ecosystem services.

## 3.4 POPULATION AND HUMAN HEALTH

### 3.4.1 Baseline

#### *3.4.1.1 Population*

The East of England has centres of densely populated areas, many of which are located within the Essex region. Essex has the highest population of counties in the East of England. As per the first results of the 2021 census, the administrative county of Essex is estimated to have a population of 1,503,300, one of the largest non-metropolitan county populations in the United Kingdom[34,35].

Table 3.3 Population and Household Statistics (based on administrative area of Essex)

| Region | 2011 Population | 2011 Households | 2021 Populations | 2021 Households | Population Change (%) | Household Change (%) |
|---|---|---|---|---|---|---|
| Essex | 1,393,587 | 581,589 | 1,503,300 | 626,500 | 7.8% | 7.7% |
| East England | 5,846,965 | 2,423,035 | 6,334,500 | 2,628,700 | 8.3% | 8.5% |
| England | 53,012,456 | 22,063,368 | 56,489,800 | 23,435,700 | 6.6% | 6.2% |

Population change is the function of natural change (difference between births and deaths) and net migration (the difference between the number of people moving into and out of an area). The balance of factors underlying population change varies by region. Table 3.3 presents the population and household change over ten years since 2011.

#### *3.4.1.2 Human Health and Deprivation*

The Waste Strategy has the potential to influence quality of life, including human health, well- being, amenity and community, through actions to improve waste collection systems and recycling practices.

In comparison to other regions of England, Essex has a higher-than-average life expectancy at birth for both males and females.

It has been shown that, in some cases, people in disadvantaged areas experience greater exposure to negative impacts on human health including air pollution, flooding, and proximity to large industrial and waste management sites[36]. The Index of Multiple Deprivation combines a number of indicators, chosen to cover a range of economic, social and housing issues[37], into a single deprivation score for each Lower Super Output Area[38] (LSOA) in the UK. This allows each area to be ranked relative to one another according to their level of deprivation. The Indices are used widely to analyse patterns of deprivation, identify areas that would benefit from special initiatives or programmes and as a tool to determine eligibility for specific funding streams.

[34] ONS (2022) Population and household estimates, England and Wales: Census 2021 - Office for National Statistics (ons.gov.uk)

[35] ONS (2011) Population and household estimates - Office for National Statistics (ons.gov.uk)

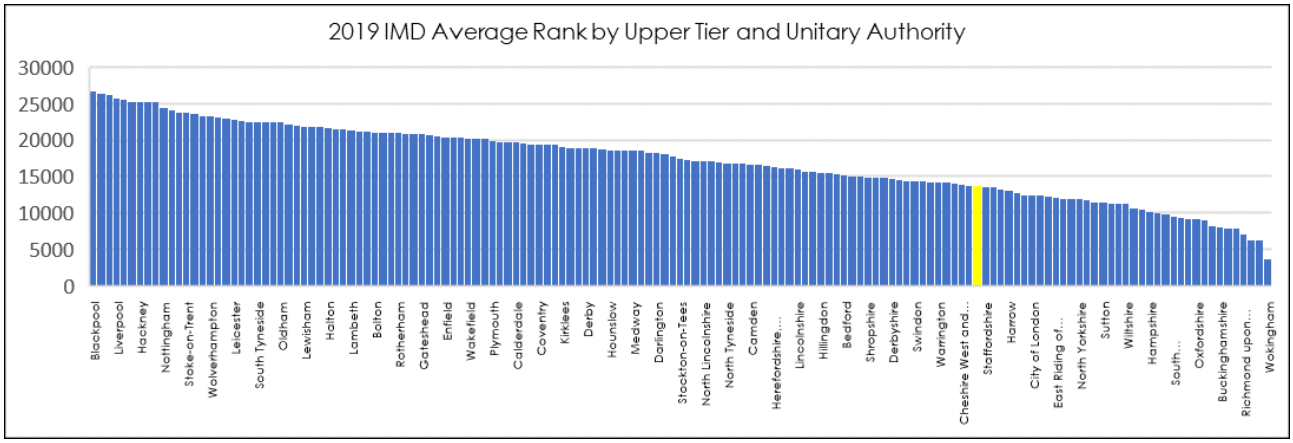
[36] Defra (2006) Air Quality and Social Deprivation in the UK: an environmental inequalities analysis

[37] Income Deprivation, Employment Deprivation, Health Deprivation and Disability, Education Skills and Training Deprivation, Barriers to Housing and Services, Living Environment Deprivation, and Crime.

[38] Super Output Areas (SOAS) are a set of geographical areas developed following the 2001 census. The aim was to produce a set of areas of consistent size, whose boundaries would not change, suitable for the publication data of such as the Indices of Deprivation. They are an aggregation of adjacent Output Areas with similar social characteristics. Lower Layer Super Output Areas (LSOAs) typically contain 4 to 6 OAs with a population of around 1500.

The 2019 Indices of Deprivation show that Essex compares favourably with other Local Authority regions. Essex has lower levels of deprivation than 70% of upper tier authority areas (County Councils in England). Compared to other counties in the south-east of England, the percentage of Essex residents living in the most deprived 20% of areas is amongst the highest in the south east. There is also a reported large gap between the most and least deprived districts with significant structural factors such as income and employment affecting deprivation in Essex. 75 neighbourhoods (LSOAs) in Essex, home to 120,000 Essex residents, are among the 20% most deprived nationally[39]. Figure 3.2[40] shows the county level rank for overall deprivation. Compared to other upper tier and unitary authorities in England, Essex is within the 30% least deprived areas nationally.

Figure 3.2 County level rank for overall deprivation




### *3.4.1.3 Human Health and Waste*

Mismanagement of waste can have significant negative effects on human health through factors such as air pollution, water and soil contamination, increased risk of infection and transmissible disease, and direct interaction with dangerous substances from waste material (e.g. electronic and industrial waste).

Globally, around 54 million tonnes of e-waste (e.g. TVs, computers) are generated annually with this figure expected to increase to 75 million tonnes by 2030[41]. The United Kingdom has significantly higher recycling rates of e-waste compared to other international regions: global e-waste recycling rates were 17.4% in 2019 with the UK 67% in 2018[42,43]. Exposure to poorly managed e-waste has been reported to cause adverse health and developmental impacts in young children[44].

A report commissioned by the Environment Agency[45] identified evidence of socially unequal distribution of IPC sites (Integrated Pollution Control). It was found that significant sources of pollution are disproportionately situated in the more deprived areas in England. Waste sites, in particular, are disproportionately located in those areas with higher deprivation levels. Although there is evidence of a relationship between proximity to IPC sites and areas of deprivation, this study was commissioned by the Environment Agency in 2003 with no recent, updated research carried out.

Hazardous waste or unsafe waste treatment can directly harm waste workers or vulnerable groups residing in local communities[46]. Improper waste collection has the potential to increase the risk of water borne diseases through the excess creation of environmental and marine pollution entering water bodies subsequently

[39] Essex County Council (2019) Changes in the Index of Multiple Deprivation for Essex: IMD 2019.
[40] Essex County Council (2019) Changes in the Index of Multiple Deprivation for Essex: IMD 2019.
[41] WHO (2019) Compendium of WHO and other UN guidance on health and environment. who_compendium_chapter4_v2_01092021.pdf
[42] ITU (2020) Global E-waste monitor 2020. Global E-waste Monitor 2020 (itu.int)
[43] Statista (2022) Recycling rate of electrical and electronic waste in the United Kingdom (UK) UK: e-waste recycling rate 2010-2018 | Statista
[44] WHO (2019) Electrical/electronic waste and children's health. Training for health care providers. Geneva (https://apps.who.int/iris/handle/10665/331057)
[45] Walker et al (2003). Environmental Quality and Social Deprivation. 1 (publishing.service.gov.uk)
[46] WHO (2019) Compendium of WHO and other UN guidance on health and environment. who_compendium_chapter4_v2_01092021.pdf

impacting drainage networks[47,48]. Extreme flooding events may increase the potential for direct impact pathways between contaminated waste and human health if waste is not managed in the correct manner.

Waste management industries are required to tackle environmental controls including noise pollution under the Environmental Permitting Regulations 2016. Material recovery facilities have processes which can emit noise levels exceeding 80dB (Lower Exposure Action Value) and 85dB (Upper Exposure Action Value) which require action to be taken under the Control of Noise at Work Regulations 2005[49]. Managing these risks can be achieved through controlling the noise at the source whilst also adopting reasonable practicable controls such as spatial management of site locations and adopting vehicles which contain 'quiet cabs'[50].

### 3.4.2 Future Baseline

In response to recent studies, access to the recreational resources, green spaces and the historic environment will have greater importance in future planning. The National Planning Policy Framework[51] suggests a range of areas that should be taken into account, including the provision of appropriate facilities for recreation that preserve the openness of the green belt.

The National Ecosystem Assessment[52] and the Marmot Review[53], *Fair Society, Healthy Lives*, demonstrate the positive impact that nature has on mental and physical health and as a result the Government intends to establish a Green Infrastructure Partnership with civil society to support the development of green infrastructure in England.

### 3.4.3 Key Issues

The key sustainability issues arising from the baseline assessment for population and human health are:

- The need to ensure waste sites and waste management are not disproportionately impacting deprived or vulnerable communities.
- The need to protect human health.
- The need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas.
- The need to ensure waste is not mismanaged so as to impact upon human health through chemicals, air pollution, land contamination and increased risk or infection and/or disease.
- The need to ensure high recycling rates are maintained.
- The need to accommodate an increasing population.
- The need to contribute towards maintaining sustainable growth in the region.

## 3.5 WATER

### 3.5.1 Baseline

In the context of the Water Framework Directive (WFD), the water environment includes rivers, lakes, estuaries, groundwater and coastal waters out to one nautical mile. There are 5 operational catchments in the Essex combined management region; Blackwater; Chelmer; Colne Essex; Crouch and Roach; and Stour OC.

Provision and management of water resources is vital to human health, social wellbeing, and economic stability. Pollution and flooding events can have a significant impact on the economy, society and environment making it vitally important to manage, monitor and protect water resources. Water quality is assessed in

[47] Ibid

[48] Solid Waste Management (MOOC). Open learning campus. Washington: World Bank Group; 2020 (https://olc.worldbank.org/content/solid-waste-management-mooc,

[49] Noise in the waste management and recycling industry (hse.gov.uk)

[50] Noise in Material Recovery Facilities (MRFs) (hse.gov.uk)

[51] Department for Levelling Up, Housing and Communities (2012) National Planning Policy Framework https://www.gov.uk/guidance/national-planning-policy-framework

[52] National Ecosystem Assessment Initiative (2022) NEA Initiative (ecosystemassessments.net)

[53] Marmot, M (2010) Fair society, healthy lives : the Marmot Review : strategic review of health inequalities in England post-2010. Department for International Development. https://www.gov.uk/research-for-development-outputs/fair-society-healthy-lives-the-marmot-review-strategic-review-of-health-inequalities-in-england-post-2010

England based on the General Quality Assessment classification which takes into account, chemical (e.g. dissolved oxygen, ammonia and biochemical oxygen demand) and biological (e.g. macroinvertebrates)[54] factors. Recent (2019) water quality statistics have found that nationally, only 16% of waters meet the criteria for 'good ecological status' [unchanged from 2016]. New monitoring techniques have been adopted to classify water bodies more accurately[55]. The 25 Year Environment Plan and Environment Act have now set ambitious water quality objectives and legally binding targets to improve the state of water bodies and concentrate on pollutants impacting the water environment.

The Essex Rivers Hub Partnership works to ensure rivers, wetlands and water resources are "resilient to changing climate and population growth, are richer in biodiversity, support a thriving economy and contribute to the well being of the citizens of Essex"[56]. Current challenges identified in the region include:

- Pollution from agriculture and rural areas
- Pollution from waste water
- Physical modifications: removal of redundant structures and modifications to increase ecological resilience

One of the wider challenges identified by the Essex Rivers Hub Partnership relevant to the Waste Management Strategy is to remove plastics and litter from the water environment.

Leachate is a liquid which drains or leaches from a landfill and has the potential to cause significant issues to human health, and the quality of surface water and groundwater due to leachate's chemical composition (dissolved organic chemicals, ammonia and metals). Infiltration due to rainfall can encourage leachate to enter water bodies and groundwater and must therefore be monitored and managed appropriately through groundwater risk assessments, and leachate management plans[57]. Liners can be used to create a seal against the liquid attempting to escape, mitigating against leachate entering water bodies.

Fly-tipping also poses a risk to watercourses. For 2020/2021, local authorities in England dealt with an increase of 16% since 2019/2020. Fly-tipping incidents to watercourse, compared to other land types is relatively low, however still poses a risk[58].

#### *3.5.1.1 Flood Risk*

The Essex Local Flood Risk Management Strategy[59] outline 9 objectives to inform, understand and manage flooding in the county. These include: ensuring people understand the risk of flooding; how flood risk is assessed and prioritised; ensure planning decisions consider flooding and future impact of any development; highlight detailed information and legislation regarding flooding. A measure set out by the local flood risk strategy is keeping a record of structures of features which form part of local drainage strategies. This database has approximately 10,000 records and can be used to ensure flood planning is transparent and supported by data.

### 3.5.2 Future Baseline

Originally, the WFD set a target of aiming to achieve at least 'good status' in all waterbodies by 2015. However, provided that certain conditions are satisfied, it was acknowledged that in some cases the achievement of good status may be delayed until 2021 or 2027. The primary objective in the short-term is to ensure no deterioration in status between status classes: the 2015 water body classification is the baseline from which deterioration between classes is assessed; no deterioration between status classes is permitted unless certain and specific conditions apply.

[54] Defra (2010) River water quality indicator - GOV.UK (www.gov.uk)

[55] Defra (2020) Latest water classifications results published - Defra in the media (blog.gov.uk)

[56] Environment Agency (2022) Essex Rivers Hub | Catchment Data Explorer

[57] Gov.uk (2022) Landfill operators: environmental permits. https://www.gov.uk/guidance/landfill-operators-environmental-permits/manage-leachate

[58] Defra (2021) Fly-tipping statistics for England, 2020-2021. https://www.gov.uk/government/statistics/fly-tipping-in-england/fly-tipping-statistics-for-england-2020-to-2021#total-number-of-fly-tipping-incidents-in-england

[59] Essex County Council (2018) essex-local-flood-risk-management-strategy.pdf

The UK Climate Change Risk Assessment (CCRA3) 2021 Evidence Report[60] draws together and interprets the evidence gathered CCRA regarding current and future threats and opportunities for the UK posed by the impacts of climate change up until 2100. Findings of all CCRA assessments include:

- Changing climatic conditions and extreme events, including temperature change, water scarcity, wildfire, flooding, wind, and altered hydrology (including water scarcity, flooding and saline intrusion)
- Increasing pressure on the UK's water resources due to changes in hydrological conditions and regulatory requirements to maintain good ecological status
- Increases in water demand for irrigation of crops
- A reduction in public water supplies due to increasing periods of water scarcity
- Lower summer river flows across the UK due to warming and drying conditions
- An increase in precipitation in winter months due to a combination of greater depths and more frequent heavy rainfall events – suggesting larger volumes of runoff with potential negative impacts on flood risk and sewer overflows in urban environments
- Flash-flooding associated releases from combined sewer overflows (CSO) could in turn increase associated illnesses at the coast due to the varying occurrence of microbial pathogens in the marine environment.

### 3.5.3 Key Issues

- The need to further improve the quality of the region's river, estuarine and coastal waters taking into account WFD objectives and designated sites objectives (i.e. assessment against Common Standards Monitoring Guidance, where relevant).
- The need to maintain the quantity and quality of groundwater resources taking into account WFD objectives.
- The need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change on surface waters and groundwaters.
- The need to ensure sustainable abstraction to protect the water environment and meet society's needs for a resilient water supply.
- The need to ensure that people understand the value of water.

## 3.6 SOIL, GEOLOGY AND LAND-USE

### 3.6.1 Baseline

#### *3.6.1.1 Geology*

The Essex County region is diverse and with a geology relatively young. A significant proportion of the region is made up of London clay in the East and South of the area, with Glacial Till being in the North/North West[61]. The geodiversity of Essex is typically subdued relief with gentle slopes resulting in a soft, young underlying geology. This geology generally produces, arable and fertile soil[62].

Three National Character Areas (NCAs) dominate the Essex region and their characteristics, geology and features are discussed below:

**Greater Thames Estuary** – predominantly a remote, tranquil landscape with shallow creeks, drowned estuaries, low-lying islands, mudflats, tidal salt march and reclaimed grazing marsh lying between the North Sea and rising ground inland. This NCA contains some of the least settled areas on the English coasts with few major settlements and medieval patterns of small villages and hamlets on higher ground. Sea defences

[60] Defra (2016) The UK Climate Change Risk Assessment 2017 Evidence Report
[61] GeoEssex (2022) Essex Geology - GeoEssex
[62] GeoEssex (2013) essex_lgap_final_march_2013.pdf (geoessex.org.uk)

are present which protect large areas of reclaimed grazing marsh. A number of historic military landmarks characterise the coastal landscape[63].

**Northern Thames Basin** – the area is diverse extending from Hertfordshire to the Essex coast. Included in the NCA are suburbs of North London with historic and planned new towns and cities throughout the area. Arable agriculture is a dominant industry in the area with soil quality ranging from good to poor quality. The London Clay proves poor quality soil becoming waterlogged in the winter and cracking/shrinking in the summer. Good quality soil is found in alluvial deposit areas from the Thames and other rivers. There is a rich geodiversity, archaeology, history and diverse landscape in the area. Urban expansion is a feature of the area with significant pressure on the area in terms of housing, schooling and other critical infrastructure[64].

**South Suffolk and North Essex Clayland** – the NCA covers four counties including Essex. The ancient landscape is wooded arable countryside with a character of gently undulating, chalky boulder clay plateau. A complex network of species-rich hedgerows, ancient woods and parks, meadows with streams and rivers characterise the area. Traditional irregular field patterns are discernible over the area despite field enlargements in the 20th century. The soil is moderately fertile, chalky clay giving the vegetation a calcareous character. Gravel and sand deposits are important geological features typically exposed during mineral extraction which also provide a great deal of evidence in understanding ice-age environmental change[65].

#### *3.6.1.2 Landfill*

There are 534 landfill facilities in England, 24 more than in 2016. In the Essex region, there are 33 permitted landfill sites that are currently operating. Historically, landfills in the United Kingdom were the most common option for waste disposal and for certain waste types are still recognised as the Best Practicable Environmental Option (BPEO). However, certain rules apply to waste before they are disposed in landfill, such as classifying of the waste, treatment, and confirmation that waste can be accepted[66]. UK biodegradable municipal waste (BMW) sent to landfill has fallen from approximately 6.6 million tonnes in 2019 to around 6.1 million tonnes in 2020.[67]

'Soils' make up 58% and 'mineral wastes' 6% received by landfills. The two other features of waste at landfills are 'household & similar wastes' (10%) and 'other wastes' (26%) [includes 'sorting residues', typically mixed wastes following processing to remove recyclates[68].

### 3.6.2 Future Baseline

One of the core planning principles of the NPPF is to encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value. The NPPF also places great importance with respect to Green Belt policy, the aim of which is to prevent urban sprawl by keeping land permanently open. Green Belt serves five purposes: to check the unrestricted sprawl of large built-up areas; to prevent neighbouring towns merging into one another; to assist in safeguarding the countryside from encroachment; to preserve the setting and special character of historic towns; and to assist in urban regeneration, by encouraging the recycling of derelict and other urban land. Although the NPPF promotes a presumption in favour of sustainable development, this does not apply where proposed developments may affect European or other designated sites covered by specific policies.

### 3.6.3 Key Issues

The key sustainability issues arising from the baseline assessment for soil, geology and land use are:

- The need to encourage effective use of the land, benefitting landowners, other stakeholders, the environment and sustainability of natural resources.
- The need to apply the Waste Hierarchy; prioritising prevention, enhancing recycling and reducing the amount of waste going to landfill.

[63] NCA Profile: 81 Greater Thames Estuary - NE473 (naturalengland.org.uk)
[64] NCA Profile:111 Northern Thames Basin - NE466 (naturalengland.org.uk)
[65] NCA Profile: 86 South Suffolk and North Essex Clayland - NE515 (naturalengland.org.uk)
[66] Gov.uk (2021) Dispose of waste to landfill. https://www.gov.uk/guidance/dispose-of-waste-to-landfill
[67] Defra (2022) UK Statistics on waste. UK statistics on waste - GOV.UK (www.gov.uk)
[68] Defra (2022) UK Statistics on waste. UK statistics on waste - GOV.UK (www.gov.uk)

## 3.7 AIR AND CLIMATE

### 3.7.1 Baseline

The options in the waste strategy may include increased numbers of vehicles on the road, operational and process changes at existing locations and development of new infrastructure. Therefore, there is potential for adverse effects on air quality and climate through emissions associated with construction (on site and transport) or through the operation of the schemes.

#### *3.7.1.1 Greenhouse Gases and Climate Change*

Robust information on climate change and variability is required to adapt, build resilience and inform decision making. UK Climate Projections 2018 (UKCP18) are the latest national climate projections and provide the most recent scientific evidence on projected climate changes.

The average temperature over the past decade has been on average 0.3°C warmer than the 1981-2010 average and 0.9 °C warmer than the 1961-1990 average. All the top ten warmest years for the UK, in the series from 1884, have occurred since 2002[69]. The highest ever summer temperature was recorded in the East of England with 38.7°C at Cambridge Botanic Gardens (2019). The UK is experiencing wetter days than the previous decade, with an increase of 5% more rain than 1961-1990 and average UK extreme rainfall increasing. However, given the geography of the East of England, there are not significant total rainfall increases seen during extreme rain events.

The UK Climate Change Risk Assessment (CCRA3) 2021 Evidence Report, which is required to conduct its assessment every five years[70], draws together and interprets evidence gathered by CCRA regarding current and future threats and opportunities for the UK posed by the impacts of climate change up until 2100. Overall, the findings of the CCRA3 have identified eight priority areas for Government and other organisations to address within the next five years:

- Risks to the viability and diversity of terrestrial and freshwater habitats and species from multiple hazards
- Risks to soil health from increased flooding and drought
- Risks to natural carbon stores and sequestration from multiple hazards leading to increased emissions
- Risks to crops, livestock and commercial trees from multiple hazards
- Risks to supply of food, goods and vital services due to climate-related collapse of supply chains and distribution networks
- Risks to people and the economy from climate-related failure of the power system
- Risks to human health, well-being and productivity from increased exposure to heat in homes and other buildings
- Multiple risks to the UK from climate change impacts overseas.

The UK Climate Change Act 2008 set legally binding targets for the UK to reduce greenhouse gas emissions by at least 80% by 2050, and CO2 emissions by at least 26% by 2020, both set against a 1990 baseline. Under the requirements of the Act, the Government has set five year carbon budgets to set out a trajectory for emissions reductions to 2050. Budgets have been set covering the periods 2008-12, 2013-17, 2018-22, 2023-27 and 2028-32, equivalent to 22%, 28%, 34%, 50% and 57% reductions in carbon emissions compared to 1990 levels respectively. The National Adaptation Programme (NAP)[71] is currently in its second period [2018-2023] which sets out the actions that government and others will take to adapt to climate change challenges in England. The NAP addresses climate risks which could affect the natural environment, critical infrastructure, communities and businesses and consequently explains associated actions and future responses on risks such as flooding and coastal change, risks to health from high temperatures, and risk of public water supply shortages[72].

[69] Met Office (2022) ukcp18_headline_findings_v4_aug22.pdf (metoffice.gov.uk)

[70] Defra (2021) The UK Climate Change Risk Assessment 2021 Evidence Report. Available at: https://www.theccc.org.uk/wpcontent/uploads/2021/07/Independent-Assessment-of-UK-Climate-Risk-Advice-to-Govt-for-CCRA3-CCC.pdf

[71] Defra (2018) The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727252/national-adaptation-programme-2018.pdf

[72] DEFRA (2018) The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting. Available at: nationaladaptation-programme-2018.pdf (publishing.service.gov.uk)

#### *3.7.1.2 Landfills and Greenhouse Gases*

The IPCC, in the latest Climate Change Report, identified that waste management as a sector is a significant global producer of methane and an important contributor to global warming[73]. Landfill sites contain biodegradable waste which produces greenhouse gases such as methane and carbon dioxide[74]. Emissions from landfill do not arise immediately and can take place at differing timescales dependent on the greenhouse gas and waste type. Greenhouse gas emissions from UK landfill in 2020 were 12.8 million metric tonnes $CO_{2e,}$ down from 24.3 in 2010[75]. Landfill gas emissions make up 3.1% of the total UK greenhouse gas emissions with Waste Management as a whole making up 4.2% (2019)[76].

Climate mitigation models have suggested that strong decreases of $CO_2$ emissions and other 'Short-lived Climate Forcers' are dependent on reductions in methane production from waste activities[77].

#### *3.7.1.3 Air Quality*

The air quality baseline can be best described through reference to information produced by the local authorities in Essex that have declared Air Quality Management Areas (AQMA). A local authority declares an AQMA when UK National air quality objectives are unlikely to be met. The majority of the AQMAs in the UK have been declared because of emissions from road transport.

Options within the waste strategy may include a change in waste vehicle types or frequency of vehicles on the roads which may have an impact on vehicle emissions and associated local air quality. Reference to AQMAs will be made when considering any adverse impacts on air quality of the waste strategy options.

30 AQMAs are located within the Essex County Council region and are presented in Figure 3.3.

[73] IPCC (2021) Short-lived Climate Forcers: Chapter 6 https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf

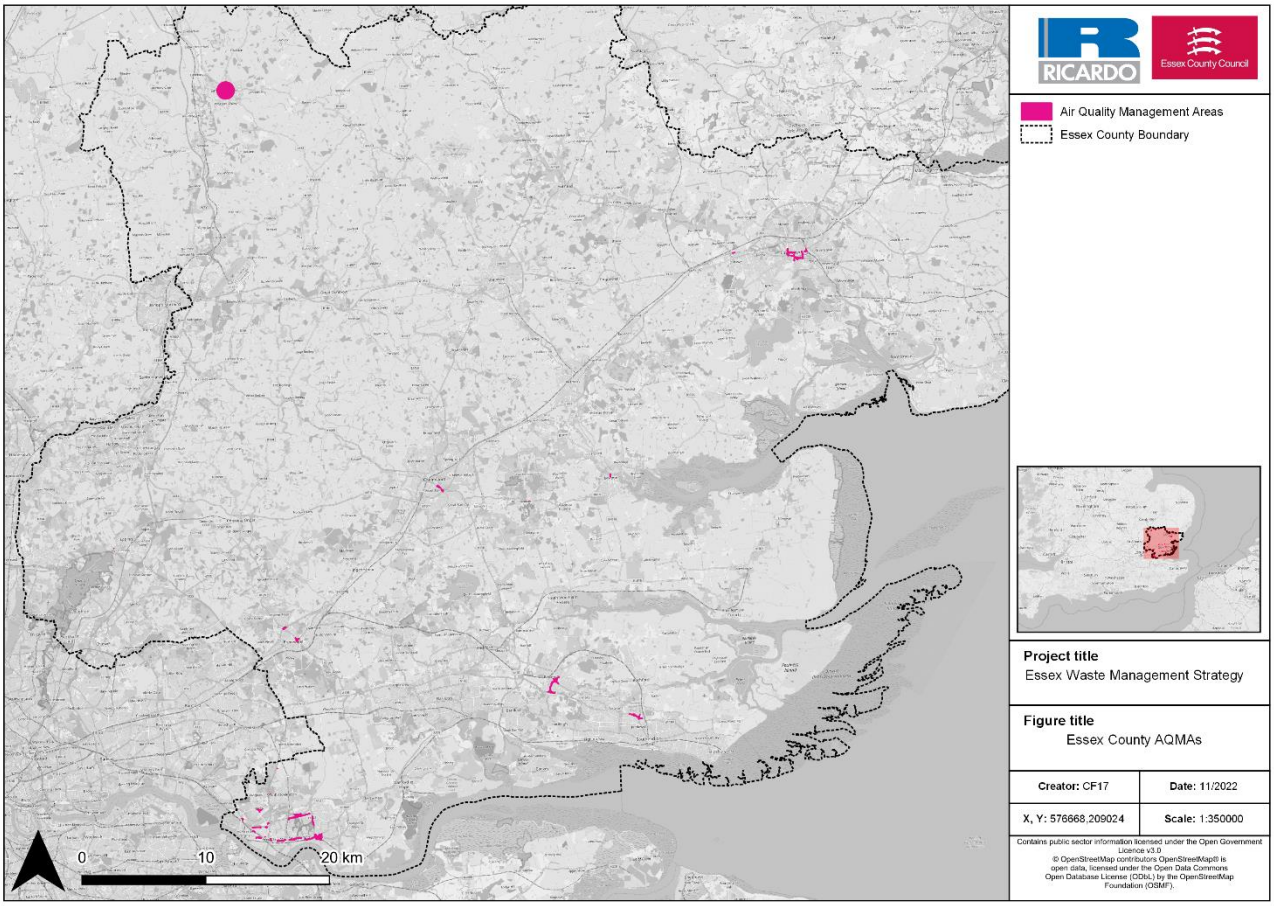
[74] Defra (2004) Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69391/pb9052a-health-report-040325.pdf

[75] UK: landfill greenhouse gas emissions 2010-2020 | Statista

[76] BEIS (2019) final-greenhouse-gas-emissions-tables-2019.xlsx (live.com)

[77] IPCC (2021) Short-lived Climate Forcers: Chapter 6 https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf

Figure 3.3 AQMAs located in the Essex County Council region




### 3.7.2 Future Baseline

Government and international targets will require significant cuts in greenhouse gas emissions by 2027. The UK met the first and second carbon budgets with headrooms of 36 and 384 MtCO2e respectively and is currently projected to meet the third carbon budget with a headroom of around 26 MtCO2e (until 2022)[78]. Objectives are being achieved for many air pollutants (lead, benzene, 1,3-butadiene and carbon monoxide (CO)). However, measurements show that long-term reducing trends for $NO_2$[79] and $PM_{10}$[80] are flattening or even reversing at a number of locations, despite current policy measures.

The Government's Net Zero ambition is to "*reduce emissions by 78% by 2035 compared to 1990 levels, taking the UK more than three-quarters of the way to reaching net zero by 2050*"[81]. Measuring waste management activities using the generation of carbon emissions as a key metric will be required to monitor performance against this target.

Future climate change is projected (UKCP18) to cause a change in the seasonality of extremes through an extension of the convective season from summer to autumn, with increases in heavy rainfall intensity in the autumn. Although an overall summer drying trend is to be expected in the future, data from the Met Office's UK Climate Projections (UKCP18 [Local 2.2km] projections) suggest increases in heavy summer rainfall event intensity[82]. The UKCP18 also estimates that summers in central England are likely to be between 1.1°C to

[78] DECC (2020) Updated energy and emissions projections 2019. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/931323/updated-energy-andemissions-projections-2019.pdf

[79] Nitrogen Dioxide

[80] Particulates with a diameter of 10µm or less

[81] UK enshrines new target in law to slash emissions by 78% by 2035 - GOV.UK (www.gov.uk)

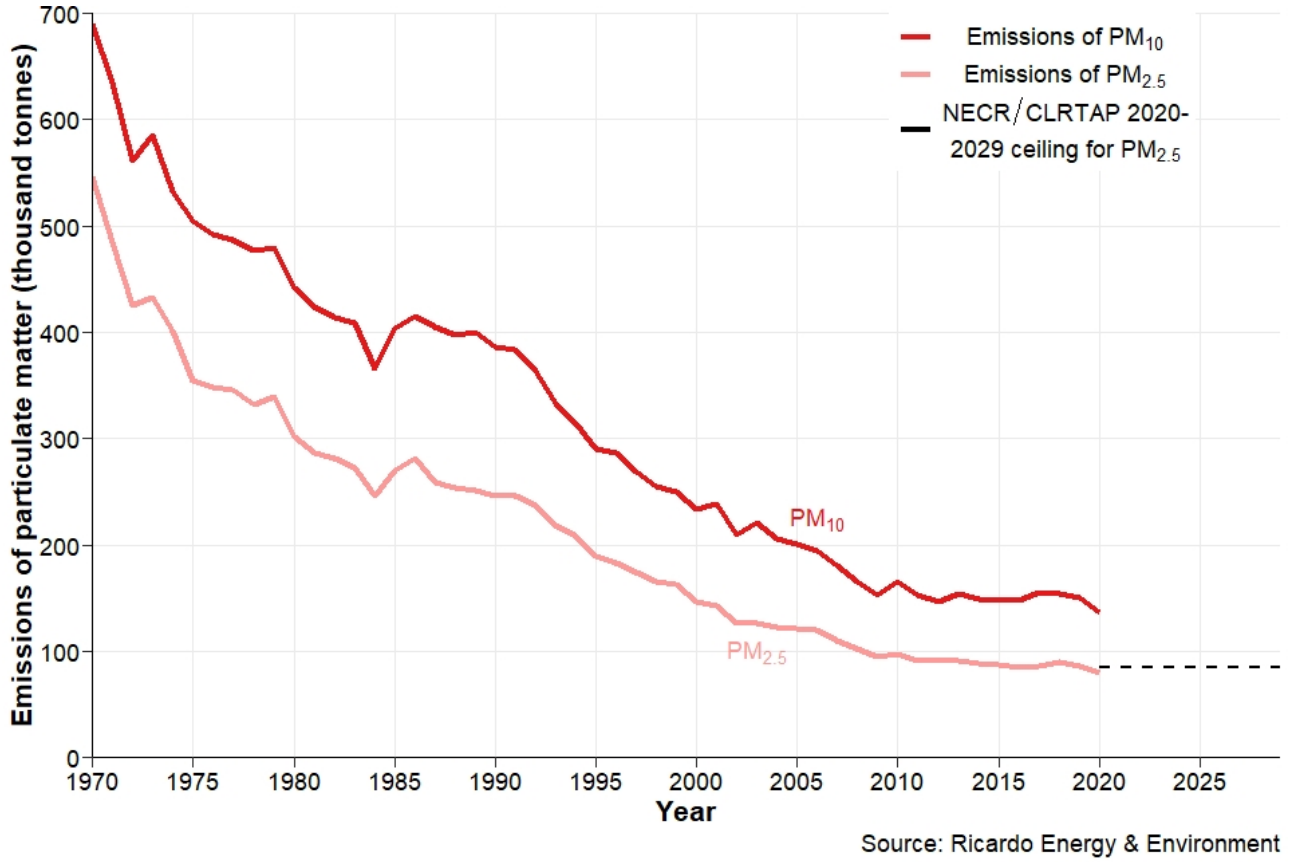
[82] Met Office (2021) UK Climate Projections: Headline Findings

5.8°C warmer, 57% drier and 9% wetter[83].

Emissions of $PM_{10}$ and $PM_{2.5}$ have been relatively stable since 2009. The Government's aim was to reduce emissions of $PM_{2.5}$ against the 2005 baseline by 30% by 2020, and 46% by 2030. The trends in total annual emissions from 1970 to 2020[84] are shown in Figure 3.4.

There is a target to decrease emissions of $NO_2$ against the baseline of 2005 by 55% by 2020. There has been an average decline of 1.3% between 1997 and 2021[85]. Targets to reduce emissions of sulphur dioxide against the 2005 baseline have been set at decreases of 59% by 2020, moving to 88% by 2030[86]. Emissions of sulphur dioxide have fallen by 98 per cent since 1970, to 136 thousand tonnes in 2020[87].

Figure 3.4 Annual emissions of PM10 and PM2.5 in the UK: 1970-2020




Residual waste in landfill sites can remain in situ for multiple years. The degradation process of landfill waste releases greenhouse gases such as methane and carbon dioxide and can take place over a long period of time. Future baseline of landfill emissions is therefore variable and uncertain. Landfill emissions can also be affected by the influence of climate change through decomposition rates being affected by higher temperatures and rainfall variations[88]. Other waste management activities can be affected by changing climate with examples shown in Table 3.4[89].

[83] Defra, BEIS, the Met Office and the Environment Agency (2018) – UKCP18 Climate Change Over Land: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-infographicheadlinefindings-land.pdf

[84] Emissions of air pollutants in the UK – Particulate matter (PM10 and PM2.5) - GOV.UK (www.gov.uk)

[85] Concentrations of nitrogen dioxide - GOV.UK (www.gov.uk)

[86] Defra (2019), Clean Air Strategy 2019

[87] Emissions of air pollutants in the UK – Sulphur dioxide (SO2) - GOV.UK (www.gov.uk)

[88] Environment Agency (2003) Potential Impacts of Climate Change on Waste Management. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/290358/sx1-042-tr-e-e.pdf

[89] Environment Agency (2003) Potential Impacts of Climate Change on Waste Management. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/290358/sx1-042-tr-e-e.pdf

Controlling landfill gas is important to minimise local environmental issues and limit the contribution of greenhouse gases. Best practice in England for managing landfill gas is to collect the gas and use it as an energy source to generate electricity or simply burnt as a flare. These two approaches involve the process of oxidation of methane to carbon dioxide. As gas yields and methane concentrations vary over time in light of climatic change, these common oxidation techniques become less effective. In light of this, waste managers should use guidance and framework to identify the best technology available (e.g. heat and power generation; high temperature flares; micro power generation; biofilters; biocovers) relevant to individual scenarios. Key variables include: methane concentrations, whether a landfill site has an active extraction system; whether a landfill site has an electrical grid connection; technical performance of technology; capital and operational costs; emissions from the technology (noise, air quality, odour)[90].

Table 3.4 Climate Change Impacts on Waste Management Processes

| Climate Variation | Waste Management Change |
|---|---|
| **Higher Temperatures** | Alter waste decomposition rates |
| | Reduced water availability altering site hydrology and leachate production |
| | Reduced water availability increasing the strength of leachate as a result of dilution reductions |
| | Increased risk of water borne disease transmission |
| | Increased risk of odour nuisance |
| **Reduced Precipitation in summer** | Reduce waste decomposition rates |
| | Increase leachate strength |
| | Reduce water availability for site management |
| | Increase risk of shrinkage in clay lining and capping layers |
| **Increased Precipitation in Winter** | Increased waste decomposition rates |
| | Increased risk of flooding and pollution incidents |
| | Increase leachate production |
| **Increase of extreme weather (e.g. storms)** | Lead to increased incidents of windblown litter and debris |
| | Increased infrastructure damage and risk of pollution incidents. |

### 3.7.3 Key Issues

The key sustainability issues relevant to the Waste Strategy and the SEA, arising from the analysis of the air quality and climate baseline are:

- the need to minimise emissions of pollutant gases and particulates and enhance air quality;
- the need to reduce the need to travel and promote sustainable modes of transport;
- the need to reduce greenhouse gas emissions arising from implementation of the Waste Strategy;
- the need to take into account, and where possible adapt to, the potential effects of climate change;
- the need to increase environmental resilience to the effects of climate change.

[90] Environment Agency (2017) Landfill methane oxidation techniques. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650318/Landfill_methane_oxidation_techniques_-_report.pdf

## 3.8 ARCHAEOLOGY AND CULTURAL HERITAGE

### 3.8.1 Baseline

Table 3.5: Designated heritage assets in Essex outlines the designated heritage assets in the Essex County region[91].

Table 3.5: Designated heritage assets in Essex

| Asset | Essex |
|---|---|
| World Heritage Site | 0 |
| Scheduled Monuments | 303 |
| Conservation Areas | 210 |
| Listed Buildings | 13992 |
| Registered Parks and Gardens | 39 |
| Registered Historic Battlefields | 1 |
| Protected Historic Wrecks | 0 |

### 3.8.2 Future Baseline

Core planning principles in the NPPF include those aiming to protect heritage assets, including "conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations"[92]. Recent and ongoing national economic difficulties may have a negative effect on removing heritage assets from the heritage at risk register. Climate change could have variable impacts on heritage assets in the future. Some types of assets and landscapes have already experienced and survived significant climatic changes in the past and may demonstrate considerable resilience in the face of future climate change. However, many more historic assets are potentially at risk from the direct impacts of future climate change[93].

### 3.8.3 Key Issues

The key sustainability issue arising from the baseline assessment for archaeology and cultural heritage is:

- The need to conserve or enhance sites of archaeological importance and cultural heritage interest.

## 3.9 LANDSCAPE AND VISUAL AMENITY

### 3.9.1 Baseline

The landscape character network[94] defines landscape character as 'a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse'. The National Character Areas have been identified in the Essex County region in Section 3.6.

#### *3.9.1.1 Nationally Designated Sites*

Some landscapes are special because they have a particular amenity value, such as those designated as Areas of Outstanding Natural Beauty (AONB). Others may have an intrinsic value as good examples or be the only remaining examples of a particular landscape type. There are however, no AONB in the Essex region and are therefore not applicable to this scoping report. Some landscapes are more sensitive to development whereas others have a greater capacity to accommodate development. Assessments of landscape character

[91] Historic England - Championing England's heritage | Historic England
[92] CLG (2012) National Planning Policy Framework, Communities and Local Government. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf
[93] English Heritage, now known as Historic England, (2010) Climate Change and the Historic Environment
[94] www.landscapecharacter.org.uk

and landscape sensitivity enable decisions to be made about the most suitable location of development to minimise impacts on landscapes. Another important protected landscape assets in the UK are National Parks, however no National Parks are located within the Essex County area and therefore not applicable to this scoping report.

#### *3.9.1.2 Green Belt*

The main characteristics of Green Belt are its openness and permanence. The main aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The Green Belt therefore aims to check the unrestricted sprawl of large built-up areas; prevent neighbouring towns merging into one another; assist in safeguarding the countryside from encroachment; preserve the setting and special character of historic towns; and assist in urban regeneration while encouraging the recycling of derelict and other urban land.

Large areas of the South and South West of the council region are Green Belt, with no Green Belt areas in the Northern reaches of Essex. A total of 16 Green Belts are located in Essex.

### 3.9.2 Future Baseline

The NPPF highlights the different roles and character of different areas, promoting the vitality of our main urban areas, protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it. The NPPF states that great weight should be given to conserving landscape and scenic beauty in National Parks and AONBs, which have the highest status of protection. It identifies that planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest.

### 3.9.3 Key Issues

The key sustainability issue arising from the baseline assessment for landscape and visual amenity is:

- Landscape and designated sites should be maintained and enhanced for the enjoyment of the public.

## 3.10 INTER-RELATIONSHIPS

Schedule 2 (6) of the SEA Regulations requires the assessment and reporting of the likely significant effects on the following topics: “biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and the inter-relationship between the issues.” This will be undertaken through the assessment of cumulative effects of individual options. Secondary, cumulative and synergistic effects will be assessed as part of the SEA. Inter-relationships that result in changes to individual effects will be considered through the assessment of synergistic effects.

## 3.11 SCOPING OF SEA TOPICS

The review of the baseline with respect to the proposed Waste Strategy for Essex has highlighted that likely significant environmental effects are anticipated across all SEA topics except Archaeology and Cultural Heritage. Table 3.6 summarises the reasons for scoping in/out the SEA topics. Following the scoping consultation, this table and inclusion or exclusion of topics may be revised.

Table 3.6: Scoping of topics into the SEA

| SEA Topic | Scoped in/out | Justification |
|---|---|---|
| Material Assets and Waste Management | In | Actions within the Waste Strategy are likely to have both positive and negative effects on Waste Management given the nature of the options focussing on waste. |
| Biodiversity, Flora and Fauna | In | There are potential pathways for waste management practices and operation to impact upon biodiversity and associated designated sites and species. |

| SEA Topic | Scoped in/out | Justification |
|---|---|---|
| Population and Human Health | In | The strategy is likely to have an effect on the local population given the options may impact upon waste management for households in the area. There is potential for negative effects from the options to arise given the association between waste management and human health. |
| Water | In | The strategy options have the potential to impact upon watercourses within the Essex region. |
| Soil, Geology and Land-use | In | Options from the waste strategy may have both positive and negative effects on waste treatment sites and local soil quality. |
| Air and Climate | In | Air Quality impacts could arise from vehicle use and potential change in waste management methodology associated with strategy options. Waste from landfill has the potential to contribute to climate change as well as being impacted by climatic variations. |
| Archaeology and Cultural Heritage | Out | Due to the strategy focusing on changes to collection methodologies and frequencies, there are no obvious pathways for archaeological or cultural heritage assets to be significantly affected by the waste strategy. |
| Landscape and Visual Amenity | In | The waste strategy options assessed focus on the methodology and frequency of waste collections and the strategy is not looking to identify sites or infrastructure gaps. However, due to the potential change in waste disposal methodology, there is potential for significant impacts to landscape designations or the visual amenity of the local environment. |

There are some non-spatial aspects to the Strategy which means that some likely significant effects may not be identified. Existing regulatory frameworks will manage impacts of the Strategy as it is taken forward, and the potential for environmental effects arising from individual waste proposals will continue to be assessed and mitigated, where appropriate through existing mechanisms, including through the EIA process, application of standards and guidelines and consenting where relevant.

For example, where future actions have the potential to introduce land use change, individual projects will be subject to consideration through the relevant statutory regimes including EIA to ensure any likely significant environmental effects are identified and opportunities to avoid, reduce or offset these are considered.

# 4. APPROACH TO ASSESSMENT

## 4.1 INTRODUCTION

This section outlines the assessments that will be carried out as part of the SEA to identify environmental effects of the options considered in the Waste Strategy for Essex.

The SEA of the Waste Strategy options will be 'objectives led'. Establishing assessment objectives is a recognised way of considering the environmental effects of a plan and comparing the effects of possible alternatives. SEA objectives are often derived from environmental and social objectives that are already established in UK law, international, national or local policy, or other plans and programmes. The other source of information is environmental conditions or issues that arise from review of baseline information.

An assessment framework of objectives has been developed including supporting guide questions to help prompt a robust assessment across all options. This framework is based on:

- The key policy messages and environmental and social protection objectives identified in the review of policies and plans (See Section 2 and Appendix 1). It is important that the assessment takes these objectives into account as this will help to highlight any area where the Waste Strategy will help or hinder the achievement of the objectives of other plans (either at a local, national or international scale).
- The current state of the environment in the assessment area and the key environmental issues identified (see Section 3).

## 4.2 DEVELOPMENT OF OPTIONS FOR ASSESSMENT

Extensive analysis has been carried out on the current waste management landscape across the EWP area. This includes the development of baseline (current) models of the collection services for each of the EWP members. Models have been developed outlining a series of deliverable waste collection, treatment and disposal options for the management of all LACW in Essex. These were developed in collaboration with EWP members through a series of Workshops where the options to be considered, the assumptions to be made, and the evaluation criteria to be used were agreed. Each of the options are illustrated by accompanying waste-flow models and financial models to estimate both the cost and likely performance of each waste collection methodology. The models are provided for each Collection Authority, and then combined to illustrate a Whole System Cost across the EWP, including collection, reprocessing and disposal costs to show the net cost of each option to the county.

A Best Practicable Environmental Option (BPEO) lifecycle assessment has been carried out for each of the options to enable them to be considered in terms of:

- emissions to air (including climate change impacts), water and land;
- deliverability;
- performance against national targets;
- performance against EWP vision; and
- financial cost

A workshop was held in November 2021 with Officers and Members of the Essex Waste Partnership Authorities to agree and approve a long-list of collection and treatment options, and evaluation criteria weightings. The long-list evaluation stage was used to assess the relative performances of the long-list of collection and treatment technology options. The long-list was then assessed against the evaluation criteria to determine a short-list of options. The long-list collection options are shown in Figure 4.1 with the long-list technology options shown in Figure 4.2. An explanation of the collection methodologies is provided in Box 4.1: Explanation of collection methodologies with an explanation of the treatment/disposal technology types in Box 4.2.

### Box 4.1: Explanation of collection methodologies

Dry recycling includes the following materials: paper, card, plastic bottles, pots tubs and trays, cartons, aluminium and steel cans, glass. Plastic film and flexible packaging are also included in this stream based on the current direction of government policy through the Environment Act.

In the UK there are currently three primary approaches to dry recyclate collections:

Co-Mingled: Where all dry recyclate is collected in a single container and then separated at a Materials Recovery Facility (MRF) before onward transport to reprocessors. A standard refuse collection vehicle (RCV) can be utilised for collections, and transfer, storage and transport of the recyclate.

Twin-stream: Collections in which one material stream (in general glass or paper and card) is collected in a separate container from the rest of the dry recyclate. In general, either glass or paper and card (co-collected) are the material streams collected separately. The remaining co-collected materials are separated at a MRF before onward transport to re-processors. Twin-stream collections require residents to segregate their recyclate and use two containers. This uses split bodied vehicles and/or additional staff.

Source segregated / Multi-stream: Requiring residents to fully segregate their recyclate into different containers. This requires more complex vehicles with multiple compartments (often with lower capacity) and/or additional staff. Multiple streams of material are involved. Multi-stream collections commonly involve separate collection of

1. paper and card
2. glass
3. Plastics, plastic film and cans collected as three streams.
4. Other materials: Small WEEE, batteries, textiles

The more separation occurs at the kerbside the higher the collection costs. However, this can be offset against reduced mechanical separation and consequent MRF gate fees and potentially improve material qualities and incomes.

Collection frequency can influence the yields collected for recycling and organic treatment. Reducing residual waste collection frequencies can reduce collection costs and increase recycling yields. More frequent recycling collections can also improve yields.

Figure 4.1 Long-list collection options

| Dry recycling collection | Food waste collection | Garden waste collection | Dry recycling frequency | Organic waste frequency | Residual waste frequency |
|---|---|---|---|---|---|
| •Commingled<br>•Twin stream: commingled recycling and separate paper&card<br>•Twin stream: commingled recycling and separate glass collection<br>•Multi-stream | •Separate food collections<br>•Co-collected food and garden waste | •Separate - without subscription<br>•Separate - with subscription<br>•Co-collected with food waste | •Weekly<br>•Fortnightly<br>•Three-weekly | •Weekly<br>•Fortnightly | •Weekly<br>•Fortnightly<br>•Three-weekly<br>•Four-weekly |

### Box 4.2: Explanation of the treatment/disposal technology types

Combustion (EfW): Combustion (also referred to as incineration) encompasses those processes where waste feedstock undergoes complete oxidation (combustion) in a furnace with excess oxygen, releasing heat into the gaseous exhaust and solid combustion products.

- moving grate: Moving grate refers to the action of the furnace grate, which moves the waste feedstock through the combustion area to facilitate complete combustion.
- fluidised bed: pre-treated waste is combusted within a reactor chamber containing very hot sand, which is fluidised by an air stream, thus promoting rapid heat transfer between particles.
- oscillating kiln: waste is loaded into a hopper and mechanically pushed into the top of a tapering cylinder or kiln. To pass the waste through the kiln and control the rate of combustion, the kiln oscillates from side to side, passing the waste between paddles set into the internal walls of the kiln.

Advanced Thermal Treatment (ATT): Advanced Thermal Treatment (ATT) is an umbrella term applied to a wide range of technologies, all of which involve the conversion of waste into a combination of gas, liquid and solid products which can be upgraded and used for various purposes.

- plasma gasification: Gasification is the thermal breakdown/partial oxidation of waste under a controlled oxygen atmosphere, producing syngas, which primarily consists of carbon monoxide (CO) and hydrogen ($H_2$) (the oxygen content is lower than necessary for full combustion). Some gasification processes (including plasma assisted processes) operate at very high temperatures to melt the ash and other residues, with potential to use in construction.
- pyrolysis: Pyrolysis is the thermal breakdown of waste in the absence of oxygen. Waste is heated to high temperatures (>400°C) without the addition of oxygen.

Clean material recovery facility (MRF): MRFs use a combination of processing equipment including screens, separators and conveyors to recover recyclable material streams from single stream waste materials.

- single stream: processing a single co-mingled feedstock
- two stream: processing two streams of material segregated at source
- multi-stream: processing multiple streams of material segregated at source

Mechanical biological treatment (MBT): Dirty MRF is a term used for the processing of residual municipal solid waste (MSW) or other non-dry mixed recycling (DMR) streams through a mechanical sorting process. Dirty MRFs are often used in combination with biological treatment processes which is collectively known as MBT.

- autoclave: high pressure rotating vessels which effectively “cook” the waste at high pressure and temperature
- enzyme reactor: involves loading the organic material into a large rotating drum and adding water and an enzyme mixture which partially breaks down the organic fraction, allowing it to be separated from the other materials and accelerating the AD process

Aerobic Composting: Composting is the biological treatment of waste by aerobic microorganisms in the presence of air.

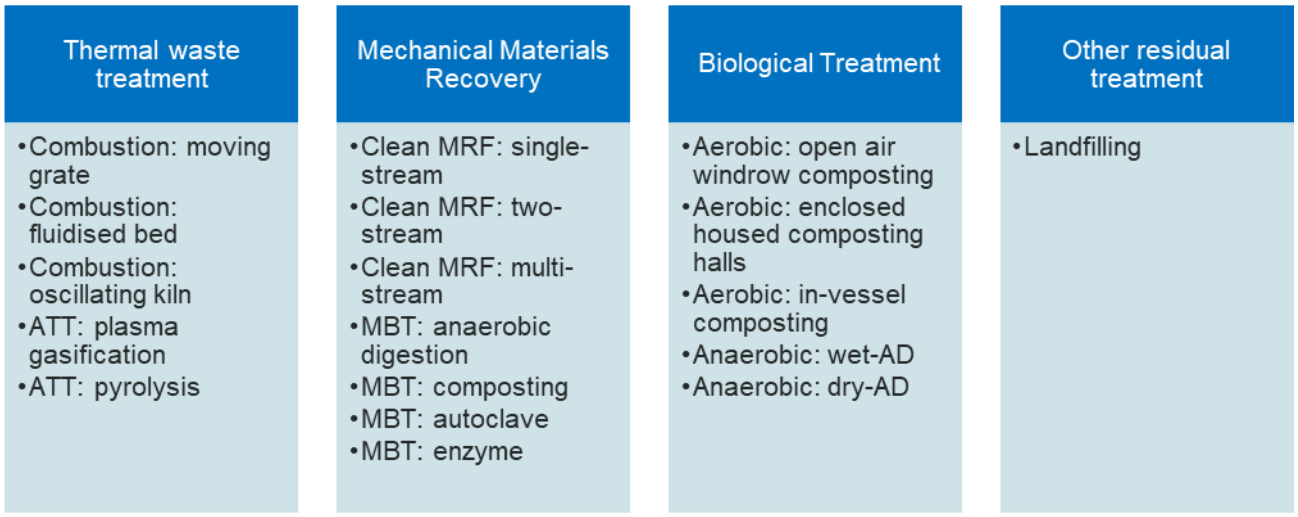
- open air windrow composting: a simple open-air process undertaken outside on concrete pads
- enclosed housed composting halls: composting undertaken within a building
- in-vessel composting: composting undertaken within a vessel

Anaerobic digestion (AD): a biological process through which organic material is decomposed without the presence of oxygen by micro-organisms and within an enclosed system to generate biogas

- wet-AD: with the waste as a liquid slurry of relatively low dry matter content
- dry-AD: with the waste in a solid form with a relatively high dry matter content

Landfilling: disposing of waste in an excavated pit (landfill)

Figure 4.2 Long-list technology options*




**Please note combustion shown in this table is shown as Energy from Waste in Table 4.1*

The evaluation criteria of the long-list options were divided into four themes; technical and deliverability; cost; environmental; and sustainability.

Outcomes from the stakeholder workshop identified that the environmental impact (first) and deliverability risk (second) were the most important criteria when assessing the proposed collection and treatment options.

As a result of the long-list scoring, six options in Table 4.1 have been proposed as the short-listed options to be assessed. The individual options comprise of a collection stream and a treatment stream with each focussing on four waste elements; Dry recycling; Food waste; Garden waste; and Residual waste.

Table 4.1 Short-listed options

| Options | | Dry recycling | Food waste | Garden waste | Residual waste |
|---|---|---|---|---|---|
| Option 1 | Collection | Commingled, fortnightly | Separate, weekly | Separate, fortnightly (no subscription) | Fortnightly |
| | Treatment | MRF | Wet AD | Open Air Windrow (OAW) composting | EFW - Moving Grate |
| Option 2 | Collection | Commingled, fortnightly | Separate, weekly | Separate, fortnightly (no subscription) | Three-weekly |
| | Treatment | MRF | Wet AD | OAW composting | EFW - Moving Grate |
| Option 3 | Collection | Multistream, fortnightly | Separate, weekly | Separate, fortnightly (no subscription) | Fortnightly |
| | Treatment | Direct to Reprocessor | Wet AD | OAW composting | EFW - Moving Grate |
| Option 4 | Collection | Multistream, fortnightly | Separate, weekly | Separate, fortnightly (no subscription) | Three-weekly |

| | Treatment | Direct to Reprocessor | Wet AD | OAW composting | EFW - Moving Grate |
|---|---|---|---|---|---|
| Option 5 | Collection | Multistream, weekly | Separate, weekly | Separate, fortnightly (no subscription) | Fortnightly |
| | Treatment | Direct to Reprocessor | Wet AD | OAW composting | EFW - Moving Grate |
| Option 6 | Collection | Multistream, weekly | Separate, weekly | Separate, fortnightly (no subscription) | Three-weekly |
| | Treatment | Direct to Reprocessor | Wet AD | OAW composting | EFW - Moving Grate |

Environmental factors have been considered and modelled in the determination of the short-list options using a Waste and Resources Assessment Tool (WRATE). The WRATE model was chosen due to the ability to assess a variety of environmental criteria including, each with separate weightings:

- Quantitative assessment of Greenhouse Gas (GHG) emissions ($CO_{2eq}$)
- Evaluation of local and wider transport impacts – distance travelled (collections & haulage)
- Acid rain potential
- Potential water pollution
- Human toxicity
- Resources depletion

In addition to the above factors modelled within WRATE, the following environmental factors were included in the options modelling:

- Waste reduction (quantitative assessment of kg/hh/yr)
- Quantitative assessment of recycling rate (Local Authority collected waste)

The results of the options modelling were put into an options appraisal model, together with some qualitative environmental and sustainability factors, to determine the BPEO.

Sustainability issues and some qualitative environmental issues are also considered within the options appraisal under separate criteria which are detailed below:

- Quantitative assessment of jobs created or sustained
- Evaluation of local energy creation and potential for useable heat
- Litter (Potential for)
- Noise (Potential for)
- Odour (Potential for)

In addition to the Environmental and Sustainability themes, Cost and Technical & Deliverability were two other themes used within the options appraisal. The four themes have been weighted based on the Vision workshops attended by ECC Members and Officers and is outlined below in Table 4.2Table 4.2.

Table 4.2 Theme weightings

| Theme | Weighting |
|---|---|
| Sustainability | 9.2% |
| Environmental | 27.1% |
| Cost | 41.7% |

| Theme | Weighting |
|---|---|
| Technical and Deliverability | 22% |

#### *4.2.1.1 Sensitivities*

In addition to the six options, four sensitivities are also included as part of the Options Appraisal and modelling. Modelling of additional options (or 'sensitivity' modelling) on the preferred option(s), with the intention that one option is brought forward will also be assessed as part of the SEA. The 4 sensitivities are:

- Sensitivity 1: Front-end recycling to the EfW facilities where household residual waste in taken
- Sensitivity 2: Addition of combined heat and power (CHP) at the EfW facilities
- Sensitivity 3: Addition of carbon capture and storage technology at the EfW facilities
- Sensitivity 4: Introduction of householder charges for garden waste collections

## 4.3 DRAFT PROPOSED SEA OBJECTIVES

This section outlines the draft proposed assessment framework that will be used to identify the environmental effects of the options identified in the Waste Strategy for Essex.

Establishing appropriate SEA objectives and guide questions as an assessment method is helpful in identifying the effects of the Strategy on the environment. Each of the waste management options will be assessed against the SEA objectives to determine the scale and significance of the effect.

The SEA objectives proposed for the assessment of the Strategy reflect the topics contained in Schedule 2 (6) of the SEA Regulations and have been informed by:

- the review of relevant plans and programmes and the associated key policy objectives and messages;
- the baseline information;
- and key issues that have been identified.

The draft assessment framework is presented in Table 4.3Table 4.3. Following responses to the scoping consultation, the assessment framework will be reviewed and revised where required.

Table 4.3 Proposed SEA Objectives

| SEA Topic | Proposed SEA Objectives | | Proposed Guide Questions |
|---|---|---|---|
| Material Assets and Waste Management | 1.1 | To support a circular economy, minimise waste arisings, promote reuse, recovery and recycling, minimising the impact of waste on the environment and communities and contribute to the sustainable use of natural and material assets. | • Will the draft Strategy promote the efficient use of existing infrastructure, resources and minimise waste?<br>• Will the draft Strategy promote the re-use and recycling of waste materials and reduce the proportion of waste sent to landfill?<br>• Will the draft Strategy promote and move towards a regenerative circular economy?<br>• Will the draft Strategy help to minimise the consumption of resources, including water and energy?<br>• Will the Strategy affect waste practices and behaviours in residents and businesses?<br>• Will the draft Strategy affect community level or national capabilities to re-use, recycle and recover materials? |

| SEA Topic | Proposed SEA Objectives | | Proposed Guide Questions |
|---|---|---|---|
| Biodiversity, Flora and Fauna | 2.1 | To protect and enhance biodiversity including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain. | • Will the draft Strategy protect and/or enhance sites that are designated, both nationally and internationally, for their nature conservation value?<br>• Will the draft Strategy protect and/or enhance priority species and habitats?<br>• Will the draft Strategy protect and/or enhance non-designated habitats and species including protected species?<br>• Will the draft Strategy lead to an improvement in natural capital and a net gain in biodiversity?<br>• Will the Strategy avoid further spread of invasive, non-native species? |
| Population and Human Health | 3.1 | To protect and enhance human health and wellbeing | • Will the draft Strategy help to promote healthy communities and avoid risks to human health and wellbeing for example, due to noise, odour and dust?<br>• Will the draft Strategy promote sustainable growth and maintain and enhance the economic and social well-being of local communities?<br>• Will the draft Strategy minimise extent of litter and vermin generation?<br>• Will the draft Strategy impact vehicle movements?<br>• Will the draft Strategy minimise the health impact from waste treatment collection, sites and management e.g. through chemicals, air pollution, land contamination and increased risk of infection and/or disease?<br>• Will the draft Strategy affect opportunities for recreation and physical activity?<br>• Will the draft Strategy ensure vulnerable communities are protected and not disproportionately impacted?<br>• Will the draft Strategy help to ensure that all residents have equal access and ability to participate in waste and resource management practices? |
| | 3.2 | To minimise disturbance to local communities | |

| SEA Topic | Proposed SEA Objectives | | Proposed Guide Questions |
|---|---|---|---|
| Water | 4.1 | To protect and enhance water quality and help achieve the objectives of the Water Framework Directive. | • Will the draft Strategy protect and/or enhance surface, ground, estuarine and coastal water quality and quantity and ensure sustainable water resource management?<br>• Will the draft Strategy prevent the deterioration of Water Framework Directive waterbody status (or potential)?<br>• Will the draft Strategy reduce the risk of flooding? |
| Soil, Geology and Land-Use | 5.1 | To make appropriate and efficient use of land and protect and enhance soil, local geomorphology and geodiversity and contribute to the sustainable use of land. | • Will the draft Strategy have an effect on soil quality/function?<br>• Will the draft Strategy prioritise prevention of waste, enhance recycling and reduce the amount of waste going to landfill?<br>• Will the draft Strategy increase the risk of land contamination?<br>• Will the draft Strategy protect and/or enhance Geological Conservation Sites, important geological features and geophysical processes and functions? |
| Air and Climate | 6.1 | To minimise emissions of pollutant gases and particulates and enhance air quality. | • Will the draft Strategy affect air quality?<br>• Will the draft Strategy create a nuisance for people or wildlife (for example from dust, vibration or odours)?<br>• Will the draft Strategy help to minimise traffic volumes?<br>• Will the draft Strategy encourage alternative and sustainable means of transporting freight, waste and minerals, where possible?<br>• Will the draft Strategy help to ensure a low carbon design solution to the design and delivery of waste management services including infrastructure?<br>• Will the draft Strategy lead to an increase in low carbon energy use?<br>• Will the draft Strategy increase resilience to the effects of climate change? |
| | 6.2 | To minimise greenhouse gas emissions and embodied carbon associated with waste management and landfill | |
| | 6.3 | To adapt waste management practices to climate change and improve resilience to the threats of a changing climate | |
| Landscape and Visual Amenity | 8.1 | To protect and enhance landscape and townscape character and visual amenity. | • Will the draft Strategy lead to detrimental visual impacts?<br>• Will the draft Strategy affect the purposes and/or special qualities of protected/designated/culturally important landscapes and their setting? |

| SEA Topic | Proposed SEA Objectives | | Proposed Guide Questions |
|---|---|---|---|
| | | | • Will the draft Strategy provide opportunities to enhance nationally and locally designated landscapes, townscapes, seascapes and their settings?<br>• Will the draft Strategy affect the intrinsic character or setting of local landscapes, streetscapes, townscapes and seascapes?<br>• Will the draft Strategy help to minimise light pollution from operational activities on residential amenity and on sensitive locations and receptors?<br>• Will the draft Strategy help reduce the likelihood of littering and fly-tipping and other waste crime? |

## 4.4 PROPOSED FRAMEWORK FOR ASSESSMENT

The effects of the Waste Strategy will be assessed including potential cumulative effects, of the options and alternatives (from the short-list of options) and, where appropriate, help to further develop and refine the options.

The assessment of options will draw on the other assessments and studies being undertaken in support of the Essex Waste Strategy proposals such as the Best Practicable Environmental Option assessment (BPEO) and the short-list evaluation criteria which have been developed as part of the options appraisal process as outlined in Development of Options for Assessment 4.2.

Following the inclusion of SEA findings into the development of the Essex Waste Strategy, assessment of the preferred option process will be carried out which will incorporate the modelling of the chosen sensitivities. This includes identifying, describing and evaluating the cumulative effects.

The effects of each option will be assessed against all of the SEA objectives in the assessment framework. The assessment of effects will include consideration of the following:

- the nature of the potential effect (what is expected to happen);
- the timing and duration of the potential effect (e.g., short, medium or long term);
- the geographic scale of the potential effect (e.g., local, regional, national);
- the location of the potential effect (e.g., whether it affects rural or urban communities, or those in particular parts of a plan area); and
- the potential effect on vulnerable communities or sensitive sites.

A matrix similar to that shown in **Error! Reference source not found.** will be used to capture the assessment of each options in a consistent manner; a key to the significance ratings is presented in Figure 4.4.

Figure 4.3 Example Options Assessment Matrix

| Example Objective | Scoring | | Commentary |
|---|---|---|---|
| | -ve | +ve | |
| 1.1 To support a circular economy, minimise waste arisings, promote reuse, recovery and recycling, minimising the impact of waste on the environment and communities and contribute to the sustainable use of natural and material assets. | - | + | Effects: A description of the likely significant effects of the option on the SEA objective.<br>Assumptions: Any assumptions made in undertaking the assessment.<br>Uncertainties: Any uncertainties encountered during the assessment.<br>Further Mitigation: Mitigation and enhancement measures. |

Figure 4.4: Significance Ratings

| Score | Description | Symbol |
|---|---|---|
| Major/Significant Positive Effect | Significant positive effect of the option on this objective | +++ |
| Moderate Positive Effect | Moderate positive effect of the option on this objective | ++ |
| Minor Positive Effect | Minor positive effect of the option on this objective | + |
| Neutral | Neutral effect of the option on this objective | 0 |
| Minor Negative Effect | Negative effect of the option on this objective | - |
| Moderate Negative Effect | Moderate effect of the option on this objective | -- |
| Major/Significant Negative Effect | Significant negative effect of the option on this objective | --- |
| Uncertain | The waste strategy option has an uncertain relationship to the objective or the relationship is dependent on the way in which the aspect is managed. In addition, insufficient information may be available to enable an assessment to be made. | ? |

The assessment will take account of any proposed mitigation measures that have been incorporated into the option conceptual design and costs, i.e. it is the residual effects after the application of mitigation that will be assessed.

### 4.4.1 Secondary, Cumulative and Synergistic Effects

Schedule 2(6) of the SEA Regulations requires the assessment of "The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects…."

In addition to the assessments of the plan level assessments and alternatives described above, this would also include the cumulative effects assessment of the Strategy in-combination with other plans and programmes.

# 5. NEXT STEPS: CONSULTATION

## 5.1 CONSULTATION ON THE SCOPING REPORT

Under Regulation 12 (5) of the Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations), when deciding upon the scope and level of detail of the information to be included in an Environmental Report, the authority responsible for the report is required to undertake consultation. This Scoping Report fulfils this requirement and provides the statutory consultation bodies (the Environment Agency, Historic England and Natural England), with an opportunity to provide views on the proposed scope and approach for the SEA of the Waste Strategy for Essex.

Following consultation, the scope and / or approach may be modified to take account of consultees' responses. Consultation responses, and any subsequent amendments made as a consequence of the responses, will be documented in an appendix to the SEA Environmental Report.

Comments on any aspect of the Scoping Report are welcomed, although views are particularly sought in response to the following questions:

1. Does the Scoping Report set out sufficient information to establish the context for the assessment, both in terms of the scope of the baseline analysis presented, and the plans, programmes and

strategies reviewed (Section 2 and Appendix 1)? If not, which areas do you think require baseline analysis and/or what additional plans, programmes or strategies should be included?
2. Are there any plans, programmes and strategies currently included in the review that are not relevant to this Strategy identified as being unnecessary and could be removed?
3. Similarly, are there any topics covered in the baseline that are considered to be unnecessary and can be scoped out of the assessment?
4. Do the SEA objectives and guide questions cover the breadth of issues appropriate for appraising the effects of the draft Strategy? If not, which objectives and/or guide questions should be amended and how?
5. Do you have any other comments?

Five weeks are being provided for consultees to provide comments on the scope of the SEA as described within this report, in line with SEA Regulation 12(6).

Following completion of the assessment, the draft SEA Environmental Report, will be issued alongside the draft Waste Strategy for consultation to statutory consultees, stakeholders and the wider public for a minimum of 8 weeks in the summer/autumn of 2023.

## 5.2 PREPARATION OF THE ENVIRONMENTAL REPORT

### 5.2.1 Structure and Content

The findings of the SEA will be documented in an Environmental Report. Assessments will be fully documented in the Environmental Report, to be published for consultation alongside the Strategy. The Environmental Report will also identify provisional monitoring and mitigation measures according to the significant effects identified.

The proposed structure of the report is derived from the requirements specified by the SEA Regulations[95] and set out in the Practical Guide[96] . A non-technical summary of the information will be provided under the headings listed in Schedule 2 of the SEA regulations.

The Environmental Report(s) will have the following purposes:

- to ensure that the likely significant environmental effects associated with the draft Strategy are identified, characterised and assessed;
- to propose measures to mitigate the adverse effects identified and, where appropriate, to enhance potential positive effects;
- to provide a framework for monitoring the potential effects arising from the implementation of the draft Strategy; and
- to provide sufficient information to those potentially affected to enable them to contribute effectively to the public consultation.

In accordance with Schedule 2 of the SEA Regulations, the Environmental Report will indicatively consist of:

- a non-technical summary;
- a section providing an overview of the principal objectives and contents of the draft plan being assessed;
- a section providing the relevant contextual information including a review of the plans and programmes, the relevant baseline information and an outline of the evolution of the baseline without the Strategy;
- a section setting out the proposed approach to assessment including the relevant environmental protection objectives;
- a section outlining the likely significant environmental effects of the measures set out in the draft plan and any reasonable alternatives identified, including cumulative effects, mitigating measures, uncertainties and risks;
- a section presenting views on implementation and monitoring;

[95] SEA Regulations, Part 3, Regulations 2 and 3 and Schedule 2.

[96] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive.

- and appendices containing the any further detailed contextual information and assessment matrices.

## 5.3 SEA POST-ADOPTION STATEMENT

Once the revised Strategy is published and adopted, Essex Council will publish an SEA Post Adoption Statement, describing how the SEA and the responses to consultation have been taken into account during the preparation of the Strategy. This statement will describe how environmental considerations have been integrated into the Strategy, and explain any changes made or alternatives rejected. Information will also be provided on the environmental monitoring to be carried out during implementation of the Strategy to track the environmental effects and to trigger appropriate responses where effects are identified.

## 5.4 QUALITY ASSURANCE

The Practical Guide contains a Quality Assurance checklist to help ensure that the requirements of the SEA Regulations (and Directive) are met. The checklist is reproduced in Appendix 2, indicating where this Scoping Report meets the requirements, and which requirements will be addressed in the Environmental Report.

# APPENDICES

# APPENDIX 1 REVIEW OF POLICIES, PLANS AND PROGRAMMES

| Objectives identified in the Policy, Plan or Programme | Influences on the Waste Strategy and the SEA objectives |
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| *International* | |
| Ramsar Convention: The Convention on Wetlands of International Importance (1971) | |
| The Convention on Wetlands (Ramsar, Iran, 1971) (the "Ramsar Convention") is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance and to plan for the "wise use", or sustainable use, of all of the wetlands in their territories. | The impacts of the Waste Strategy options on important wetland habitats must be considered as part of the SEA. |
| The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) | |
| International convention which aims to ensure conservation of wild flora and fauna species and their habitats. Special attention is given to endangered and vulnerable species, including endangered and vulnerable migratory species specified in appendices.<br>Enforced in European legislation through the Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC). | The impacts of the strategy options on internationally designated sites, species and important Bird habitats must be considered as part of the SEA. |
| The Bonn Convention on the Conservation of Migratory Species of Wild Animals (1983) | |
| Aims to conserve terrestrial, marine and avian migratory species throughout their range.<br>Enforced in European legislation through the Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC). | The impacts of the strategy options on important Bird habitats (i.e. Ramsar sites and SPA designated sites) must be considered as part of the SEA. |
| The Cancun Agreement (2011) & Kyoto Agreement (1997) | |
| The agreement represents key steps forward in capturing plans to reduce greenhouse gas emissions and to help developing nations protect themselves from climate impacts and build their own sustainable futures. It includes a shared vision to keep global temperature rise to below two degrees Celsius. | The SEA should seek to promote a reduction in greenhouse gas emissions. |
| Charter for the Protection and Management of Archaeological Heritage (1990) | |
| The International Council on Monuments and Sites (ICOMOS) International Committee on Archaeological Heritage Management (ICAHM) created a charter to establish principles and guidelines of archaeological heritage management that are globally valid and can be adapted to national policies and conditions. This includes general principles for investigation, maintenance, and conservation as well as reconstruction of architectural heritage. | The impacts of the options on archaeological heritage sites must be considered as part of the SEA. |
| United Nations Economic Commission for Europe (1998) Aarhus Convention - Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters | |
| The Aarhus Convention grants the public rights regarding access to information, public participation and access to justice, in governmental decision-making processes on matters concerning the local, national and transboundary | The Convention is designed to improve the way ordinary people engage with government and decision-makers on environmental matters. It |

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| environment. It focuses on interactions between the public and public authorities.<br>The Aarhus Convention has been ratified by the European Community, which has begun applying Aarhus-type principles in its legislation, notably the Water Framework Directive (Directive 2000/60/EC). | helps to ensure that environmental information is easy to get hold of and easy to understand.<br>The SEA should seek to provide easily understood information to the public on the environmental implications of the waste strategy and its constituent options. |
| Paris Agreement (2015) | |
| The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016.<br>Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. | The SEA should take into account the need to consider impacts towards climate change i.e. contribution towards greenhouse gas emission reductions). |
| European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive) | |
| This Directive ensures that individual Parties integrate environmental assessment into their plans and programmes at the earliest stages, whereby an SEA becomes mandatory for plans/programmes which are:<br>• Prepared for agriculture, forestry, fisheries, energy, industry, transport, waste/ water management, telecommunications, tourism, town & country planning or land use and which **set the framework** for future development consent of projects listed in the EIA Directive; Or<br>• Have been determined to require an assessment under the Habitats Directive.<br>For any plans/programmes not included in the above, the Member States must carry out a screening procedure to determine whether the plans/programmes are likely to have significant environmental effects. | This directive provides the regulatory basis for an SEA being carried out as part of the strategy. From December 31 2020, following the exit of the UK from the European Union the SEA Regulations are now the principal legal basis for the SEA. However, as some of the guidance has not been updated the various SEA stages and deliverables may still refer to the SEA Directive where deemed appropriate. |
| European Community (EC) Directive 1999/31/EC on the landfill of waste | |
| The Directive requires, amongst other things, that a strategy on biodegradable waste is put in place that achieves the progressive diversion of biodegradable municipal waste from landfill (Articles 5(1) & (2)). This requirement has been implemented in England through Waste Strategy 2007 and across the UK through the Waste and Emissions Trading Act 2003 | The SEA should ensure that any options for the Waste Strategy are within the guidance set out by the Landfill Directive. |
| Council of Europe (2003) European Soils Charter | |
| Sets out common principles for protecting soils across Europe and will help. | The SEA should seek to ensure that the quality of the regions land, including soils, is protected or enhanced. |
| Council of Europe (2006), European Landscape Convention | |
| European Landscape Convention (ELC) is the first international convention to focus specifically on landscape. Natural England implements the European Landscape Convention in England. The aims of the 2009/10 action plan are: | The implementation of the waste strategy may influence landscape or the enjoyment of landscapes in the Essex County Council area and as such the SEA should seek to maintain or enhance the quality of the region's landscapes and the potential enjoyment of these landscapes. |

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| Lead on improving the protection, planning and management of all England's landscapes<br>Raise the quality, influence and effectiveness of policy and practical instruments<br>Increase the engagement in and enjoyment of landscapes by the public<br>Collaborate with partners across the UK and Europe. | |
| The Environment Noise Directive (Directive 2002/49/EC) | |
| The END aims to —define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure to environmental noise. It also aims to provide the basis for developing EU measures to reduce noise emitted by major sources, in particular road and rail vehicles and infrastructure, aircraft, outdoor and industrial equipment and mobile machinery. | The SEA assessment framework should include for the protection against excessive noise. |
| European Commission (2008) The 2008 ambient air quality directive (2008/50/EC) | |
| The 2008 ambient air quality directive (2008/50/EC) sets legally binding limits for concentrations in outdoor air of major air pollutants that impact public health such as particulate matter (PM10 and PM2.5) and nitrogen dioxide (NO2). As well as having direct effects, these pollutants can combine in the atmosphere to form ozone, a harmful air pollutant (and potent greenhouse gas) which can be transported great distances by weather systems. | The implementation of the waste strategy may have some influence on air quality, either directly or indirectly through construction or operation activities. The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. |
| European Commission, Thematic strategy on air pollution (2005) | |
| This policy sets out interim objectives for air pollution in the EU and measures for achieving them. | The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. |
| European Commission (2009) Promotion of the use of energy from renewable sources Directive (2009/28/EC) | |
| This promotes the use of energy from renewable sources. | The SEA should seek to promote the use of renewable energy. |
| European Commission (2011), Our life insurance, our natural capital: an EU biodiversity strategy to 2020 | |
| This is a long-term vision which was endorsed as a result of the 2010 biodiversity target not being met. It sets out the EU 2020 biodiversity target and vision for 2050. The key targets included:<br>• Conserving and restoring nature;<br>• Maintaining and enhancing ecosystems and their services;<br>• Ensuring the sustainability of agriculture, forestry and fisheries;<br>• Combating invasive alien species; and<br>Addressing the global biodiversity crisis. | The implementation of the strategy should seek to facilitate achievement of the EU 2020 biodiversity target and 2050 vision, through its existing consideration of impacts towards biodiversity, set out in the SEA objectives. |
| European Commission, Environmental Liability Directive (2004/35/EC) | |
| The Directive establishes a framework for environmental liability based on the "polluter pays" principle, with a view to preventing and remedying environmental damage. | The SEA should seek to ensure that the waste strategy avoids causing direct or indirect damage to the aquatic environment or contamination of land that creates a significant risk to human health. |

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| European Commission, Urban Waste Water Treatment Directive (1991/271/EC) | |
| The Directive's objective is to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial sectors and concerns the collection, treatment and discharge of domestic waste water, mixture of waste water and waste water from certain industrial sectors. | The SEA should seek to maintain, protect and improve water quality across the region. |
| European Commission (1992), Habitats Directive (1992/43/EC) | |
| The aim of the Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance. | The impacts of the strategy on internationally designated sites and species must be considered as part of the SEA. |
| European Commission (2006) Thematic Strategy for Soil Protection | |
| The Thematic Strategy for Soil Protection consists of a Communication from the Commission to the other European Institutions, a proposal for a framework Directive (a European law), and an Impact Assessment. | The SEA assessment framework should include consideration of soils and their protection. |
| European Commission (2009), Birds Directive (2009/147/EC) | |
| The Directive provides a revised framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievement are at the discretion of each Member State (in the UK delivery is via several different statutes). | The SEA should seek to protect and conserve important bird habitats. |
| European Commission, Directive on the Assessment and Management of Flood Risks (2007/60/EC) | |
| This Directive requires Member States to assess whether all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. | The impacts of the strategy on existing fluvial, groundwater and coastal flood risk must be considered as part of the SEA. |
| United Nations (2002), Commitments arising from the World Summit on Sustainable Development, Johannesburg | |
| The World Summit on Sustainable Development proposed broad-scale principles which should underlie sustainable development and growth.<br>It included objectives such as:<br>Greater resource efficiency<br>Work on waste and producer responsibility<br>New technology development<br>Push on energy efficiency<br>Integrated water management plans needed<br>Minimise significant adverse effects on human health and the environment from chemicals by 2020. | These commitments are the highest level definitions of sustainable development. The waste strategy should be influenced strongly by all of these themes and should seek to take its aims into account.<br>The SEA should seek to promote the achievement of the sustainable development objectives outlined in this plan. |
| *National* | |
| The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations) | |

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| This represents the transposition of the Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive). | This regulation provides the UK regulatory basis for an SEA being carried out as part of the waste strategy. |
| Waste Management Plan 2021 | |
| The plan set out an overview of waste management in England bringing current waste management policies into a single national plan.<br>The Wate Management Plan sets out a vision and policies with the aim of moving to a circular economy.<br>The following documents contain significant policies that contribute to the Waste Management Plan for England:<br>• the Clean Growth Strategy<br>• the Industrial Strategy<br>• the Litter Strategy<br>• the UK Plan for Shipments of Wastes<br>• the National Policy Statements for Hazardous Waste and for Renewable Energy Infrastructure (in so far as it relates to facilities which recover energy from waste). | The Waste Strategy should promote the policies set forward in the Waste Management Plan 2021 alongside the support documents which contribute to the overall plan for England. |
| The Climate Change Act 2008 | |
| This act sets carbon targets for 2050. The net carbon account for 2050 at least 80% lower than 1990 baseline. | This target needs to be taken into account in the SEA. |
| The Climate Change Act 2008 (2050 Target Amendment) Order 26 June 2019 | |
| This amendment changed the UK carbon emissions reduction target from an 80% to a 100% reduction | This target needs to be taken into account in the SEA objective for energy use and greenhouse gas emissions, and adaptation to climate change. |
| Conservation of Habitats and Species Regulations 2017 (Amendment) (EU Exit) Regulations (2019) | |
| These regulations consolidate all the various amendments made to the Conservation (Natural Habitats) Regulations 1994 in England.<br>The regulations provide for the designation and protection of 'European sites', the protection of 'European species', and the adaptation of planning and other controls for the protection of European Sites. They are the principal means by which the Habitats Directive is transposed in England as such its main objective is to promote the maintenance of biodiversity. | The impacts of the waste strategy options species diversity must be considered as part of the SEA. |
| Resource and Waste Strategy (2018) | |
| The strategy sets out how we will preserve our stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy.<br>Initiatives within the strategy include:<br>• A Deposit Return Scheme for drinks containers<br>• Extended Producer Responsibility for packaging<br>• Consistency in household and business waste recycling | The waste strategy should fall in line with guidance set out in the Resource and Waste strategy with options contributing to the overall aims of the policy paper. |
| Industrial Strategy White Paper (2017) | |

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| This White Paper sets out long-term plans to boost productivity and earning power of people throughout the UK. There is specific reference to waste with respect to moving towards a regenerative circular economy:<br>- promotion of recycling and strong secondary materials markets<br>- deliver a 20% per capita reduction in food waste by 2025<br>- strengthen policies in line with ambitions of zero avoidable waste and doubling of resource productivity by 2050. | The waste strategy should aim to promote the plans set out in the Industrial Strategy with respect to moving towards a regenerative circular economy. |
| The Countryside and Rights of Way (CROW) Act, 2000 | |
| The Act provides for increased public access to the countryside and strengthens protection for wildlife.<br>The main provisions of the Act are as follows:<br>Extends the public's ability to enjoy the countryside whilst also providing safeguards for landowners and occupiers<br>Creates new statutory right of access to open country and registered common Land Use Consultants<br>Modernises Right of Way system<br>Gives greater protection to SSSIs<br>Provides better management arrangements for AONBs<br>Strengthens wildlife enforcement legislation. | If the waste strategy is to have an effect on public access to the countryside, the SEA should include objectives that take into account public access, protection of SSSIs and the management of relevant landscape designations. |
| The Natural Environment and Communities Act 2006 (NERC Act) | |
| This provides the legislative framework to extend the biodiversity duty set out in the Countryside and Rights of Way (CROW) Act to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity.<br>Importantly, Section 41 of the Act refers to a published list of habitats and species which are of principal importance for the conservation of biodiversity in England.<br>This duty applies to all utility companies. | There are a range of designated Natural Environment and Rural Communities (NERC) Act Section 41 habitats within the assessment area.<br>The strategy may have an effect on NERC habitats and therefore the SEA must include objectives that take these effects into account. |
| DCLG (2012) National Planning Policy Framework (as amended 2019) | |
| Presumption in favour of sustainable development. Core planning principles include taking account of the development needs of an area; contribute to conserving and enhancing the environment; re-use of previously developed land; conserve heritage assets; deliver sufficient community facilities to meet local needs. Delivering sustainable development includes:<br>Building a strong competitive economy;<br>Supporting a prosperous rural economy;<br>Promoting sustainable transport; Requiring good design;<br>Promoting healthy communities; Protecting green belt land;<br>Meeting the challenge of climate change, flooding and coastal change;<br>Conserving and enhancing the natural environment;<br>Conserving and enhancing the historic environment; | The Waste Strategy and SEA should take account of the key components of sustainable development, Also, reservoirs contribute to recreation and visual amenity. |

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| Facilitating the sustainable use of minerals.<br>Reservoirs are included within the definition of open space - of public value due to opportunities for sport and recreation and providing a visual amenity. | |
| Department for Energy and Climate Change (2020) Energy White Paper: Powering our Net Zero Future | |
| The white paper outlines a series of policies and commitments made by the government as part of the transition to net zero carbon emissions. The strategies are three fold:<br>• Prioritisation of renewable sources energy generation and invest in low-carbon technologies<br>• Supporting a green recovery from COVID-19 through investment in green industries<br>• Creating a fair deal for consumers through facilitating competition, enhanced regulation and strategies to improve the energy performance of homes. | The implementation of the waste strategy may have an influence energy use within the Essex County Council Region. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant. |
| Department of energy and climate change (2011) Planning our electric future: a White Paper for secure, affordable and low carbon electricity | |
| This white paper outlines a package of reforms so that by 2030 there will be a flexible, smart and responsive electricity system, powered by a range of low carbon sources of electricity. This includes engaging with consumers on energy use. Decarbonisation is important in meeting the 2050 targets. | The implementation of the waste strategy may have an influence energy use within the Essex County Council Region. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant. |
| Defra (2011) Government Review of Waste Policy in England 2011 | |
| The review is guided by the “waste hierarchy”, EU obligations and targets on waste management, carbon impacts, environmental objectives and the costs and benefits of different policy options.<br>The Governments vision include a move beyond the current throwaway society to a “zero waste economy” in which material resources are re-used, recycled or recovered wherever possible, and only disposed of as the option of very last resort. | The Waste Strategy will involve options related to waste generation and recycling. The SEA should seek to enhance recycling and minimise the amount of waste going to landfill. |
| HM Government (2018) Our Waste, Our Resources: A Strategy for England | |
| In response to the 25 Year Environmental Plan, this document sets out a targeted strategy for preserving our stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy | The SEA should take into account effects on resource use and waste and benefits of promoting resource efficiency. |
| Defra (2017) The UK Climate Change Risk Assessment 2017 Evidence Report | |
| Identifies themes that form the priorities for adaptation in the UK. | The SEA should take into account the need for climate change adaptation. |
| Defra (2009) Safeguarding our soils – A Strategy for England | |
| The new Soil Strategy for England – Safeguarding our Soils – outlines the Government’s approach to safeguarding our soils for the long term. It provides a clear vision to guide future policy development across a range | The SEA should seek to ensure that the quality of the regions soils and their management is protected or enhanced. |

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| of areas and sets out the practical steps that we need to take to prevent further degradation of our soils, enhance, restore and ensure their resilience, and improve our understanding of the threats to soil and best practice in responding to them.<br>The Governments vision is that: By 2030, all England's soils will be managed sustainably and degradation threats tackled successfully. This will improve the quality of England's soils and safeguard their ability to provide essential services for future generations. | |
| Defra (2007) The Air Quality Strategy for England, Scotland and Wales | |
| This strategy identifies air quality objectives and policy options to further improve air quality in the UK into the long term. The options are intended to provide important benefits to quality of life and help protect the environment as well as the direct benefits to public health. | The implementation of the strategy may have some influence on air quality, either directly or indirectly through construction or operational activities. The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. |
| Defra (2005) Securing the Future: Delivering UK Sustainable Development Strategy | |
| The strategy for sustainable development aims to enable all people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. The strategy places a focus on protecting natural resources and enhancing the environment. | The SEA must seek to ensure that objectives relating to sustainable development, sustainable resource use and protecting the natural environment, are considered when assessing the potential impacts of the waste management strategy. |
| Defra (2004) The First Soil Action Plan for England | |
| This plan is a comprehensive statement on the state of the UK's soils and how Government and other partners were working together to improve them. Ensure that England's soils will be protected and managed to optimise the varied functions that soils perform for society (e.g. supporting agriculture and forestry, protecting cultural heritage, supporting biodiversity, as a platform for construction), in keeping with the principles of sustainable development. | The SEA should seek to ensure that the quality of the region's land, including soils, is protected or enhanced. |
| Defra (2004) Rural Strategy | |
| The strategy sets out rural and countryside policy, and draws upon from lessons learnt following the rural white paper. Objectives include supporting economic and social regeneration across rural England and enhance the value of the countryside and protect the natural environment for this and future generations. | The implementation of certain strategy options may have an effect upon rural communities and the countryside. The SEA should also seek to ensure that the quality of the region's landscapes, natural resources and biodiversity are maintained or enhanced. |
| Defra (2002) The Strategy for Sustainable Farming and Food – facing the future | |
| This strategy sets out how industry, Government and consumers could work together to secure a sustainable future for our farming and food industries. The strategy's objectives are to support the viability and diversity of rural and urban economies and communities, respect and operate within the biological limits of natural resources (especially soil, water and biodiversity) and achieve consistently high standards of environmental performance by reducing energy consumption, by | The implementation of the strategy may have some indirect links with the food industry. The SEA should also seek to promote the most effective use of the region's natural resources, including soil, biodiversity and energy resources. |

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| minimising resource inputs, and use renewable energy wherever possible. | |
| Defra (2011) The Natural Choice: securing the value of nature, The Natural Environment White Paper | |
| This paper sets out a new approach for protecting and improving the natural environment, developing a green economy and reconnecting people to nature, based on the findings of the UK National Ecosystem Assessment. | The Waste Strategy and SEA should seek to ensure that the natural environment and distinctive landscapes are protected and public access to them, are maintained. |
| UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment | |
| The 25 Year Plan sets out to deliver cleaner air and water in our cities and rural landscapes, protect threatened species and provide richer wildlife habitats, in addition to tackling the effects of climate change. The 25-year goals include:<br>1. Clean air;<br>2. Clean and plentiful water;<br>3. Thriving plants and wildlife;<br>4. A reduced risk of harm from environmental hazards such as flooding and drought;<br>5. Using resources from nature more sustainably and efficiently;<br>6. Enhanced beauty, heritage and engagement with the natural environment;<br>In addition, managing pressures on the environment by:<br>7. Mitigating and adapting to climate change;<br>8. Minimising waste;<br>9. Managing exposure to chemicals; and<br>10. Enhancing biosecurity. | The Waste Strategy and SEA objectives should be consistent with the principles behind the 25-year goals of the plan. The SEA should seek to ensure that the themes included in the 25-year goals are also reflected in the SEA objectives, particularly around air quality, resource use, energy use and greenhouse gas emissions, adaptation to climate change, minimising waste. |
| Defra (2020), The Draft Environment Bill 2020, and content related to the development of Nature Recovery Networks (parts 6 and 7) | |
| This policy paper provides greater clarity on some of the key changes proposed in the 25 Year Environmental Plan, including:<br>- The implications of the requirement for local areas to develop a Local Nature Recovery (LNR) Strategy, in driving the delivery of a National Nature Recovery (NNR) Network;<br>- New 'biodiversity net gain' measures as part of the planning requirements for new developments; and<br>- New measures that will support the design and delivery of strategic approaches for the protection of both species and habitats. | The strategy and SEA objectives for biodiversity should take account of the need to consider impacts towards LNR and NNR strategies and potential for biodiversity net gain. |
| The Energy Act 2013 | |
| This provides the legislative framework for delivering secure, affordable and low carbon energy. It includes provisions for decarbonisation, | The implementation of the strategy may have an influence upon Essex County Council's total energy use. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant. |

| Environment Act, 2021 | |
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| The Environment Act makes provisions about targets, plans and policies for improving the natural environment; creation of the Office for Environmental Protection; about waste and resource efficiency; about air quality; for the recall of products that fail to meet environmental standards; about water; about nature and biodiversity; for conservation covenants; about the regulation of chemicals; and for connected purposes.<br>Section 45A outlines specific waste and resource related provisions including: 'recyclable household waste must be collected separately from other household waste for recycling or composting, recyclable streams must be collected separately, food waste must be collected weekly'. | The strategy and SEA should seek ensure that any options follow targets and policies set out in the Environment Act. |
| **Environment Act, 1995** | |
| The Environment Act set up the EA to manage resources and protect the environment in England and Wales | The SEA should seek to promote the protection and enhancement of all resources without having negative effects on other aspects of the Environment. |
| **Environment Agency (2009), Water Resources Strategy for England and Wales** | |
| This is the national EA strategy for water resource management in the long term. It looks to 2050 and considers the impacts of climate change, the water environment, water resource and valuing water. Aims and objectives include:<br>- Ensure water is used efficiently in homes and buildings, and by industry and agriculture<br>- Provide greater incentives for water companies and individuals to manage demand and<br>- Share existing water resources more effectively | The SEA should seek to ensure that strategy objectives are also reflected in the SEA objectives, particularly around water resource use and availability in the region. |
| **The Environmental Damage (Prevention and Remediation) (England) Regulations 2015** | |
| These regulations amend the 2009 regulations and provide additional protection to habitats and species identified on Annexes 1 and 2 of the EC Habitats Directive (92/43/EEC), SSSIs and, in some cases, classified waterbodies from environmental damage where an operator has intended to cause damage or been negligent to the potential for damage.<br>Applies to the most serious categories of environmental damage, including:<br>- Contamination of land that results in a significant risk of adverse effects on human health<br>- Adverse effects on surface water or groundwater consistent with a deterioration in the water's status<br>- Adverse effects on the integrity of a SSSI or on the conservation status of species and habitats protected by EU legislation outside SSSIs. | The SEA should seek to ensure that the guidance provided by the regulations is considered when assessing the waste strategy. |
| **Environment Agency (2018) The Environment Agency's approach to groundwater protection** | |

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| This document contains position statements which detail the Environment Agency's approach to managing and protecting groundwater. The primary aim of all of the position statements is the prevention of pollution of groundwater and protection of it as a resource. | The strategy and SEA approach to groundwater protection should be compliant with the Environment Agency's approach. |
| Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment | |
| Guidance for addressing the historic environment in Strategic Environmental Assessment or Sustainability Appraisal. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues. | The SEA should consider the potential effects of the strategy on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this document should be taken into account in the SEA. |
| HM Government (2016) National Infrastructure Delivery Plan 2016-2021, Infrastructure Projects Authority | |
| The Plan explores the Government's plans for economic infrastructure for 2016-2021 and the resultant economic benefits.<br>The objective for the waste sector is to ensure that infrastructure is in place to deal with waste as efficiently as possible, with an ambition to move towards a 'circular economy' where material resources are valued and kept in circulation. | The SEA objectives should take into account the objectives for the waste sector presented in this plan. |
| Planning (Listed Buildings and Conservation Areas) Act 1990 | |
| Addresses listed buildings including prevention of deterioration and damage, as well as preservation and enhancement of conservation areas. | The strategy and SEA should take account of the need to protect listed buildings and conservation areas. |
| The Water Act, 2003 (as amended) | |
| The Water Act 2003 is in three Parts, relating to water resources, regulation of the water industry and other provisions. The four broad aims of the Act are:<br>- The sustainable use of water resources<br>- Strengthening the voice of consumers<br>- A measured increase in competition<br>- The promotion of water conservation. | The implementation of the Strategy may have an effect through it's role in maintaining supplies of water. The SEA should seek to promote sustainable use of water resources. |
| The Water Environment (WFD) (England and Wales) Regulations, 2003 | |
| These Regulations make provision for the purpose of implementing in river basin districts within England and Wales. The Regulations require a new strategic planning process to be established for the purposes of managing, protecting and improving the quality of water resources. | The SEA should seek to promote the protection and enhancement of all water resources. The SEA should seek to maintain, protect and improve water quality across the region and ensure efficient use of resources. |
| Wildlife and Countryside Act, 1981 (as amended) | |
| The Act is the principle mechanism for providing legislative protection of wildlife in Great Britain.<br>Species listed in Schedule 5 of the Act are protected from disturbance, injury, intentional destruction or sale. Other | Some aspects of the strategy may have effects on habitats and species in the Essex County Council supply area and beyond. The SEA should seek to maintain or enhance the quality of habitats and |

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| provisions outlaw certain methods of taking or killing listed species. This Act is brought up to date regularly to ensure the most endangered animals are on the schedule.<br>The Act also improved protection for the most important wildlife habitats. | biodiversity and take into regard protected species and habitats. |
| UK Climate Projections UKCP18. UKCIP, 2018 | |
| The UKCP18 Projections provide a basis for studies of impacts and vulnerability and decisions on adaptation to climate change in the UK over the 21st century. Projections are given of changes to climate, and of changes in the marine and coastal environment; recent trends in observed climate are also discussed.<br>The methodology gives a measure of the uncertainty in the range of possible outcomes; a major advance beyond previous national scenarios<br>The projections will allow planners and decision-makers to make adaptations to climate change. In order to do so they need as much good information as possible on how climate change will evolve. They are one part of a UK government programme of work to put in place a new statutory framework on, and provide practical support for, adaptation. | The SEA should use UKCP18 projections in the broader assessment of climate change effects and any potential cumulative effects. For example, the ecological requirements of aquatic habitats that may be affected by the strategy will also be influenced by climate change. |
| Defra (2018), The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting | |
| This second National Adaptation Programme (NAP) sets out the government's response to the second Climate Change Risk Assessment (CCRA). High level actions are presented for addressing the key risks identified, including in relation to the following areas:<br>- Flooding and coastal change risks to communities, businesses and infrastructure;<br>- Risks of shortages in the public water supply for agriculture, energy generation and industry;<br>- Risks to natural capital including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity; and<br>New and emerging pests and diseases and invasive non-native species affecting people, plants and animals. | The SEA objectives of the waste strategy should take into account the key risks identified in this document, for the relevant areas. |
| National Flood and Coastal Erosion Risk Management Strategy for England (2020) | |
| This updated strategy describes what needs to be done by all risk management authorities, including water and sewerage companies, involved in flood and coastal erosion risk management. It has 3 long-term ambitions:<br>1. Climate resilient places: improving resilience to flooding and coastal change;<br>2. Making the right investment and planning decisions to secure sustainable growth, environmental improvements and infrastructure resilient to flooding and coastal change; and<br>3. Educating local communities to make sure that they understand their risk to flooding and coastal change. | The SEA objectives of the strategy should take the long-term ambitions into account. |
| National Policy Statement for Wastewater (2012) | |

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| This document sets out Government policy for the provision of major waste water infrastructure. The seven key policy objectives include:<br>1. Sustainable development;<br>2. Public health and environmental improvement;<br>3. To improve water quality in the natural environment;<br>4. To reduce water consumption;<br>5. To reduce the demand for waste water infrastructure capacity;<br>6. Climate change mitigation and adaptation; and<br>7. Waste hierarchy. | The SEA should seek to ensure that strategy objectives are also reflected in the SEA objectives particularly regarding maintaining, protecting and improving water quality across the region and ensure efficient use of resources. |
| HM Treasury (2020) National Infrastructure Strategy | |
| This Strategy sets out the government's plans to deliver on their ambition for a radical improvement in the quality of the UK's infrastructure and to put the UK on the path to net zero emissions by 2050. | The decision-making process for determining which schemes should be prioritised in the Waste Strategy should take this policy document into account. |
| Circular Economy Package, 2020 | |
| The Circular Economy Package identifies steps for the reduction of waste and establishing an ambitious and credible long-term path for waste management and recycling.<br>The plan sets out targets to recycle 65% of municipal waste by 2035 and to have no more than 10% municipal waste going to landfill by 2035. | The Waste Strategy should increase recycling rates and reduced landfill creation. |
| Integrated Radioactive Waste Strategy, 2019 | |
| The strategic objective for radioactive waste is to manage radioactive waste and dispose of it wherever possible or by placing it in safe, secure and suitable storage ensuring the delivery of national policies. | The Waste Strategy should ensure that radioactive waste is managed, stored and disposed in a safe and secure manner. |
| National Planning Policy for Waste, 2014 | |
| This policy set out detailed waste planning policies. The policy should be read in conjunction with the NPPF, Waste Management Plan for England and National Policy Statements for Waste Water and Hazardous Waste, or any successor documents. | All options identified within the Waste Strategy should be within the context of the National Planning Policy for Waste. |
| Control of Pollution Act 1974 | |
| An Act to make further provision with respect to waste disposal, water pollution, noise, atmospheric pollution and public health. | The Waste Strategy and SEA should ensure options take this legislation into account. |
| Build Back Better: our plan for growth, 2021 | |
| The Build Back Better plan aims to tackle long term problems to deliver growth creating high-quality jobs across the UK and strengthen the union. There is focus on levelling up the UK, supporting a transition to net zero. | The Waste Strategy should aim to stimulate growth in the long-term, deliver on net zero goals and provide opportunities for jobs. |
| National Policy Statement: Hazardous Waste, 2013 | |

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| The NPS sets out government policy for hazardous waste infrastructure. The statement sets out the following key objectives for the policy:<br>• To protect human health and the environment – stringent legislative controls are in place to control the management of waste with hazardous properties;<br>• Implementation of the waste hierarchy – to produce less hazardous waste, using it as a resource where possible and only disposing of it as a last resort;<br>• Self-sufficiency and proximity – to ensure that sufficient disposal facilities are provided in the country as a whole to match expected arisings of all hazardous wastes, except those produced in very small quantities, and to enable hazardous waste to be disposed of in one of the nearest appropriate installations;<br>• Climate change – to minimise greenhouse gas emissions and maximise opportunities for climate change adaptation and resilience. | The SEA should ensure the options identified in the waste strategy are in line with the objectives set out in this National Policy Statement. |
| The Waste Regulations, 2011 | |
| This Regulation transpose the EU Waste Framework Directive (2008/98/EC). The Waste Regulations set out the following: Waste Prevention Programmes; Waste Management Plans; Duties in relation to waste management and improved use of waste as a resource; duties of planning authorities; deposits in the sea; transfer of waste; enforcement. | The SEA should ensure options set out in the strategy align with Regulations set out in the legislation. |
| Ancient Monuments and Archaeological Areas Act 1979 | |
| This act addresses the protection of scheduled monuments including the control of works affecting scheduled monuments. It also addresses archaeological areas. | The Management Strategy and SEA should take account of the need to protect scheduled monuments and archaeological areas. |
| Defra (2004) Rural Strategy | |
| The strategy sets out rural and countryside policy, and draws upon from lessons learnt following the rural white paper. Objectives include supporting economic and social regeneration across rural England and enhance the value of the countryside and protect the natural environment for this and future generations. | The implementation of certain strategy options may have an effect upon rural communities and the countryside. The SEA should also seek to ensure that the quality of the region's landscapes, natural resources and biodiversity are maintained or enhanced. |
| Department for Culture, Media and Sport (2001) The Historic Environment – A Force for the Future | |
| This strategy outlines the Governments policy regarding the historic environment. The strategy has key aims and objectives that demonstrate the contribution the historic environment makes to the country's economic and social well-being. | The SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided. |
| Historic England (2020) Heritage at Risk 2020 | |
| Heritage at Risk is a national project that aims to identify the endangered sites (historic buildings and places with | The SEA should seek to protect and enhance heritage and landscape. |

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| increased risks of neglect and decay) and then help secure them for the future. | |
| English Heritage, now known as Historic England (2008) Climate Change and the Historic Environment | |
| Sets out the current thinking on the implications of climate change for the historic environment. It is intended both for the heritage sector and also for those involved in the wider scientific and technical aspects of climate change; in the development of strategies and plans relating to the impact of climate change; or in projects relating to risk assessment, adaptation and mitigation. | The SEA should seek to assess the implications of the waste management strategy in combination with climate change and the potential impacts on heritage and the historic environment. |
| Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment | |
| Guidance for addressing the historic environment in Strategic Environmental Assessment or Sustainability Appraisal. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues. | The SEA should consider the potential effects of the strategy on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this document should be taken into account in the SEA. |
| Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3 | |
| This provides guidance on managing change within settings of heritage assets. This includes archaeological remains, historic buildings, sites, areas and landscapes. | The SEA should take into account any effects on settings of heritage assets. |
| Historic England (2017) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3, 2nd Edition | |
| This replaces The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 – 1st Edition. It sets out general advice on understanding setting, and how it may contribute to the significance of heritage assets and allow that significance to be appreciated, as well as advice on how views contribute to setting. | The SEA should take into account any effects on settings of heritage assets. |
| Natural England (2016), Conservation 21 – Natural England's Conservation Strategy for the 21st Century | |
| This strategy sets out a new approach to reverse biodiversity loss, protect natural landscapes for public enjoyment and for the services that they provide. The strategy is based on three guiding principles:<br>1. Creating resilient landscapes and seas<br>2. Putting people at the heart of the environment<br>3. Growing natural capital | The strategy and SEA should seek to ensure that the natural environment and distinctive landscapes are protected and public access to them are maintained. |
| Natural Capital Committee (2020) State of Natural Capital Annual Report 2020 | |
| This provides an overview of the progress made towards the 10 goals set out in the 25 Year Environmental Plan and reiterates the importance of embedding the natural capital approach in decision making for the areas of natural capital accounts, the National Food Strategy, review of national landscapes, and local nature and national nature recovery strategies. | The waste management strategy and SEA objectives for biodiversity and landscape and visual amenity should take account of the need to consider impacts towards natural capital and biodiversity resources, LNR and NNR strategies, protection and enhancement of designated landscapes. |

| Ancient Monuments and Archaeological Areas Act 1979 | |
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| This act addresses the protection of scheduled monuments including the control of works affecting scheduled monuments. It also addresses archaeological areas. | The strategy and SEA should take account of the need to protect scheduled monuments and archaeological areas. |
| Defra (2004) Rural Strategy | |
| The strategy sets out rural and countryside policy, and draws upon from lessons learnt following the rural white paper. Objectives include:<br>- supporting economic and social regeneration across rural England;<br>- enhancing the value of the countryside; and<br>- protecting the natural environment for this and future generations. | The implementation of certain strategy options may have an effect upon rural communities and the countryside. The SEA should also seek to ensure that the quality of the region's landscapes, natural resources and biodiversity are maintained or enhanced. |
| Department for Culture, Media and Sport (2001) The Historic Environment – A Force for the Future | |
| This strategy outlines the Governments policy regarding the historic environment. The strategy has key aims and objectives that demonstrate the contribution the historic environment makes to the country's economic and social well-being. | The SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided. |
| Historic England (2020) Heritage at Risk 2020 | |
| Heritage at Risk is a national project that aims to identify the endangered sites (historic buildings and places with increased risks of neglect and decay) and then help secure them for the future. | The SEA should seek to protect and enhance heritage and landscape. |
| English Heritage, now known as Historic England (2008) Climate Change and the Historic Environment | |
| Sets out the current thinking on the implications of climate change for the historic environment. It is intended both for the heritage sector and also for those involved in the wider scientific and technical aspects of climate change; in the development of strategies and plans relating to the impact of climate change; or in projects relating to risk assessment, adaptation and mitigation. | The SEA should seek to assess the implications of the waste strategy in combination with climate change and the potential impacts on heritage and the historic environment. |
| Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment | |
| Guidance for addressing the historic environment in Strategic Environmental Assessment or Sustainability Appraisal. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues. | The SEA should consider the potential effects of the strategy on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this document should be taken into account in the SEA. |
| Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3 | |
| This provides guidance on managing change within settings of heritage assets. This includes archaeological remains, historic buildings, sites, areas and landscapes. | The SEA should take into account effects on settings of heritage assets. |

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| Historic England (2017) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3, 2nd Edition | |
| This replaces The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 – 1st Edition. It sets out general advice on understanding setting, and how it may contribute to the significance of heritage assets and allow that significance to be appreciated, as well as advice on how views contribute to setting. | The SEA should take into account effects on settings of heritage assets. |
| Natural England (2016), Conservation 21 – Natural England's Conservation Strategy for the 21st Century | |
| This strategy sets out a new approach to reverse biodiversity loss, protect natural landscapes for public enjoyment and for the services that they provide. The strategy is based on three guiding principles:<br>1. Creating resilient landscapes and seas<br>2. Putting people at the heart of the environment<br>3. Growing natural capital. | The Strategy and SEA should seek to ensure that the natural environment and distinctive landscapes are protected and associated public access are maintained. |
| Regional | |
| Essex County Council, Local Flood Risk Management Strategy, 2018 | |
| This strategy sets out aims and actions to reduce the impact of local flooding on the local community. The strategy is set out with the following measures:<br>• Investigating Floods<br>• Mapping Local Routes for Water<br>• Looking after our watercourses<br>• Planning for future floods<br>• Influencing new development and drainage<br>• Building new flood defences | The SEA must ensure that the options identified in the Waste Strategy do not increase the council's risk to flooding. |
| Essex Green Infrastructure Strategy, 2020 | |
| The Essex Green Infrastructure Strategy enables a protection, creation and improvement of green infrastructure for the local biodiversity and people. The strategy also improves connectivity and inclusivity all whilst contributing to economic growth. | The SEA should make sure options in the Waste Strategy are have no significant impact on current or future green infrastructure creation. |
| Levelling Up Essex Strategy, 2022 | |
| The strategy sets out how the council will support people living in priority areas of the county to benefit from the same opportunities and life chances as the wider Essex population. | The Waste Strategy and SEA should seek to benefit and support those people in the priority areas of Essex County. |
| Essex Joint Health and Wellbeing Strategy, 2022-2026 | |
| The strategy aims to improve health and wellbeing outcomes for people of all ages in the Essex County region. | The SEA should seek to improve the health and wellbeing of those living in the Essex County region. |
| Economic Plan for Essex, 2014 | |
| The economic plan for Essex outlines how the council intends to support economic growth in the region. | The SEA and waste strategy should ensure economic growth is supported in the region. |
| Essex Waste Local Plan, 2017 | |

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| The plan sets out how Essex and Southend-on-Sea aim to manage waste for its duration, seeking to deal with waste sustainably, encourage recycling and reduce reliance on landfill. | Options set out in the strategy should align with the Essex Waste Local Plan policies. |
| Relevant waste collection authority (WCA) waste plans/strategies | Options set out in the strategy should align with the WCA waste plans/strategies. |

# APPENDIX 2 QUALITY ASSURANCE CHECKLIST

The Practical Guide suggests a Quality Assurance checklist to help ensure that the requirements of the SEA Regulations (and Directive) are met. The checklist is reproduced here, indicating where this Scoping Report meets the requirements, and which requirements will be addressed in the Environmental Report.

| Checklist Items | Comments |
|---|---|
| **Objectives and Context** | |
| The plan's or programme's purpose and objectives are made clear | The purpose of the Waste Strategy is set out in Section 1.1 and 4.2 of this Scoping Report. |
| Environmental issues and constraints, including international and EC environmental protection objectives, are considered in developing objectives and targets | Objectives of other plans and programmes are set out in Section 2 and Appendix 1. |
| SEA objectives, where used, are clearly set out and linked to indicators where appropriate. | Draft objectives are set out in Section 4 of this Scoping Report. |
| Links with other plans, programmes and policies are identified and explained | Links are identified in Section 2 and Appendix 1. |
| Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described. | Any such compatibility conflicts would be identified as part of the cumulative assessment completed during the assessment of options and would be presented in the Environment Report. |
| **Scoping** | |
| Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report | This Scoping Report is part of the consultation process required to meet the requirements of the SEA Regulations and will be circulated to consultees. Further Consultation will be undertaken on the Environmental Report and Draft Waste Strategy.<br>The Consultation Process is described in Section 5.1. |
| The assessment focusses on specific issues | The proposed scope of the assessment reflects the geographic extent of Essex County Council and provides a comprehensive yet proportionate approach to assessment of potentially. Scoping of topics is outlined in section 3.11. |
| Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit | Data limitations and assumptions are discussed in Section 3.1.1 of this Scoping Report. This will be further described as appropriate in the Environmental Report. |
| Reasons are given for eliminating issues from further consideration | Section 3.11 describes those topics proposed to be scoped out of the SEA. |
| **Alternatives** | |
| Realistic alternatives are considered for key issues, and the reasons for choosing them are documented | The assessment framework, which will be revised following consultation, will be used to assess options, alternatives and the plan. This will be set out in the Environmental Report. |
| Alternatives include 'do minimum' and / or 'business as usual' scenarios wherever relevant | Assessment of alternatives will be considered in the Environmental Report. |

| Checklist Items | Comments |
|---|---|
| The environmental effects (both adverse and beneficial) of each alternative are identified and compared | Assessment of alternatives will be considered in the Environmental Report. |
| Inconsistencies between the alternatives and other relevant plans, programmes and policies are identified and explained | Assessment of alternatives will be considered in the Environmental Report. |
| Reasons are given for the selection or elimination of alternatives | Assessment of alternatives will be considered in the Environmental Report. |
| **Baseline Information** | |
| Relevant aspects of the current state of the environment and their likely evolution without the plan or programme are described | The current state of the environment and predicted future baseline is set out in Section 3 of this Scoping Report for each SEA topic. |
| Environmental characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan | The environmental characteristics of Essex County Council, are described in Section 3. |
| Difficulties such as deficiencies in information or methods are explained | Difficulties and limitations are set out in Section 3.1.1 of this Scoping Report. |
| **Prediction and evaluation of likely significant environmental effects** | |
| Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape), as relevant; other likely environmental effects are also covered, as appropriate | Potential environmental effects will be set out in the Environmental Report. |
| Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) is addressed | The nature and duration of potential effects will be set out in the Environmental Report, using an assessment framework based the one set out in Section 4 of this Scoping Report. |
| Likely secondary, cumulative and synergistic effects are identified where practicable | Potential secondary, cumulative and synergistic effects will be set out in the Environmental Report. |
| Inter-relationships between effects are considered where practicable | Potential inter-relationship effects will be set out in the Environmental Report. |
| The prediction and evaluation of effects makes use of relevant accepted standards, regulations and thresholds | Relevant standards will be used where appropriate in undertaking the assessment in the Environmental Report. |
| Methods used to evaluate the effects are described | The Environmental Report will include information on the methods used for evaluation of potential effects. |
| **Mitigation measures** | |
| Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated | Mitigation measures for potential negative effects will be incorporated into the assessment undertaken in preparing the Environmental Report. |
| Issues are to be taken into account in project delivery | Such mitigating measures, if required, will be highlighted against the options in the plan. |
| **The Environmental Report** | |
| Is clear and concise in its layout and presentation | The Environmental Report will be clear and concise. |

| Checklist Items | Comments |
|---|---|
| Uses simple, clear language and avoids or explains technical terms | The Environmental Report will use simple, clear language, and explain technical terms, as appropriate. |
| Uses maps and other illustrations where appropriate | The Environmental Report will use maps and illustration where appropriate. |
| Explains the methodology used | The SEA methodology will be described in the Environmental Report. |
| Explains who was consulted and what methods of consultation were used | The consultation strategy, including organisations and dates of consultation will be included in the Environmental Report. |
| Identifies sources of information, including expert judgement and matters of opinion | Sources of information will be detailed in the Environmental Report. |
| Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA | The Environmental Report will include a non-technical summary. |
| **Consultation** | |
| The SEA is consulted on as an integral part of the plan-making process. | This Scoping Report is a part of the consultation process required to meet the requirements of the SEA Regulations and will be circulated to consultees. Further consultation will be undertaken on the Environmental Report and draft Waste Strategy.<br>The Consultation process is described in Section 5.1. |
| Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate time frames to express their opinions on the draft plan and Environmental Report | This Scoping Report is a part of the consultation process required to meet the requirements of the SEA Regulations and will be circulated to consultees. Further consultation will be undertaken on the Environmental Report and draft Waste Strategy.<br>The Consultation process is described in Section 5.1. |
| **Decision-making and information on the decision** | |
| The environmental report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme | Responses from consultation on the draft Environmental Report will be incorporated in the development of the final Environmental Report. After finalisation of the Waste Strategy, a Post-Adoption Statement will be published describing how the SEA and the responses to consultation have been taken into account during the preparation of the Waste Strategy. |
| An explanation is given of how they have been taken into account | Responses from consultation on the draft Environmental Report will be incorporated in the development of the final Environmental Report. After finalisation of the Waste Strategy, a Post-Adoption Statement will be published describing how the SEA and the responses to consultation have been taken |

| Checklist Items | Comments |
|---|---|
| | into account during the preparation of the Waste Strategy. |
| Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered | This will be set out following consultation on the draft Waste Strategy and Environmental Report. |
| **Monitoring measures** | |
| Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA | The Environmental Report will include a section addressing proposals for monitoring. |
| Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA | The suggestions for monitoring will be made in the Environmental Report, with monitoring taking place following implementation of the Waste Strategy, further to consultation with regulatory authorities including the Environment Agency and Natural England. |
| Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect) | The suggestions for monitoring will be made in the Environmental Report, with monitoring taking place following implementation of the Waste Strategy, further to consultation with regulatory authorities including the Environment Agency, Natural England and Historic England. |
| Proposals are made for action in response to significant adverse effects | Mitigation measures for adverse effects will be addressed in the Environmental Report. |

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# WASTE STRATEGY FOR ESSEX

## Strategic Environmental Assessment (SEA) Environmental Report

Report for: Essex County Council

Ref. ED15623100

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Signed

Ricardo reference:
ED15623100

Date:
31/08/2023





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# CONTENTS

# Appendices

# NON-TECHNICAL SUMMARY

## BACKGROUND AND STRATEGIC ENVIRONMENTAL ASSESSMENT

This Non-Technical Summary of the Environmental Report sets out the findings of the Strategic Environmental Assessment (SEA) of the draft Waste Strategy for Essex.

The SEA Regulations require that public plans, programmes and strategies are assessed for their potential effects on the environment. The Waste Strategy is a local authority plan, produced by a public body, required by legislation and covers waste management. As such, it is considered to be within the scope of the SEA Regulations[1].

The following sections of this Non-Technical Summary:

- provide an overview of the draft Waste Strategy for Essex;
- describe the key stages of the SEA process and how it has been applied to the draft Strategy;
- outlines the approach to the SEA of the Strategy, including the assessment framework;
- presents a summary of the findings of the SEA of the draft Strategy and reasonable alternatives; and
- set out the next steps in the SEA process.

SEA enables environmental considerations to be built into the Waste Strategy for Essex, so that potentially significant environmental impacts are identified at an early stage. It also gives members of the public and interested organisations an opportunity to comment on the draft Strategy and its environmental effects. SEA considers how identified adverse impacts can be avoided or minimised (via 'mitigation'). A monitoring plan is also developed to identify any unexpected adverse environmental effects, should these arise. The conclusions from each stage of the assessment are summarised in the sections below.

## THE WASTE STRATEGY FOR ESSEX

Essex County Council (ECC) is the statutory Waste Disposal Authority (WDA) for Essex and is obligated under the Environmental Protection Act 1990 to provide a range of waste services for the treatment and disposal of Local Authority Collected Waste.

To optimise the delivery of its statutory waste functions ECC works in partnership with the twelve Essex Waste Collection Authorities (comprising the district, city, borough councils of Essex), collectively with Essex County Council known as the Essex Waste Partnership (EWP). There is a stated ambition that effective partnership working as the EWP will ensure that:

- appropriate infrastructure can be provided and utilised.
- complimentary systems and services can be implemented to deliver effective waste operations.
- resources can be used in a manner which maximises beneficial impacts.

The Waste Strategy for Essex sets out the vision and objectives of the EWP. The Waste Strategy provides a framework detailing how waste that is produced by homes and businesses in the county will be managed for the next 25+ years.

The aim of the Waste Strategy and the Essex Waste Partnership (EWP) *is 'to work together to create, promote or support campaigns which avoid or reduce waste, improve or maximise recycling and composting, and minimise the environmental impacts of managing, treating and disposing of waste in Essex'*[2].

ECC is obliged to maintain a Joint Strategy setting out how household and similar wastes are to be managed. The current Joint Municipal Waste Management Strategy (JMWMS) was adopted in 2008, and was expected to be in place until 2032. The development of new legislative and policy drivers by government have resulted in the current JMWMS becoming outdated; ECC have therefore taken the decision to review, update and develop the Strategy to ensure it better reflects current needs and legislative requirements.

[1] The Environmental Assessment of Plans and Programmes Regulations 2004 (SI2004/1633), available at: http://www.legislation.gov.uk/uksi/2004/1633/contents/made

[2] https://www.loveessex.org/our-waste-strategy/

The current JMWMS needs to be refreshed to take account of new targets for waste management that go beyond 2020. This project is designed to assist the EWP in producing a refreshed Joint Strategy, the "Waste Strategy for Essex" which will provide a clear, concise and target-driven guide on how waste is to be managed to 2055. The refreshed Strategy will consider national waste policy, the latest legislation, performance targets and define a collective EWP ambition.

This new Strategy, covering the period up to 2055, brings a new focus on how the county of Essex will deliver an effective, efficient, and sustainable service for the future. Following the Environment Act 2021, national policy and the findings of the Essex Climate Action Commission 2020, the new Strategy updates the EWP's approach to reducing the impact that waste management has on climate change. The Strategy is research based and sets out the reasons for the approach; the principles of what will be done; and the targets that the county will strive to meet.

The EWP will review this Strategy every five years to ensure alignment with any changes in national policy and legislation, trends in waste generation, and the development of new approaches and technologies.

**Further detail on the Strategy and the development of reasonable alternatives is contained in Sections 1.2 and 5.2 of the Environmental Report.**

## WHAT IS STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)?

This report has been prepared in accordance with the SEA Regulations[3]. The SEA Regulations require all qualifying policies, plans, programmes and strategies to undergo a SEA. The Waste Strategy is a local authority plan, produced by a public body, required by legislation and covers waste management. As such, it is a qualifying plan in accordance with the SEA Regulations[4].

Essex County Council has considered the SEA requirements and has determined that they apply to the Waste Strategy for Essex and has undertaken an SEA to ensure a systematic approach to the consideration of the environmental effects of the draft Waste Strategy for Essex.

The SEA process provides a systematic process for identifying, reporting and mitigating the environmental impacts of the proposed Strategy. It comprises the following distinct stages:

- **Screening** – determining whether the Strategy requires a SEA;
- **Scoping** – establishing significant environmental topics, setting the environmental baseline, developing appropriate SEA objectives and consulting via a Scoping Report;
- **Environmental Assessment** – assessing the potential environmental impact of the Strategy and consulting on both the draft Strategy and Environmental Report;
- **Post Adoption Statement** – how the assessment and the consultation results have been considered within the finalised Strategy;
- **Monitoring** – monitoring significant environmental effects and taking appropriate remedial action for any unforeseen significant environmental effects.

This Environmental Report sets out the findings of the SEA undertaken on the draft Waste Strategy for Essex.

**Section 1.1 of the Environment Report describes in further detail the requirement for SEA of the draft Strategy and the SEA process including its relationship with the preparation of the Waste Strategy for Essex.**

[3] The Environmental Assessment of Plans and Programmes Regulations 2004 (Statutory Instrument 2004 No. 1633) apply to any plan or programme which relates solely or in part to England.

[4] The Environmental Assessment of Plans and Programmes Regulations 2004 (SI2004/1633), available at: http://www.legislation.gov.uk/uksi/2004/1633/contents/made

# WHAT ARE THE KEY ISSUES FOR THE WASTE STRATEGY FOR ESSEX?

As part of the SEA process, a review has been undertaken to identify the key environmental issues which are relevant to the assessment of the draft Strategy. These issues have been identified from a variety of sources, including a review of baseline data and other relevant plans and programmes. A summary of the issues identified as being most relevant to the assessment of the draft Strategy are shown in Table NTS 1.

Table NTS 1: Key Issues from Baseline Analysis

| Topic | Summary of Key Issues |
|---|---|
| Material Assets and Waste Management | • The need to minimise the consumption of resources, including water and energy.<br>• The need to follow the 'waste hierarchy' of 'reduce, re-use, recycle and recover' with the aim of reducing the proportion of waste sent to landfill.<br>• The need to maintain consistently high recycling rates.<br>• The need to promote and move towards a regenerative circular economy.<br>• The need to support regional and national commitments to decarbonisation. |
| Biodiversity, Flora and Fauna | • The need to protect or enhance the region's biodiversity, particularly protected sites designated for nature conservation.<br>• The need to avoid activities likely to cause irreversible damage to natural heritage.<br>• The need to take opportunities to improve ecological resilience.<br>• The need to control the spread of Invasive Non-Native Species (INNS).<br>• The need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of the ecosystem services. |
| Population and Human Health | • The need to ensure waste sites and waste management are not disproportionately impacting deprived or vulnerable communities.<br>• The need to protect human health.<br>• The need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas.<br>• The need to ensure waste is not mismanaged so as to impact upon human health through chemicals, air pollution, land contamination and increased risk of infection and/or disease.<br>• The need to ensure high recycling rates are maintained.<br>• The need to accommodate an increasing population.<br>• The need to contribute towards maintaining sustainable growth in the region. |
| Water | • The need to further improve the quality of the region's river, estuarine and coastal waters taking into account WFD objectives and designated sites objectives (i.e. assessment against Common Standards Monitoring Guidance, where relevant).<br>• The need to maintain the quantity and quality of groundwater resources taking into account WFD objectives.<br>• The need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change on surface waters and groundwaters.<br>• The need to ensure sustainable abstraction to protect the water environment and meet society's needs for a resilient water supply.<br>• The need to ensure that people understand the value of water. |
| Soils, Land Use and Geology | • The need to encourage effective use of the land, benefitting landowners, other stakeholders, the environment and sustainability of natural resources.<br>• The need to apply the Waste Hierarchy; prioritising prevention, enhancing recycling and reducing the amount of waste going to landfill. |
| Air Quality and Climate | • The need to minimise emissions of pollutant gases and particulates and enhance air quality; |

| Topic | Summary of Key Issues |
|---|---|
| | • The need to reduce the need to travel and promote sustainable modes of transport;<br>• The need to reduce greenhouse gas emissions arising from implementation of the Waste Strategy;<br>• The need to take into account, and where possible adapt to, the potential effects of climate change;<br>• The need to increase environmental resilience to the effects of climate change. |
| Archaeology and Cultural Heritage | • The need to conserve or enhance sites of archaeological importance and cultural heritage interest. |
| Landscape and Visual Amenity | • Landscape and designated sites should be maintained and enhanced for the enjoyment of the public. |

**Section 2 of the Environmental Report summarises the review of plans and programmes relevant to the draft Strategy and SEA contained in Appendix C.**

**Section 3 presents an overview of the baseline analysis of environmental characteristics, including the key issues and their relevance to the assessment. The detailed baseline information is presented in Appendix D.**

## WHAT WOULD THE EVOLUTION OF THE ENVIRONMENT BE WITHOUT THE WASTE STRATEGY?

An important part of the SEA process is to identify the current baseline conditions, and how they might change over time, in absence of the Strategy. With the knowledge of baseline conditions potential impacts of the Strategy can be identified, monitored, and if necessary mitigated.

This section provides an overview of the projected environmental trajectory in the absence of the Waste Management Strategy. With a continuation of current waste management practices, potential challenges include increased waste generation and limited landfill capacity. The absence of a deliberate focus on promoting a circular economy might hinder advancements in material reuse and recycling, consequently affecting waste reduction efforts. Furthermore, the persistence of pollution in ecosystems and landscapes is anticipated, particularly concerning challenges related to plastic waste management.

To navigate towards a more sustainable future, the importance of adopting an effective Waste Strategy can help minimise waste generation, improve resource efficiency, and move towards a more regenerative circular economy. A summary of the future baseline in the context of Government targets is provided in Table NTS 2.

Table NTS 2: Summary of the Future Baseline

| Topic | Summary of future evolution of the baseline |
|---|---|
| Material assets and waste management | The Government's National Infrastructure Strategy (2020) outlines a commitment to decarbonise the economy by 2050, strategies for post-COVID-19 economic recovery, and plans to 'level-up' UK cities and regional powerhouses. It emphasises waste management investment, including green-growth clusters and Towns Fund support, with potential benefits for Essex in terms of the economy, industry, resource efficiency, and the built environment. The UK Government aims to accelerate green technology deployment through private sector investment in retrofitting, carbon capture, and low-carbon hydrogen.<br>The 25 Year Environment Plan (2018) focuses on environmental protection and sustainable economic management. A prominent theme within the plan is "Increasing resource efficiency and reducing pollution and waste". Key commitments include promoting reuse, remanufacturing, recycling, and eliminating avoidable waste by 2050, including plastic waste by 2042. Measures to tackle air pollution and chemical impact are also part of the plan. |

| Topic | Summary of future evolution of the baseline |
|---|---|
| | The Resources and Waste Strategy (2018) aligns with the 25-Year Environment Plan, aiming to minimise waste, promote resource efficiency, and transition to a circular economy. The Strategy aims to eliminate avoidable plastic waste and all avoidable waste by 2050 while doubling resource productivity. It provides a roadmap to achieve these goals over the 25-year period. |
| Biodiversity, Flora, and Fauna | The Defra 25 Year Environment Plan commits to restoring 75% of protected sites and creating/restoring 500,000 hectares of wildlife-rich habitat. Biodiversity Net Gain is adopted in development, supported by landscape and catchment level land management to expand habitats and aid species recovery. Climate change impacts include changes in seasonal activity, water scarcity, and indirect effects through invasive species. Adaptation to climate impacts is vital for wildlife's survival. |
| Population and Human Health | Access to the recreational resources, green spaces and the historic environment will have greater importance in future planning and the National Planning Policy Framework emphasises green spaces' importance in planning. The National Ecosystem Assessment and Marmot Review highlight nature's positive impact on mental and physical health. The Government plans a Green Infrastructure Partnership to develop green infrastructure, benefiting human well-being. |
| Water | The Water Framework Directive aimed for "good status" in all waterbodies by 2015, delayed to 2021 or 2027 under certain conditions. Avoiding deterioration between status classes is a short-term goal. The UK Climate Change Risk Assessment 2021 identifies climate-induced water-related challenges, including changes in hydrology, increased demand, and impacts on water supplies and river flows. |
| Soil, Geology, and Land Use | The NPPF prioritises effective land use by encouraging the reuse of previously developed land (brownfield) unless it has high environmental value. Emphasis is placed on the Green Belt policy, which aims to prevent urban sprawl. The Green Belt policy has five purposes: curbing unrestricted sprawl of large built-up areas; to prevent merging of neighbouring towns; safeguarding the countryside; to preserve the setting and special character of historic towns; and to assist in urban regeneration via recycling of derelict and other urban land. The NPPF favours sustainable development but not when it impacts European or other designated sites under specific policies. |
| Air and Climate | The UK has set ambitious targets to significantly reduce greenhouse gas emissions by 2027, aligning with government and international goals. The UK met the first and second carbon budgets and is currently projected to meet the third carbon budget which will be assessed in the Climate Change Committee 2024 progress report.<br>While progress is evident in controlling certain air pollutants, trends for NO2 and PM10 are showing signs of stagnation or reversal in some areas despite existing policy efforts.<br>The Government's Net Zero ambition aims to achieve a 78% reduction in emissions by 2035 compared to 1990 levels, a key step towards net zero by 2050. Monitoring waste management's carbon emissions is pivotal in tracking progress towards this target. Climate change projections (UKCP18) indicate alterations in seasonal extremes, including increased autumn rainfall intensity and shifts in summer weather patterns. Central England is expected to experience warmer summers with fluctuations in rainfall levels.<br>Emissions of particulate matter have been relatively stable since 2009. The Government's aim was to reduce emissions. Targets for NO2 and sulphur dioxide reductions against the 2005 baseline have been set, reflecting a decrease in emissions and ongoing efforts to improve air quality. Sulphur dioxide emissions have notably dropped by 98% since 1970. |
| Archaeology and Cultural Heritage | The NPPF emphasises protecting heritage assets and adapting them for future generations. Economic challenges could impact heritage assets. Climate change |

| Topic | Summary of future evolution of the baseline |
|---|---|
| | may affect heritage assets variably. Some types of assets and landscapes have already experienced and survived significant climatic changes in the past and may demonstrate considerable resilience in the face of future climate change. However, direct climate impacts could put more historic assets at risk. |
| Landscape and Visual Amenity | NPPF promotes diverse roles of different areas, conserving urban vitality and protecting Green Belts. Weight is given to conserving landscape and scenic beauty in National Parks and AONBs. Refusal of major developments in these areas is likely, except under exceptional circumstances and where it can be demonstrated they are in the public interest. |

**Appendix D of this Environmental Report identifies and characterises current environmental baseline conditions against each SEA topic, along with their likely evolution.**

## HOW HAVE THE EFFECTS OF THE DRAFT STRATEGY AND ANY REASONABLE ALTERNATIVES BEEN ASSESSED?

The SEA Regulations require that Essex County Council also identify, describe and evaluate the likely significant effects on the environment of any 'reasonable alternatives' to the draft Strategy, taking into account its objectives and geographical scope.

Consideration of alternatives was undertaken in discussion with a wide range of stakeholders. The extent to which alternatives could be considered 'reasonable' was influenced by the existing legislative and policy context that the document must reference and align with, and the current Government commitments and targets.

Detailed technical work has been carried out so far to explore the current activities across the EWP in terms of waste collection, treatment and disposal, and to investigate scenarios and opportunities for the future. In the case of this SEA and the Waste Strategy these scenarios and associated sensitivities that feed into the development of the Strategy have been the subject of the assessment and the scenarios and sensitivities are considered to be reasonable alternatives in the context of the SEA Regulations.

Establishing appropriate SEA objectives as an assessment method is helpful in identifying the effects of the Strategy on the environment. The waste management scenarios and sensitivities that have been identified has been assessed against the SEA objectives to determine the scale and significance of the effect.

The SEA objectives used in the assessment of the Strategy reflect the topics contained in Schedule 2 (6) of the SEA Regulations and have been informed by:

- the review of relevant plans and programmes and the associated environmental protection objectives;
- the baseline information and key issues that have been identified;
- an understanding of the likely effects arising from the construction and operation of waste infrastructure; and
- responses to the scoping consultation.

The SEA objectives are presented in Table NTS 3.

Table NTS 3: Assessment Framework and SEA Objectives

| SEA Topic | SEA Objectives | |
|---|---|---|
| Material Assets and Waste Management | 1.1 | To support a circular economy, minimise waste arisings, promote reuse, recovery and recycling, minimising the impact of waste on the environment and communities and contribute to the sustainable use of natural and material assets. |

| SEA Topic | SEA Objectives | |
|---|---|---|
| Biodiversity, Flora and Fauna | 2.1 | To protect and enhance biodiversity including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain. |
| Population and Human Health | 3.1 | To protect and enhance human health and wellbeing. |
| | 3.2 | To minimise disturbance to local communities. |
| Water | 4.1 | To protect and enhance water quality and help achieve the objectives of the Water Framework Directive. |
| Soil, Geology and Land-Use | 5.1 | To make appropriate and efficient use of land and protect and enhance soil, local geomorphology and geodiversity and contribute to the sustainable use of land. |
| Air and Climate | 6.1 | To minimise emissions of pollutant gases and particulates and enhance air quality. |
| | 6.2 | To minimise greenhouse gas emissions and embodied carbon associated with waste management and landfill. |
| | 6.3 | To adapt waste management practices to climate change and improve resilience to the threats of a changing climate. |
| Archaeology and Cultural Heritage | 7.1 | To conserve and enhance the historic environment including designated and non-designated heritage assets and their settings. |
| Landscape and Visual Amenity | 8.1 | To protect and enhance landscape, townscape character and visual amenity. |

**Section 4 of the Environmental Report provides further information in relation to the approach to the assessment of the draft Strategy.**

## WHAT ARE THE LIKELY SIGNIFICANT EFFECTS OF THE WASTE STRATEGY?

The likely significant environmental effects of implementing the draft Strategy have been identified, described and evaluated in accordance with the requirements of the SEA Regulations. A summary is presented in this section.

### Scenarios Assessment

Overall, the assessment of six short-listed waste management scenarios has found that the draft Strategy will have a range of positive effects across the majority of the SEA objectives, relative to the current baseline. This broadly reflects the socio-economic and environmental benefits associated with sustainable waste management and moving waste up the waste management hierarchy. No significant (major) positive effects have been identified which reflects the context of a non-spatial strategy which looks at different collection and frequencies of waste streams and an assumed change in treatment.

Negative effects have been identified across several SEA objectives. No significant negative effects have been assessed but moderate negative effects were assessed on population and human health and landscape and visual amenity objectives which are related to three-weekly waste collections and the potential impact of waste accumulation if, for example, users were not fully using recycling and food waste services.

The Best Practicable Environmental Scenario (BPES) assessment determined that Scenario 2 was the highest scoring scenario and was therefore used to evaluate the likely impacts of the sensitivities. The sensitivities were also assessed using the SEA assessment framework.

**Sensitivities Assessment**

A range of positive and negative effects were assessed against each of the SEA objectives on all sensitivities. The following significant effects were identified.

Both positive and negative effects were found for Scenarios 2 and 3 and narrative regarding the moderate and minor effects is provided in the body of the report. The positive contribution to resource recovery and emission reduction that Sensitivity 3 could provide, would enhance the circular economy, and is assessed as having a significant positive effect on material assets and waste management, yet the unproven scale of carbon capture leaves uncertainty. The GHG emissions savings made through Carbon Capture, Utilisation and Storage (CCUS) technology are considered to be a significant positive effect.

In addition, significant negative effects were identified on material assets and waste management for Sensitivities 2 and 3 due to the significant infrastructure required by the addition of Combined Heat and Power (CHP) and CCUS technology respectively.

The assessment found no positive or negative significant effects for Sensitivities 1 or 4.

**Cumulative Assessment**

The cumulative assessment of each sensitivity in combination with highest scoring Scenario 2 assessed mixed effects across several SEA objectives, particularly, material assets and waste management, population and human health, air and climate and water.

Significant positive effects were reported on material assets and resource use for sensitivity 3 reflecting that in capturing carbon emissions, the technology contributes positively to resource recovery and emission reduction, enhancing the circular economy approach, however, again it is important to note that the technology is unproven at scale. Significant positive effects were also reported on air and climate objective 6.2 for Sensitivities 2 and 3 acknowledging the positive effect that CHP and CCUS have on reducing greenhouse gas emissions respectively.

Significant negative effects were reported on material assets for Sensitivities 2 and 3, primarily due to the introduction of significant additional infrastructure. Moderate negative effects were assessed on population and human health and landscape and visual amenity across all sensitivities due to the impact of three-weekly collections of residual waste on population and human health and landscape and visual amenity.

When viewed from a strategic standpoint in combination with other non-spatial plans and programmes, rather than in terms of scenarios and sensitivities, the draft Strategy offers potential positive cumulative effects across SEA objectives, particularly material assets and waste management. It is not expected that significant negative effects will arise from the draft Strategy's in-combination effects with other plans and programmes. While aligning with waste hierarchy goals will necessitate increased utilisation of existing and potentially new waste facilities, it is acknowledged that negative environmental impacts during construction and operation are anticipated. These must be identified, assessed, and mitigated through legislative frameworks, including the NPPF, local waste plans, and environmental permitting processes.

**The detailed assessment of the draft Strategy is contained in Section 5 of the Environmental Report.**

## WHAT ARE THE PROPOSED MITIGATION AND ENHANCEMENT MEASURES?

The SEA Regulations require information to be provided on measures that should be taken to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the draft Strategy. These measures are often referred to as mitigation measures. Based on the assessment of

the draft Strategy, a range of mitigation measures have been identified. The measures identified are principally service-level actions which could help reduce the potential negative environmental effects.

**The mitigation measures are set out in Section 5.7 of the Environmental Report.**

## HOW WILL THE EFFECTS OF THE STRATEGY BE MONITORED?

Once the Strategy is implemented, its effects on the environment will need to be monitored. Monitoring the significant effects of the Strategy can help to answer questions such as:

- Were the SEA predictions of effects accurate?
- Is the Strategy contributing to the achievement of the SEA objectives?
- Are mitigation measures performing as well as expected?
- Are there any adverse effects? Are these within acceptable limits, or is remedial action desirable?

**Section 6 of the Environmental Report identifies a number of potential indicators that could be used for monitoring the effects of the Strategy's implementation.**

Monitoring proposals will be considered further and a final monitoring framework that satisfies the requirements of the SEA Regulations will be presented in the Post Adoption Statement.

## WHAT ARE THE NEXT STEPS?

This Environmental Report is being published for consultation alongside the draft Waste Strategy for Essex.

Feedback received from consultees will be documented and considered in reviewing the proposals for the draft Strategy. A Post Adoption Statement will summarise how the SEA and the consultation responses have been taken into account and how environmental considerations have been integrated into the final decisions regarding the Strategy.

## HOW TO COMMENT ON THE ENVIRONMENTAL REPORT?

Comments on the Environmental Report can be made by visiting www.consultations.essex.gov.uk/rci/waste-strategy-for-essex-consultation where you will find the draft strategy documents and the Public Consultation Questionnaire. The questionnaire is available for 10 weeks from 13th September to 22nd November. If you wish to request another format of the questionnaire, please email wastestrategyforessex@essex.gov.uk or call 0345 603 7625.

**Further detail on the consultation is provided in Section 1.5 of the Environmental Report.**

# 1 INTRODUCTION

## 1.1 THE PURPOSE OF THIS ENVIRONMENTAL REPORT

SEA became a statutory requirement following the adoption[5] of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment. In England, this was transposed into legislation on 20th July 2004 as Statutory Instrument 2004 No.1633 - The Environmental Assessment of Plans and Programmes Regulations 2004.

SEA is a systematic decision support process, aiming to ensure that the likely significant environmental effects of plans, programmes and strategies are identified, described to avoid, manage or mitigate any significant negative effects and to enhance any positive effects. In this context, the purpose of SEA is to integrate environmental considerations into the development of any plan, programme or strategy. Where relevant, generally, a SEA is therefore conducted before an Environmental Impact Assessment (EIA) is undertaken.

In this context, the purpose of the SEA of the draft Waste Strategy for Essex is to:

- identify, describe and evaluate the likely significant effects of the draft Strategy including reasonable alternatives to the Strategy in terms of the measures being considered by Essex County Council for collection service and frequency, and treatment of waste;
- help identify appropriate measures to prevent, reduce or as far as possible offset any significant adverse effects on the environment and to enhance beneficial effects associated with the implementation of the draft Strategy wherever possible;
- to provide monitoring measures for the likely significant effects arising from the implementation of the draft Strategy.
- give the statutory SEA bodies, stakeholders and the wider public the ability to see and comment upon the effects that the draft Strategy may have on them, their communities and their interests, and
- inform Essex County Council's selection of measures to be taken forward into the final Strategy.

SEA comprises five key stages:

**Stage A:** Scoping;

**Stage B:** Develop and Refine Alternatives and Assess Effects;

**Stage C:** Prepare Environmental Report;

**Stage D:** Consult on the Draft Plan and Environmental Report and Prepare the Post Adoption Statement; and

**Stage E:** Monitor Environmental Effects.

**Stage A** of the SEA of the Waste Strategy for Essex led to the production of the SEA Scoping Report which incorporated the screening stage which determined that a SEA was required. The scoping stage itself comprised five tasks that are listed below:

i. Review of other relevant policies, plans, programmes and strategies;
ii. Collation and analysis of baseline information;
iii. Identification of key sustainability issues;
iv. Development of an assessment framework;
v. Consultation with statutory Consultation Bodies on the scope of the SEA.

Information collected and analysed (as part of tasks i and ii) reflected Essex County Council's operational area. The Scoping Report set out the proposed framework for assessing the likely significant environmental effects of the draft Strategy.

[5] EU law has ceased to apply in the UK under the terms of the Withdrawal Agreement and EU Treaties. The European Union (Withdrawal) Act 2018 (EUWA) has established a new body of domestic law known as retained EU law. Any references to EU Directives in this Technical Note should be read as references to the domestic legislation that implemented the Directive (including that domestic legislation as it is revised or replaced from time to time).

Following scoping consultation and amendments as appropriate, the SEA assessment framework has been used to assess the likely significant environmental effects (including cumulative effects) of the scenarios and sensitivities contained in the draft Strategy and any reasonable alternatives (**Stage B**).

These assessments are presented in this Environmental Report (in a form to meet the requirements of Schedule 2 of the SEA Regulations) which has been completed to accompany the draft Strategy (**Stage C**).

The draft Strategy and accompanying documents including the Environmental Report are presented and published as documents for consultation (**Stage D**). Following consultation, in conjunction with publishing the final Strategy, a Post Adoption Statement will also be issued (to meet the requirements of SEA regulation 16 (4)). This will set out the results of the consultation and SEA processes and the extent to which the findings of the SEA have been accommodated in the final plan.

The SEA requires monitoring of any resulting environmental effects of the Strategy (**Stage E**).

### 1.1.1 SCOPING CONSULTATION

At each stage of the SEA process, there is a requirement to consult the statutory Consultation Bodies. In England these are the Environment Agency, Historic England, and Natural England. The present SEA process began with the production of a Scoping Report issued to the Consultation Bodies for consultation for 5 weeks from 14th February 2023 – 22nd March 2023. Responses were received from Historic England and Natural England.

The Scoping Report set out initial information on the likelihood of significant effects arising from the Waste Strategy. It also provided a proposed evidence base that would be used to inform the assessment.

Comments from the SEA Consultation Bodies on the Scoping Report (received from Natural England and Historic England) have been taken into account, in terms of how the assessment has been undertaken, what it covers, and the level of detail required in this Environmental Report. The representations received and how they have been taken into account are presented in a schedule of consultation responses in Appendix B.

## 1.2 THE WASTE STRATEGY FOR ESSEX CONTEXT AND OVERVIEW

Essex County Council (ECC) is the statutory Waste Disposal Authority for Essex and is obligated under the Environmental Protection Act 1990 to provide a range of waste services for the treatment and disposal of Local Authority Collected Waste.

To optimise the delivery of its statutory waste functions ECC works in partnership with the twelve Essex Waste Collection Authorities (comprising the district, city, borough councils of Essex), collectively with Essex County Council known as the Essex Waste Partnership (EWP).

There is a stated ambition that effective partnership working as the EWP will ensure that:

- appropriate infrastructure can be provided and utilised;
- complimentary systems and services can be implemented to deliver effective waste operations;
- resources can be used in a manner which maximises beneficial impacts in line with the waste hierarchy.

The Waste Strategy for Essex sets out the vision and objectives of the EWP. The Waste Strategy provides a framework detailing how waste that is produced by homes and businesses in the county will be managed for the next 25+ years.

The aim of the Waste Strategy and the EWP *is 'to work together to create, promote or support campaigns which avoid or reduce waste, improve or maximise recycling and composting, and minimise the environmental impacts of managing, treating and disposing of waste in Essex'*[6].

ECC is obliged to maintain a Joint Strategy setting out how household and similar wastes are to be managed. The current Joint Municipal Waste Management Strategy (JMWMS) was adopted in 2008, and was expected to be in place until 2032. The development of new legislative and policy drivers by government have resulted in the current JMWMS becoming outdated; ECC have therefore taken the decision to review, update and

[6] https://www.loveessex.org/our-waste-strategy/

develop the Strategy to ensure it better reflects current needs and legislative requirements. As with the development of the current JMWMS, it was intended that, although the project will be led by ECC, it will be carried out in partnership with EWP members, including engagement with wider stakeholders facilitating 'buy-in' at all levels of the Partnership.

The current JMWMS needs to be refreshed to take account of new targets for waste management that go beyond 2020. This project is designed to assist the EWP in producing a refreshed Joint Strategy, the "Waste Strategy for Essex" which will provide a clear, concise and target-driven guide on how waste is to be managed to 2055. The refreshed Strategy will consider national waste policy, the latest legislation, performance targets and define a collective EWP ambition. The Strategy will be based on a good understanding of current waste flows and how these may change over the lifetime of the plan to ensure that a sustainable resource management solution is delivered.

This new Strategy, covering the period up to 2055, brings a new focus on how the county of Essex will deliver an effective, efficient, and sustainable service for the future. Following the Environment Act 2021, national policy and the findings of the Essex Climate Action Commission 2020, the new Strategy updates the EWP's approach to reducing the impact that waste management has on climate change. The Strategy is research based and sets out the reasons for the approach; the principles of what will be done; and the targets that the county will strive to meet.

The EWP will comprehensively review this Strategy every five-years to ensure alignment with any changes in national policy and legislation, trends in waste generation, and the development of new approaches and technologies.

### 1.2.1 Strategic Framework

A series of workshops were held, involving various EWP stakeholders, in order to shape and guide the vision, objectives and priorities for the Waste Strategy for Essex, with the goal of understanding and capturing the diverse views across the EWP and to identify areas where there is consensus already within and across the groups.

The workshops supported the shape of the proposed strategic framework for the Waste Strategy for Essex.

The working Vision Statement *"Zero waste, zero carbon, more impact"* was broken down into five main themes:

- decarbonisation
- cost-effective resource use
- management of residual waste
- management of organic waste
- regional alignment

For each theme, strategic objective areas were identified as listed with any targets or objectives to be achieved. The chart also represents the instruments and tools that will enable the implementation of the Waste Strategy for Essex.

It should be noted that the elements presented as part of the Strategic Framework summarise what was discussed during the workshops and are not an exhaustive list of the themes and objectives that are included in the Strategy. The workshop sessions were used as a starting point to agree the six collection and treatment scenarios to be modelled.

Further information regarding the development of the Strategy and the scenarios and sensitvities to be assessed is provided in Section 4.5.

## 1.3 SCENARIOS CONSIDERED AND HOW THEY WERE IDENTIFIED

To develop the Partnership Vision, an extensive series of workshops were held with officers, and Councillors to explore the levels of aspiration and vision for the Strategy, develop the Vision Statement for the Strategy, understand stakeholder priorities and explore and develop the collection scenarios to be considered. The aim of the workshops was to shape and guide the vision, objectives and priorities for the Strategy, with the goal of understanding and capturing the diverse views across the EWP and to identify areas where there is consensus

already within and across the groups. Multiple workshops were held with officers, and Councillors across all EWP member authorities, including briefings, presentations, interactive discussions and scenarios reports.

To inform the development of the criteria, EWP developed a Best Practicable Environmental Scenario (BPES) approach to the consideration and development of the criteria to be used to assess each of the scenarios to be considered. This approach enabled a framework to be developed to clearly illustrate the relative merits of each scenario considered in terms of:

- emissions to air (including climate change impacts), water and land;
- deliverability;
- performance against national targets;
- performance against EWP vision; and
- financial cost.

These workshops resulted in the agreement of a Vision Statement, the agreement of an initial long list of potential collection methodologies and a set of evaluation criteria to be used to assess each scenario. To enable the relative importance of each of the criteria, a weighting was agreed by the EWP during the workshops. The criteria and weightings were developed throughout the workshops, with an agreement that the average of the votes submitted by Members and officers would be used for assessing the short-listed whole system scenarios. A review of UK, EU and international technologies that are available for sustainable waste treatment was undertaken, and the workshops considered how each approach would be likely to advance EWP towards achieving the Vision. The review explored proven and emerging technologies, and evaluation criteria were developed to enable ranking of the scenarios.

The agreed shortlist of six whole system scenarios were modelled. These enabled each scenario to be considered in terms of waste arisings, composition, capture rates, facility destinations, number of vehicles required, productivity, associated (collection) costs for vehicles, staffing levels, number and type of containers, associated (waste management) costs for gate fees, material income and treatment costs. Each scenario was considered on a 'per authority' basis and a combined collection and waste management level, enabling the 'whole system cost' across the EWP for each scenario to be considered. Finally, a whole system WRATE analysis calculated the environmental impacts arising from each collection system, including embodied emissions from bins, sacks, collection vehicles, and collection, transport and treatment of the waste.

The quantitative outputs from the modelling exercise were then combined with the qualitative elements agreed at the workshops. Each of the six modelled scenarios were evaluated against the criteria and weightings agreed by the EWP during the Partnership Vision stage of the process. This led to a BPES being identified.

Following the presentation of this outcome to the EWP Ricardo were asked to carry out further modelling of additional 'sensitivities' on the highest scoring scenario, to allow the consideration of potential technological and legislative developments considered to have the potential to further impact the waste landscape. In agreement with ECC, four sensitivities were modelled for scenario 2 in order to assess the effect of introducing the following:

- Sensitivity 1: Addition of front-end recycling to the Energy from Waste (EfW) facility for household residual waste
- Sensitivity 2: Addition of combined heat and power (CHP) at the EfW facility
- Sensitivity 3: Addition of carbon capture, utilisation and storage technology (CCUS) at the EfW facility
- Sensitivity 4: Introduction of householder charges for garden waste collections

The detailed modelling and analysis has been incorporated into this SEA.

## 1.4 ENVIRONMENTAL REPORT STRUCTURE

Section 1.5 provides information on how to comment on the Environmental Report. The remainder of this Environmental Report is structured as follows:

- **Section 2: Review of Plans and Programmes** – Provides an overview of the review of plans and programmes relevant to the draft Waste Strategy and SEA that are contained in **Appendix C**;

- **Section 3: Baseline Analysis** – Presents an overview of the baseline analysis and identifies the key issues relevant to the draft Strategy and SEA with the detailed social, economic and environmental characteristics presented in **Appendix D**;
- **Section 4: Approach to the Assessment** – Outlines the approach to the SEA of the draft Waste Strategy including the assessment framework, comprising assessment objectives and guide questions, categorisation of effects and definitions of significance;
- **Section 5: Assessment of the Draft Waste Strategy** – Presents the findings of the assessment of the scenarios that comprise the draft Waste Strategy and any reasonable alternatives, including consideration of cumulative effects and mitigation;
- **Section 6: Next Steps and Proposals for Monitoring** – Details the next steps in the SEA process and presents views on how the environmental effects of the Waste Strategy will be monitored.

The report contains the following appendices:

- **Appendix A: Quality Assurance Checklist.**
- **Appendix B: Schedule of Scoping Consultation Responses.**
- **Appendix C: Review of Plans and Programmes.**
- **Appendix D: Baseline Analysis.**

## 1.5 HOW TO COMMENT ON THE ENVIRONMENTAL REPORT

This Environmental Report is being issued to the SEA Consultation Bodies and the public, for comment alongside the draft Waste Strategy. The consultation period on the Waste Strategy and the accompanying SEA Environmental Report runs for ten weeks from the 13th September – 22nd November 2023.

Following the consultation, a Post-Adoption Statement will be prepared. The Statement will reflect on the views provided on the findings of the assessment and the draft Waste Strategy and will explain how the issues raised have been taken into account in finalising the Strategy.

Details of how to respond to the consultation are provided below.

### This Consultation: How to Give Us Your Views

**We would welcome views on any aspect of this Environmental Report. However, respondents may find the following questions helpful to provide a focus for their responses.**

1. Do you wish to provide any comments on the Environmental Report?
2. Does the Environmental Report correctly identify the likely significant effects of the draft Strategy?
3. What are your views on the likely significant environmental effects of the draft Strategy?
4. Please provide any other further comments you have on the Environmental Report?

**Please submit responses to this Environmental Report to Essex County Council by the closing date of 22nd November. You can respond online by visiting:**

www.consultations.essex.gov.uk/rci/waste-strategy-for-essex-consultation

**The questionnaire is available for 10 weeks from 13th September to 22nd November. If you wish to request another format of the questionnaire, please email wastestrategyforessex@essex.gov.uk or call 0345 603 7625.**

# 2 REVIEW OF PLANS AND PROGRAMMES

## 2.1 OVERVIEW

The SEA Regulations require a report containing "*an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes"* (Schedule 2(1)) as well as "*The environmental protection objectives, established at international, (European) Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation"* (Schedule 2(5)),

The review demonstrates how the Waste Strategy for Essex might be influenced by other plans, policies, programmes and identifies other objectives which the Waste Strategy should consider.

Relevant plans, policies, programmes and strategies (referred to as plans and programmes) have been identified from the wide range that has been produced at an international, national, regional and local level. Plans and programmes that have no likely interaction with the Waste Strategy (i.e. they are unlikely to influence the Waste Strategy, or be influenced by it), have been excluded from the review.

The completed review of plans and programmes is used to provide the policy context for the assessment process and helps to inform the development of objectives that comprise the assessment framework (see Section 4 ). It is also a valuable source of information to support the completion of baseline analysis and to determine the key issues for the draft plans and SEA (see Section 3 and Appendix D).

A review of relevant plans and programmes is presented in Appendix C. A summary of key messages derived from the review is presented in Table 2.1.

## 2.2 SUMMARY OF REVIEWED PLANS AND PROGRAMMES

Table 2.1 Summary of Plans, Policies and Programmes

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| Material Assets and Waste Management | Promote sustainable production and consumption whilst seeking to reduce the amount of waste generated by using materials, energy and water more efficiently.<br>Contribute to a resource efficient, green and competitive low carbon economy.<br>Minimise the production of waste, ensure waste management is in line with the waste hierarchy, and eliminate waste sent to landfill.<br>Promote the sustainable management of natural resources.<br>Promotion of the 'waste hierarchy' of 'reduce, re-use, recycle and recover' with the aim of reducing the proportion of waste sent to landfill.<br>Maintaining consistently high recycling rates.<br>Identify steps to promote a circular economy. | *International*<br>United Nations Economic Commission for Europe (1998) Aarhus Convention – Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters<br>Paris Agreement (2015)<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Community (EC) Directive 1999/31/EC on the landfill of waste<br>European Commission (2009) Promotion of the use of energy from renewable sources Directive (2009/28/EC)<br>European Commission, Urban Waste Water Treatment Directive (1991/271/EC)<br>United Nations (2002), Commitments arising from the World Summit on Sustainable Development, Johannesburg<br>*National* |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | | The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>Waste Management Plan 2021<br>Resources and Waste Strategy<br>Industrial Strategy White Paper (2017)<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Department for Energy and Climate Change (2020) Energy White Paper: Powering our Net Zero Future<br>Department of energy and climate change (2011) Planning our electric future: a White Paper for secure, affordable and low carbon electricity<br>Defra (2011) Government Review of Waste Policy in England (2011)<br>HM Government (2018) Our Waste, Our Resources: A Strategy for England<br>Defra (2002) The Strategy for Sustainable Farming and Food – facing the future<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>The Energy Act 2013<br>Environment Act, 2021<br>Environment Act, 1995<br>The Environmental Damage (Prevention and Remediation) (England) Regulations 2015<br>HM Government (2016) National Infrastructure Delivery Plan 2016-2021, Infrastructure Projects Authority<br>National Policy Statement for Wastewater (2012)<br>Circular Economy Package, 2020<br>Integrated Radioactive Waste Strategy, 2019<br>National Planning Policy for Waste, 2014<br>Control of Pollution Act 1974<br>National Policy Statement: Hazardous Waste, 2013<br>The Waste Regulations, 2011<br>Resource and Waste Strategy, 2018<br>*Regional*<br>Essex and Southend on Sea Waste Local Plan, 2017<br>Everyone's Essex: our plan for levelling up the county 2021 to 2025, 2021<br>Relevant Waste Collection Authority waste plans and strategies |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| Biodiversity, Flora and Fauna | Conservation and enhancement of the natural environment, in particular internationally and nationally designated sites, priority habitats and species, taking into account future climate change.<br>Avoid activities likely to cause irreversible damage to natural heritage.<br>Support the function of ecosystems and enhance ecological networks and resilience.<br>Protection, conservation and enhancement of natural capital. Ecosystem services from natural capital contributes to the economy and therefore should be protected and, where possible, enhanced.<br>Avoidance of activities likely to cause the spread of Invasive Non-Native Species (INNS).<br>A need to protect the green infrastructure network. | *International*<br>Ramsar Convention: The Convention on Wetlands of International Importance (1971)<br>The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)<br>The Bonn Convention on the Conservation of Migratory Species of Wild Animals (1983)<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Commission (2011), Our life insurance, our natural capital: an EU biodiversity Strategy to 2020<br>European Commission, Environmental Liability Directive (2004/35/EC)<br>European Commission (1992), Habitats Directive (1992/43/EC)<br>European Commission (2009), Birds Directive (2009/147/EC)<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>Conservation of Habitats and Species Regulations 2017 (Amendment) (EU Exit) Regulations (2019)<br>The Natural Environment and Communities Act 2006 (NERC Act)<br>Defra (2004) Rural Strategy<br>Defra (2002) The Strategy for Sustainable Farming and Food – facing the future<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Defra (2020), The Draft Environment Bill 2020, and content related to the development of Nature Recovery Networks (parts 6 and 7)<br>Environment Act, 2021<br>Environment Act, 1995<br>Wildlife and Countryside Act, 1981 (as amended)<br>Natural Capital Committee (2020) State of Natural Capital Annual Report 2020<br>*Regional*<br>Everyone's Essex, 2021<br>Essex Green Infrastructure Strategy, 2020 |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| Population and Human Health | To ensure all communities have a clean, safe and attractive environment in which people can take pride.<br>Access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and wellbeing of communities.<br>Promotion of healthy communities and protection from risks to health and wellbeing.<br>Promotion of sustainable economy supported by access to essential utility and infrastructure services.<br>To promote sustainable growth. | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>The Environment Noise Directive (Directive 2002/49/EC)<br>European Commission, Environmental Liability Directive (2004/35/EC)<br>United Nations (2002), Commitments arising from the World Summit on Sustainable Development, Johannesburg<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>The Countryside and Rights of Way (CROW) Act, 2000<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Defra (2005) Securing the Future: Delivering UK Sustainable Development Strategy<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Environment Act, 2021<br>Environment Act, 1995<br>The Environmental Damage (Prevention and Remediation) (England) Regulations 2015<br>HM Treasury (2020) National Infrastructure Strategy<br>Build Back Better: our plan for growth, 2021<br>*Regional*<br>Essex Green Infrastructure Strategy, 2020<br>Levelling Up Essex Strategy, 2022<br>Essex Joint Health and Wellbeing Strategy, 2022-2026<br>Economic Plan for Essex, 2014 |
| Water | Promote sustainable water resource management.<br>Improve the quality of the water environment and the ecology which it supports.<br>Prevent deterioration of water quality status.<br>Promote measures to enable and sustain long term improvement in water efficiency.<br>Develop a resilient and flexible water management approach to cope with | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Commission, Urban Waste Water Treatment Directive (1991/271/EC)<br>European Commission, Directive on the Assessment and Management of Flood Risks (2007/60/EC)<br>*National* |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | changing climate, population and economic conditions.<br>Reduce flood risk to people, residential and non-residential properties, community facilities and key transport links, as well as designated nature conservation sites and heritage assets and landscapes of value. | The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Environment Act, 2021<br>Environment Act, 1995<br>Environment Agency (2009), Water Resources Strategy for England and Wales<br>The Environmental Damage (Prevention and Remediation) (England) Regulations 2015<br>Environment Agency (2018) The Environment Agency's approach to groundwater protection<br>The Water Act, 2003 (as amended)<br>The Water Environment (WFD) (England and Wales) Regulations, 2003<br>National Flood and Coastal Erosion Risk Management Strategy for England (2020)<br>National Policy Statement for Wastewater (2012)<br>*Regional*<br>Essex County Council, Local Flood Risk Management Strategy, 2018 |
| Soil, Geology and Land-use | Ensure that soils will be protected and managed to optimise the varied functions that soils perform for society (e.g. supporting agriculture and forestry, protecting cultural heritage, supporting biodiversity, as a platform for construction), in keeping with the principles of sustainable development.<br>Encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value.<br>To reduce the reliance on landfill sites. | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Community (EC) Directive 1999/31/EC on the landfill of waste<br>Council of Europe (2003) European Soils Charter<br>European Commission (2006) Thematic Strategy for Soil Protection<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>Defra (2009) Safeguarding our soils – A Strategy for England<br>Defra (2004) The First Soil Action Plan for England<br>Defra (2004) Rural Strategy<br>Defra (2002) The Strategy for Sustainable Farming and Food – facing the future<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Environment Act, 2021<br>Environment Act, 1995 |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | | Integrated Radioactive Waste Strategy, 2019<br>Resource and Waste Strategy, 2018 |
| Air and Climate | Reduce greenhouse gas emissions. Targets include:<br>Reduce the UK's greenhouse gas emissions by at least 80% (relative to 1990 levels) by 2050.<br>Reduce the effects of air pollution on ecosystems. Improve overall air quality.<br>Minimise energy consumption, support the use of sustainable / renewable energy and improve resilience to climate change.<br>Build in adaptation to climate change to future planning and consider the level of urgency of associated risks of climate change impacts accordingly.<br>Achieve and sustain compliance with and contribute towards national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. | *International*<br>The Cancun Agreement (2011) & Kyoto Agreement (1997)<br>Paris Agreement (2015)<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>European Commission (2008) The 2008 ambient air quality directive (2008/50/EC)<br>European Commission, Thematic Strategy on air pollution (2005)<br>European Commission (2009) Promotion of the use of energy from renewable sources Directive (2009/28/EC)<br>European Commission, Directive on the Assessment and Management of Flood Risks (2007/60/EC)<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>The Climate Change Act 2008<br>The Climate Change Act 2008 (2050 Target Amendment) Order 26 June 2019<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Department for Energy and Climate Change (2020) Energy White Paper: Powering our Net Zero Future<br>Department of energy and climate change (2011) Planning our electric future: a White Paper for secure, affordable and low carbon electricity<br>Defra (2017) The UK Climate Change Risk Assessment 2017 Evidence Report<br>Defra (2007) The Air Quality Strategy for England, Scotland and Wales<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>The Energy Act 2013<br>Environment Act, 2021<br>Environment Act, 1995<br>UK Climate Projections UKCP18. UKCIP, 2018 |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| | | Defra (2018), The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting<br>*Regional*<br>Essex Climate Action Plan 2022<br>Relevant Council Climate statements, plans and programmes |
| Archaeology and Cultural Heritage | Promote the conservation and enhancement of the historic environment, including the promotion of heritage and landscape as central to the culture of the region and conserve and enhance distinctive characteristics of landscape and settlement.<br>Conserve and enhance the historic environment, heritage assets and their settings. | International<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>Charter for the Protection and Management of Archaeological Heritage (1990)<br>National<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment<br>Planning (Listed Buildings and Conservation Areas) Act 1990<br>Ancient Monuments and Archaeological Areas Act 1979<br>Defra (2004) Rural Strategy<br>Department for Culture, Media and Sport (2001) The Historic Environment – A Force for the Future<br>Historic England (2020) Heritage at Risk 2020<br>Historic England (2008) Climate Change and the Historic Environment<br>Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment<br>Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3<br>Historic England (2017) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3, 2nd Edition<br>*Regional*<br>Relevant Council Heritage plans and strategies |

| SEA Topic | Key Messages and Objectives | Plans, Policies and Programmes |
|---|---|---|
| Landscape and Visual Amenity | Protection and enhancement of landscape (including designated landscapes, landscape character, distinctiveness and the countryside).<br>Enhance the value of the countryside by protecting the natural environment for this and future generations.<br>Improve access to valued areas of landscape character in sustainable ways to enhance its enjoyment and value by visitors and stakeholders. | *International*<br>European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)<br>Council of Europe (2006), European Landscape Convention<br>*National*<br>The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)<br>The Countryside and Rights of Way (CROW) Act, 2000<br>DCLG (2012) National Planning Policy Framework (as amended 2019)<br>Defra (2004) Rural Strategy<br>Defra (2011) The Natural Choice: securing the value of nature, The Natural Environment White Paper<br>Natural England (2016), Conservation 21 – Natural England's Conservation Strategy for the 21st Century<br>UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment<br>Natural Capital Committee (2020) State of Natural Capital Annual Report 2020 |

# 3 BASELINE ANALYSIS

## 3.1 INTRODUCTION

The SEA Regulations also require that the Environmental Report contains:

*"Relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme" (Schedule 2(2));*

*"The environmental characteristics of areas likely to be significantly affected" (Schedule 2(3));*

*"Any existing environmental problems which are relevant to the plan or programme" (Schedule 2(4)).*

Appendix D of this Environmental Report identifies and characterises current environmental baseline conditions, along with their likely evolution in the absence of the Strategy. With a knowledge of existing conditions, and a consideration of their likely evolution, the effects of the draft Waste Strategy can be identified, described, assessed and monitored, and if necessary mitigated. This is also useful in determining the key issues for each topic that should be taken forward in the SEA, through the SEA objectives and guide questions.

The analysis of baseline information is presented for the SEA assessment area the following topics:

- Material Assets and Waste Management;
- Biodiversity, Flora and Fauna;
- Population and Human Health;
- Water;
- Soil, Geology and Land Use;
- Air and Climate;
- Archaeology and Cultural Heritage; and
- Landscape and Visual Amenity.

Each topic includes further sub-topics with information structured according to the following:

- Baseline Characteristics;
- Likely Evolution of the Baseline without the Strategy, presented as the Future Baseline;
- Key Issues Relevant to the Assessment of the Strategy.

Baseline data has been drawn from a range of sources, including a number of the plans, policies, programmes and strategies reviewed and summarised in Table 2.1 and Appendix C.

## 3.2 SUMMARY OF THE KEY ISSUES

The key issues arising from the review of baseline conditions are summarised for each topic in Table 3.1.

Table 3.1 Key Issues from Baseline Analysis

| Topic | Summary of Key Issues |
|---|---|
| Material Assets and Waste Management | • The need to minimise the consumption of resources, including water and energy.<br>• The need to follow the 'waste hierarchy' of 'reduce, re-use, recycle and recover' with the aim of reducing the proportion of waste sent to landfill.<br>• The need to maintain consistently high recycling rates.<br>• The need to promote and move towards a regenerative circular economy.<br>• The need to support regional and national commitments to decarbonisation. |
| Biodiversity, Flora and Fauna | • The need to protect or enhance the region's biodiversity, particularly protected sites designated for nature conservation.<br>• The need to avoid activities likely to cause irreversible damage to natural heritage.<br>• The need to take opportunities to improve ecological resilience. |

| Topic | Summary of Key Issues |
|---|---|
| | • The need to control the spread of Invasive Non-Native Species (INNS).<br>• The need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of the ecosystem services. |
| Population and Human Health | • The need to ensure waste sites and waste management are not disproportionately impacting deprived or vulnerable communities.<br>• The need to protect human health.<br>• The need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas.<br>• The need to ensure waste is not mismanaged so as to impact upon human health through chemicals, air pollution, land contamination and increased risk of infection and/or disease.<br>• The need to ensure high recycling rates are maintained.<br>• The need to accommodate an increasing population.<br>• The need to contribute towards maintaining sustainable growth in the region. |
| Water | • The need to further improve the quality of the region's river, estuarine and coastal waters taking into account WFD objectives and designated sites objectives (i.e. assessment against Common Standards Monitoring Guidance, where relevant).<br>• The need to maintain the quantity and quality of groundwater resources taking into account WFD objectives.<br>• The need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change on surface waters and groundwaters.<br>• The need to ensure sustainable abstraction to protect the water environment and meet society's needs for a resilient water supply.<br>• The need to ensure that people understand the value of water. |
| Soils, Land Use and Geology | • The need to encourage effective use of the land, benefitting landowners, other stakeholders, the environment and sustainability of natural resources.<br>• The need to apply the Waste Hierarchy; prioritising prevention, enhancing recycling and reducing the amount of waste going to landfill. |
| Air Quality and Climate | • The need to minimise emissions of pollutant gases and particulates and enhance air quality;<br>• The need to reduce the need to travel and promote sustainable modes of transport;<br>• The need to reduce greenhouse gas emissions arising from implementation of the Waste Strategy;<br>• The need to take into account, and where possible adapt to, the potential effects of climate change;<br>• The need to increase environmental resilience to the effects of climate change. |
| Archaeology and Cultural Heritage | • The need to conserve or enhance sites of archaeological importance and cultural heritage interest. |
| Landscape and Visual Amenity | • Landscape and designated sites should be maintained and enhanced for the enjoyment of the public. |

## 3.3 LIMITATIONS OF THE DATA AND ASSUMPTIONS MADE

The information used to form the baseline has been sourced, as much as possible, from recent datasets utilising a wide range of authoritative and official sources. Principal limitations which surround the future social and environmental baseline are where there are substantial differences in the availability and temporal resolution of robust projections across the various SEA topic areas. For example, whilst the Strategy is intended to cover 25+ years, climate change estimates extend up to 80 years, and regional population and household projections only extend to 2028.

The area under consideration for this SEA covers different geographical regions, which makes establishing an all-encompassing baseline challenging. There are also challenges around extrapolating information from data

collated at differing spatial resolutions particularly for a non spatial Strategy. Relevant spatial data have been used where appropriate to summarise the extensive datasets involved.

It is also important to acknowledge that there are variable time lags between raw data collection and its publication. Consequently, due to reporting cycles, available information which formed the baseline or predicted future trends described in this report may have been updated.

SEA is a high-level assessment aimed at highlighting potential environmental concerns. The environmental data to be used in this assessment is based on that which is readily available from existing sources such as statutory organisations. No primary research or survey work has been carried out specifically to inform the SEA and therefore it is possible that at the additional environmental issues could influence the scenarios and sensitivities assessed.

Some of the data gathered to complete the baseline pre-dates the Covid-19 pandemic and its potential environmental, social and economic effects. Data that relates to these changes is only becoming available periodically and it could be several years before the effects of the pandemic can be fully determined, and whether changes in the baseline have been short-term or sustained.

# 4 APPROACH TO THE ASSESSMENT

## 4.1 INTRODUCTION

This section describes the approach to the assessment of the Waste Strategy for Essex. It draws on the information contained in Sections 2 and 3, as well as the more detailed information contained in Appendices C and D, to define the scope of the assessment (in terms of the environmental and socio-economic issues to be considered) and sets out the SEA objectives and guide questions that comprise the assessment framework.

## 4.2 THE SCOPE OF THE ASSESSMENT

### 4.2.1 What is being assessed

The aim of SEA is to identify, describe and evaluate the likely significant effects of implementing the draft Strategy on the environment. Schedule 2 of the SEA Regulations require that the assessment includes information on the *"likely significant effects on the environment, including on issues such as: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage, including architectural and archaeological heritage; landscape; and the inter-relationship between the issues referred to".*

The key policy objectives identified from the review of other plans and programmes relevant to the assessment of the Waste Strategy and the key environmental and socio-economic issues arising from the analysis of the baseline, together with the characteristics of the Waste Strategy scenarios, were used to define the scope of the assessment in terms of the topics set out in Schedule 2 of the SEA Regulations.

The Waste Strategy scenarios focus on the methodology and frequency of waste collections and the Strategy is not looking to identify sites or infrastructure gaps. As the Strategy is not site specific, during scoping, likely significant effects on archaeology and cultural heritage were not anticipated and therefore the topic was scoped out of the assessment. Material assets and waste management; biodiversity, flora and fauna, population and human health; water; soil, geology and land-use; air and climate and landscape and visual amenity were scoped in.

The perceived move away from landfill as a treatment process is connected with the Strategy scenarios and sensitivities and it was anticipated these would generally have a positive effect on biodiversity, flora and fauna and landscape and therefore these topics were scoped in on a precautionary basis.

However, the decisions around the treatment process are out with the scope of the Strategy and the SEA process, although, the relative benefits of the EfW approach compared to the baseline (landfill) have been considered in the body of the report.

Essex County Council is in the process of procuring a new offtake contract for residual waste. This procurement process will determine the treatment route(s) for the Council's residual waste. As the procurement exercise is still ongoing, the residual waste treatment route and technology(ies) for the modelled year in the Strategy is currently unknown. For the purposes of the Strategy, Energy from Waste has been modelled as the treatment method for residual waste, however this may not be the outcome.

As the Strategy is not site-specific, this was only modelled in respect of impacts of the general treatment process on parameters including recycling/recovery rates, greenhouse gas emissions and costs (such as gate fees) when compared to the baseline scenario of landfilling the Council's residual waste. Further sensitivities have also been explored, assessing the impacts of implementing front-end sorting, combined heat and power (CHP) and carbon capture, utilisation and storage (CCUS) on the same parameters for EfW. Likewise, these sensitivities are only assessed in terms of the technology/process type and do not take into account any spatial aspects as these are outside of the scope of this Strategy.

After conducting the environmental assessment of the scenarios and sensitivities, it was determined that the anticipated environmental effects on archaeology and cultural heritage would still not be significant at this stage, especially considering the absence of specific sites under evaluation. However, in the interest of providing a comprehensive and thorough assessment with signposting to where spatial considerations will be undertaken, the inclusion of archaeology and cultural heritage within the scope was deemed appropriate.

### 4.2.2 Geographic Scope

The geographic extent of the SEA is the administrative extent of the Essex county area covered by the Waste Strategy. The Waste Strategy scenarios focus on the methodology and frequency of waste collections and as noted in section 4.2.1 the Waste Strategy is non-site specific. Therefore, the SEA will not assess any site-specific proposals for waste and resources infrastructure.

Import and export of waste for treatment and disposal is not changing as a result of the Strategy. As such, potential impacts beyond the County's administrative area are not anticipated.

### 4.2.3 Timescales

Schedule 1 (2)(a) of the SEA Regulations requires that the assessment of the effects should have regard to *"the probability, duration, frequency and reversibility of the effects"*. In considering the timing of potential effects of the Waste Strategy and capturing effects that could arise at different timescales, the assessment has classified effects as 'short,' 'medium' or 'long-term.'

Table 4.1 below summarises the timescales applied in the SEA informed by the 25+ year duration of the plan. For the purposes of this assessment, short-term is considered as up to 5 years (the plan review cycle), medium-term (from 5 to 25 years) and long-term is for the period beyond 25 years (beyond the term of the plan).

Table 4.1 Duration of Short, Medium and Long Term in years

| Estimated Length (years) | Duration |
|---|---|
| 0-5 years | Short |
| >5-25 years | Medium |
| Over 25 years | Long |

## 4.3 ASSESSMENT FRAMEWORK

Establishing appropriate SEA objectives and guide questions as an assessment method is helpful in identifying the effects of the Strategy on the environment. Each of the waste management scenarios and sensitivities has been assessed against the SEA objectives to determine the scale and significance of the effect. Guide questions focus the assessment on specific aspects of the objective that reflect issues identified from the review of baseline and contextual information relating to the Waste Strategy for Essex.

The SEA objectives and supporting guide questions used in the assessment of the Strategy reflect the topics contained in Schedule 2 (6) of the SEA Regulations and have been informed by:

- the review of relevant plans and programmes and associated environmental protection objectives;
- the baseline information and key issues that have been identified;
- an understanding of the likely generic effects arising from the construction and operation of waste infrastructure; and
- responses to the scoping consultation.

The assessment framework used to complete the assessment of the Waste Strategy for Essex is presented in Table 4.2.

Table 4.2 Assessment Framework and SEA Objectives

| SEA Topic | SEA Objectives | | Guide Questions |
|---|---|---|---|
| Material Assets and Waste Management | 1.1 | To support a circular economy, minimise waste arisings, promote reuse, recovery and recycling, minimising the impact of waste on the environment and communities and contribute to the sustainable use of natural and material assets. | • Will the draft Strategy promote the efficient use of existing infrastructure, resources and minimise waste?<br>• Will the draft Strategy promote the re-use and recycling of waste materials and reduce the proportion of waste sent to landfill?<br>• Will the draft Strategy promote and move towards a regenerative circular economy?<br>• Will the draft Strategy help to minimise the consumption of resources, including water and energy?<br>• Will the Strategy affect waste practices and behaviours in residents and businesses?<br>• Will the draft Strategy affect community level or national capabilities to re-use, recycle and recover materials? |

| SEA Topic | SEA Objectives | | Guide Questions |
|---|---|---|---|
| Biodiversity, Flora and Fauna | 2.1 | To protect and enhance biodiversity including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain. | • Will the draft Strategy protect and/or enhance sites that are designated, both nationally and internationally, for their nature conservation value?<br>• Will the draft Strategy protect and/or enhance priority species and habitats?<br>• Will the draft Strategy protect and/or enhance non-designated habitats and species including protected species?<br>• Will the draft Strategy lead to an improvement in natural capital and a net gain in biodiversity?<br>• Will the Strategy avoid further spread of invasive, non-native species? |
| Population and Human Health | 3.1 | To protect and enhance human health and wellbeing | • Will the draft Strategy help to promote healthy communities and avoid risks to human health and wellbeing for example, due to noise, odour and dust?<br>• Will the draft Strategy promote sustainable growth and maintain and enhance the economic and social well-being of local communities?<br>• Will the draft Strategy minimise extent of litter and vermin generation?<br>• Will the draft Strategy impact vehicle movements?<br>• Will the draft Strategy minimise the health impact from waste treatment collection, sites and management e.g. through chemicals, air pollution, land contamination and increased risk of infection and/or disease?<br>• Will the draft Strategy affect opportunities for recreation and physical activity?<br>• Will the draft Strategy ensure vulnerable communities are protected and not disproportionately impacted?<br>• Will the draft Strategy help to ensure that all residents have equal access and ability to participate in waste and resource management practices? |
| | 3.2 | To minimise disturbance to local communities | |

| SEA Topic | SEA Objectives | | Guide Questions |
|---|---|---|---|
| Water | 4.1 | To protect and enhance water quality and help achieve the objectives of the Water Framework Directive. | • Will the draft Strategy protect and/or enhance surface, ground, estuarine and coastal water quality and quantity and ensure sustainable water resource management?<br>• Will the draft Strategy prevent the deterioration of Water Framework Directive waterbody status (or potential)?<br>• Will the draft Strategy reduce the risk of flooding? |
| Soil, Geology and Land-Use | 5.1 | To make appropriate and efficient use of land and protect and enhance soil, local geomorphology and geodiversity and contribute to the sustainable use of land. | • Will the draft Strategy have an effect on soil quality/function?<br>• Will the draft Strategy prioritise prevention of waste, enhance recycling and reduce the amount of waste going to landfill?<br>• Will the draft Strategy increase the risk of land contamination?<br>• Will the draft Strategy protect and/or enhance Geological Conservation Sites, important geological features and geophysical processes and functions? |
| Air and Climate | 6.1 | To minimise emissions of pollutant gases and particulates and enhance air quality. | • Will the draft Strategy affect air quality?<br>• Will the draft Strategy create a nuisance for people or wildlife (for example from dust, vibration or odours)?<br>• Will the draft Strategy help to minimise traffic volumes?<br>• Will the draft Strategy encourage alternative and sustainable means of transporting freight, waste and minerals, where possible?<br>• Will the draft Strategy help to ensure a low carbon design solution to the design and delivery of waste management services including infrastructure?<br>• Will the draft Strategy lead to an increase in low carbon energy use?<br>• Will the draft Strategy increase resilience to the effects of climate change? |
| | 6.2 | To minimise greenhouse gas emissions and embodied carbon associated with waste management and landfill | |
| | 6.3 | To adapt waste management practices to climate change and improve resilience to the threats of a changing climate | |
| Archaeology and Cultural Heritage | 7.1 | To conserve and enhance the historic environment including designated and non-designated heritage assets and their settings. | • Will the draft Strategy affect the significance of internationally and nationally designated heritage assets and their settings?<br>• Will the draft Strategy affect non-designated heritage assets and their settings? |

| SEA Topic | SEA Objectives | | Guide Questions |
|---|---|---|---|
| | | | • Will the draft Strategy conserve and enhance the historic environment including landscapes, townscapes, buildings, structures and archaeological remains?<br>• Will the draft Strategy affect the fabric and setting of historic buildings, places or spaces such as conservation areas that contribute to local distinctiveness, character and appearances? |
| Landscape and Visual Amenity | 8.1 | To protect and enhance landscape, townscape character and visual amenity. | • Will the draft Strategy lead to detrimental visual impacts?<br>• Will the draft Strategy affect the purposes and/or special qualities of protected/designated/culturally important landscapes and their setting?<br>• Will the draft Strategy provide opportunities to enhance nationally and locally designated landscapes, townscapes, seascapes and their settings?<br>• Will the draft Strategy affect the intrinsic character or setting of local landscapes, streetscapes, townscapes and seascapes?<br>• Will the draft Strategy help to minimise light pollution from operational activities on residential amenity and on sensitive locations and receptors?<br>• Will the draft Strategy help reduce the likelihood of littering and fly-tipping and other waste crime? |

## 4.4 ASSESSMENT METHODOLOGY

The SEA has been carried out by assessing the likely significant environmental effects of implementing the draft Waste Strategy for Essex, taking into account the collection and frequency, implied technology use and noting that the Waste Strategy is a high level document which is non-site specific and that the decisions around the chosen treatment process (Energy from Waste) are out with the scope of this Strategy process.

The assessment of scenarios has drawn on the other assessments and studies undertaken in support of the Essex Waste Strategy proposals such as the BPES, WRATE modelling and the short-list evaluation criteria that were developed as part of the scenarios appraisal process.

Following assessment of the short-listed scenarios an assessment has been carried out of the highest scoring scenario incorporating the modelling of each of the chosen sensitivities / types of treatment. This includes identifying, describing and evaluating the cumulative effects of Scenario 2 in combination with each sensitivity individually.

In accordance with the SEA Regulations, the assessment process has identified the likely significant effects of the draft Waste Strategy. This has been carried out by applying the assessment framework to identify the likely changes to the baseline conditions as a result of implementing the draft Strategy scenarios. The effects of each scenario have been assessed against each of the SEA objectives that comprise the assessment framework. The assessment of effects includes consideration of the following:

- the nature of the potential effect (what is expected to happen);
- the timing and duration of the potential effect (e.g., short, medium or long term);
- the geographic scale of the potential effect (e.g., local, regional, national);
- the location of the potential effect (e.g., whether it affects rural or urban communities, or those in particular parts of a plan area); and
- the potential effect on vulnerable communities or sensitive sites.

Where available, the assessment is based on modelled information, as well as professional judgement with reference to relevant legislation, regulations and policy. More specifically during the assessment, consideration has been given to:

- Baseline information including key issues and the future evolution of the baseline in the absence of the Strategy;
- Likely activities and potential sources and receptors of effects associated with the operation of the waste collection and assumed treatment methods;
- The regulatory framework;
- The SEA objectives and guide questions;
- Schedule 1 of the SEA Regulations (criteria for determining the likely significant effects on the environment).

Table 4.3 shows the key for significance ratings used in the assessment against each objective.

Table 4.3 Significance Ratings

| Score | Description | Symbol |
|---|---|---|
| Major/Significant Positive Effect | Significant positive effect of the scenario on this objective | +++ |
| Moderate Positive Effect | Moderate positive effect of the scenario on this objective | ++ |
| Minor Positive Effect | Minor positive effect of the scenario on this objective | + |
| Neutral | Neutral effect of the scenario on this objective | 0 |

| Score | Description | Symbol |
|---|---|---|
| Minor Negative Effect | Negative effect of the scenario on this objective | - |
| Moderate Negative Effect | Moderate effect of the scenario on this objective | -- |
| Major/Significant Negative Effect | Significant negative effect of the scenario on this objective | --- |
| Uncertain | The Waste Strategy scenario has an uncertain relationship to the objective or the relationship is dependent on the way in which the aspect is managed. In addition, insufficient information may be available to enable an accurate assessment to be made. | ? |

The assessment takes account of any proposed mitigation measures that have been incorporated into the scenario, i.e. it is the residual effects after the application of known mitigation that are assessed.

### 4.4.1 Assessment of Secondary, Cumulative and Synergistic Effects

Schedule 2(6) of the SEA Regulations requires the assessment of *"The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects…."*

In addition to the assessments of the scenarios and sensitivities described above, this also includes the cumulative effects assessment of the Strategy in-combination with other plans and programmes. Relevant definitions are provided in Table 4.4.

Table 4.4: Definitions of Secondary, Cumulative and Synergistic Effects[7]

| Effect | Explanation |
|---|---|
| Secondary or indirect effects | These are effects that are not a direct result of the Waste Strategy, but occur away from the direct impact or as a result of a complex pathway. Examples of a secondary effect of the draft Strategy could include health effects of changes to air quality associated with emissions from the transportation of waste. |
| Cumulative effects | These arise where several activities or developments each have insignificant effects but together combine to have a significant effect; or where several individual effects of the Strategy (e.g. noise, dust and visual) have a combined effect. Examples of a cumulative effect resulting from the implementation of the draft Strategy could include potential effects on a receptor and the cumulative effects of disturbance and pollutant emissions causing a significant impact. Cumulative effects will also include the potential effects (if any) of a proposed activity and any other proposed and consented developments. |
| Synergistic effects | This is where effects interact to produce a new effect or a magnitude of effect greater than the sum of the individual effects. For example, this can occur where the toxicity of two chemicals is greatly increased when they are combined. |

## 4.5 DIFFICULTIES ENCOUNTERED IN THIS ASSESSMENT

The SEA Regulations require the identification of any difficulties encountered during the assessment process. The difficulties encountered in undertaking the SEA of the draft Waste Strategy are summarised below.

The SEA assessment process was undertaken retrospectively as the detailed modelling and the Waste Strategy largely advanced prior to commencement of the SEA, thus limiting the possibility of the SEA to

[7] Adapted from Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive.

influence the Strategy's development. However, as the draft strategy will be subject to further consideration post consultation, scope will exist for the SEA to influence the final adopted strategy.

Every effort has been made to make the SEA a useful process in terms of promoting potential mitigation measures and monitoring opportunities. Also, detailed technical WRATE modelling and BPES assessment results have been incorporated into the SEA where applicable.

Linked to this, as the SEA assessment process has moved along, assessing the short-listed scenarios, individual councils have started to change collection methods and frequencies, and therefore the SEA presents a snapshot in time of the baseline versus the scenarios, of what is an evolving situation in waste management.

Conducting a SEA for a waste strategy that exclusively addresses collection methods and frequencies and assumes a particular treatment type due to the lack of viable alternative treatment options, presents a unique set of challenges. In such cases, the focus is narrowed to primarily operational aspects, and the Strategy's scope is limited to these parameters. However, this approach introduces complexities that necessitate careful consideration.

Reflecting the strategic nature of the draft Waste Strategy, the potential design, location and timing of any new waste management infrastructure coming forward as a result of the procurement process is unknown. Likewise, the location and degree of use of existing waste infrastructure is currently unknown. Therefore, the location of any construction work is not known at this stage and would (if taken forward) be subject to more detailed analysis during the implementation of the Strategy.

Therefore, once the spatial aspects of the associated procurement process and any associated plans, programmes or strategies are known, these may need to undergo a separate SEA exercise and depending on the scale and likely effects of the development it is assumed that the environmental effects of waste management infrastructure proposals will be fully considered through EIA and Habitats Regulations Assessment (HRA) (as appropriate) and subsequently, the environmental effects of the operation of infrastructure will be managed through permitting.

# 5 ASSESSMENT OF THE DRAFT WASTE STRATEGY

## 5.1 REASONABLE ALTERNATIVES AND REASONS FOR SELECTING THEM

To develop the draft Strategy and inform the priorities, targets and ambitions, the EWP commissioned systems modelling to look at the type and volume of the waste currently in Essex, how this may change in future and different scenarios for managing the waste. Detailed systems modelling was carried to explore the current activities across the EWP in terms of waste collection, treatment and disposal, and to investigate scenarios and opportunities for the future.

The systems modelling examined waste collection and disposal methods and the environmental and cost implications of alternative scenarios and sensitivities. In the case of this SEA and the Waste Strategy these scenarios and associated sensitivities that feed into the development of the Strategy have been the subject of the assessment and are considered to be reasonable alternatives in the context of the SEA Regulations.

In terms of treatment alternatives, these were not looked at as part of the modelling. Landfill is not considered a viable Business As Usual option primarily due to its negative environmental impacts, limited capacity and the overall government approach to disincentivising the use of landfill, and is therefore not a long term option. As a result, the focus has shifted towards utilising energy from waste methods. This shift is driven by the need to reduce waste volumes, minimise greenhouse gas emissions, and harness energy potential from waste materials through more sustainable and efficient means.

## 5.2 DEVELOPMENT OF SCENARIOS FOR ASSESSMENT

Extensive analysis was carried out on the current waste management landscape across the EWP area. This included the development of baseline (current) models of the collection services for each of the EWP members. Models were developed outlining a series of deliverable waste collection, treatment and disposal scenarios for the management of all Local Authority Collected Waste in Essex. These were developed in collaboration with EWP members through a series of workshops where the scenarios to be considered, the assumptions to be made, and the evaluation criteria to be used were agreed.

Each of the scenarios were illustrated by accompanying waste-flow models and financial models to estimate both the cost and likely performance of each waste collection methodology. The models were provided for each Collection Authority, and then combined to illustrate a Whole System Cost across the EWP, including collection, reprocessing and disposal costs to show the net cost of each scenario to the county.

A Best Practicable Environmental Scenario (Option) (BPES) lifecycle assessment was carried out for each of the scenarios to enable them to be considered in terms of:

- emissions to air (including climate change impacts), water and land;
- deliverability;
- performance against national targets;
- performance against EWP vision; and
- financial cost

A workshop was held in November 2021 with Officers and Members of the Essex Waste Partnership Authorities to agree and approve a long-list of collection and treatment scenarios, and evaluation criteria weightings. The long-list evaluation stage was used to assess the relative performances of the long-list of collection and treatment technology scenarios. The long-list was then assessed against the evaluation criteria to determine a short-list of scenarios.

An explanation of the collection methodologies is provided in Box 5.1 with the long-list collection scenarios shown in Figure 5.1. An explanation of the treatment/disposal technology types is provided in Box 5.2 with the long-list technology scenarios shown in Figure 5.2.

### Box 5.1: Explanation of collection methodologies

Dry recycling includes the following materials: paper, card, plastic bottles, pots tubs and trays, cartons, aluminium and steel cans, glass. Plastic film and flexible packaging are also included in this stream based on the current direction of government policy through the Environment Act.

In the UK there are currently three primary approaches to dry recyclate collections:

Comingled/single stream: Where all dry recyclate is collected in a single container and then separated at a Materials Recovery Facility (MRF) before onward transport to reprocessors. A standard refuse collection vehicle (RCV) can be utilised for collections, and transfer, storage and transport of the recyclate.

Twin/two-stream: Collections in which one material stream (in general either glass or paper and card) is collected in a separate container from the rest of the dry recyclate. In general, either glass or paper and card (co-collected) are the material streams collected separately. The remaining co-collected materials are separated at a MRF before onward transport to re-processors. Twin-stream collections require residents to segregate their recyclate and use two containers. This uses split bodied or multiple vehicles and/or additional staff.

Source segregated / Multi-stream: Requiring residents to fully segregate their recyclate into different containers. This requires more complex vehicles with multiple compartments (often with lower capacity) and/or additional staff. Multiple streams of material are involved. Multi-stream collections commonly involve separate collection of

1. Paper and card
2. Glass
3. Plastics, plastic film and cans collected as three streams
4. Other materials: Small WEEE, batteries, textiles

The more separation occurs at the kerbside the higher the collection costs. However, this can be offset by reduced mechanical separation and consequent MRF gate fees and potentially improve material qualities and incomes.

Collection frequency can influence the yields collected for recycling and organic treatment. Reducing residual waste collection frequencies can reduce collection costs and increase recycling yields (as residents are incentivised to recycle more to reduce the volume of residual waste). More frequent recycling collections can also improve yields (by maximising effective recycling capacity and increasing convenience).

Figure 5.1: Long-list collection scenarios

| Dry recycling collection | Food waste collection | Garden waste collection | Dry recycling frequency | Organic waste frequency | Residual waste frequency |
|---|---|---|---|---|---|
| •Commingled<br>•Twin stream: commingled recycling and separate paper&card<br>•Twin stream: commingled recycling and separate glass collection<br>•Multi-stream | •Separate food collections<br>•Co-collected food and garden waste | •Separate - without subscription<br>•Separate - with subscription<br>•Co-collected with food waste | •Weekly<br>•Fortnightly<br>•Three-weekly | •Weekly<br>•Fortnightly | •Weekly<br>•Fortnightly<br>•Three-weekly<br>•Four-weekly |

## Box 5.2: Explanation of the treatment/disposal technology types

Combustion (EfW): Combustion (also referred to as incineration) encompasses those processes where waste feedstock undergoes complete oxidation (combustion) in a furnace with excess oxygen, releasing heat into the gaseous exhaust and solid combustion products.

- moving grate: Moving grate refers to the action of the furnace grate, which moves the waste feedstock through the combustion area to facilitate complete combustion.
- fluidised bed: pre-treated waste is combusted within a reactor chamber containing very hot sand, which is fluidised by an air stream, thus promoting rapid heat transfer between particles.
- oscillating kiln: waste is loaded into a hopper and mechanically pushed into the top of a tapering cylinder or kiln. To pass the waste through the kiln and control the rate of combustion, the kiln oscillates from side to side, passing the waste between paddles set into the internal walls of the kiln.

Advanced Thermal Treatment (ATT): Advanced Thermal Treatment (ATT) is an umbrella term applied to a wide range of technologies, all of which involve the conversion of waste into a combination of gas, liquid and solid products which can be upgraded and used for various purposes.

- plasma gasification: Gasification is the thermal breakdown/partial oxidation of waste under a controlled oxygen atmosphere, producing syngas, which primarily consists of carbon monoxide (CO) and hydrogen ($H_2$) (the oxygen content is lower than necessary for full combustion). Some gasification processes (including plasma assisted processes) operate at very high temperatures to melt the ash and other residues, with potential to use in construction.
- pyrolysis: Pyrolysis is the thermal breakdown of waste in the absence of oxygen. Waste is heated to high temperatures (>400°C) without the addition of oxygen.

Clean material recovery facility (MRF): MRFs use a combination of sorting equipment including screens, separators and conveyors to sort dry recyclable material streams into their constituent material categories. After sorting at a MRF, the separate recyclate streams are typically sent to reprocessors, where further processing or refining may be carried out in order to achieve the quality specifications required for the materials to be utilised as an alternative to raw materials.

- single stream: capable of sorting a completely mixed stream of co-mingled dry recyclate feedstock into its constituent material categories (e.g., sorting mixed dry recyclate into paper, card, plastics, metals, glass).
- two stream: capable of sorting a partially mixed stream of dry recyclate feedstock, that has been partially segregated at source (e.g., sorting mixed plastics, cans and glass into separated plastics, cans and glass).
- multi-stream: capable of sorting a material that has been mostly segregated at source (e.g., sorting mixed paper and card into separated paper and card).

Material reprocessing: Facilities that accept sorted or fully segregated dry recyclate and undertake the refinement required to prepare the materials for recycling facilities to use. For example, this could involve taking a sorted 'plastic bottles' stream from a MRF and conducting the washing, removal of labels, separation of lids from bottles, shredding and pelletising. These reprocessing facilities are commonly the "front-end" process at recycling facilities.

Dirty material recovery facility (Dirty MRF): Dirty MRF is a term used for the processing of residual municipal solid waste (MSW) or other non-dry mixed recycling (DMR) streams through a mechanical sorting process. Dirty MRFs are often used in combination with biological treatment processes. The output of useable recyclate from such facilities is lower than other methodologies due to the cross-contamination of the materials during the collection and transport processes.

Mechanical biological treatment (MBT): Mechanical biological treatment is a combination of sorting and processing technologies in one facility used to recover recyclate from and subsequently process mixed residual waste. Within the facility, there are mechanical sorting processes (similar to a dirty MRF) to extract dry recyclate, followed by biological processes to treat the remaining waste, which typically has a high proportion of organic components. This type of facility is collectively known as MBT. Biological processes include:

- Autoclave: high pressure rotating vessels which effectively "cook" the waste at high pressure and temperature
- Enzyme reactor: involves loading the organic material into a large rotating drum and adding water and an enzyme mixture which partially breaks down the organic fraction, allowing it to be separated from the other materials and accelerating the AD process

Aerobic Composting: Composting is the biological treatment of waste by aerobic microorganisms in the presence of air.

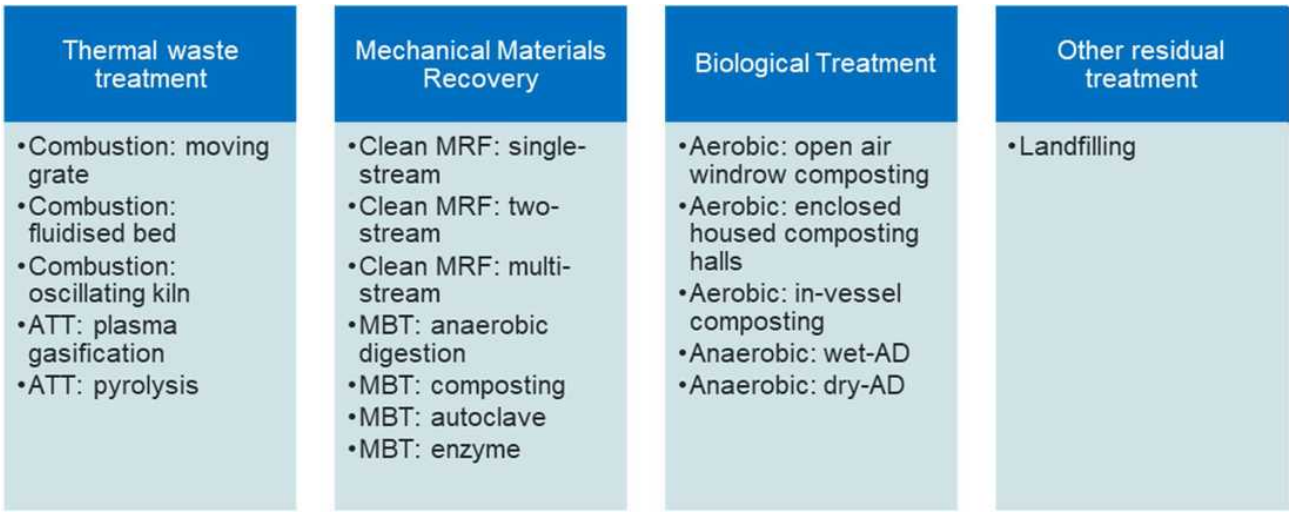
- open air windrow composting: a simple open-air process undertaken outside on concrete pads
- enclosed housed composting halls: composting undertaken within a building
- in-vessel composting: composting undertaken within a vessel

Anaerobic digestion (AD): a biological process through which organic material is decomposed without the presence of oxygen by micro-organisms and within an enclosed system to generate biogas

- wet-AD: with the waste as a liquid slurry of relatively low dry matter content
- dry-AD: with the waste in a solid form with a relatively high dry matter content

Landfilling: disposing of waste in an excavated pit (landfill)

Figure 5.2: Long-list technology scenarios*




**Please note combustion is also referred to as Energy from Waste/EfW in these explanatory boxes.*

The evaluation criteria of the long-list scenarios were divided into four themes; technical and deliverability; cost; environmental; and sustainability.

Outcomes from the stakeholder workshop identified that the environmental impact (first) and deliverability risk (second) were the most important criteria when assessing the proposed collection and treatment scenarios.

As a result of the long-list scoring, the six scenarios in Table 5.1 were proposed as the short-listed scenarios to be assessed. The individual scenarios comprise of a collection stream and a treatment stream with each focussing on four waste elements; Dry recycling; Food waste; Garden waste; and Residual waste.

Table 5.1: Short-listed scenarios

| Scenarios | | Dry recycling | Food waste | Garden waste | Residual waste |
|---|---|---|---|---|---|
| Scenario 1 | Collection | Comingled, fortnightly | Separate, weekly | Separate, fortnightly (no subscription) | Fortnightly |
| | Treatment | MRF | Wet AD | Open Air Windrow (OAW) composting | EFW - Moving Grate |
| Scenario 2 | Collection | Comingled, fortnightly | Separate, weekly | Separate, fortnightly (no subscription) | Three-weekly |
| | Treatment | MRF | Wet AD | OAW composting | EFW - Moving Grate |
| Scenario 3 | Collection | Multistream, fortnightly | Separate, weekly | Separate, fortnightly (no subscription) | Fortnightly |
| | Treatment | Direct to Reprocessor | Wet AD | OAW composting | EFW - Moving Grate |

| | | | | | |
|---|---|---|---|---|---|
| Scenario 4 | Collection | Multistream, fortnightly | Separate, weekly | Separate, fortnightly (no subscription) | Three-weekly |
| | Treatment | Direct to Reprocessor | Wet AD | OAW composting | EFW - Moving Grate |
| Scenario 5 | Collection | Multistream, weekly | Separate, weekly | Separate, fortnightly (no subscription) | Fortnightly |
| | Treatment | Direct to Reprocessor | Wet AD | OAW composting | EFW - Moving Grate |
| Scenario 6 | Collection | Multistream, weekly | Separate, weekly | Separate, fortnightly (no subscription) | Three-weekly |
| | Treatment | Direct to Reprocessor | Wet AD | OAW composting | EFW - Moving Grate |

Environmental factors were considered and modelled in the determination of the short-list scenarios using a Waste and Resources Assessment Tool (WRATE). The WRATE model was chosen due to the ability to assess a variety of environmental criteria including, each with separate weightings:

- Quantitative assessment of Greenhouse Gas (GHG) emissions ($CO_{2eq}$)
- Evaluation of local and wider transport impacts – distance travelled (collections & haulage)
- Acid rain potential
- Potential water pollution
- Human toxicity
- Resources depletion

In addition to the above factors modelled within WRATE, the following environmental factors were included in the scenarios modelling:

- Waste reduction (quantitative assessment of kg/hh/yr)
- Quantitative assessment of recycling rate (Local Authority collected waste)

The results of the scenarios modelling were put into a scenarios appraisal model, together with agreed qualitative environmental and sustainability factors, to determine the BPES.

Sustainability issues and agreed qualitative environmental issues were also considered within the scenarios appraisal under separate criteria which are detailed below:

- Quantitative assessment of jobs created or sustained
- Evaluation of local energy creation and potential for useable heat
- Litter (Potential for)
- Noise (Potential for)
- Odour (Potential for)

In addition to the Environmental and Sustainability themes, Cost and Technical & Deliverability were the other themes used within the scenarios appraisal. The four themes were weighted based on the Vision workshops attended by ECC Members and Officers as outlined below in Table 5.2.

Table 5.2: Theme weightings

| Theme | Weighting |
|---|---|
| Sustainability | 9.2% |
| Environmental | 27.1% |
| Cost | 41.7% |
| Technical and Deliverability | 22% |

### 5.2.1 Sensitivities

In addition to the six scenarios, four sensitivities were also included as part of the Scenarios Appraisal and modelling. Assessment of the highest scoring scenario has incorporated the modelling of the additional scenarios known as chosen sensitivities / types of treatment.

The 4 sensitivities are:

- Sensitivity 1: Addition of front-end recycling to the EfW facility for household residual waste
- Sensitivity 2: Addition of combined heat and power (CHP) at the EfW facility
- Sensitivity 3: Addition of carbon capture utilisation and storage technology (CCUS) at the EfW facility
- Sensitivity 4: Introduction of householder charges for garden waste collections

The results of this assessment are discussed in section 5.3.

### 5.2.2 Current Baseline of Collection and Treatment across the County of Essex.

The current baseline collection and treatment across the County of Essex are shown in Table 5.3.

Table 5.3: Current Baseline Collection and Treatment in Essex

| Method | Collection in number of district, city and borough councils | Treatment |
|---|---|---|
| Dry Recycling | **Frequency**: 11/12 councils have fortnightly collections, 1/12 have weekly collections<br>**Service**: varies from 4/12 councils having comingled (single, mixed stream); 5/12 with two-stream (two separate streams) and 3/12 councils with multi-stream (multiple separate streams) | Comingled/mixed streams: MRF<br>Separate/clean streams: secondary processing (material-specific processor) |
| Food Waste | **Frequency**: all councils have weekly collections<br>**Service**: 9/12 = separate collections, 3/12 = mixed with garden waste | Separate food: undergoes Wet AD<br>Mixed food/garden: undergoes composting |
| Garden Waste | **Frequency**: all have fortnightly collections<br>**Service**: 9/12 provide a separate service, 3/12 provide a service mixed with food. 6/12 councils provide a subscription service, the other 6 provide a free service (i.e., no subscription charge). | Separate garden: composting<br>Mixed food/garden: composting |
| Residual Waste | **Frequency**: 10/12 councils have fortnightly, 2/12 weekly<br>**Service**: n/a | Mix of landfill, MBT, EfW |

## 5.3 ASSESSMENT OF SHORTLISTED SCENARIOS

The six scenarios outlined in the Waste Strategy for Essex have been assessed in Sections 5.3.1 to 5.3.7. The SEA has utilised the information associated with each scenario and the current baseline information for collection and treatment in Essex (shown in Table 5.3) to assess against the eleven SEA objectives. Scores across each of the SEA topics are provided below with negative and positive scores separated out. The SEA topics to which the narrative pertains (and associated objectives where there are more than one per topic), are shown in **bold font**.

The cumulative effects (including, where relevant, secondary and synergistic effects) of each of the scenarios on the SEA objectives have been identified and described. In the case of the Waste Strategy, the potential changes to the different waste streams within each proposed scenario may lead to cumulative effects. Interactions between elements of each scenario have been considered here and also where the highest scoring scenario is assessed with each of the sensitivities in turn in Section 5.5.

For all elements of waste processing (EFW, MRF, AD, OAW) it has been assumed that capacity at existing facilities will be utilised. This assumption has been based on a thorough analysis of capacity at a range of appropriate facilities within a practical geographical range.

Where effects have been identified, in some instances mitigation is discussed in sections below, but is more wholly covered in Section 5.7.

### 5.3.1 Scenario 1

Scenario 1 assumes all district, city and borough councils moving to the following collection and treatment regimes summarised in Table 5.4 with assessment scores shown in Table 5.5. Associated supporting text is provided below. Scenario 1 proposes the following:

**Dry Recycling:** Transitioning to a comingled collection system for dry recycling. All councils would adopt a consistent fortnightly collection schedule, and the collected recyclables would undergo processing at a MRF for advanced sorting.

**Food Waste:** A separate collection system for food waste. All councils would implement a weekly collection schedule for food waste, which would then undergo Wet AD treatment.

**Garden Waste:** The proposed change introduces separate collections and composting methods. Councils would transition to fortnightly, separate and free garden waste collections, processed through OAW Composting.

**Residual Waste:** The proposed change for residual waste involves adopting EFW treatment alongside a modified fortnightly collection schedule. Residual waste would be directed to an EFW facility for combustion and electricity generation.

Table 5.4: Scenario 1 Collection and Treatment

| **Collection** | | **Treatment** | |
|---|---|---|---|
| Dry Recycling | Comingled, fortnightly | Dry Recycling | MRF |
| Food Waste | Separate, weekly | Food Waste | Wet AD |
| Garden Waste | Separate, fortnightly (no subscription) | Garden Waste | Open Air Windrow (OAW) Composting |
| Residual Waste | Fortnightly | Residual Waste | EFW - Moving Grate |

Table 5.5: Scenario 1 Assessment Scoring

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| - | -? | - | -? | 0 | 0 | -? | -? | -? | 0 | 0 |
| ++ | ? | + | ? | + | 0 | + | ++ | ++ | 0 | 0 |

**In terms of Material Assets and Waste Management,** the quality of recyclate is lower with comingled collections, compared with multistream collections. Comingling material tends to result in more contamination and therefore lower quality recyclate. Sending all comingled recyclables to a MRF simplifies the collection infrastructure. However, relative to the sorting of segregated material streams, the sorting of mixed recyclables may result in less effective sorting of high-quality materials due to the mixed nature of the stream. This could affect the overall value and usefulness of the recycled materials. Lower quality recyclate means lower value materials and consequent movement away from a circular economy. This is predicted to have a minor negative effect.

However, based on evidence compiled by WRAP, comingled recycling typically results in higher recycling yields and thus higher recycling rates compared to multistream, as it makes the act of recycling easier for the householder and therefore more people are likely to make it a habit. Fortnightly residual waste collections are shown to reduce quantities of residual waste when compared to weekly collections, as there is an effective reduction in the capacity (e.g. moving from a 240 litre bin collected per week to a 240 litre bin collected per fortnight equating to a reduction of 50%). This has also been shown to improve recycling participation and performance, because residents are nudged towards using their recycling containers more. 11 councils already have fortnightly collections so adding one more district council area could be considered to be a relatively minor change.

As the SEA assessment process have progressed, individual councils have started to change collection methods and frequencies, and therefore the SEA presents a snapshot in time of the baseline versus the scenarios, of what is an evolving situation in waste management. For example, at time of writing the remaining council is now progressing consideration of fortnightly collections.

There is an assumed change in the Strategy for residual waste treatment i.e. that it would go from a mix of landfill, MBT and EfW, to just EfW. While specific EfW sites are not proposed, this change does signal a positive move up the waste hierarchy, i.e. reducing waste to landfill and sending it for energy recovery instead. Moving from mixed food and garden waste to separate food is shown to increase capture of food waste and therefore resulting in a higher recycling rate. This is predicted to be a moderate positive effect on **Material Assets and Waste Management.**

Considering **Biodiversity, Flora, and Fauna**, it's important to clarify that this Strategy is not spatial nor does it introduce new or modifications to existing infrastructure. Changes in collection routes and frequencies, such as increasing garden waste collections from subscription-based to a free service; potentially increasing uptake and therefore necessitating more vehicles or reducing residual waste collections from weekly to fortnightly (likely decreasing vehicle numbers), could affect biodiversity, for example via vehicle emissions near protected areas. The specific volumes of waste collection vehicles and their routes in relation to designated protected areas is unknown and therefore this scenario has been assessed as having a minor negative uncertain effect and uncertain positive effect on this objective.

With regard to **Population and Human Health,** comingled recycling is shown to increase recycling yields and thus increase recycling rates compared to multistream. Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. Whilst reduced collection frequency could lead to slightly larger volumes of waste and recyclables being stored between collections; this has the potential to have negative effects from accumulating waste, such as odour. However, this is mitigated by the weekly collection of food waste (the most odorous element of household waste). WRATE modelling shows

that the diversion of waste from 'residual' to 'recycling' is estimated to have a positive impact on human health through a reduction of the negative toxicity effects from landfilling/incinerating waste. This scenario has therefore been assessed as having minor negative and minor positive effects on **Population and Human Health objective 3.1**.

In terms of **minimising disturbance to local communities** (**Population and Human Health Objective 3.2**), this is not a spatial Strategy and it does not include specific changes to infrastructure or sites. There is an assumed change in the Strategy for residual waste treatment; that it would go from a mix of landfill, MBT and EfW, to just EfW. As use of specific EfW sites and introduction of new infrastructure are not proposed as part of this Strategy, it is unlikely that this change would result in a net change to disturbance levels.

Changes to collection routes and frequencies such as increased garden waste collections when changed from a subscription-based to a free service (due to increased resident uptake) or decreased residual waste collections from weekly to fortnightly may have both positive and negative impacts on levels of disturbance but this depends on individual locations, timing of collections and volume of vehicles required, which are all uncertain. This scenario has been assessed as having a minor negative uncertain effect and an uncertain positive effect on **Population and Human Health objective 3.2**.

While specific EfW sites are not proposed, it is unlikely that this change would result in a net effect to **soil, geology and land-use** or **water** quality.

Comingled recycling is shown to increase recycling yields and thus rates compared to multistream recycling. Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is estimated to have an indirect positive effect on **population and human health** through a reduction of the eutrophication effects from landfilling/incinerating waste, therefore, this is predicted to be a minor positive effect on the **water** objective.

In terms of minimising emissions of pollutant gases, particulates and enhancing air quality; minimising greenhouse gas emissions; and embodied carbon and adapting to climate change and improving resilience **(air and climate objectives 6.1, 6.2 and 6.3)** there would be more collection vehicles compared with the baseline, resulting in higher transport-related emissions.

With the overall assumed change in the Strategy for residual waste treatment from a mix of landfill, MBT and EfW to just EfW, while landfill can still release emissions to air, they are usually capped and the landfill gas can be captured and used for combustion. The gases released from EfW are different (i.e. more NOx, SOx, metals...), so sending more waste to EfW would reduce emissions associated with landfill, but increase emissions associated with EfW. EfW releases GHG emissions from materials that would have been "locked up" in landfill (biogenic/non-fossil based such as organic material from landfill versus non-biogenic/fossil based carbon such as plastic and synthetic materials from EfW). Since the strategy aims to reduce material going for disposal, the effect is predicted to be minor negative uncertain across the three **air and climate** objectives reflecting the unknown volume of associated vehicular activity and volumes of gases released by the different treatment methods.

Comingled recycling is shown to increase recycling yields and thus rates compared to multistream recycling. Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. These changes mean increased recycling, which results in a replacement of greater quantities of virgin materials, leading to reduced greenhouse gas emissions from extraction and manufacturing processes. In addition, there would be benefits of minimising carbon emissions from using wet AD compared with in-vessel composting. Moderate positive effects are therefore predicted across **air and climate objectives 6.2 and 6.3** and a minor positive effect in terms of reduced pollutant gas emissions from extraction and manufacturing processes (**air and climate objective 6.1),** as demonstrated in the WRATE modelling undertaken**.**

This is not a spatial Strategy and no new infrastructure or facilities are proposed as part of this Strategy therefore effects on **archaeology and cultural heritage** and **landscape and visual amenity** are not anticipated. However, there is an assumed change in the Strategy for residual waste treatment i.e. that it would go from a mix of landfill, MBT and EfW, to just EfW. At present specific EfW sites are not proposed, but this change assumes that landfill and MBT sites will be removed/abandoned (which would potentially have a positive impact on **archaeology and cultural heritage** as well as **landscape and visual amenity**), and potentially replaced with use of EfW which could be potentially have associated negative impacts on sites and

their settings). As well as the other SEA topics, **archaeology and cultural heritage** and **landscape and visual** will need to be revisited during the procurement process when further detail is known about location of any new or existing sites to be used for infrastructure.

### 5.3.2 Scenario 2

Scenario 2 assumes all district, city and borough councils moving to the following collection and treatment regimes shown in Table 5.6 with assessment scores in Table 5.7 with associated supporting text provided below.

Scenario 2 presents the same alterations in collection methods and frequency as those seen in Scenario 1, apart from one distinct difference. In Scenario 2, the collection frequency for residual waste would occur every three weeks instead of the fortnightly collection in Scenario 1. This change is in contrast to the baseline, where 10 out of 12 councils have a fortnightly residual waste collection, and the remaining 2 councils have a weekly collection frequency.

Table 5.6: Scenario 2 Collection and Treatment

| **Collection** | | **Treatment** | |
|---|---|---|---|
| Dry Recycling | Comingled, fortnightly | Dry Recycling | MRF |
| Food Waste | Separate, weekly | Food Waste | Wet AD |
| Garden Waste | Separate, fortnightly (no subscription) | Garden Waste | Open Air Windrow (OAW) Composting |
| Residual Waste | Three-weekly | Residual Waste | EFW - Moving Grate |

Table 5.7: Scenario 2 Assessment Scoring

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| - | -? | -- | -? | 0 | 0 | -? | -? | -? | 0 | -- |
| ++ | ? | ++ | ? | ++ | 0 | ++ | ++ | ++ | 0 | 0 |

The assessment of Scenario 2 is considered to be largely the same as Scenario 1 except for the following variations resulting from the three-weekly collections as elaborated below.

In terms of **material assets and waste management** three weekly residual waste collections are shown to reduce tonnages of residual waste when compared to fortnightly and weekly collections again due to the reduced capacity available to residents).

As mentioned previously, the Strategy does not involve new sites or potential modifications or additional use of existing infrastructure/sites. However, alterations in collection routes and frequencies, such as the shift from subscription-based to free service for garden waste collections or the reduction of residual waste collections from weekly or fortnightly to every three weeks, could potentially influence vehicle emissions near protected areas (**biodiversity, flora, and fauna**) and sensitive receptors such as schools and residential areas (**population and human health**). Given the absence of specific information about route changes and their proximity to designated sites and sensitive receptors, as per scenario 1 the predicted effects remain uncertain for **biodiversity, flora and fauna** and **population and human health (objective 3.2).**

When compared to weekly and fortnightly collections, three weekly residual waste collections are shown to reduce tonnages of residual waste and to encourage increased recycling. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is estimated to have a positive impact on human health through a reduction of the negative toxicity effects from landfilling/incinerating waste. Since all councils in the county would potentially move to three-weekly collections under this scenario, it is assessed as having a moderate positive effect on **population and human health objective 3.1.**

There is a commonly assumed, but not evidence-led, risk of public and political perceptions of increased odour and vermin, such as rodents and seagulls if a three-weekly collection is employed for residual waste which would mean effectively a longer storage period for waste, potential overflow as currently recorded in fortnightly collections[8] and is assessed as having a moderate negative effect with a risk of major/significant effect on **population and human health objective 3.1** and on local **landscape and visual amenity** if not supported by an appropriate collection methodology and if appropriate mitigation measures are not implemented. Transitioning to a three-weekly waste collection frequency could potentially lead to increased litter and overflowing bins, affecting the landscape and visual amenity of neighbourhoods. As waste accumulates over a longer period between collections, households might face challenges in managing the volume of waste within their bins, especially if bin capacities are not aligned with the extended collection cycle. The longer storage duration may result in bins filling up faster, causing some residents to resort to alternative waste disposal methods, such as placing waste beside or around bins. This can contribute to a scattered and untidy appearance, impacting the overall aesthetics of streets and public spaces. Additionally, the presence of overflowing bins can attract scavenging animals and pests, exacerbating litter issues and negatively influencing the perception of cleanliness and orderliness.

This effect could be largely mitigated by providing guidance on segregating waste to ensure that the maximum recyclate is being generated and that items are correctly disposed of and stored. In particular, participation in the weekly food waste collection service would minimise odour issues. A mechanism of reporting overflowing bins could be introduced. Also, appropriately sized containers with barriers to odour and vermin could be supplied.

With three weekly residual waste collections leading to reduction in tonnages of residual waste when compared to weekly and fortnightly collections, the diversion of waste from 'residual' to 'recycling' would be greater than for fortnightly and weekly collections. As a result of the increased waste diversion, the anticipated positive impact is expected to be more significant. Specifically, it is predicted to have a moderate positive effect on **water** quality by reducing the eutrophication effects linked to the practices of landfilling and incinerating waste.

Three weekly residual waste collections are shown to further reduce tonnages of residual waste when compared to weekly and fortnightly collections. The associated increased recycling across the county would mean a replacement of greater quantities of virgin materials, leading to reduced pollutant gas emissions from extraction and manufacturing processes. This is assessed as having a moderate positive effect on minimising pollutant gas emissions (**air and climate objective 6.1**).

### 5.3.3 Scenario 3

Scenario 3 assumes all district, city and borough councils moving to the following collection and treatment regimes shown in Table 5.8 with assessment scores in Table 5.9 with associated supporting text provided below.

Scenario 3 proposes the following:

**Dry Recycling:** Moving to a multistream collection system for dry recycling. All councils would adopt a fortnightly collection schedule, and the collected recyclables would be taken directly to a reprocessor(s). This differs from scenarios 1 and 2. As previously noted, it has been assumed that capacity at existing reprocessing facilities will be utilised. This assumption has been based on a thorough analysis of capacity at a range of appropriate facilities within a practical geographical range.

**Food Waste:** A separate collection system for food waste. All councils would implement a weekly collection schedule for food waste, which would then undergo Wet AD treatment. This would be the same as scenarios 1 and 2.

[8] Essex County Council and Savanta (2023): Resident attitudes towards waste and recycling.

**Garden Waste:** The proposed change introduces separate collections and composting methods. Councils would transition to fortnightly separate garden waste collections, processed through OAW Composting. This would be the same as scenarios 1 and 2.

**Residual Waste:** The proposed change for residual waste involves adopting EFW treatment alongside a modified fortnightly collection schedule. Residual waste would be directed to an EFW facility for combustion and electricity generation. This is the same as Scenario 1.

Table 5.8: Scenario 3 Collection and Treatment

| Collection | | Treatment | |
|---|---|---|---|
| Dry Recycling | Multistream, fortnightly | Dry Recycling | Direct to Reprocessor |
| Food Waste | Separate, weekly | Food Waste | Wet AD |
| Garden Waste | Separate, fortnightly (no subscription) | Garden Waste | Open Air Windrow (OAW) Composting |
| Residual Waste | Fortnightly | Residual Waste | EFW - Moving Grate |

Table 5.9: Scenario 3 Assessment Scoring

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| - | -? | - | -? | 0 | 0 | -? | -? | -? | 0 | 0 |
| ++ | ? | + | ? | + | 0 | + | ++ | ++ | 0 | 0 |

In terms of **material assets and waste management** multistream collections, which require residents to fully segregate their recyclate into different containers, are shown, based on evidence by WRAP, to have lower recycling yields and thus rates compared to comingled collections (due to the additional effort required by residents to segregate each dry recycling stream and present it in a separate container tending to lower participation rates) and hence this scenario is assessed as having a minor negative effect on this objective.

However, fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. Nevertheless, 11 of the 12 councils currently have a fortnightly collection, so adding one more district council could be considered a relatively minor change. While specific EfW sites are not proposed for the assumed change to EfW, this change does signal a positive move up the waste hierarchy, i.e. reducing waste to landfill and sending it for energy recovery instead. The quality of recyclate is higher with multistream collections, compared with comingled collections. Higher quality recyclate results in higher value materials and a movement towards a circular economy. Moving from mixed food and garden waste to separate food collections is also shown to increase capture of food waste and therefore resulting in a higher recycling rate. Therefore, this scenario is assessed as having a moderate positive effect on **material assets and waste management**.

Changes in collection routes and frequencies, such as increasing garden waste collections from subscription-based to a free service; potentially increasing uptake and therefore necessitating more vehicles or reducing residual waste collections from weekly to fortnightly (likely decreasing vehicle numbers), could affect vehicle emissions near protected areas. The specific volumes of waste collection vehicles and their routes in relation to designated protected areas is unknown and therefore this scenario has been assessed as having a minor negative uncertain and uncertain positive effects on **biodiversity, flora and fauna**.

Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. Whilst reduced collection frequency could lead to slightly larger volumes of waste and recyclables being stored between collections; this has the potential to have negative effects from accumulating waste, such as odour; however, participation in the weekly food waste collection service would minimise odour issues. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is estimated to have a positive impact on human health through a reduction of the negative toxicity effects from landfilling/incinerating waste. This scenario is therefore assessed as having a minor negative and minor positive effects on **population and human health objective 3.1**.

In terms of **minimising disturbance to local communities** (**population and human health objective 3.2**), with the assumed change to EfW; while specific EfW sites are not proposed, it is unlikely that this change would result in a net change to disturbance levels. Changes to collection routes and frequencies such as increased garden waste collections when changed from a subscription-based to a free service or decreased residual waste collections from weekly to fortnightly could have both positive and negative impacts on levels of disturbance but this depends on individual locations, timing of collections and volume of vehicles required, which are all uncertain. This scenario has been assessed as having a minor negative uncertain effect and an uncertain positive effect on **population and human health objective 3.2**. Due consideration should be given to local residents in terms of collection times (to prevent disturbance) and types of vehicle used.

This is not a spatial strategy and it does not include possible infrastructure/site changes. While specific EfW sites are not proposed, it is unlikely that this change would result in a net impact to **soil, geology and land-use** or to **water** quality.

Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is estimated to have a positive impact on human health through a reduction of the eutrophication effects from landfilling/incinerating waste. This scenario is therefore assessed as having a minor positive effect on the **water** objective.

In terms of minimising emissions of pollutant gases, particulates and enhancing air quality; minimising greenhouse gas emissions; and embodied carbon and adapting to climate change and improving resilience **(air and climate objectives 6.1, 6.2 and 6.3** respectively) there would be more collection vehicles compared with the baseline, resulting in higher transport-related emissions. In addition, there would be benefits of minimising carbon emissions from using wet AD compared with in-vessel composting.

With the overall assumed change in the Strategy for residual waste treatment from a mix of landfill, MBT and EfW to just EfW, while landfill can still release emissions to air, they are usually capped and the landfill gas can be captured and used for combustion. The gases released from EfW are different (i.e. more NOx, SOx, metals...), so sending more waste to EfW would reduce emissions associated with landfill, but increase emissions associated with EfW. EfW also releases GHG emissions from materials that would have been "locked up" in landfill (biogenic versus non-biogenic carbon). Since the strategy aims to reduce material going for disposal the effect is predicted to be minor negative uncertain across the three **air and climate** objectives reflecting the unknown volume of associated vehicular activity and volumes of gases released by the different treatment methods.

Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. These changes mean increased recycling, which results in a replacement of greater quantities of virgin materials, leading to reduced greenhouse gas emissions from extraction and manufacturing processes. Moderate positive effects are therefore predicted across **air and climate objectives 6.2 and 6.3** and a minor positive effect in terms of reduced pollutant gas emissions from extraction and manufacturing processes (**air and climate objective 6.1)** as demonstrated in the WRATE modelling**.**

This is not a spatial strategy and no new infrastructure or facilities are proposed as part of this strategy therefore effects on **archaeology and cultural heritage** and **landscape and visual amenity** are not anticipated at this stage.

### 5.3.4 Scenario 4

Scenario 4 assumes all district, city and borough councils moving to the following collection and treatment regimes shown in Table 5.10 with assessment scores in Table 5.11 with associated supporting text provided below.

Table 5.10: Scenario 4 Collection and Treatment

| Collection | | Treatment | |
|---|---|---|---|
| Dry Recycling | Multistream, fortnightly | Dry Recycling | Direct to Reprocessor |
| Food Waste | Separate, weekly | Food Waste | Wet AD |
| Garden Waste | Separate, fortnightly (no subscription) | Garden Waste | Open Air Windrow (OAW) Composting |
| Residual Waste | Three-weekly | Residual Waste | EFW - Moving Grate |

Table 5.11: Scenario 4 Assessment Scoring

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| - | -? | -- | -? | 0 | 0 | -? | -? | -? | 0 | -- |
| ++ | ? | ++ | ? | ++ | 0 | ++ | ++ | ++ | 0 | 0 |

The assessment of Scenario 4 is considered to be largely the same as Scenario 3 except for the following variations resulting from the three-weekly collections as elaborated below.

In this scenario, all councils would be moved to three-weekly residual waste collections.

In terms of **material assets and waste management** multistream collections, which require residents to fully segregate their recyclate into different containers, are shown, based on evidence from WRAP, to have lower recycling yields and thus rates compared to comingled collections. This is due to difficulties users encounter in adhering to the precise sorting requirements of multistream collections, leading to lower levels of participation in the scheme.

However, the quality of recyclate is higher with multistream collections, compared with comingled collections. Higher quality recyclate means higher value materials which helps accelerate the movement towards a circular economy. Three-weekly residual waste collections are shown to reduce quantities of residual waste when compared to fortnightly and weekly collections. Therefore, there is a potential tension in this scenario. While the three-weekly residual waste collections might contribute to lowering residual waste, they could inadvertently compound the challenges faced by multistream recycling. The extended intervals between collections could result in increased accumulation of residual waste for residents following the multistream method, potentially straining their storage and disposal capabilities. This situation could potentially hinder recycling efforts and complicate overall waste management. This scenario is assessed as having a minor negative and moderate positive effect on **material assets and waste management**.

As mentioned previously, the Strategy does not involve new sites or potential modifications or additional use of existing infrastructure/sites. However, alterations in collection routes and frequencies, such as the shift from subscription-based to free service for garden waste collections or the reduction of residual waste collections from weekly or fortnightly to every three weeks, could potentially influence vehicle emissions near protected

areas (**biodiversity, flora, and fauna**) and sensitive receptors such as schools and residential areas (**population and human health**). Given the absence of specific information about route changes and their proximity to designated sites and sensitive receptors, as per Scenario 3 the predicted effects remain uncertain for **biodiversity, flora and fauna** and **population and human health (objective 3.2).**

Three weekly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly and fortnightly collections. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is estimated to have a positive impact on human health through a reduction of the negative toxicity effects from landfilling/incinerating waste. Since all councils in the county would potentially move to three-weekly collections under this scenario, it is assessed as having a moderate positive effect on **population and human health (objective 3.1).**

There is a commonly assumed, but not evidence-led, risk of public and political perceptions of increased odour and vermin, such as rodents and seagulls if a three-weekly collection is employed for residual waste which would mean effectively a longer storage period for waste, potential overflow as currently recorded in fortnightly collections[9] and is assessed as having a moderate negative effect with a risk of major/significant effect on **population and human health objective 3.1** and on local **landscape and visual amenity** if not supported by an appropriate collection methodology and if appropriate mitigation measures are not implemented. Transitioning to three-weekly waste collection could lead to increased litter and overflowing bins. With longer storage times, bins may fill up quickly, causing residents to resort to improper waste disposal methods. Overflowing bins and scattered waste can mar the area's appearance and attract pests as well as causing odour issues. To mitigate this, clear communication about waste management, larger bins, and community engagement are essential for maintaining visual amenity and cleanliness.

With three weekly residual waste collections leading to reduction in tonnages of residual waste when compared to weekly and fortnightly collections, the diversion of waste from 'residual' to 'recycling' would be greater than for fortnightly and weekly collections. As a result of the increased waste diversion, the anticipated positive impact is expected to be more significant. Specifically, it is predicted to have a moderate positive effect on **water** quality by reducing the eutrophication effects linked to the practices of landfilling and incinerating waste.

Three weekly residual waste collections are shown to further reduce tonnages of residual waste when compared to weekly and fortnightly collections. The associated increased recycling across the county would mean a replacement of greater quantities of virgin materials, leading to reduced pollutant gas emissions from extraction and manufacturing processes. This is assessed as having a moderate positive effect on minimising pollutant gas emissions (**air and climate objective 6.1**).

### 5.3.5 Scenario 5

Scenario 5 assumes all district, city and borough councils moving to the following collection and treatment regimes shown in Table 5.12 with assessment scores in Table 5.13 with associated supporting text provided below.

Scenario 5 proposes the following:

**Dry Recycling:** Moving to a multistream collection system for dry recycling. All councils would adopt a weekly collection schedule, and the collected recyclables would be taken directly to a reprocessor. Whilst multistream is adopted in Scenarios 3 and 4, Scenario 5 introduces a weekly collection which differs from Scenarios 1-4. As previously noted, it has been assumed that capacity at existing reprocessing facilities will be utilised. This assumption has been based on a thorough analysis of capacity at a range of appropriate facilities within a practical geographical range.

**Food Waste:** A separate collection system for food waste. All councils would implement a weekly collection schedule for food waste, which would then undergo Wet AD treatment. This would be the same as Scenarios 1-4.

**Garden Waste:** The proposed change introduces separate collections and composting methods. Councils would transition to fortnightly separate garden waste collections, processed through OAW Composting. This would be the same as Scenarios 1-4.

[9] Essex County Council and Savanta (2023): Resident attitudes towards waste and recycling.

**Residual Waste:** The proposed change for residual waste involves adopting EFW treatment alongside a modified fortnightly collection schedule. Residual waste would be directed to an EFW facility for combustion and electricity generation. This would be the same as Scenarios 1 and 3.

Table 5.12: Scenario 5 Collection and Treatment

| Collection | | Treatment | |
|---|---|---|---|
| Dry Recycling | Multistream, weekly | Dry Recycling | Direct to Reprocessor |
| Food Waste | Separate, weekly | Food Waste | Wet AD |
| Garden Waste | Separate, fortnightly (no subscription) | Garden Waste | Open Air Windrow (OAW) Composting |
| Residual Waste | Fortnightly | Residual Waste | EFW – Moving Grate |

Table 5.13: Scenario 5 Assessment Scoring

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| - | --? | 0 | --? | 0 | 0 | -- | - | - | 0 | 0 |
| ++ | 0 | + | ? | + | 0 | + | ++ | ++ | 0 | 0 |

Multistream collections are shown to have lower recycling yields and thus lower recycling rates compared to comingled collections due to the relative difficulty of taking part in the scheme and the limited space available for the multiple material streams. However, with weekly multi-stream collections this effect is somewhat mitigated as weekly collections provide users with more space for recycling materials (on an average weekly basis), also recyclables may be less likely to accumulate and become mixed with other waste streams, which helps to maintain quality and value. This regular engagement can lead to a more consistent and accurate practice of sorting materials correctly. This scenario is assessed as having a minor negative effect on **material assets and waste management**.

Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. There is an assumed change in the Strategy for residual waste treatment; that it would go from a mix of landfill, MBT and EfW, to just EfW. While specific EfW sites are not proposed, this change does signal a positive move up the waste hierarchy, i.e. reducing waste to landfill and sending it for energy recovery instead. The quality of recyclate is higher with multistream collections, compared with comingled collections. Higher quality recyclate means higher value materials which would be a movement towards a circular economy. Moving from mixed food and garden waste to separate food collections is also shown to increase capture of food waste and therefore resulting in a higher recycling rate. Therefore, a moderate positive effect is considered on **material assets and waste management**.

Changes to collection routes and frequencies such as increased garden waste collections when changed from a subscription-based to a free service or decreased residual waste collections from weekly to fortnightly may have both positive and negative impacts on vehicle emissions levels near protected areas (**biodiversity, flora and fauna**). Due to the potential for 11/12 councils moving to weekly collections of dry recycling this is considered to be a moderate negative uncertain effect on **biodiversity, flora and fauna** as the volume of vehicles and the proximity to sensitive receptors is unknown. Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is estimated to have a positive impact on human health through

a reduction of the negative toxicity effects from landfilling/incinerating waste. Therefore, a minor positive effect is anticipated on **population and human health objective 3.1.**

For the assumed change for residual waste treatment to only EfW, while specific EfW sites are not proposed, it is unlikely that this change would result in a net change to disturbance levels on **population and human health objective 3.2.**

Changes to collection routes and frequencies may have both positive and negative impacts on levels of disturbance. Weekly dry recycling collections are likely to cause increased disturbance. However, volumes of vehicles and routes in relation to sensitive receptors are not known. Therefore, this is assessed as a moderate negative uncertain effect on **population and human health objective 3.2**. While specific EfW sites are not proposed, it is unlikely that the assumed change to treatment method would result in a net change to **soil, geology and land-use** or **water** quality.

Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is anticipated to have a minor positive effect on **human health** through a reduction of the eutrophication effects from landfilling/incinerating waste (**water**).

For Scenario 5 more collection vehicles are predicted compared with the baseline and Scenarios 1-4, resulting in higher transport-related emissions. Again, with the assumed change to residual waste treatment, while landfill can still release emissions to air, they are usually capped and the landfill gas can be captured and used for combustion. The gases released from EfW are different (i.e. more NOx, SOx, metals...), so sending more waste to EfW would reduce emissions associated with landfill, but increase emissions associated with EfW. A moderate negative effect is therefore anticipated for **air and climate objective 6.1.**

Fortnightly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly collections. These changes mean increased recycling, which tends to mean a replacement of greater quantities of virgin materials, leading to reduced pollutant gas emissions from extraction and manufacturing processes. Therefore, a minor positive effect is expected for **air and climate objective 6.1.**

For minimising greenhouse gas emissions and adapting to climate change and improving resilience, (**air and climate objectives 6.1 and 6.2**), an increased number of collection vehicles in comparison to the baseline and Scenarios 1-4 has a direct correlation with heightened transport-related emissions. This adjustment is coupled with an envisioned shift in the residual waste treatment approach to solely EfW. EfW releases GHG emissions from materials that would have been "locked up" in landfill (biogenic versus non-biogenic carbon). Since the strategy aims to reduce material going for disposal, consequently, a minor negative score is foreseen for both **air and climate objectives 6.2 and 6.3**.

The associated reduction in residual waste generation when considering the impact of fortnightly residual waste collections as opposed to weekly collections, leads to an increase in recycling rates, reducing the need for virgin materials and consequent decrease in greenhouse gas emissions linked to the extraction and manufacturing processes. In addition, there would be benefits of minimising carbon emissions from using wet AD compared with in-vessel composting. As a result, a moderate positive effect is projected for both **air and climate objectives 6.2 and 6.3**.

This is not a spatial Strategy and no new infrastructure or facilities are proposed as part of this Strategy, therefore, effects on **archaeology and cultural heritage** and **landscape and visual amenity** are not anticipated at this stage.

### 5.3.6 Scenario 6

Scenario 6 assumes all district, city and borough councils moving to the following collection and treatment regimes shown in Table 5.14 with assessment scores in Table 5.15 with associated supporting text provided below.

Table 5.14: Scenario 6 Collection and Treatment

| Collection | | Treatment | |
|---|---|---|---|
| Dry Recycling | Multistream, weekly | Dry Recycling | Direct to Reprocessor |
| Food Waste | Separate, weekly | Food Waste | Wet AD |
| Garden Waste | Separate, fortnightly (no subscription) | Garden Waste | Open Air Windrow (OAW) Composting |
| Residual Waste | Three-weekly | Residual Waste | EFW - Moving Grate |

Table 5.15: Scenario 6 Assessment Scoring

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| - | --? | -- | --? | 0 | 0 | -- | - | - | 0 | -- |
| ++ | 0 | ++ | ? | ++ | 0 | ++ | ++ | ++ | 0 | 0 |

The assessment of Scenario 6 is considered to be comparable to Scenario 5 except for the following variations resulting from the three-weekly collections as elaborated below.

In this scenario, all councils would be moved to three-weekly residual waste collections.

In terms of **material assets and waste management,** multistream collections, which require residents to fully segregate their recyclate into different containers, based on evidence compiled by WRAP, are shown to have lower recycling yields and thus rates compared to comingled collections. This is due to difficulties users encounter in adhering to the precise sorting requirements of multistream collections, potentially leading to contamination and reduced recycling efficiency.

However, the quality of recyclate is higher with multistream collections, compared with comingled collections. Higher quality recyclate means higher value materials which equals movement towards circular economy. Three weekly residual waste collections are shown to reduce tonnages of residual waste when compared to fortnightly and weekly collections. Therefore, there is a potential tension in this scenario. While the three-weekly residual waste collections might contribute to lowering residual waste, they could inadvertently compound the challenges faced by multistream recycling. The extended intervals between collections could result in increased accumulation of residual waste for residents following the multistream method, potentially straining their storage and disposal capabilities. This situation could potentially hinder recycling efforts and complicate overall waste management. This scenario is assessed as having a minor negative and moderate positive effect on **material assets and waste management**.

As mentioned previously, the Strategy does not involve new sites or potential modifications or additional use of existing infrastructure/sites. However, alterations in collection routes and frequencies, such as weekly dry recycling collections, the shift from subscription-based to free service for garden waste collections or the reduction of residual waste collections from weekly or fortnightly to every three weeks, could potentially

influence vehicle emissions near protected areas (**biodiversity, flora, and fauna**) and sensitive receptors such as schools and residential areas (**population and human health**). Given the absence of specific information about route changes and their proximity to designated sites and sensitive receptors, as per Scenario 5 the predicted effects remain uncertain for **biodiversity, flora and fauna** and **population and human health (objective 3.2).**

Three weekly residual waste collections are shown to reduce tonnages of residual waste when compared to weekly and fortnightly collections. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is estimated to have a positive impact on human health through a reduction of the negative toxicity effects from landfilling/incinerating waste. Since all councils in the county would potentially move to three-weekly collections under this scenario, it is assessed as having a moderate positive effect on **population and human health (objective 3.1).**

There is a commonly assumed, but not evidence-led, risk of public and political perceptions of increased odour and vermin, such as rodents and seagulls if a three-weekly collection is employed for residual waste which would mean effectively a longer storage period for waste, potential overflow as currently recorded in fortnightly collections[10] and is assessed as having a moderate negative effect with a risk of major/significant effect on **population and human health objective 3.1** and on local **landscape and visual amenity** if not supported by an appropriate collection methodology and if appropriate mitigation measures are not implemented. Transitioning to three-weekly waste collection could lead to increased litter and overflowing bins. With longer storage times, bins may fill up quickly, causing residents to resort to improper waste disposal methods. Overflowing bins and scattered waste can mar the area's appearance and attract pests as well as causing odour issues. To mitigate this, clear communication about waste management, larger bins, and community engagement are essential for maintaining visual amenity and cleanliness.

With three weekly residual waste collections leading to reduction in tonnages of residual waste when compared to weekly and fortnightly collections, the diversion of waste from 'residual' to 'recycling' would be greater than for fortnightly and weekly collections. As a result of the increased waste diversion, the anticipated positive impact is expected to be more significant. Specifically, it is predicted to have a moderate positive effect on **water** quality by reducing the eutrophication effects linked to the practices of landfilling and incinerating waste.

For Scenarios 5 and 6 more collection vehicles are predicted compared with the baseline and Scenarios 1-4, resulting in higher transport-related emissions. Three weekly residual waste collections are shown to further reduce tonnages of residual waste when compared to weekly and fortnightly collections. The associated increased recycling across the county, would mean a replacement of greater quantities of virgin materials, leading to reduced pollutant gas emissions from extraction and manufacturing processes. This is assessed as having a moderate positive effect on minimising pollutant gas emissions (**air and climate objective 6.1**).

### 5.3.7 Assumed use of EFW

This Strategy is distinct from a spatial plan, and it does not propose new infrastructure or facilities as part of its implementation. As a result, it is not anticipated to have likely significant effects on some SEA topics.

However, there is an assumption envisioned in the approach to residual waste treatment. This means a transition from a mix of landfill, MBT, and EfW to an exclusive reliance on EfW. While specific EfW sites are not currently outlined, this change assumes the removal, abandonment or phasing out of landfill and MBT sites. This potential change might have positive impacts across SEA topics and associated objectives including archaeology, cultural heritage, and landscape and visual. Nonetheless, the introduction of EfW facilities could also introduce negative effects across several SEA topics. The effects of this transition remain uncertain until further details emerge regarding the locations of new or existing sites designated for infrastructure. As previously noted, it has been assumed for the purposes of this SEA that capacity at existing reprocessing facilities will be utilised.

It is important to note that potential land use changes arising from future actions, such as implementing the outcomes of procurement exercises and pinpointing site-specific EfW locations, will necessitate individual project evaluations under the relevant statutory frameworks, including EIA. This evaluation process will ensure the identification of any potential significant environmental effects and the consideration of opportunities to prevent, minimise, or offset these effects. Moreover, a comprehensive public consultation will be required to gather input and insights from stakeholders. As such, the potential impacts and necessary assessments for

[10] Essex County Council and Savanta (2023): Resident attitudes towards waste and recycling.

various aspects of this Strategy will be examined in detail at appropriate stages in accordance with UK legislation.

## 5.4 SENSITIVITIES

Through the scenarios appraisal carried out as part of the systems modelling, it was determined that when applying the selected weighted evaluation criteria Scenario 2 was identified as the BPES which was carried forward for additional sensitivity modelling. Following this next phase of modelling, the sensitivities appraisal then examined the performance of the sensitivities relative to the BPES. For ease of reading, a reminder of Scenario 2 is shown in Table 5.16.

Table 5.16: Scenario 2 Collection and Treatment

| **Collection** | | **Treatment** | |
|---|---|---|---|
| Dry Recycling | Comingled, fortnightly | Dry Recycling | MRF |
| Food Waste | Separate, weekly | Food Waste | Wet AD |
| Garden Waste | Separate, fortnightly (no subscription) | Garden Waste | Open Air Windrow (OAW) Composting |
| Residual Waste | Three-weekly | Residual Waste | EFW - Moving Grate |

In agreement with the EWP, four sensitivities were modelled for Scenario 2 in order to assess the effect of introducing the following in combination with Scenario 2:

- Sensitivity 1: Addition of front-end recycling to the EfW facility for household residual waste.
- Sensitivity 2: Addition of combined heat and power (CHP) at the EfW facility.
- Sensitivity 3: Addition of carbon capture utilisation and storage technology (CCUS) at EfW facility.
- Sensitivity 4: Introduction of householder charges for garden waste collections.

Sensitivity 1 assumes the development of a materials recovery facility at the 'front end' of the EfW facility; this would allow the collected residual waste to be further sorted, with some recyclable streams able to be separated out (Plastic bottles, PTTs, glass, aluminium and steel (ferrous)). Although the modelling shows that, due to the proportion of tonnes recycled increasing and the proportion of tonnes landfilled decreasing (leading to higher recycled tonnage and thus material income), material income increases, this is outweighed by the increased gate fees due to the additional sorting cost.

Sensitivity 2 assumes that the EfW would incorporate combined heat and power (CHP) technology. In this approach, CHP is a highly efficient process that captures and utilises the heat that is a by-product of the electricity generation process. However, this approach is reliant on the heat generated during this process being supplied to an appropriately matched heat demand that would otherwise be met by a conventional boiler, which would allow heat requirements to be met that would otherwise require additional fuel to be burnt. The availability of such offtake requirements differs for each EfW site, and it was not possible in the modelling to quantify this without a detailed study into local infrastructure.

Sensitivity 3 explores the potential for carbon capture systems to be incorporated into the EfW process, further improving the carbon efficiency of this disposal method. This approach does not affect the waste arisings, but has a positive carbon impact. However, modelling suggests that costs would increase substantially due to the higher gate fees required to fund the installation and operation of this technology.

Sensitivity 4 explores the impact of the government permitting Waste Collection Authorities to continue making a charge to householders for the collection of garden waste. The modelling shows a reduction in the number of collection vehicles compared to Scenario 2 (where a universal free service is modelled), a slight reduction in recycling rates and a substantial overall cost saving due to the additional income received from a subscription scheme.

It is these four sensitivities modelled for Scenario 2, that are the subject of this next stage of assessment. Further details regarding each of the sensitivities are provided in the Waste Strategy for Essex Final Report[11].

Please be aware that this SEA assessment is conducted at a high level and is not specific to any particular site. To reiterate, the utilisation of EfW as the treatment process is assumed, and the exact locations of existing plants which could potentially be utilised or any potential need for new plants are unknown and pending the procurement exercise. The assessment within the following sections 5.4.1 to 5.4.4, assumes Scenario 2 is already in place as the baseline. Where possible, detailed modelling results have been used to inform the assessment.

[11] Ricardo (2023) Waste Strategy for Essex, Final Report

### 5.4.1 Assessment of Sensitivity 1: Addition of front-end recycling to the EfW facility for household residual waste

Table 5.17 shows the assessment of the sensitivity versus each of the SEA objectives with supporting narrative provided below.

Table 5.17: Assessment scoring of Sensitivity 1: Addition of front-end recycling to the EfW facility for household residual waste

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| + | + | + | + | + | + | + | + | + | 0 | 0 |

The assessment of the effects of introducing Sensitivity 1 (Front-end recycling to the EfW facility for household residual waste) against the baseline of the highest scoring Scenario 2 is provided below, with signposting to the relevant objective.

Assuming Scenario 2 is in place already as the baseline, implementing front-end recycling directly reduces the residual waste entering the EfW facility, optimising resource use and recovery efforts, supporting the circular economy. Waste that is effectively recycled at the front end of the process reduces the need for disposal methods like EfW. This contributes to resource conservation by diverting materials away from the waste stream and back into productive use.

The addition of front-end recycling has the potential to result in a residual waste stream with a higher calorific value to maximise the opportunity for energy and heat generation from the processing of this material stream. Also, Sensitivity 1 had the strongest impact on recycling rate (out of the four sensitivities), with the additional capture of recyclable material from residual waste. By reducing waste sent to EfW through front-end recycling, there is potential for a minor positive effect on **material assets and waste management**.

However, there would be a high risk associated with the quality of the additional recyclate recovered. This is due to the possibility of contamination within the mixed waste stream, which might compromise the quality of the recyclable materials. When different types of waste are comingled, there is an increased likelihood of cross-contamination, resulting in reduced purity and value of the recovered recyclate. This could potentially lead to challenges in finding suitable markets for the recycled materials, increased sorting and processing costs, and a higher likelihood of rejected or downgraded recyclate.

Sensitivity 1 requires some additional infrastructure and there might be negative implications if the recycling process inadvertently diverts certain materials away from beneficial recovery processes.

This sensitivity is therefore assessed as having a moderate negative effect on **material assets and waste management**.

By reducing the reliance on EfW for residual waste compared to Scenario 2, there is potential to mitigate the associated pollutants and greenhouse gases associated with energy generation from waste and contribute to the protection and enhancement of nearby biodiversity and designated nature conservation sites. This is assessed as having a minor positive effect on **biodiversity, flora and fauna.**

However, it is important to note that this assessment assumes use of EfW technology. The overall impact on SEA objectives heavily depends on the specifics of the EfW facility's design, emissions control, and proximity to sensitive areas. While reducing waste to EfW can be beneficial, it is important to ensure that the design of the facility and emissions of the EfW facility itself are well-managed.

By reducing the amount of waste entering EfW, there is potential to decrease air emissions and pollutants that could impact local air quality. This reduction in emissions can have positive implications for the respiratory

health of nearby residents, contributing to improved wellbeing. However, as the percentage of material that could be realistically captured through front end sorting is relatively small, this is assessed as having a minor positive effect on **population and human health objective 3.1.**

There is also potential for less noise, odour, and traffic associated with waste transportation and facility operations. This reduction in disturbance aligns with the objective of minimising disruptions to nearby communities and is assessed as having a minor positive effect on **population and human health objective 3.2**.

While Sensitivity 1 and the proposed changes are not inherently water-focused, the reduction in waste entering EfW could indirectly contribute to improved water quality. Fewer emissions from EfW facilities could translate into fewer pollutants entering water bodies through air deposition. However, the overall impact on water quality depends on the specifics of EfW emissions control and the proximity of water bodies to the facility. The effect is therefore assessed to be minor positive on **water**.

Reducing the reliance on EfW and encouraging front-end recycling has potential to conserve land resources that would have been allocated to the EfW facilities, aligning with efficient land use practices. Whilst some land would be required for the front-end sorting process, this would extend the timeframe before additional EfW facilities would be required, due to effectively extending the current EfW capacity. While not directly related to soil, geomorphology, or geodiversity, the approach indirectly minimises the footprint associated with waste disposal and contributes to sustainable land use and is assessed as a minor positive effect on **soil, geology and land use**.

Decreasing the waste lowers the associated pollutants and particulates released into the air, contributing to improved local air quality and minimised environmental impact. While Sensitivity 1 and the proposed changes focus on residual waste reduction rather than direct greenhouse gas emissions, the reduction of waste entering the EfW process can potentially lead to reduced overall emissions associated with waste management. However, the impact on embodied carbon depends on the specifics of EfW emissions control, energy recovery, and the carbon footprint of the recycling process. Also, while Sensitivity 1 does not explicitly address climate change adaptation, the reduction in waste can potentially contribute to lower emissions associated with waste management, aligning with resilience-building efforts by minimising environmental impacts. The addition of front-end recycling has the potential to result in a residual waste stream with a higher calorific value to maximise the opportunity for energy and heat generation from the processing of these material streams. This sensitivity is assessed as having a minor positive effect on **air and climate objectives 6.1 and 6.2** and **6.3.**

By reducing waste, there is potential to indirectly minimise visual and air quality impacts that could affect the landscape as well as heritage assets, their settings and contribute to their preservation. However, this is considered to have a negligible effect on **archaeology and cultural heritage** and **landscape and visual amenity**.

### 5.4.2 Assessment of Sensitivity 2: Addition of combined heat and power (CHP) at the EfW facility.

Table 5.18 shows the assessment of the sensitivity versus each of the SEA objectives.

Table 5.18: Assessment scoring of Sensitivity 2: Addition of CHP at the EfW facility.

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| --- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| + | 0 | + | + | + | + | + | ++ | + | 0 | 0 |

The assessment of the effects of introducing Sensitivity 2 (addition of CHP at the EfW facility) against the baseline of the highest scoring Scenario 2 is provided below, with signposting to the relevant objective.

Assuming Scenario 2 is in place already as the baseline, the introduction of CHP technology at the EfW facility is anticipated to contribute positively to a circular economy, however significant infrastructure would be required. By generating both electricity and heat from waste, the facility maximises resource utilisation and aligns with the objective of minimising waste arisings. The efficient energy recovery process supports sustainable material asset management and promotes the principles of reuse, recovery, and recycling. This sensitivity is assessed as having a minor positive effect on **material assets and waste management**. However, since this sensitivity requires significant infrastructure, this is considered to be a major negative effect.

However, it must be noted that considering the substantial infrastructure required for CHP implementation, there exists potential for localised impacts on specific sites. While optimising energy generation and diminishing reliance on traditional sources could indirectly contribute to habitat preservation and ecosystem resilience, although in the context of this Strategy this is considered to be negligible, the site-specific nature of these impacts may vary significantly but are not a consideration of this Strategy. Thus, this Sensitivity is appraised as holding a neutral effect on **biodiversity, flora, and fauna**, but site-specific considerations would alter this assessment.

The incorporation of CHP technology aligns with protecting human health and wellbeing. By reducing emissions and pollutants associated with waste-to-energy processes, the technology can improve air quality and positively impact public health. The addition of CHP technology could lead to positive outcomes for local communities. With efficient energy generation on-site, there is potential to reduce waste transportation, traffic, and associated disturbances to local communities. This is assessed as having a minor positive effect on **population and human health objectives 3.1 and 3.2**.

The introduction of CHP technology may indirectly contribute to improved water quality. By optimising energy recovery from waste and reducing overall emissions, the technology can lead to lower atmospheric deposition of pollutants into water bodies. This is assessed as having a minor positive effect on **water**.

By maximising energy production from waste, the technology promotes efficient resource utilisation and contributes to sustainable land use. This aligns with minimising waste arisings and optimising energy recovery, leading to a minor positive effect on **soil, geology and land use.**

The introduction of CHP technology has positive implications for air quality objectives. By improving the efficiency of energy generation from waste, there is potential to reduce emissions of pollutant gases and particulates. This leads to enhanced air quality and aligns with the goal of minimising negative effects on the environment and public health. The consequent effect on **air and climate objective 6.1** is assessed as minor positive.

The incorporation of CHP technology is expected to have a moderate positive effect on reducing greenhouse gas emissions and embodied carbon (**air and climate objective 6.2)**. As shown in the modelling optimising energy recovery from waste, the reliance on fossil fuel-based energy sources decreases, leading to lower overall emissions. This aligns with climate change mitigation goals and contributes to the reduction of carbon footprint associated with waste management.

The addition of CHP technology may not have a direct impact on climate change adaptation efforts. However, by reducing greenhouse gas emissions and promoting energy efficiency, it indirectly aligns with resilience-building goals by contributing to climate change mitigation. for energy and heat generation from the processing of these material streams. A consequent minor positive effect is assessed on **air and climate objective 6.3.**

Without consideration of infrastructure and site locations, the addition of CHP technology is unlikely to have a direct impact on heritage assets or their settings (**archaeology and cultural heritage**) or on **landscape and visual amenity.** Alongside other SEA topics, considerations related to archaeology and cultural heritage, landscape and visual amenity will require reassessment during the procurement process, once information about the locations of new or existing sites intended for infrastructure are available.

### 5.4.3 Assessment of Sensitivity 3: Addition of carbon capture utilisation and storage (CCUS) technology at the EfW facility

Table 5.19 shows the assessment of the sensitivity versus each of the SEA objectives.

Table 5.19: Assessment scoring of Sensitivity 3: Addition of CCUS technology at the EfW facility.

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| --- | 0 | 0 | 0 | 0 | 0 | 0 | - | - | 0 | 0 |
| ++/? | 0 | ++ | ++ | 0 | + | 0 | +++ | + | 0 | 0 |

The assessment of the effects of introducing Sensitivity 3 (addition of CCUS technology at the EfW facility) against the baseline of the highest scoring Scenario 2 is provided below, with signposting to the relevant objective.

The addition of CCUS technology aligns well with the material assets and waste management objective; however, significant infrastructure would be required. By capturing carbon emissions, the technology contributes positively to resource recovery and emission reduction, enhancing the circular economy approach. The reduction of carbon emissions supports a more sustainable use of material and natural assets, making it a significant step towards achieving this objective. However, the technology has not been proven at scale and the addition of CCUS technology might lead to increased energy consumption for carbon capture and compression, potentially offsetting some emissions reduction benefits. This additional energy demand could impact the circular economy efforts by increasing overall resource use and environmental impact. This is assessed as having moderate positive uncertain and major negative effects on **material assets and waste management**.

By reducing air pollutants and mitigating the environmental impact of waste-to-energy processes, CCUS technology indirectly contributes to habitat protection and ecosystem health by minimising the harmful effects of pollution on their habitats although in the context of this Strategy this is considered to be negligible and the site-specific nature of these effects may vary significantly, but are not a consideration of this Strategy. Thus, this sensitivity is appraised as having a neutral effect on **biodiversity, flora, and fauna**, but site-specific considerations may alter this assessment.

The modelling suggests that Sensitivity 3 scores highly on public acceptability on the assumption that there is broad public support for lower carbon technologies. The integration of CCUS technology is considered to benefit human health and wellbeing by reducing air pollutants associated with waste-to-energy processes. The capture of carbon emissions supports better air quality, which directly contributes to improved health outcomes and overall community well-being. The reduction in harmful emissions could positively influence the quality of life for local residents, making this a moderate positive effect on **population and human health objectives 3.1 and 3.2**.

While CCUS technology primarily addresses air emissions, it could have a positive contribution to emission reduction and could indirectly benefit water quality by decreasing the atmospheric deposition of CO2. However, this is considered to have a negligible effect on **water.**

While not directly related to land use practices or protection of soil and geomorphology, the technology's impact on emissions reduction aligns with the objective of efficient land utilisation. By reducing air pollutants, it contributes to preserving local environmental quality, consequently this is assessed as a minor positive effect on **soil, geology and land-use.**

CCUS technology would capture CO2 but is considered to be a neutral effect on **air and climate objective 6.1** as it is not known to capture other pollutants any more than the existing EfW plant.

The incorporation of CCUS technology has a major positive effect on reducing greenhouse gas emissions (**air and climate objective 6.2**). As shown in the modelling of the sensitivities, Sensitivity 3 results in significant GHG emissions savings through CCUS technology. However, the potential for increased energy consumption could result in a minor negative effect on the overall carbon footprint of the waste management process.

The addition of CCUS technology supports climate change mitigation efforts by reducing carbon emissions and is assessed as a minor positive effect on **air and climate objective 6.3**. While not directly linked to climate change adaptation, the technology's role in emissions reduction contributes to overall climate resilience. However, the potential for increased energy consumption and operational complexities might have a minor negative effect on the overall climate resilience improvements.

Without consideration of infrastructure and site locations, the addition of CCUS technology is unlikely to have a direct impact on heritage assets or their settings (**archaeology and cultural heritage**) nor on **landscape and visual amenity.** Alongside other SEA topics, considerations related to archaeology and cultural heritage, landscape and visual amenity will require reassessment during the procurement process once information is available about the locations of new or existing sites intended for infrastructure.

### 5.4.4 Assessment of Sensitivity 4: Introduction of householder charges for garden waste collections

Table 5.20 shows the assessment of the sensitivity versus each of the SEA objectives.

Table 5.20: Assessment scoring of Sensitivity 4: Introduction of householder charges for garden waste collections.

| 1.1 Material Assets and Waste Management | 2.1 Biodiversity, Flora and Fauna | 3.1 Human Health and Wellbeing | 3.2 Minimise Local Community Disturbance | 4.1 Water Quality | 5.1 Soil, Geology and Land-use | 6.1 Air Quality | 6.2 Greenhouse Gas Emissions | 6.3 Climate Resilience | 7.1 Archaeology and Cultural Heritage | 8.1 Landscape and Visual Amenity |
|---|---|---|---|---|---|---|---|---|---|---|
| -- | - | - | - | 0 | - | - | - | - | 0 | 0 |
| + | +? | 0 | +? | 0 | 0 | +? | 0 | 0 | 0 | 0 |

The assessment of the effects of introducing Sensitivity 4 (Introduction of householder charges for garden waste collections) against the baseline of the highest scoring Scenario 2 is provided below, with signposting to the relevant objective.

According to the research undertaken by the EWP[12] 56% of residents with a garden were found to use the kerbside garden waste collection all of the time with 83% net use across the county.

It is considered that the introduction of charges for garden waste collections might discourage participation in proper waste management and hinder the circular economy by potentially increasing the use of residual waste services for garden waste, leading to potential negative effects on waste arisings, reuse, recovery, and recycling. This could lead to environmental degradation and additional waste management costs for local authorities as users may deposit waste into other waste streams. This is considered to be a moderate negative effect on **material assets and waste management**. Some additional infrastructure would also be required for this sensitivity such as distributing and managing collection bins or bags and mechanisms for tracking and verifying subscription status. This is potentially offset by the reduction in infrastructure as only a fifth or so of households may take part and therefore resulting in far fewer bins required.

The modelling of the sensitivities found that Sensitivity 4 results in a waste reduction effect due to the implementation of a subscription fee for charged garden waste. Also, it was found that fewer collection resources (vehicles and containers) would be required due to a lower uptake of collections. This is considered to be a minor positive effect on **material assets and waste management**. Reduced vehicular activity could also have some benefits on other objectives such as **air and climate** objective 3.1 and indirectly **biodiversity**

[12] Essex County Council and Savanta (2023): Resident attitudes towards waste and recycling.

and **population and human health** (objective 3.2) and is considered to be a minor positive effect. Given the absence of specific information about route changes and their proximity to designated sites and sensitive receptors, the predicted effects are uncertain.

The imposition of charges could increase improper disposal, negatively affecting both local ecosystems and air quality, particularly in designated sites of nature conservation interest. The reduced collection of organic materials might also hinder habitat enhancement efforts through composting resulting in a minor negative effect on **biodiversity, flora and fauna**.

From a human health and wellbeing perspective, introducing the charges might lead to improper disposal, contaminating other waste streams, impacting air quality and subsequently, community health and is considered to be a minor negative effect on **population and human health objective 3.1**. Charging for garden waste collections could lead to negative community reactions due to concerns about improper disposal practices and potential increase in waste-related issues. This could potentially increase disturbances and conflicts within local communities and is considered to be a minor negative effect on **population and human health objective 3.2**.

Furthermore, the charges might indirectly lead to more instances of improper disposal that could potentially contaminate water bodies, albeit this is assessed as being a negligible effect on **water**.

In terms of land use and quality, charges for garden waste collections might contribute to increased improper disposal. Increased dumping or burning could have a minor negative effect on soil health and local geomorphology (**soil, geology and land use**). Similarly, charges might discourage responsible waste management practices, contributing to higher greenhouse gas and pollutant emissions and negating efforts to minimise emissions and embodied carbon. Additionally, these charges could compromise climate resilience by fostering improper waste disposal practices for example, discouraging proper composting, leading to increased landfilling, contribute to higher greenhouse gas emissions. This sensitivity is assessed as having minor negative effects on **air and climate objectives 6.1, 6.2 and 6.3**).

Although the historic environment may not be directly impacted by the charges, increased improper disposal could potentially lead to a negative effects on the visual amenity of designated and non-designated heritage assets and their settings (**archaeology and cultural heritage**). Likewise, landscape aesthetics and visual amenity might suffer due to improper disposal practices associated with the charges especially if dumping or burning of waste becomes more common (**landscape and visual amenity**). However, at this stage this is considered to be a negligible effect across both objectives.

## 5.5 ASSESSMENT OF CUMULATIVE EFFECTS

Table 5.21 presents the cumulative assessment of the strategic effects of the draft Strategy Scenario 2 with each sensitivity.

Table 5.21: Cumulative assessment of Scenario 2 with each of the four sensitivities

| SEA Objective | Sensitivity 1-4 | Cumulative score (with Scenario 2) | Commentary |
|---|---|---|---|
| **1.1 Material Assets and Waste Management:** To support a circular economy, minimise waste arisings, promote reuse, recovery and recycling, minimising the impact of waste on the environment and communities and contribute to the sustainable use of natural and material assets. | 1 | --/++ | Three weekly residual waste collections of Scenario 2 are shown to reduce tonnages of residual waste when compared to more frequent collections. However, the quality of recyclate is lower with comingled collections, which means lower value materials and consequent movement away from a circular economy. While specific EfW sites are not proposed, this change does signal a positive move up the waste hierarchy. For Sensitivity 1, implementing front-end recycling directly reduces the residual waste entering the EfW facility, optimising resource use and recovery efforts and supporting the circular economy. For Sensitivity 1 the addition of front-end recycling has the potential to result in a residual waste stream with a higher calorific value to maximise the opportunity for energy and heat generation from the processing of these material streams. Also, Sensitivity 1 had the strongest impact on recycling rate, with the additional capture of recyclable material from residual waste. However, there would be a high risk associated with the quality of the additional recyclate recovered. Therefore, cumulative moderate positive and moderate negative effects have been assessed.<br>In Sensitivity 2, by generating both electricity and heat from waste, the CHP facility maximises resource utilisation and minimises waste. However, CHP requires significant additional infrastructure. Therefore, the cumulative major negative and moderate positive effects have been assessed.<br>The addition of CCUS technology in Sensitivity 3 would also require significant additional infrastructure. By capturing carbon emissions, the technology contributes positively to resource recovery and emission reduction, enhancing the circular economy approach, however, the technology is unproven at scale. This is assessed as having cumulative major negative and major positive uncertain effects.<br>Sensitivity 4 results in a waste reduction effect due to the implementation of a subscription fee for charged garden waste. The modelling found that Sensitivity 4 requires fewer collection resources due to the introduction of a garden waste subscription resulting in lower uptake. It is considered that the introduction of charges for garden waste collections might also discourage participation in proper waste management and hinder the circular economy. Scenario 2 is assessed as having moderate negative and moderate positive cumulative effects in combination with Scenario 2. |
| | 2 | ---/++ | |
| | 3 | ---/+++? | |
| | 4 | --/++ | |
| **2.1 Biodiversity, flora and fauna:** To protect and enhance biodiversity including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain. | 1 | -?/+? | There is potential for disturbance or improvement due to changing collections and frequencies. The specific volumes of waste collection vehicles and their routes in relation to designated protected areas are unknown and therefore effects are uncertain. For Sensitivities 2 and 3 the cumulative effects are assessed as minor negative uncertain and uncertain positive. With Sensitivity 1, there is potential to mitigate pollutants and greenhouse gases associated with energy generation from waste and contribute a minor positive effect on biodiversity. With Sensitivity 4 introducing charges could increase improper disposal, negatively affecting both local ecosystems and air quality. The reduced collection of organic materials might also hinder habitat enhancement efforts through composting. However, decreasing vehicles associated with garden waste collections could potentially benefit biodiversity, flora and fauna. The cumulative effects are assessed as minor negative uncertain and minor positive uncertain. |
| | 2 | -?/? | |
| | 3 | -?/? | |
| | 4 | -?/+? | |

| | | | |
|---|---|---|---|
| **3.1 Population and Human health:** To protect and enhance human health and wellbeing. | 1 | --/++ | Cumulatively moderate negative effects are expected across all sensitivities due to the three-weekly collections of residual waste and associated inconvenience to users, and potential for increased litter, overflowing bins and storage issues.<br>Three weekly residual waste collections are shown to reduce tonnages of residual waste when compared to less frequent collections. WRATE modelling shows that the diversion of waste from 'residual' to 'recycling' is estimated to have a positive impact on human health through a reduction of the negative toxicity effects from landfilling/incinerating waste. Therefore, a cumulative moderate positive effect is also assessed across all sensitivities. |
| | 2 | --/++ | |
| | 3 | --/++ | |
| | 4 | --/++ | |
| **3.2 Population and Human Health:** To minimise disturbance to local communities. | 1 | -?/+? | Changes to collection routes and frequencies associated with the Scenario 2 may have both positive and negative impacts on levels of disturbance but this depends on individual locations, timing of collections and volume of vehicles, which are all uncertain. Public acceptability regarding collections was also modelled and considered to be a negative effect across all sensitivities due to the inconvenience of a three-weekly collection of residual waste.<br>In combination, Sensitivity 1, with it's potential for less noise, odour, and traffic, the cumulative effects are assessed as minor negative uncertain and minor positive.<br>The incorporation of CHP technology in Sensitivity 2 can improve air quality and positively impact public health. With efficient energy generation on-site, there is potential to reduce waste transportation, traffic, and associated disturbances disturbance to local communities. This is assessed as having minor negative uncertain and minor positive uncertain cumulative effects.<br>As the integration of CCUS technology in Sensitivity 3 is considered to significantly benefit human health and wellbeing by reducing air pollutants associated with waste-to-energy processes, cumulatively it is assessed as having minor negative uncertain and moderate positive uncertain effects.<br>Charging for garden waste collections could lead to both increasing disturbance (such as negative community reactions and improper disposal) and decreasing disturbance (fewer vehicles). Cumulatively, Scenario 2 with Sensitivity 4 are assessed as having minor negative uncertain and minor positive uncertain effects. |
| | 2 | -?/+? | |
| | 3 | -?/++? | |
| | 4 | -?/+? | |
| **4.1 Water:** To protect and enhance water quality and help achieve the objectives of the Water Framework Directive. | 1 | ++ | An overall cumulative moderate positive effect is anticipated on water quality for all sensitivities primarily as the increased waste diversion associated with Scenario 2 is predicted to result in reducing the eutrophication effects linked to the practices of landfilling and incinerating waste and in the case of Sensitivities 1 and 2 this also includes lower atmospheric deposition of pollutants. |
| | 2 | ++ | |
| | 3 | ++ | |
| | 4 | ++ | |
| **5.1 Soil, Geology and Land-Use:** To make appropriate and efficient use of land and protect and enhance soil, local geomorphology and geodiversity and contribute to the sustainable use of land. | 1 | + | For Sensitivities 1-3 with Scenario 2 the cumulative effects are assessed as minor positive due to indirectly contributing to efficient resource utilisation and sustainable land use.<br>However, for Sensitivity 4 charges for garden waste collections could contribute to increased improper disposal and consequently a cumulative minor negative effect is assessed on soil, geology and land use. |
| | 2 | + | |
| | 3 | + | |
| | 4 | - | |

| | | | |
|---|---|---|---|
| **6.1 Air and Climate:** To minimise emissions of pollutant gases and particulates and enhance air quality. | **1** | **-?/++** | In Scenario 2 there would be more collection vehicles compared with the baseline, resulting in higher transport-related emissions. Sending more waste to EfW would reduce emissions associated with landfill, but increase emissions associated with EfW. EfW releases GHG emissions from materials that would have been "locked up" in landfill. Comingled recycling is shown to increase recycling yields and thus rates compared to multistream recycling. Three weekly residual waste collections further reduce tonnages of residual waste when compared to more frequent collections. The associated increased recycling, would mean a replacement of greater quantities of virgin materials, leading to reduced pollutant gas emissions from extraction and manufacturing processes.<br>All sensitivities are assessed as having minor negative uncertain effects primarily reflecting the unknown volume of associated vehicular activity and relative volumes of gases from the treatment processes.<br>For Sensitivity 1, reducing the waste lowers the associated pollutants and particulates released into the air, contributing to improved local air quality and cumulatively is assessed as a moderate positive effect.<br>The introduction of CHP technology in Sensitivity 2 would improve the efficiency of energy generation from waste, there is potential to reduce emissions of pollutant gases and particulates. This leads to enhanced air quality. Cumulatively this is assessed as a moderate positive effect.<br>CCUS technology in Sensitivity 3 is unlikely to capture pollutants (aside of CO2), over and above the existing EfW facility. Cumulatively there would be improved air quality and this sensitivity is assessed as having a moderate positive effect.<br>Additional positive effects are foreseen with respect to air quality on Sensitivity 4 with regard to fewer vehicles. Cumulatively with Scenario 2, this is considered to have a moderate positive uncertain effect acknowledging the uncertainty around routes and volumes of vehicles. |
| | **2** | **-?/++** | |
| | **3** | **-?/++** | |
| | **4** | **-?/++?** | |
| **6.2 Air and Climate:** To minimise greenhouse gas emissions and embodied carbon associated with waste management and landfill. | **1** | **-?/++** | In Scenario 2 there would be more collection vehicles compared with the baseline, resulting in higher transport-related emissions. Sending more waste to EfW would reduce emissions associated with landfill, but increase emissions associated with EfW. EfW releases GHG emissions from materials that would have been "locked up" in landfill. Comingled recycling is shown to increase recycling yields and thus rates compared to multistream recycling. Three weekly residual waste collections further reduce tonnages of residual waste when compared to more frequent collections. The associated increased recycling, would mean a replacement of greater quantities of virgin materials, leading to reduced pollutant gas emissions from extraction and manufacturing processes.<br>All sensitivities are assessed as having minor negative uncertain effects when combined with Scenario 2 primarily reflecting the unknown volume of associated vehicular activity and relative volumes of gases from the treatment processes.<br>For Sensitivity 1, the reduction of waste entering EfW facilities can potentially lead to reduced overall emissions associated with waste management and cumulatively a moderate positive effect is assessed.<br>As shown in the modelling, optimising energy recovery from waste in Sensitivity 2 by incorporating CHP technology means a decreased reliance on fossil fuel-based energy sources, leading to lower overall emissions. Cumulatively, this is assessed as a major positive effect.<br>The incorporation of CCUS technology in Sensitivity 3 results in significant GHG emissions and has a cumulative major positive effect on reducing greenhouse gas emissions.<br>No additional positive effects are foreseen with respect to GHG emissions and embodied carbon on Sensitivity 4. Cumulatively with Scenario 2, this is considered to have a moderate positive effect. |
| | **2** | **-?/+++** | |
| | **3** | **-?/+++** | |
| | **4** | **-?/++** | |

| | | | |
|---|---|---|---|
| **6.3. Air and Climate:** To adapt waste management practices to climate change and improve resilience to the threats of a changing climate. | **1** | **-?/++** | In Scenario 2 there would be more collection vehicles compared with the baseline, resulting in higher transport-related emissions. Sending more waste to EfW would reduce emissions associated with landfill, but increase emissions associated with EfW. EfW releases GHG emissions from materials that would have been "locked up" in landfill. Comingled recycling is shown to increase recycling yields and thus rates compared to multistream recycling. Three weekly residual waste collections further reduce tonnages of residual waste when compared to more frequent collections. The associated increased recycling, would mean a replacement of greater quantities of virgin materials, leading to reduced pollutant gas emissions from extraction and manufacturing processes.<br>Sensitivities 1-3 are assessed as having minor negative uncertain effects when combined with Scenario 2 primarily reflecting the unknown volume of associated vehicular activity and relative volumes of gases from the treatment processes. The modelling showed that the combined tonnage of residual waste and food waste in Sensitivities 1, 2 and 3 maximises the opportunity for energy and heat generation from the processing of these material streams.<br>The waste reduction associated with Sensitivity 4 reduces the potential of available residual waste and food waste and the consequent opportunity for energy and heat generation from the processing of these material streams. A cumulative moderate negative uncertain score is assessed for this sensitivity.<br>All sensitivities are assessed as having moderate positive scores with respect to climate resilience when combined with Scenario 2. |
| | **2** | **-?/++** | |
| | **3** | **-?/++** | |
| | **4** | **--?/++** | |
| **7.1 Archaeology and Cultural Heritage:** To conserve and enhance the historic environment including designated and non-designated heritage assets and their settings. | **1** | **0** | In the case of Sensitivities 1-4, without consideration of infrastructure and site locations, the addition of CHP technology is unlikely to have a discernible effect on heritage assets or their settings and therefore is assessed to have a cumulative neutral effect. |
| | **2** | **0** | |
| | **3** | **0** | |
| | **4** | **0** | |
| **8.1 Landscape and Visual Amenity:** To protect and enhance landscape, townscape character and visual amenity. | **1** | **--** | In the case of Sensitivities 1-3, without consideration of infrastructure and site locations, the addition of CHP technology is unlikely to have a direct impact, however, in combination with Scenario 2 and transitioning to a three-weekly waste collection frequency could potentially lead to increased litter and overflowing bins, affecting the streetscape and visual amenity of neighbourhoods. This is assessed as a moderate negative effect across all sensitivities. |
| | **2** | **--** | |
| | **3** | **--** | |
| | **4** | **--** | |

## 5.6 EFFECTS OF THE WASTE STRATEGY IN COMBINATION WITH OTHER POLICIES, PLANS AND STRATEGIES

As well as the cumulative effects that arise from the components of each scenario, the SEA Regulations require a cumulative assessment of the strategic effects of the draft Waste Strategy resulting from interaction with the effects of other plans and programmes.

There are several plans and developments ongoing in Essex and the UK which could be considered to fall under some of the following categories:

- Large existing and emerging Local Plan allocations e.g. 500 or more dwellings;
- Projects on the Planning Inspectorate's Programme of Projects;
- Hybrid Bills;
- Transport and Works Act Orders for large-scale transport infrastructure;
- Minerals and waste applications, including for landfill and energy from waste;
- Large Town and Country Planning applications where an EIA is required.

For example, a number of National Significant Infrastructure Projects (NSIP) are listed on the Essex County Council website including waste related projects such as the Rivenhall Integrated Waste Management Facility and Energy Centre. However, as Strategy is not spatial, it is not possible to meaningfully assess interactions with the construction and operation of other facilities on a spatial or temporal scale.

The draft Strategy operates within the broader context of various plans and programmes, as outlined in Appendix C. Assessing the in-combination effects of the draft Strategy with these other initiatives presents challenges; nonetheless, when considering the National Planning Policy for Waste, the Environment Act, NPPF, Resources and Waste Strategy, the Waste Management Plan for England, the 25 Year Environment Plan, Essex and Southend-on-Sea Waste Local Plan, the draft Strategy appears to offer a range of environmental benefits tied to sustainable waste management. This approach aligns with the goals of moving waste up the hierarchy and transitioning towards a circular economy.

For example, the draft Strategy corresponds favourably with the objectives of the 25-Year Environment Plan. Through promoting recycling, waste reduction, and improved waste treatment technologies including enhanced energy recovery from EfW, these changes contribute to a more sustainable and circular economy. However, the potential negative effects on communities and landscape resulting from three-weekly collections of residual waste if pursued, would require mitigation to minimise negative effects on population and human health objectives. Similarly, if significant new infrastructure is required for Sensitivities 2 and 3 this should be carefully managed to prevent and/or mitigate negative effects on other topics beyond material assets and waste management. Overall, the Strategy aligns with the aims of the 25-Year Environment Plan and can contribute to improved environmental outcomes.

In relation to the Waste Management Plan for England, the proposed changes and sensitivities demonstrate coherence with its priorities. They address resource efficiency, recycling targets, and emission reductions. The introduction of new waste treatment technologies and enhancements in waste collection practices are aligned with the aspirations of the plan, offering an opportunity to elevate waste management practices and work towards its goals.

Similarly, the draft Strategy aligns well with the NPPF, which emphasises waste minimisation, efficient infrastructure, environmental protection, and community engagement. However, again it is important to approach any changes to residual waste collections and for example, introduction of charges for garden waste collections cautiously, to prevent potential negative effects to community wellbeing. On the whole, the proposed changes are consistent with the NPPF's vision and have the potential to yield positive impacts on waste management and environmental outcomes.

In the Essex and Southend-on-Sea Waste Local Plan vision and objectives, the premise of the waste hierarchy is clear with alignment with mitigating and adapting to climate change,and moving to a circular economy. As the Waste Strategy is not spatial, the site specificity of the Waste Local Plan is not applicable, nor the movement of waste across county borders.

When considering the draft Strategy in combination with these legislative frameworks it offers a cohesive approach to waste management. It supports resource efficiency, recycling targets, and emission reductions while also considering community engagement and wellbeing. However, it is important to ensure that the

implementation of these changes is well-planned and executed to maximise benefits and mitigate potential negative consequences. Collaborative efforts among stakeholders, authorities, and communities will be essential in successfully integrating these changes into the broader legislative landscape.

The Resource and Waste Strategy launched in 2018 by the government, along with subsequent consultations in 2021, explored initiatives such as a Deposit Return Scheme, Extended Producer Responsibility, and improved waste recycling consistency. While certain elements of the Strategy were incorporated into the Environment Act 2021, most proposals will be implemented through secondary legislation and the details of the implementation of the Act thus remain uncertain. These initiatives hold implications for all members of the Essex Waste Partnership and may necessitate significant alterations to current waste collection and management practices. The modelling report provides further detail on this.

Overall, the draft Strategy, when viewed in combination with other relevant plans and programmes, presents the potential for positive cumulative effects across the SEA objectives. Potential significant negative effects which could arise from the draft Strategy's in-combination effects with other plans and programmes. For example, if a three-weekly residual waste collection is implemented then there is potential for significant negative effects to arise, unless properly managed.

In addition, if the Strategy requires increased use of existing and potentially new waste facilities to align with waste hierarchy goals, (such as in Sensitivities 2 and 3) potential significant negative environmental effects during construction and operation are anticipated and will need to be identified, assessed, and mitigated through legislative frameworks, including the NPPF, local waste plans, and environmental permitting processes.

## 5.7 MITIGATION AND ENHANCEMENT MEASURES

Based on the assessment of the draft Strategy presented, a range of mitigation measures have been identified in addition to those identified in Table 13 of the Waste Strategy for Essex Final Report. These measures are principally service-level mitigation identified which could address the potential negative environmental effects associated with waste collection services. The measures are summarised in Table 5.22.

Table 5.22: Mitigation and enhancement measures per topic

| Measure | SEA Objective(s) |
|---|---|
| Providing guidance to householders on segregating waste to ensure that the maximum recyclate is being generated and that items are correctly disposed of and stored. | All SEA objectives |
| Community engagement and education to encourage responsible waste disposal behaviours. | 3.1 Population and human health: To minimise disturbance to local communities<br>8.1 Landscape and visual amenity |
| Particularly concerning less frequent collection cycles, or more complex waste systems there is potential to incorporate advanced mechanisms. Such as deployment of sensors within communal bins to monitor the remaining capacity and assess whether bins are nearing fullness or experiencing overflow, thus indicating the need for prompt emptying. Alternatively, this technology could help optimise collection routes by identifying instances where collection vehicles can be spared unnecessary visits. | 1.1 Material assets and waste management<br>3.1 Population and human health: To minimise disturbance to local communities<br>6.2 Air and Climate: To minimise greenhouse gas emissions and embodied carbon associated with waste management and landfill<br>8.1 Landscape and visual amenity |
| Introduction of a mechanism where users can report overflowing communal bins ensuring any full or overflowing bins are emptied between regular collections. | 3.1 Population and human health: To minimise disturbance to local communities<br>8.1 Landscape and visual amenity |

| Measure | SEA Objective(s) |
|---|---|
| Supply of appropriately sized waste containers, particularly in the case of communal bins for residual waste, with barriers to odour and vermin. | 3.2: Population and Human Health: To minimise disturbance to local communities<br>8.1 Landscape and visual amenity |
| Due consideration should be given to local residents in terms of collection times (to prevent disturbance) and type of vehicle used. | 3.2: Population and Human Health: To minimise disturbance to local communities |
| Litter audits could be undertaken regularly to track the impact of new services upon litter and fly-tipping on the environment. | All SEA objectives |
| Uptake or use of low or zero emission vehicles, for example hybrid or electric, should be used wherever possible for waste collection and transportation, subject to feasibility, applicability and cost. | 1.1 Material Assets and Waste Management<br>2.1 Biodiversity, flora and fauna<br>3.1 Population and Human Health: To protect and enhance human health and wellbeing<br>6.2 Air and Climate: To minimise greenhouse gas emissions and embodied carbon associated with waste management and landfill |
| Backhauling opportunities should be explored within, and between, local authorities and waste management contractors to minimise vehicle movements. | 3.1 Population and Human Health: To protect and enhance human health and wellbeing<br>6.1 Air and Climate: To minimise emissions of pollutant gases and particulates and enhance air quality. |
| Strong awareness campaigns could be implemented to encourage participation in any collection services for example, with local school, community groups, and businesses. | 1.1 Material Assets and Waste Management: |
| Services should be designed to maximise recycling and recovery rates and should take into account the convenience and minimising disturbance to consumers by, for example, optimising the number and sensitive siting of communal bins for example, away from private properties. | 3.2: Population and Human Health: To minimise disturbance to local communities |
| Avoiding Air Quality Management Areas (AQMAs) wherever possible for collection and waste management sites and ensuring monitoring is in place where no more preferable alternative is possible, as appropriate under environmental permitting requirements. | 6.1 Air and Climate: To minimise emissions of pollutant gases and particulates and enhance air quality. |
| Where additional waste management infrastructure is required, environmental assessment should be undertaken on an individual project level where appropriate. Depending on the nature and location of the scheme, statutory EIA or other environmental assessments may be required. | All SEA objectives |
| When considering the introduction or modification of sites, including addition of CHP or CCUS technology or smaller-scale infrastructure like the placement of communal bin hubs, a comprehensive consultation procedure should be employed and suitable locations carefully selected. This approach is essential to avoid any disruption to both communities and users, | All SEA objectives |

| Measure | SEA Objective(s) |
|---|---|
| especially when these sites fall outside the scope of the regulatory frameworks outlined. | |

Mitigation and enhancement related to infrastructure and spatial considerations will be addressed through complementary plans, programmes, and the procurement process. These measures will involve coordinated efforts to ensure that the design, placement, and management of waste management infrastructure align with local spatial strategies. Additionally, the procurement exercises required to deliver the strategy will need to integrate sustainability criteria to foster innovative solutions that minimise environmental impacts and optimise resource utilisation, for example, sustainable materials and community liaison. Any new infrastructure proposed should be considered against the policies and requirements of the relevant waste local plan, or National Policy Statement (if applicable).

## 5.8 CONCLUSIONS

The likely significant environmental effects of implementing the draft Strategy have been identified, described and evaluated in accordance with the requirements of the SEA Regulations.

### 5.8.1 Scenarios assessment

Overall, the assessment of six short-listed waste management scenarios has found that the draft Strategy will have a range of positive effects across the majority of the SEA objectives, relative to the current baseline. This broadly reflects the socio-economic and environmental benefits associated with sustainable waste management and moving waste up the waste management hierarchy. No significant positive effects have been identified which reflects the context of a non-spatial strategy which looks at different collection and frequencies of waste streams and an assumed change in treatment.

Negative effects have been identified across several SEA objectives. No significant negative effects have been assessed but moderate negative effects were assessed on population and human health and landscape and visual amenity objectives which are related to three-weekly waste collections and the potential impact of waste accumulation if, for example, users were not fully using recycling and food waste services.

The BPES assessment determined that Scenario 2 was the highest scoring scenario and was therefore used to evaluate the likely impacts of the sensitivities. The sensitivities were also assessed using the SEA assessment framework.

### 5.8.2 Sensitivities assessment

A range of positive and negative effects were assessed against each of the SEA objectives on all sensitivities. The following significant effects were identified.

Both positive and negative effects were found for Scenarios 2 and 3. The positive contribution to resource recovery and emission reduction that Sensitivity 3 could provide, would enhance the circular economy, and is assessed as having significant positive effect on material assets and waste management, yet the unproven scale of carbon capture leaves uncertainty. The GHG emissions savings made through CCUS technology are considered to be a significant positive effect.

In addition, significant negative effects were identified on material assets and waste management for Sensitivities 2 and 3 due to the significant infrastructure required by the addition of CHP and CCUS technology respectively.

The assessment found no positive or negative significant effects for Sensitivities 1 or 4.

### 5.8.3 Cumulative assessment

The cumulative assessment of each sensitivity in combination with highest scoring Scenario 2 assessed mixed effects across several SEA objectives, particularly, material assets and waste management, population and human health, air and climate and water.

Significant positive effects were reported on material assets and resource use for sensitivity 3 reflecting that in capturing carbon emissions, the technology contributes positively to resource recovery and emission

reduction, enhancing the circular economy approach, however, it is important to note that the technology is unproven at scale. Significant positive effects were also reported on air and climate objective 6.2 for Sensitivities 2 and 3 acknowledging the respective positive effect that CHP and CCUS have on reducing greenhouse gas emissions.

Significant negative effects were reported on material assets for Sensitivities 2 and 3, primarily due to the introduction of significant additional infrastructure. Moderate negative effects were assessed on population and human health and landscape and visual amenity across all sensitivities due to the impact of three-weekly collections of residual waste on population and human health and landscape and visual amenity.

When viewed from a strategic standpoint in combination with other non-spatial but relevant plans and programmes, rather than in terms of scenarios and sensitivities, the draft Strategy offers potential positive cumulative effects across SEA objectives, particularly material assets and waste management. It is not expected that significant negative effects will arise from the draft Strategy's in-combination effects with other plans and programmes. While aligning with waste hierarchy goals will necessitate increased utilisation of existing and potentially new waste facilities, it is acknowledged that negative environmental impacts during construction and operation are anticipated. These must be identified, assessed, and mitigated through legislative frameworks, including the NPPF, local waste plans, and environmental permitting processes.

### 5.8.4 Other considerations

Implementation of scenarios and sensitivities could involve site selection, including EfW facilities, and their environmental effects will be assessed through EIA under the relevant regulations. Construction and operation of new waste management infrastructure could yield negative effects related to land use, vehicle movements, air emissions, and landscape impact relative to the baseline. New site locations would adhere to waste local plans consistent with NPPF and NPPW policies, subject to SEA and HRA, and necessitate planning permissions and environmental consents. The operation of waste management facilities is also subject to environmental permitting.

When considering the introduction or modification of sites, including smaller-scale infrastructure like the placement of communal bin hubs, a comprehensive consultation procedure should be employed and suitable locations carefully selected. This approach is essential to avoid any disruptions to both communities and users, especially when these sites fall outside the scope of the regulatory frameworks outlined.

Mitigation measures for any potential negative impacts (along with enhancement measures for positive effects) have been proposed in Section 5.7 relative to the relevant primary objective against which they are predicted to arise, along with the responsible party.

It anticipated that the outcomes from the SEA, and in particular key potential effects, can be monitored as an integral part of the monitoring of the Waste Strategy itself and proposed monitoring indicators are provided in Section 6.1. Further information on monitoring proposals will be set out in the SEA Post Adoption Statement.

# 6 NEXT STEPS

A summary report of the consultation feedback will be published on Citizen Space after consultation is complete and responses have been analysed.

The feedback obtained from responses to the Public Consultation Questionnaire and other consultation mechanisms will be used to develop and publish a final version of the Waste Strategy for Essex.

The Waste Strategy for Essex will act as a framework for waste management in Essex informing the design of local collection services and disposal arrangements. Collection arrangements will continue to be managed by District, Borough and City Councils in a way that is appropriate to their residents and communities. The councils in the EWP will take local decisions on adoption of the final version of the Strategy.

In conjunction with publishing the final Strategy, a Post Adoption Statement will also be issued (to meet the requirements of SEA regulation 16 (4)). This will set out the results of the consultation and SEA processes and the extent to which the findings of the SEA have been accommodated in the final plan.

## 6.1 MONITORING THE EFFECTS OF THE WASTE STRATEGY

The SEA Regulations require that the SEA Responsible Authority (Essex County Council) monitors the significant environmental effects of the implementation of the Strategy in order to identify any unforeseen adverse effects at an early stage and undertake appropriate remedial action. Given the range of indicators currently in use, and to avoid duplication, it is recommended that existing indicators are utilised wherever possible. Monitoring indicators are not provided for all SEA objectives. As required by the SEA Regulations monitoring indicators are focussed on those objectives where potential for likely significant effects of the strategy's implementation have been identified. Further information on monitoring proposals will be set out in the Post Adoption SEA Statement.

In this context, the Resource and Waste Strategy includes a 25 Year Environment Plan Outcome Indicator Framework[13] in development for monitoring progress against Resource and Waste Strategy policies and commitments that consists of a number of measures and which reflect progress against the following six policy priorities: increasing resource productivity; reducing greenhouse gas emissions; reducing waste production; increasing recycling; and reducing landfilling. It may be that these will be appropriate to use as monitoring indicators once fully developed.

Table 6.1 provides a list of potential indicators for relevant SEA objectives.

Table 6.1: Potential Indicators for Monitoring Effects

| SEA Objective | Potential Waste Monitoring Indicator | Potential Source of Information |
|---|---|---|
| **1.1 Material Assets and Waste Management**: To support a circular economy, minimise waste arisings, promote reuse, recovery and recycling, minimising the impact of waste on the environment and communities and contribute to the sustainable use of natural and material assets. | Amount of arisings, split by waste streams | ECC |
| | Total waste per household | ECC |
| | Residual waste arising per household | EWP |

[13] Outcome Indicator Framework for the 25 Year Environment Plan (defra.gov.uk)

| SEA Objective | Potential Waste Monitoring Indicator | Potential Source of Information |
|---|---|---|
| | Percentage reused/recycled/composted | EWP |
| | Amount of energy generated | ECC |
| **2.1 Biodiversity, Flora and Fauna**: To protect and enhance biodiversity including designated sites of nature conservation interest and protected habitats and species, enhance ecosystem resilience and habitat connectivity and deliver a net biodiversity gain. | | |
| **3.1 Population and Human Health:** To protect and enhance human health and wellbeing<br>**3.2 Population and human health:** To minimise disturbance to local communities | Percentage of users satisfied with waste services | EWP |
| | Number of nuisance related complaints | EWP |
| | Percentage missed collections | EWP |
| | Number of environmental permit breaches for waste facilities | EWP |
| **4.1 Water:** To protect and enhance water quality and help achieve the objectives of the Water Framework Directive. | | |
| **5.1 Soil, Geology and Land-Use:** To make appropriate and efficient use of land and protect and enhance soil, local geomorphology and geodiversity and contribute to the sustainable use of land. | Number of fly tipping incidents per annum | ECC |

| SEA Objective | Potential Waste Monitoring Indicator | Potential Source of Information |
|---|---|---|
| **6.1 Air and Climate:** To minimise emissions of pollutant gases and particulates and enhance air quality. | Waste miles travelled to dispose of waste | EWP |
| | Waste vehicle capacity utilisation rates | EWP |
| **6.2 Air and Climate:** To minimise greenhouse gas emissions and embodied carbon associated with waste management and landfill. | CO2 saved through greater alignment with the waste hierarchy | EWP |
| | Percentage of low emission vehicles and plant | EWP |
| **6.3 Air and Climate:** To adapt waste management practices to climate change and improve resilience to the threats of a changing climate. | Energy use in waste operation | EWP |
| **7.1 Archaeology and Cultural Heritage:** To conserve and enhance the historic environment including designated and non-designated heritage assets and their settings. | | |
| **8.1 Landscape and Visual Amenity:** To protect and enhance landscape, townscape character and visual amenity. | Number of nuisance-related complaints such as noise, dust, and overflowing bins related to local landscape and streetscape. | EWP |

# 7 GLOSSARY

**Anaerobic Digestion (AD)**

A process where biodegradable material (typically food) is enclosed in a container and the oxygen is removed, which encourages the material to break down. The process produces biogas a renewable energy which can be used to generate heat and electricity, and it can produce solids/liquid known as digestate which can be used as fertiliser and compost.

**Carbon offsetting**

Carbon offsetting can help individuals and organisations to compensate for any emissions they cannot avoid or reduce by paying for an equivalent amount of emissions to be reduced or removed elsewhere.

**Circular Economy**

A circular economy is an economic system designed with the intention that maximum use is extracted from resources and minimum waste is generated for disposal.

**Climate change**

Climate change refers to a change in the state of the climate, causing changes in weather patterns on a global scale and for an extended period of time. Effects include changes in rainfall patterns, sea level rise, potential droughts, habitat loss and heat stress.

**Closed Loop Recycling**

Closed loop recycling is a process where waste is collected and recycled to make the same type of product. For example, glass bottles can be remade into more glass bottles.

**Composting (windrow)**

Shredded waste is placed in elongated heaps, called windrows, normally outdoors. The windrows are turned mechanically periodically to push air into the composting waste. The process takes at least 16 weeks. At the end, the compost weighs around half of the weight of the original waste and is distributed for agricultural and domestic use.

**Cumulative effects**

These arise where, for example, several developments each have insignificant effects but together have a significant effect or where several individual effects such as noise, dust and visual have a combined effect. The term cumulative effects is often taken to include secondary and synergistic effects.

**Decarbonisation**

Decarbonisation is the term used for removal or reduction of carbon dioxide (CO2) output into the atmosphere. Decarbonisation is achieved by switching to usage of low carbon energy sources from fossil fuels.

**DEFRA – Department for Environment, Food and Rural Affairs**

The Government department responsible for the environment, food, and rural affairs. DEFRA's remit within the environment includes waste management.

**Energy from Waste (EfW) with heat capture**

Energy from waste is a recovery process that takes residual waste and turns it into electricity. Capturing and using the heat generated significantly increases the overall efficiency of the process and the environmental benefits.

**Essex Waste Partnership (EWP)**

A partnership comprising all twelve district, borough and city councils and the county council in Essex. The partnership was set up to ensure cost-efficient and sustainable waste management across the county.

**Fossil fuels**

Fuels such as coal, petroleum, and natural gas, which contain carbon and release energy in combustion.

**Greenhouse gas**

Gases that trap heat in the atmosphere and contribute to climate change. This causes the greenhouse effect. Water vapour, carbon dioxide, nitrous oxide, methane and ozone are the primary greenhouse gases in the atmosphere.

**Home composting**

The manufacture of compost material at home (from the breakdown of food and garden waste) using a compost heap, a purpose-made container or a wormery.

**Landfill or Landfill sites**

Land in which waste is deposited, often disused quarries.

**Local Authority Collected Waste (LACW)**

Local Authority Collected Waste is household waste and any other waste that is collected for treatment and disposal by a local authority. LACW comprises of waste from households, Recycling Centres for Household Waste, street sweepings and local authority-collected commercial waste.

**Procurement**

The process of buying goods, works and services from third parties and in-house providers. This refers to all stages of the process from identifying what is needed, to the end of a service contract or the end of the useful life of an asset.

**Recovery**

In recovery, a waste treatment process is used to recover energy and new raw materials from the waste. Recovery waste treatment processes include anaerobic digestion and Energy from Waste (EfW)

**Recycling**

The reprocessing of waste materials into the same products or different ones.

**Residual Waste**

Waste that is not reused, recycled, composted or anaerobically digested

**Reuse**

In the commercial sector - using products designed to be used many times, such as re-useable packaging.

In homes, re-use includes buying products that use refillable containers or re-use plastic bags. It contributes to sustainable development and can save raw materials, energy, and transport costs.

**SEA – Strategic Environmental Assessment**

SEA is the environmental assessment of plans, programmes, or strategies. It seeks to provide high level protection to the environment; integrate the environment and sustainable development into planning processes; promote sustainable development; and promote a more open, transparent, and evidence-based planning culture.

**Secondary or indirect effects**

Effects that are not a direct result of the plan, but occur away from the original effect or as a result of a complex pathway.

**Synergistic effects**

Effects that interact to produce a total effect greater than the sum of the individual effects.

**Waste Hierarchy**

The Waste Hierarchy sets out the order in which scenarios for waste management should be considered based on environmental impact. It is a legal framework that has become a cornerstone of sustainable waste management.

Establishes an order of preference for the management of waste, to maximise the prevention of waste, whilst minimising disposal. The Waste (Management) Hierarchy is established in the Waste Framework Directive (Directive 2008/98/EC), and prescribes the following:

*Waste Hierarchy*


**Waste reduction (Waste prevention)**

Action to prevent waste being produced to reduce or minimise the amount of waste requiring final disposal. Minimising waste saves on collection and disposal costs and helps to reduce the demand for raw materials.

**Waste treatment**

The mechanical, chemical, thermal, or biological processing of certain wastes to make them harmless, reduce volumes before landfilling or recycle them.

**Zero Waste**

Zero Waste means minimising the population's demand on primary resources and maximising the reuse, recycling and recovery of resources, rather than treating them as waste.

# APPENDICES

# APPENDIX A QUALITY ASSURANCE CHECKLIST

The UK Government's Guidance on SEA[14] contains a quality assurance checklist to help ensure that the requirements of the SEA Regulations are met. Those requirements relevant to the environmental assessment have been set out below.

| Quality Assurance Checklist | |
|---|---|
| **Objectives and Context** | |
| The plan's or programme's purpose and objectives are made clear. | The purpose of the draft Waste Strategy is set out in **Section 1.2** of this Environmental Report.<br>The objectives of the draft Waste Strategy are set out in **Section 1.2.** |
| Environmental issues and constraints, including international environmental protection objectives, are considered in developing objectives and targets. | Key environmental issues identified through a review of relevant plans and programmes (see **Section 2** and **Appendix C** of this report) and analysis of baseline conditions (see **Section 3 and Appendix D**) have informed the development of the assessment framework presented in **Section 4.3**. |
| SEA objectives, where used, are clearly set out and linked to indicators and targets where appropriate. | SEA objectives and guide questions are set out in **Section 4.3** of this report. |
| Links with other related plans, programmes and policies are identified and explained. | Links are identified in **Section 2** and **Appendix C**. |
| Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described. | The relationships between the SEA, the Waste Strategy and other plan objectives have been identified in the review of plans and programmes included in **Appendix C**. |
| **Scoping** | |
| Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report. | The SEA Scoping Report was consulted upon and responses to this are included in this Environmental Report (see **Appendix B**). |
| The assessment focuses on significant issues. | The scope of the assessment reflects the geographic extent of the Waste Strategy area and provides a proportionate approach to assessment of this non-spatial Strategy. This enables the assessment to determine which impacts will be considered significant. |
| Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit. | General difficulties, limitations and assumptions are set out in **Section 4.5** of this report. Baseline data limitations are discussed in **Section 3.3**. |
| Reasons are given for eliminating issues from further consideration. | The scope of the assessment is set out in **Section 4.2**. |
| **Alternatives** | |
| Realistic alternatives are considered for key issues, and the reasons for choosing them are documented. | All scenarios were assessed as set out in **Section 5** of this report. |
| Alternatives include 'do minimum' and/or 'business as usual' scenarios wherever relevant. | A 'do minimum' and/or 'business as usual' scenario is not appropriate for the draft Waste Strategy due to landfill not being a viable long term solution. This is set out in **Section 5.1**. |
| The environmental effects (both adverse and beneficial) of each alternative are identified and compared. | This is included in **Section 5** of this report. |
| Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained. | No inconsistencies were identified. |
| Reasons are given for selection or elimination of alternatives. | This is set out in **Sections 1.3 and 5** of this report. |

[14] Office of the Deputy Prime Minister (2005) *A Practical Guide to the Strategic Environmental Assessment Directive.*

| Quality Assurance Checklist | |
|---|---|
| **Baseline Information** | |
| Relevant aspects of the current state of the environment and their likely evolution without the plan or programme are described. | **Section 3** and **Appendix D** of this report characterise the current environmental baseline conditions, along with how these are likely to change in the future. |
| Environmental characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan. | The environmental characteristics of the Waste Strategy area are described in **Section 3** and **Appendix D** of this report. |
| Difficulties such as deficiencies in information or methods are explained. | Baseline data limitations are discussed in **Section 3.3**. Difficulties and limitations encountered during the environmental assessment are set out in **Section 4.5**. |
| **Prediction and Evaluation of Likely Significant Environmental Effects** | |
| Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape), as relevant; other likely environmental effects are also covered, as appropriate. | The potential effects of the scenarios are identified in **Section 5**. |
| Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) addressed. | The nature and duration of potential effects has been considered during the assessment set out in **Section 5** of this report. |
| Likely secondary, cumulative and synergistic effects are identified where practicable. | Information on secondary, cumulative and synergistic effects is set out in **Section 5**. |
| Inter-relationships between effects are considered where practicable. | These relationships are identified where appropriate in **Section 5** of this report. |
| The prediction and evaluation of effects makes use of relevant accepted standards, regulations, and thresholds. | Relevant standards, regulations and thresholds have been used where appropriate in undertaking the assessment. |
| Methods used to evaluate the effects are described. | Information on the methods used for evaluation of potential effects is included in **Section 4** of this report. |
| **Mitigation Measures** | |
| Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated. | Mitigation measures for potential negative effects are set out in **Section 5.7**. |
| Issues to be taken into account in project consents are identified. | Issues to be taken into account in project consents, where relevant, are included in **Section 5**. |
| **The Environmental Report** | |
| Is clear and concise in its layout and presentation. | We believe the report is clear and concise, reflective of the information in the draft Waste Strategy. |
| Uses simple, clear language and avoids or explains technical terms. | The report uses accessible language wherever possible. |
| Uses maps and other illustrations where appropriate. | Maps and illustrations have been utilised as appropriate. |
| Explains the methodology used. | The method used is set out in the report in **Section 4**. |
| Explains who was consulted and what methods of consultation were used. | **Section 1.1.1** and **Appendix B** of this report outlines the consultation that has been carried out to-date. |
| Identifies sources of information, including expert judgement and matters of opinion. | Sources of information are included throughout the report. |
| Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA. | A Non-Technical Summary has been included at the front of the report. |
| **Consultation** | |

| Quality Assurance Checklist | |
|---|---|
| The SEA is consulted on as an integral part of the plan-making process. | The previously issued SEA Scoping Report was consulted upon and responses are included in this Environmental Report (see **Appendix B**). |
| Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate time frames to express their opinions on the draft plan and Environmental Report. | Consultation on the draft Waste Strategy and this Environmental Report will be undertaken by Essex County Council. |
| **Decision-making and Information on the Decision** | |
| The Environmental Report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme. | This will be incorporated following consultation on draft Waste Strategy and Environmental Report. |
| An explanation is given of how they have been taken into account. | This will be provided in the Post Adoption Statement following consultation on the draft Waste Strategy and Environmental Report. |
| Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered. | This will be set out in the Post Adoption Statement following consultation on the draft Waste Strategy and Environmental Report. |
| **Monitoring Measures** | |
| Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA. | The report sets out potential monitoring measures that could be used in **Section 6.1**. |
| Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA. | The suggestions for monitoring measures are included in **Section 6.1** of the report. |
| Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect.) | The suggestions for monitoring made in **Section 6.1** are for Essex County Council and EWP to act on, with monitoring taking place following implementation of the Waste Strategy. |
| Proposals are made for action in response to significant adverse effects. | Mitigation methods are outlined in **Section 5.7** of this report. |

# APPENDIX B SCHEDULE OF SCOPING CONSULTATION RESPONSES

| Historic England Comments | Response |
|---|---|
| Comment 1<br>As you will be aware, under the provisions of Article 5(1) of The SEA Directive there is a requirement to assess the likely significant effects which the Policies and proposals of a Plan might have upon "cultural heritage including architectural and archaeological heritage". In terms of the historic environment, whilst we would endorse some aspects of the Appraisal, we have significant concerns regarding the scoping out of archaeology and cultural heritage (Table 3.6: Scoping of topics into the SEA).<br><br>We understand that the rationale for this is that the Strategy is not seeking to identify new sites, which we accept. However, both Biodiversity, Flora and Fauna, and Landscape and Visual Amenity have been scoped in on the basis that there is potential for significant impacts to designated sites and species and landscapes.<br><br>Given the scoping report acknowledges the potential for significant impacts on designated landscapes and sites, how can we be sure there will be no impacts on heritage assets within these landscapes and sites? Moreover, whilst the Strategy may not be seeking to identify new sites, we would remind you that even changes to existing operations, including intensification of use have the potential to impact on heritage assets.<br><br>On this basis, and given the uncertainty of Strategy at this stage, it would be wise to scope archaeology and cultural heritage into the Strategic Environmental Assessment. We therefore request that the Scoping Report is reissued, scoping in archaeology and cultural heritage, and including corresponding SEA Objectives and guide questions. | The Waste Strategy options assessed focus on the methodology and frequency of waste collections and the Strategy is not looking to identify sites or infrastructure gaps. The Strategy is not site specific and likely significant effects on archaeology and cultural heritage are not anticipated, however, we understand that some wording in the Scoping Report could have been misleading as to the site specificity of the Strategy.<br><br>The perceived move away from landfill as a treatment process was connected with the Strategy options and it was anticipated these would generally have a positive effect on biodiversity and landscape and therefore these topics were scoped in on a precautionary basis. However, the decisions around the chosen treatment process (Energy from Waste) are out with the scope of this Strategy process. Essex County Council is in the process of procuring a new offtake contract for the Council's residual waste, which would commence in 2024. This procurement process will determine the treatment route(s) for the Council's residual waste. As the procurement exercise is still ongoing, the residual waste treatment route for the modelled year in the Strategy is currently unknown. For the purposes of the Strategy, Energy from Waste has been modelled as the treatment method for residual waste as this was deemed the most likely outcome of the procurement exercise. As the Strategy is not site-specific, this was only modelled in respect of impacts of the general treatment process on parameters including recycling/recovery rates, greenhouse gas emissions and costs (e.g. gate fees) when compared to the baseline scenario of landfilling the Council's residual waste. Further sensitivities have also been explored, assessing the impacts of implementing front-end sorting, combined heat and power (CHP) and carbon capture, utilisation and storage (CCUS) on the same parameters for Energy from Waste. Likewise, these sensitivities are only assessed in terms of the technology/process type and do not take into account any spatial aspects as these are outside of the scope of this Strategy.<br><br>The baseline of the collections and treatment throughout the Essex County Council area is as follows against which the shortlisted options will be assessed: |

| Method | Collection in number of district councils | Treatment |
|---|---|---|
| Dry Recycling | **Frequency**: 11/12 fortnightly, 1/12 weekly **Service**: varies from 4/12 comingled (single, mixed stream) to 5/12 two-stream (two separate streams) to 3/12 multi-stream (multiple separate streams) | Comingled/mixed streams: MRF Separate/clean streams: secondary processing (material-specific processor) |
| Food Waste | **Frequency**: all weekly **Service**: 9/12 = separate, 3/12 = mixed with garden | Separate food: Wet AD Mixed food/garden: composting |
| Garden Waste | **Frequency**: all fortnightly **Service**: 9/12 = separate, 3/12 = mixed with food | Separate garden: composting Mixed food/garden: composting |
| Residual Waste | **Frequency**: 10/12 fortnightly, 2/12 weekly **Service**: n/a | Mix of landfill, MBT, EfW |

This table will be included in the Environmental Report. The non-spatial nature of the Strategy will also be set out more clearly in the Environmental Report and references to site specific effects will be removed.

Whilst archaeology and cultural heritage will not be scoped into this assessment it will be fully considered as we move forward with associated spatial plans[15].

Existing regulatory frameworks will manage impacts of the Strategy as it is taken forward, and the

| Historic England Comments | Response |
|---|---|
| | potential for environmental effects arising from individual waste proposals will continue to be assessed and mitigated, where appropriate through existing mechanisms, including through the EIA process, application of standards and guidelines and consenting where relevant.<br><br>For example, where future actions have the potential to introduce land use change, individual projects will be subject to consideration through the relevant statutory regimes including EIA to ensure any likely significant environmental effects are identified and opportunities to avoid, reduce or offset these are considered. |
| Comment 2<br>**Spatial aspects to the Strategy**<br>We would remind you that paragraphs 199 and 200 of the NPPF make it clear that great weight should be given to the conservation of heritage assets, and that any harm to, or loss of, the significance of a designated heritage assets (including as a result of changes in their settings) should require clear and convincing justification. However, we often see assessments concluding 'uncertain effects' in relation to potential site allocations because there isn't sufficient information to understand what impact development would have on the significance of nearby heritage assets. Our Advice Note 3 'The Historic Environment and Site Allocations in Local Plans' (HEAN 3) (<https://historicengland.org.uk/images-books/publications/historic-environment-and-site-allocations-in-local-plans/heag074-he-and-site-allocation-local-plans/> ) sets out a suggested approach to assessing sites and their impact on heritage assets.<br><br>If through the course of the Strategy any spatial elements emerge, then we recommend that this methodology is applied to the assessment and selecting of sites within the Basildon Borough Local Plan, and therefore request that HEAN3 be added to the review of relevant plans, policies and programmes in the report. | The Historic Environment and Site Allocations in Local Plans Advice Note 3 will be included within the Environmental Report for completion.<br><br>Due consideration will be given to the methodology in the HEAN3 advice note when environmental assessments are made of associated spatial plans. |

[15] After conducting a comprehensive assessment of the scenarios and sensitivities, it was determined that the anticipated environmental effects on archaeology and cultural heritage would still not be significant at this stage, especially considering the absence of specific sites under evaluation. However, in the interest of providing a comprehensive and thorough assessment and signpost to where spatial considerations will be undertaken, the inclusion of archaeology and cultural heritage within the scope was deemed appropriate.

| Historic England Comments | Response |
|---|---|
| Comment 3<br>Historic England strongly advises that the conservation and archaeological team of your authority are closely involved throughout the preparation of the IIA of this Plan. They are best placed to advise on; local historic environment issues and priorities, including access to data held in the HER; how the policy or proposal can be tailored to minimise potential adverse impacts on the historic environment; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets. | Agreed. Where plans are anticipated to have effects on archaeology and cultural heritage, the conservation and archaeological team of Essex County Council are and will be closely involved in their preparation. |

| Natural England Comments | Response |
|---|---|
| Comment 1<br>As a general point, the Scoping Report doesn't provide a picture of the geographic reach of existing arrangements for the management of the County's waste or how this might be changed as a consequence of the Draft Waste Strategy. The report identifies the baseline level and profile of waste generated within the County and the waste management infrastructure currently available or in construction. However, the report doesn't identify whether there are elements of waste "export" or "import" for treatment/disposal. This information would enable a more comprehensive assessment of the environmental baseline as the Waste Strategy may have environmental effects beyond the County boundary. For example, transporting waste for treatment in neighbouring Counties could result in traffic-related impacts for the air quality experienced at designated sites outside Essex. Accordingly, there may need to be an expansion of the baseline analysis where it relates to "Biodiversity, flora and fauna" if there are potential impacts beyond the County's administrative area. | The Waste Strategy options assessed focus on the methodology and frequency of waste collections and the Strategy is not looking to identify sites or infrastructure gaps. Import and export of waste is not changing as a result of the Strategy. Import and export is set by the procurement process and led by the market. This is out with the scope of the Strategy. Essex County Council is in the process of procuring a new offtake contract for the Council's residual waste, which would commence in 2024. This procurement process will determine the treatment route(s) for the Council's residual waste and therefore the relative import/export requirements, if any. As the procurement exercise is still ongoing, the residual waste treatment route for the modelled year in the Strategy is currently unknown. For the purposes of the Strategy, Energy from Waste has been modelled as the treatment method for residual waste as this was deemed the most likely outcome of the procurement exercise. As the Strategy is not site-specific, this was only modelled in respect of impacts of the general treatment process on parameters including recycling/recovery rates, greenhouse gas emissions and costs (e.g. gate fees) when compared to the baseline scenario of landfilling the Council's residual waste. Text will be included in the Environmental Report to reflect this.<br><br>The current baseline of waste collection and treatment across the County is set out in the table below. This will be included in the Environmental Report. |

<table>
<tr><th>Natural England Comments</th><th>Response</th></tr>
<tr><td></td><td>
<table>
<tr><th>Method</th><th>Collection in number of district councils</th><th>Treatment</th></tr>
<tr><td>Dry Recycling</td><td>Frequency: 11/12 fortnightly, 1/12 weekly<br>Service: varies from 4/12 comingled (single, mixed stream) to 5/12 two-stream (two separate streams) to 3/12 multi-stream (multiple separate streams)</td><td>Comingled/mixed streams: MRF<br>Separate/clean streams: secondary processing (material-specific processor)</td></tr>
<tr><td>Food Waste</td><td>Frequency: all weekly<br>Service: 9/12 = separate, 3/12 = mixed with garden</td><td>Separate food: Wet AD<br>Mixed food/garden: composting</td></tr>
<tr><td>Garden Waste</td><td>Frequency: all fortnightly<br>Service: 9/12 = separate, 3/12 = mixed with food</td><td>Separate garden: composting<br>Mixed food/garden: composting</td></tr>
<tr><td>Residual Waste</td><td>Frequency: 10/12 fortnightly, 2/12 weekly<br>Service: n/a</td><td>Mix of landfill, MBT, EfW</td></tr>
</table>
</td></tr>
<tr><td>Comment 2<br>In relation to air quality, the Scoping report states (paragraph 3.7.1.3) “the air quality baseline can be best described through reference to information produced by the local authorities in Essex that have declared Air Quality Management Areas (AQMA). Reference to AQMAs will be made when considering any adverse impacts on air quality of the Waste Strategy options.” Whilst this baseline will be important for the assessment of impacts for human health, the Air Pollution Information System (APIS) is the key source for baseline air quality information for sites of value for nature</td><td>Whilst not a site-specific Strategy, the SEA Environmental Report will take into consideration air quality impacts on designated biodiversity sites. The baseline sections of the Environmental Report will be updated to include relevant information from the APIS website.</td></tr>
</table>

| Natural England Comments | Response |
|---|---|
| conservation (SPAs, SACs, SSSIs). The APIS website Air Pollution Information System \| Air Pollution Information System (apis.ac.uk) provides a searchable database and information on pollutants and their impacts on habitats and species and should be interrogated for the purposes of the air quality baseline analysis. | |
| Comment 3<br>As the Draft Waste Strategy could involve development which affects "best and most versatile agricultural land", the section of the report which concerns Soils should include a reference to the Agricultural Land Classification of the non-urban areas of the County as part of its baseline analysis. Agricultural Land Classification information is available on the Magic website. | The Waste Strategy options assessed focus on the methodology and frequency of waste collections and the Strategy is not looking to identify sites or infrastructure gaps. However, the Environmental Report will include reference to Agricultural Land Classification baseline data of the non-urban areas as well as a GIS map. |
| Comment 4<br>The section of the Report which concerns Landscape and Visual Amenity notes that there are no Areas of Outstanding Natural Beauty (AONBs) within Essex and therefore such nationally designated landscapes do not fall within the Report's baseline assessment. However, a section of the Suffolk Coast and Heaths AONB extends into Essex (at Manningtree, Mistley and Wrabness area within Tendring District) and this AONB should therefore be included in the baseline Landscape assessment. Moreover, in accordance with the National Planning Policy Framework, consideration should be given to the effects of development on the setting of an AONB which will include locations beyond the defined boundary of an AONB. | Noted. This AONB will be added to the baseline section of the Environmental Report.<br><br>This guide question covers the point regarding setting: "Will the draft Strategy affect the purposes and/or special qualities of protected/designated/culturally important landscapes and their setting?". |
| Comment 5<br>Your consultation asks whether the SEA objectives and guide questions cover the breadth of issues appropriate for appraising the effects of the Draft Waste Strategy. This is a difficult question to respond to without a clear picture of the site specific impacts of the Strategy. Nevertheless, the Report could include additional guide questions that are explicit about their assessment of the impacts of the Strategy upon designated sites. For example, the existing questions address the impacts upon water quality/quantity in general but do not specifically focus on the impacts upon the designated sites whose interest features (habitats and species) are water-dependent and rely on their conservation status being maintained or improved. | As the Strategy is not site specific the objectives and guide questions were intended to cover a breadth of issues. It is felt that adding further detail to the guide questions would not be proportionate to the scenarios being assessed. We are happy to discuss further if necessary. |

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# APPENDIX C REVIEW OF PLANS AND PROGRAMMES

Table A. 1 Plans, Policies and Programmes

| Objectives identified in the Policy, Plan or Programme | Influences on the Waste Strategy and the SEA objectives |
|---|---|
| *International* | |
| Ramsar Convention: The Convention on Wetlands of International Importance (1971) | |
| The Convention on Wetlands (Ramsar, Iran, 1971) (the "Ramsar Convention") is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance and to plan for the "wise use", or sustainable use, of all of the wetlands in their territories. | The impacts of the Waste Strategy scenarios on important wetland habitats must be considered as part of the SEA. |
| The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) | |
| International convention which aims to ensure conservation of wild flora and fauna species and their habitats. Special attention is given to endangered and vulnerable species, including endangered and vulnerable migratory species specified in appendices.<br>Enforced in European legislation through the Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC). | The impacts of the Strategy scenarios on internationally designated sites, species and important Bird habitats must be considered as part of the SEA. |
| The Bonn Convention on the Conservation of Migratory Species of Wild Animals (1983) | |
| Aims to conserve terrestrial, marine and avian migratory species throughout their range.<br>Enforced in European legislation through the Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC). | The impacts of the Strategy scenarios on important Bird habitats (i.e. Ramsar sites and SPA designated sites) must be considered as part of the SEA. |
| The Cancun Agreement (2011) & Kyoto Agreement (1997) | |
| The agreement represents key steps forward in capturing plans to reduce greenhouse gas emissions and to help developing nations protect themselves from climate impacts and build their own sustainable futures. It includes a shared vision to keep global temperature rise to below two degrees Celsius. | The SEA should seek to promote a reduction in greenhouse gas emissions. |
| Charter for the Protection and Management of Archaeological Heritage (1990) | |
| The International Council on Monuments and Sites (ICOMOS) International Committee on Archaeological Heritage Management (ICAHM) created a charter to establish principles and guidelines of archaeological heritage management that are globally valid and can be adapted to national policies and conditions. This includes general principles for investigation, maintenance, and conservation as well as reconstruction of architectural heritage. | The impacts of the scenarios on archaeological heritage sites must be considered as part of the SEA. |
| United Nations Economic Commission for Europe (1998) Aarhus Convention - Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters | |
| The Aarhus Convention grants the public rights regarding access to information, public participation and access to justice, in governmental decision-making processes on | The Convention is designed to improve the way ordinary people engage with government and decision-makers on environmental matters. It |

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| matters concerning the local, national and transboundary environment. It focuses on interactions between the public and public authorities.<br>The Aarhus Convention has been ratified by the European Community, which has begun applying Aarhus-type principles in its legislation, notably the Water Framework Directive (Directive 2000/60/EC). | helps to ensure that environmental information is easy to get hold of and easy to understand.<br>The SEA should seek to provide easily understood information to the public on the environmental implications of the Waste Strategy and its constituent scenarios. |
| Paris Agreement (2015) | |
| The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016.<br>Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels. | The SEA should take into account the need to consider impacts towards climate change i.e. contribution towards greenhouse gas emission reductions). |
| European Commission, Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive) | |
| This Directive ensures that individual Parties integrate environmental assessment into their plans and programmes at the earliest stages, whereby an SEA becomes mandatory for plans/programmes which are:<br>• Prepared for agriculture, forestry, fisheries, energy, industry, transport, waste/ water management, telecommunications, tourism, town & country planning or land use and which **set the framework** for future development consent of projects listed in the EIA Directive; Or<br>• Have been determined to require an assessment under the Habitats Directive.<br>For any plans/programmes not included in the above, the Member States must carry out a screening procedure to determine whether the plans/programmes are likely to have significant environmental effects. | This Directive provides the regulatory basis for an SEA being carried out as part of the Strategy. From December 31 2020, following the exit of the UK from the European Union the SEA Regulations are now the principal legal basis for the SEA. However, as some of the guidance has not been updated the various SEA stages and deliverables may still refer to the SEA Directive where deemed appropriate. |
| European Community (EC) Directive 1999/31/EC on the landfill of waste | |
| The Directive requires, amongst other things, that a Strategy on biodegradable waste is put in place that achieves the progressive diversion of biodegradable municipal waste from landfill (Articles 5(1) & (2)). This requirement has been implemented in England through Waste Strategy 2007 and across the UK through the Waste and Emissions Trading Act 2003 | The SEA should ensure that any scenarios for the Waste Strategy are within the guidance set out by the Landfill Directive. |
| Council of Europe (2003) European Soils Charter | |
| Sets out common principles for protecting soils across Europe and will help. | The SEA should seek to ensure that the quality of the region's land, including soils, is protected or enhanced. |
| Council of Europe (2006), European Landscape Convention | |
| European Landscape Convention (ELC) is the first international convention to focus specifically on landscape. Natural England implements the European Landscape Convention in England. The aims of the 2009/10 action plan are: | The implementation of the Waste Strategy may influence landscape or the enjoyment of landscapes in the Essex County Council area and as such the SEA should seek to maintain or |

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| Lead on improving the protection, planning and management of all England's landscapes<br>Raise the quality, influence and effectiveness of policy and practical instruments<br>Increase the engagement in and enjoyment of landscapes by the public<br>Collaborate with partners across the UK and Europe. | enhance the quality of the region's landscapes and the potential enjoyment of these landscapes. |
| The Environment Noise Directive (Directive 2002/49/EC) | |
| The END aims to —define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure to environmental noise. It also aims to provide the basis for developing EU measures to reduce noise emitted by major sources, in particular road and rail vehicles and infrastructure, aircraft, outdoor and industrial equipment and mobile machinery. | The SEA assessment framework should include for the protection against excessive noise. |
| European Commission (2008) The 2008 ambient air quality directive (2008/50/EC) | |
| The 2008 ambient air quality directive (2008/50/EC) sets legally binding limits for concentrations in outdoor air of major air pollutants that impact public health such as particulate matter (PM10 and PM2.5) and nitrogen dioxide (NO2). As well as having direct effects, these pollutants can combine in the atmosphere to form ozone, a harmful air pollutant (and potent greenhouse gas) which can be transported great distances by weather systems. | The implementation of the Waste Strategy may have some influence on air quality, either directly or indirectly through construction or operation activities. The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. |
| European Commission, Thematic Strategy on air pollution (2005) | |
| This policy sets out interim objectives for air pollution in the EU and measures for achieving them. | The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. |
| European Commission (2009) Promotion of the use of energy from renewable sources Directive (2009/28/EC) | |
| This promotes the use of energy from renewable sources. | The SEA should seek to promote the use of renewable energy. |
| European Commission (2011), Our life insurance, our natural capital: an EU biodiversity Strategy to 2020 | |
| This is a long-term vision which was endorsed as a result of the 2010 biodiversity target not being met. It sets out the EU 2020 biodiversity target and vision for 2050. The key targets included:<br>• Conserving and restoring nature;<br>• Maintaining and enhancing ecosystems and their services;<br>• Ensuring the sustainability of agriculture, forestry and fisheries;<br>• Combating invasive alien species; and<br>Addressing the global biodiversity crisis. | The implementation of the Strategy should seek to facilitate achievement of the EU 2020 biodiversity target and 2050 vision, through its existing consideration of impacts towards biodiversity, set out in the SEA objectives. |
| European Commission, Environmental Liability Directive (2004/35/EC) | |
| The Directive establishes a framework for environmental liability based on the "polluter pays" principle, with a view to preventing and remedying environmental damage. | The SEA should seek to ensure that the Waste Strategy avoids causing direct or indirect damage to the aquatic environment or contamination of land that creates a significant risk to human health. |

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| European Commission, Urban Waste Water Treatment Directive (1991/271/EC) | |
| The Directive's objective is to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial sectors and concerns the collection, treatment and discharge of domestic waste water, mixture of waste water and waste water from certain industrial sectors. | The SEA should seek to maintain, protect and improve water quality across the region. |
| European Commission (1992), Habitats Directive (1992/43/EC) | |
| The aim of the Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance. | The impacts of the Strategy on internationally designated sites and species must be considered as part of the SEA. |
| European Commission (2006) Thematic Strategy for Soil Protection | |
| The Thematic Strategy for Soil Protection consists of a Communication from the Commission to the other European Institutions, a proposal for a framework Directive (a European law), and an Impact Assessment. | The SEA assessment framework should include consideration of soils and their protection. |
| European Commission (2009), Birds Directive (2009/147/EC) | |
| The Directive provides a revised framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievement are at the discretion of each Member State (in the UK delivery is via several different statutes). | The SEA should seek to protect and conserve important bird habitats. |
| European Commission, Directive on the Assessment and Management of Flood Risks (2007/60/EC) | |
| This Directive requires Member States to assess whether all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. | The impacts of the Strategy on existing fluvial, groundwater and coastal flood risk must be considered as part of the SEA. |
| United Nations (2002), Commitments arising from the World Summit on Sustainable Development, Johannesburg | |
| The World Summit on Sustainable Development proposed broad-scale principles which should underlie sustainable development and growth.<br>It included objectives such as:<br>Greater resource efficiency<br>Work on waste and producer responsibility<br>New technology development<br>Push on energy efficiency<br>Integrated water management plans needed<br>Minimise significant adverse effects on human health and the environment from chemicals by 2020. | These commitments are the highest level definitions of sustainable development. The Waste Strategy should be influenced strongly by all of these themes and should seek to take its aims into account.<br>The SEA should seek to promote the achievement of the sustainable development objectives outlined in this plan. |
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| The Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations) | |

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| This represents the transposition of the Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive). | These Regulations provide the UK regulatory basis for an SEA being carried out as part of the Waste Strategy. |
| Waste Management Plan 2021 | |
| The plan set out an overview of waste management in England bringing current waste management policies into a single national plan.<br>The Wate Management Plan sets out a vision and policies with the aim of moving to a circular economy.<br>The following documents contain significant policies that contribute to the Waste Management Plan for England:<br>• the Clean Growth Strategy<br>• the Industrial Strategy<br>• the Litter Strategy<br>• the UK Plan for Shipments of Wastes<br>• the National Policy Statements for Hazardous Waste and for Renewable Energy Infrastructure (in so far as it relates to facilities which recover energy from waste). | The Waste Strategy should promote the policies set forward in the Waste Management Plan 2021 alongside the support documents which contribute to the overall plan for England. |
| The Climate Change Act 2008 | |
| This act sets carbon targets for 2050. The net carbon account for 2050 at least 80% lower than 1990 baseline. | This target needs to be taken into account in the SEA. |
| The Climate Change Act 2008 (2050 Target Amendment) Order 26 June 2019 | |
| This amendment changed the UK carbon emissions reduction target from an 80% to a 100% reduction | This target needs to be taken into account in the SEA objective for energy use and greenhouse gas emissions, and adaptation to climate change. |
| Conservation of Habitats and Species Regulations 2017 (Amendment) (EU Exit) Regulations (2019) | |
| These regulations consolidate all the various amendments made to the Conservation (Natural Habitats) Regulations 1994 in England.<br>The regulations provide for the designation and protection of 'European sites', the protection of 'European species', and the adaptation of planning and other controls for the protection of European Sites. They are the principal means by which the Habitats Directive is transposed in England as such its main objective is to promote the maintenance of biodiversity. | The impacts of the Waste Strategy scenarios species diversity must be considered as part of the SEA. |
| Resource and Waste Strategy (2018) | |
| The Strategy sets out how we will preserve our stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy.<br>Initiatives within the Strategy include:<br>• A Deposit Return Scheme for drinks containers<br>• Extended Producer Responsibility for packaging<br>• Consistency in household and business waste recycling | The Waste Strategy should fall in line with guidance set out in the Resource and Waste Strategy with scenarios contributing to the overall aims of the policy paper. |
| Industrial Strategy White Paper (2017) | |

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| This White Paper sets out long-term plans to boost productivity and earning power of people throughout the UK. There is specific reference to waste with respect to moving towards a regenerative circular economy:<br>- promotion of recycling and strong secondary materials markets<br>- deliver a 20% per capita reduction in food waste by 2025<br>- strengthen policies in line with ambitions of zero avoidable waste and doubling of resource productivity by 2050. | The Waste Strategy should aim to promote the plans set out in the Industrial Strategy with respect to moving towards a regenerative circular economy. |
| The Countryside and Rights of Way (CROW) Act, 2000 | |
| The Act provides for increased public access to the countryside and strengthens protection for wildlife.<br>The main provisions of the Act are as follows:<br>Extends the public's ability to enjoy the countryside whilst also providing safeguards for landowners and occupiers<br>Creates new statutory right of access to open country and registered common Land Use Consultants<br>Modernises Right of Way system<br>Gives greater protection to SSSIs<br>Provides better management arrangements for AONBs<br>Strengthens wildlife enforcement legislation. | If the Waste Strategy is to have an effect on public access to the countryside, the SEA should include objectives that take into account public access, protection of SSSIs and the management of relevant landscape designations. |
| The Natural Environment and Communities Act 2006 (NERC Act) | |
| This provides the legislative framework to extend the biodiversity duty set out in the Countryside and Rights of Way (CROW) Act to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity.<br>Importantly, Section 41 of the Act refers to a published list of habitats and species which are of principal importance for the conservation of biodiversity in England.<br>This duty applies to all utility companies. | There are a range of designated Natural Environment and Rural Communities (NERC) Act Section 41 habitats within the assessment area.<br>The Strategy may have an effect on NERC habitats and therefore the SEA must include objectives that take these effects into account. |
| DCLG (2012) National Planning Policy Framework (as amended 2019) | |
| Presumption in favour of sustainable development. Core planning principles include taking account of the development needs of an area; contribute to conserving and enhancing the environment; re-use of previously developed land; conserve heritage assets; deliver sufficient community facilities to meet local needs. Delivering sustainable development includes:<br>Building a strong competitive economy;<br>Supporting a prosperous rural economy;<br>Promoting sustainable transport; Requiring good design;<br>Promoting healthy communities; Protecting green belt land;<br>Meeting the challenge of climate change, flooding and coastal change;<br>Conserving and enhancing the natural environment;<br>Conserving and enhancing the historic environment; | The Waste Strategy and SEA should take account of the key components of sustainable development. |

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| Facilitating the sustainable use of minerals.<br>Reservoirs are included within the definition of open space - of public value due to opportunities for sport and recreation and providing a visual amenity. | |
| Department for Energy and Climate Change (2020) Energy White Paper: Powering our Net Zero Future | |
| The white paper outlines a series of policies and commitments made by the government as part of the transition to net zero carbon emissions. The strategies are three fold:<br>• Prioritisation of renewable sources energy generation and invest in low-carbon technologies<br>• Supporting a green recovery from COVID-19 through investment in green industries<br>• Creating a fair deal for consumers through facilitating competition, enhanced regulation and strategies to improve the energy performance of homes. | The implementation of the Waste Strategy may have an influence energy use within the Essex County Council Region. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant. |
| Department of energy and climate change (2011) Planning our electric future: a White Paper for secure, affordable and low carbon electricity | |
| This white paper outlines a package of reforms so that by 2030 there will be a flexible, smart and responsive electricity system, powered by a range of low carbon sources of electricity. This includes engaging with consumers on energy use. Decarbonisation is important in meeting the 2050 targets. | The implementation of the Waste Strategy may have an influence energy use within the Essex County Council Region. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant. |
| Defra (2011) Government Review of Waste Policy in England 2011 | |
| The review is guided by the “waste hierarchy”, EU obligations and targets on waste management, carbon impacts, environmental objectives and the costs and benefits of different policy options.<br>The Governments vision include a move beyond the current throwaway society to a “zero waste economy” in which material resources are re-used, recycled or recovered wherever possible, and only disposed of as the option of very last resort. | The Waste Strategy will involve scenarios related to waste generation and recycling. The SEA should seek to enhance recycling and minimise the amount of waste going to landfill. |
| HM Government (2018) Our Waste, Our Resources: A Strategy for England | |
| In response to the 25 Year Environmental Plan, this document sets out a targeted Strategy for preserving our stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy | The SEA should take into account effects on resource use and waste, and the benefits of promoting resource efficiency. |
| Defra (2017) The UK Climate Change Risk Assessment 2017 Evidence Report | |
| Identifies themes that form the priorities for adaptation in the UK. | The SEA should take into account the need for climate change adaptation. |
| Defra (2009) Safeguarding our soils – A Strategy for England | |
| The new Soil Strategy for England – Safeguarding our Soils – outlines the Government’s approach to safeguarding our soils for the long term. It provides a clear vision to guide future policy development across a range | The SEA should seek to ensure that the quality of the regions soils and their management are protected and/or enhanced. |

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| of areas and sets out the practical steps that we need to take to prevent further degradation of our soils, enhance, restore and ensure their resilience, and improve our understanding of the threats to soil and best practice in responding to them.<br>The Governments vision is that: By 2030, all England's soils will be managed sustainably and degradation threats tackled successfully. This will improve the quality of England's soils and safeguard their ability to provide essential services for future generations. | |
| Defra (2007) The Air Quality Strategy for England, Scotland and Wales | |
| This Strategy identifies air quality objectives and policy options to further improve air quality in the UK into the long term. The options are intended to provide important benefits to quality of life and help protect the environment as well as the direct benefits to public health. | The implementation of the Strategy may have some influence on air quality, either directly or indirectly through construction or operational activities. The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. |
| Defra (2005) Securing the Future: Delivering UK Sustainable Development Strategy | |
| The Strategy for sustainable development aims to enable all people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. The Strategy places a focus on protecting natural resources and enhancing the environment. | The SEA must seek to ensure that objectives relating to sustainable development, sustainable resource use and protecting the natural environment, are considered when assessing the potential impacts of the waste management Strategy. |
| Defra (2004) The First Soil Action Plan for England | |
| This plan is a comprehensive statement on the state of the UK's soils and how Government and other partners were working together to improve them. Ensure that England's soils will be protected and managed to optimise the varied functions that soils perform for society (e.g. supporting agriculture and forestry, protecting cultural heritage, supporting biodiversity, as a platform for construction), in keeping with the principles of sustainable development. | The SEA should seek to ensure that the quality of the region's land, including soils, is protected or enhanced. |
| Defra (2004) Rural Strategy | |
| The Strategy sets out rural and countryside policy, and draws upon from lessons learnt following the rural white paper. Objectives include supporting economic and social regeneration across rural England and enhance the value of the countryside and protect the natural environment for this and future generations. | The implementation of certain Strategy scenarios may have an effect upon rural communities and the countryside. The SEA should also seek to ensure that the quality of the region's landscapes, natural resources and biodiversity are maintained or enhanced. |
| Defra (2002) The Strategy for Sustainable Farming and Food – facing the future | |
| This Strategy sets out how industry, Government and consumers could work together to secure a sustainable future for our farming and food industries. The Strategy's objectives are to support the viability and diversity of rural and urban economies and communities, respect and operate within the biological limits of natural resources (especially soil, water and biodiversity) and achieve consistently high standards of environmental performance by reducing energy consumption, by | The implementation of the Strategy may have some indirect links with the food industry. The SEA should also seek to promote the most effective use of the region's natural resources, including soil, biodiversity and energy resources. |

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| minimising resource inputs, and use renewable energy wherever possible. | |
| Defra (2011) The Natural Choice: securing the value of nature, The Natural Environment White Paper | |
| This paper sets out a new approach for protecting and improving the natural environment, developing a green economy and reconnecting people to nature, based on the findings of the UK National Ecosystem Assessment. | The Waste Strategy and SEA should seek to ensure that the natural environment and distinctive landscapes are protected and public access to them, are maintained. |
| UK Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment | |
| The 25 Year Plan sets out to deliver cleaner air and water in our cities and rural landscapes, protect threatened species and provide richer wildlife habitats, in addition to tackling the effects of climate change. The 25-year goals include:<br>1. Clean air;<br>2. Clean and plentiful water;<br>3. Thriving plants and wildlife;<br>4. A reduced risk of harm from environmental hazards such as flooding and drought;<br>5. Using resources from nature more sustainably and efficiently;<br>6. Enhanced beauty, heritage and engagement with the natural environment;<br>In addition, managing pressures on the environment by:<br>7. Mitigating and adapting to climate change;<br>8. Minimising waste;<br>9. Managing exposure to chemicals; and<br>10. Enhancing biosecurity. | The Waste Strategy and SEA objectives should be consistent with the principles behind the 25-year goals of the plan. The SEA should seek to ensure that the themes included in the 25-year goals are also reflected in the SEA objectives, particularly around air quality, resource use, energy use and greenhouse gas emissions, adaptation to climate change, minimising waste. |
| Defra (2020), The Draft Environment Bill 2020, and content related to the development of Nature Recovery Networks (parts 6 and 7) | |
| This policy paper provides greater clarity on some of the key changes proposed in the 25 Year Environmental Plan, including:<br>- The implications of the requirement for local areas to develop a Local Nature Recovery (LNR) Strategy, in driving the delivery of a National Nature Recovery (NNR) Network;<br>- New 'biodiversity net gain' measures as part of the planning requirements for new developments; and<br>- New measures that will support the design and delivery of strategic approaches for the protection of both species and habitats. | The Strategy and SEA objectives for biodiversity should take account of the need to consider impacts towards LNR and NNR strategies and potential for biodiversity net gain. |
| The Energy Act 2013 | |
| This provides the legislative framework for delivering secure, affordable and low carbon energy. It includes provisions for decarbonisation, | The implementation of the Strategy may have an influence upon Essex County Council's total energy use. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant. |

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| Environment Act, 2021 | |
| The Environment Act makes provisions about targets, plans and policies for improving the natural environment; creation of the Office for Environmental Protection; about waste and resource efficiency; about air quality; for the recall of products that fail to meet environmental standards; about water; about nature and biodiversity; for conservation covenants; about the regulation of chemicals; and for connected purposes.<br>Section 45A outlines specific waste and resource related provisions including: 'recyclable household waste must be collected separately from other household waste for recycling or composting, recyclable streams must be collected separately, food waste must be collected weekly'. | The Strategy and the SEA should seek ensure that any scenarios follow targets and policies set out in the Environment Act. |
| Environment Act, 1995 | |
| The Environment Act set up the EA to manage resources and protect the environment in England and Wales | The SEA should seek to promote the protection and enhancement of all resources without having negative effects on other aspects of the Environment. |
| Environment Agency (2009), Water Resources Strategy for England and Wales | |
| This is the national EA Strategy for water resource management in the long term. It looks to 2050 and considers the impacts of climate change, the water environment, water resource and valuing water. Aims and objectives include:<br>- Ensure water is used efficiently in homes and buildings, and by industry and agriculture<br>- Provide greater incentives for water companies and individuals to manage demand and<br>- Share existing water resources more effectively | The SEA should seek to ensure that Strategy objectives are also reflected in the SEA objectives, particularly around water resource use and availability in the region. |
| The Environmental Damage (Prevention and Remediation) (England) Regulations 2015 | |
| These regulations amend the 2009 regulations and provide additional protection to habitats and species identified on Annexes 1 and 2 of the EC Habitats Directive (92/43/EEC), SSSIs and, in some cases, classified waterbodies from environmental damage where an operator has intended to cause damage or been negligent to the potential for damage.<br>Applies to the most serious categories of environmental damage, including:<br>- Contamination of land that results in a significant risk of adverse effects on human health<br>- Adverse effects on surface water or groundwater consistent with a deterioration in the water's status<br>- Adverse effects on the integrity of a SSSI or on the conservation status of species and habitats protected by EU legislation outside SSSIs. | The SEA should seek to ensure that the guidance provided by the regulations is considered when assessing the Waste Strategy. |
| Environment Agency (2018) The Environment Agency's approach to groundwater protection | |

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| This document contains position statements which detail the Environment Agency's approach to managing and protecting groundwater. The primary aim of all of the position statements is the prevention of pollution of groundwater and protection of it as a resource. | The Strategy and SEA approach to groundwater protection should be compliant with the Environment Agency's approach. |
| Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment | |
| Guidance for addressing the historic environment in Strategic Environmental Assessment or Sustainability Appraisal. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues. | The SEA should consider the potential effects of the Strategy on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this document should be taken into account in the SEA. |
| HM Government (2016) National Infrastructure Delivery Plan 2016-2021, Infrastructure Projects Authority | |
| The Plan explores the Government's plans for economic infrastructure for 2016-2021 and the resultant economic benefits.<br>The objective for the waste sector is to ensure that infrastructure is in place to deal with waste as efficiently as possible, with an ambition to move towards a 'circular economy' where material resources are valued and kept in circulation. | The SEA objectives should take into account the objectives for the waste sector presented in this plan. |
| Planning (Listed Buildings and Conservation Areas) Act 1990 | |
| Addresses listed buildings including prevention of deterioration and damage, as well as preservation and enhancement of conservation areas. | The Strategy and SEA should take account of the need to protect listed buildings and conservation areas. |
| The Water Act, 2003 (as amended) | |
| The Water Act 2003 is in three Parts, relating to water resources, regulation of the water industry and other provisions. The four broad aims of the Act are:<br>- The sustainable use of water resources<br>- Strengthening the voice of consumers<br>- A measured increase in competition<br>- The promotion of water conservation. | The implementation of the Strategy may have an effect through it's role in maintaining supplies of water. The SEA should seek to promote sustainable use of water resources. |
| The Water Environment (WFD) (England and Wales) Regulations, 2003 | |
| These Regulations make provision for the purpose of implementing in river basin districts within England and Wales. The Regulations require a new strategic planning process to be established for the purposes of managing, protecting and improving the quality of water resources. | The SEA should seek to promote the protection and enhancement of all water resources. The SEA should seek to maintain, protect and improve water quality across the region and ensure efficient use of resources. |
| Wildlife and Countryside Act, 1981 (as amended) | |
| The Act is the principle mechanism for providing legislative protection of wildlife in Great Britain.<br>Species listed in Schedule 5 of the Act are protected from disturbance, injury, intentional destruction or sale. Other | Some aspects of the Strategy may have effects on habitats and species in the Essex County Council supply area and beyond. The SEA should seek to maintain or enhance the quality of habitats and |

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| provisions outlaw certain methods of taking or killing listed species. This Act is brought up to date regularly to ensure the most endangered animals are on the schedule.<br>The Act also improved protection for the most important wildlife habitats. | biodiversity and take into regard protected species and habitats. |
| UK Climate Projections UKCP18. UKCIP, 2018 | |
| The UKCP18 Projections provide a basis for studies of impacts and vulnerability and decisions on adaptation to climate change in the UK over the 21st century. Projections are given of changes to climate, and of changes in the marine and coastal environment; recent trends in observed climate are also discussed.<br>The methodology gives a measure of the uncertainty in the range of possible outcomes; a major advance beyond previous national scenarios<br>The projections will allow planners and decision-makers to make adaptations to climate change. In order to do so they need as much good information as possible on how climate change will evolve. They are one part of a UK government programme of work to put in place a new statutory framework on, and provide practical support for, adaptation. | The SEA should use UKCP18 projections in the broader assessment of climate change effects and any potential cumulative effects. For example, the ecological requirements of aquatic habitats that may be affected by the Strategy will also be influenced by climate change. |
| Defra (2018), The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting | |
| This second National Adaptation Programme (NAP) sets out the government's response to the second Climate Change Risk Assessment (CCRA). High level actions are presented for addressing the key risks identified, including in relation to the following areas:<br>- Flooding and coastal change risks to communities, businesses and infrastructure;<br>- Risks of shortages in the public water supply for agriculture, energy generation and industry;<br>- Risks to natural capital including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity; and<br>New and emerging pests and diseases and invasive non-native species affecting people, plants and animals. | The SEA objectives of the Waste Strategy should take into account the key risks identified in this document. |
| National Flood and Coastal Erosion Risk Management Strategy for England (2020) | |
| This updated Strategy describes what needs to be done by all risk management authorities, including water and sewerage companies, involved in flood and coastal erosion risk management. It has 3 long-term ambitions:<br>1. Climate resilient places: improving resilience to flooding and coastal change;<br>2. Making the right investment and planning decisions to secure sustainable growth, environmental improvements and infrastructure resilient to flooding and coastal change; and<br>3. Educating local communities to make sure that they understand their risk to flooding and coastal change. | The SEA objectives of the Strategy should take the long-term ambitions into account. |
| National Policy Statement for Wastewater (2012) | |

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| This document sets out Government policy for the provision of major waste water infrastructure. The seven key policy objectives include:<br>1. Sustainable development;<br>2. Public health and environmental improvement;<br>3. To improve water quality in the natural environment;<br>4. To reduce water consumption;<br>5. To reduce the demand for waste water infrastructure capacity;<br>6. Climate change mitigation and adaptation; and<br>7. Waste hierarchy. | The SEA should seek to ensure that Strategy objectives are also reflected in the SEA objectives particularly regarding maintaining, protecting and improving water quality across the region and ensure efficient use of resources. |
| HM Treasury (2020) National Infrastructure Strategy | |
| This Strategy sets out the government's plans to deliver on their ambition for a radical improvement in the quality of the UK's infrastructure and to put the UK on the path to net zero emissions by 2050. | The decision-making process for determining which schemes should be prioritised in the Waste Strategy should take this policy document into account. |
| Circular Economy Package, 2020 | |
| The Circular Economy Package identifies steps for the reduction of waste and establishing an ambitious and credible long-term path for waste management and recycling.<br>The plan sets out targets to recycle 65% of municipal waste by 2035 and to have no more than 10% municipal waste going to landfill by 2035. | The Waste Strategy should increase recycling rates and reduced landfill creation. |
| Integrated Radioactive Waste Strategy, 2019 | |
| The strategic objective for radioactive waste is to manage radioactive waste and dispose of it wherever possible or by placing it in safe, secure and suitable storage ensuring the delivery of national policies. | The Waste Strategy should ensure that radioactive waste is managed, stored and disposed in a safe and secure manner. |
| National Planning Policy for Waste, 2014 | |
| This policy set out detailed waste planning policies. The policy should be read in conjunction with the NPPF, Waste Management Plan for England and National Policy Statements for Waste Water and Hazardous Waste, or any successor documents. | All scenarios identified within the Waste Strategy should be within the context of the National Planning Policy for Waste. |
| Control of Pollution Act 1974 | |
| An Act to make further provision with respect to waste disposal, water pollution, noise, atmospheric pollution and public health. | The Waste Strategy and SEA should ensure scenarios take this legislation into account. |
| Build Back Better: our plan for growth, 2021 | |
| The Build Back Better plan aims to tackle long term problems to deliver growth creating high-quality jobs across the UK and strengthen the union. There is focus on levelling up the UK, supporting a transition to net zero. | The Waste Strategy should aim to stimulate growth in the long-term, deliver on net zero goals and provide opportunities for jobs. |
| National Policy Statement: Hazardous Waste, 2013 | |

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| The NPS sets out government policy for hazardous waste infrastructure. The statement sets out the following key objectives for the policy:<br>• To protect human health and the environment – stringent legislative controls are in place to control the management of waste with hazardous properties;<br>• Implementation of the waste hierarchy – to produce less hazardous waste, using it as a resource where possible and only disposing of it as a last resort;<br>• Self-sufficiency and proximity – to ensure that sufficient disposal facilities are provided in the country as a whole to match expected arisings of all hazardous wastes, except those produced in very small quantities, and to enable hazardous waste to be disposed of in one of the nearest appropriate installations;<br>• Climate change – to minimise greenhouse gas emissions and maximise opportunities for climate change adaptation and resilience. | The SEA should ensure the scenarios identified in the Waste Strategy are in line with the objectives set out in this National Policy Statement. |
| The Waste Regulations, 2011 | |
| This Regulation transpose the EU Waste Framework Directive (2008/98/EC). The Waste Regulations set out the following: Waste Prevention Programmes; Waste Management Plans; Duties in relation to waste management and improved use of waste as a resource; duties of planning authorities; deposits in the sea; transfer of waste; enforcement. | The SEA should ensure scenarios set out in the Strategy align with Regulations set out in the legislation. |
| Ancient Monuments and Archaeological Areas Act 1979 | |
| This act addresses the protection of scheduled monuments including the control of works affecting scheduled monuments. It also addresses archaeological areas. | The Management Strategy and SEA should take account of the need to protect scheduled monuments and archaeological areas. |
| Defra (2004) Rural Strategy | |
| The Strategy sets out rural and countryside policy, and draws upon from lessons learnt following the rural white paper. Objectives include supporting economic and social regeneration across rural England and enhance the value of the countryside and protect the natural environment for this and future generations. | The implementation of certain Strategy scenarios may have an effect upon rural communities and the countryside. The SEA should also seek to ensure that the quality of the region's landscapes, natural resources and biodiversity are maintained or enhanced. |
| Department for Culture, Media and Sport (2001) The Historic Environment – A Force for the Future | |
| This Strategy outlines the Governments policy regarding the historic environment. The Strategy has key aims and objectives that demonstrate the contribution the historic environment makes to the country's economic and social well-being. | The SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided. |
| Historic England (2020) Heritage at Risk 2020 | |
| Heritage at Risk is a national project that aims to identify the endangered sites (historic buildings and places with | The SEA should seek to protect and enhance heritage and landscape. |

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| increased risks of neglect and decay) and then help secure them for the future. | |
| English Heritage, now known as Historic England (2008) Climate Change and the Historic Environment | |
| Sets out the current thinking on the implications of climate change for the historic environment. It is intended both for the heritage sector and also for those involved in the wider scientific and technical aspects of climate change; in the development of strategies and plans relating to the impact of climate change; or in projects relating to risk assessment, adaptation and mitigation. | The SEA should seek to assess the implications of the waste management Strategy in combination with climate change and the potential impacts on heritage and the historic environment. |
| Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment | |
| Guidance for addressing the historic environment in Strategic Environmental Assessment or Sustainability Appraisal. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues. | The SEA should consider the potential effects of the Strategy on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this document should be taken into account in the SEA. |
| Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3 | |
| This provides guidance on managing change within settings of heritage assets. This includes archaeological remains, historic buildings, sites, areas and landscapes. | The SEA should take into account any effects on settings of heritage assets. |
| Historic England (2017) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3, 2nd Edition | |
| This replaces The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 – 1st Edition. It sets out general advice on understanding setting, and how it may contribute to the significance of heritage assets and allow that significance to be appreciated, as well as advice on how views contribute to setting. | The SEA should take into account any effects on settings of heritage assets. |
| Natural England (2016), Conservation 21 – Natural England's Conservation Strategy for the 21st Century | |
| This Strategy sets out a new approach to reverse biodiversity loss, protect natural landscapes for public enjoyment and for the services that they provide. The Strategy is based on three guiding principles:<br>1. Creating resilient landscapes and seas<br>2. Putting people at the heart of the environment<br>3. Growing natural capital | The Strategy and SEA should seek to ensure that the natural environment and distinctive landscapes are protected and public access to them are maintained. |
| Natural Capital Committee (2020) State of Natural Capital Annual Report 2020 | |
| This provides an overview of the progress made towards the 10 goals set out in the 25 Year Environmental Plan and reiterates the importance of embedding the natural capital approach in decision making for the areas of natural capital accounts, the National Food Strategy, review of national landscapes, and local nature and national nature recovery strategies. | The Waste Strategy and the SEA objectives for biodiversity and landscape and visual amenity, should take account of the need to consider impacts towards natural capital and biodiversity resources, LNR and NNR strategies, protection and enhancement of designated landscapes. |

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| Ancient Monuments and Archaeological Areas Act 1979 | |
| This act addresses the protection of scheduled monuments including the control of works affecting scheduled monuments. It also addresses archaeological areas. | The Strategy and SEA should take account of the need to protect scheduled monuments and archaeological areas. |
| Defra (2004) Rural Strategy | |
| The Strategy sets out rural and countryside policy, and draws upon from lessons learnt following the rural white paper. Objectives include:<br>- supporting economic and social regeneration across rural England;<br>- enhancing the value of the countryside; and<br>- protecting the natural environment for this and future generations. | The implementation of certain Strategy scenarios may have an effect upon rural communities and the countryside. The SEA should also seek to ensure that the quality of the region's landscapes, natural resources and biodiversity are maintained or enhanced. |
| Department for Culture, Media and Sport (2001) The Historic Environment – A Force for the Future | |
| This Strategy outlines the Governments policy regarding the historic environment. The Strategy has key aims and objectives that demonstrate the contribution the historic environment makes to the country's economic and social well-being. | The SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided. |
| Historic England (2020) Heritage at Risk 2020 | |
| Heritage at Risk is a national project that aims to identify the endangered sites (historic buildings and places with increased risks of neglect and decay) and then help secure them for the future. | The SEA should seek to protect and enhance heritage and landscape. |
| English Heritage, now known as Historic England (2008) Climate Change and the Historic Environment | |
| Sets out the current thinking on the implications of climate change for the historic environment. It is intended both for the heritage sector and also for those involved in the wider scientific and technical aspects of climate change; in the development of strategies and plans relating to the impact of climate change; or in projects relating to risk assessment, adaptation and mitigation. | The SEA should seek to assess the implications of the Waste Strategy in combination with climate change and the potential impacts on heritage and the historic environment. |
| Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment | |
| Guidance for addressing the historic environment in Strategic Environmental Assessment or Sustainability Appraisal. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues. | The SEA should consider the potential effects of the Strategy on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this document should be taken into account in the SEA. |
| Historic England (2015) The Historic Environment and Site Allocations in Local Plans. Historic England Advice Note 3 | |
| This technical advice note helps to ensure that the historic environment plays a positive role in allocating sites for development. The note provides advice on evidence | The SEA should ensure that the Historic Environment plays a positive role in scenario assessment. |

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| gathering and site allocation policies whilst providing guidance on ensuring that heritage considerations are integrated into site selection methodology. | |
| Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3 | |
| This provides guidance on managing change within settings of heritage assets. This includes archaeological remains, historic buildings, sites, areas and landscapes. | The SEA should take into account effects on settings of heritage assets. |
| Historic England (2017) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3, 2nd Edition | |
| This replaces The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 – 1st Edition. It sets out general advice on understanding setting, and how it may contribute to the significance of heritage assets and allow that significance to be appreciated, as well as advice on how views contribute to setting. | The SEA should take into account effects on settings of heritage assets. |
| Natural England (2016), Conservation 21 – Natural England's Conservation Strategy for the 21st Century | |
| This Strategy sets out a new approach to reverse biodiversity loss, protect natural landscapes for public enjoyment and for the services that they provide. The Strategy is based on three guiding principles:<br>1. Creating resilient landscapes and seas<br>2. Putting people at the heart of the environment<br>3. Growing natural capital. | The Strategy and SEA should seek to ensure that the natural environment and distinctive landscapes are protected and associated public access are maintained. |
| Regional | |
| Essex County Council, Local Flood Risk Management Strategy, 2018 | |
| This Strategy sets out aims and actions to reduce the impact of local flooding on the local community. The Strategy is set out with the following measures:<br>• Investigating Floods<br>• Mapping Local Routes for Water<br>• Looking after our watercourses<br>• Planning for future floods<br>• Influencing new development and drainage<br>• Building new flood defences | The SEA must ensure that the scenarios identified in the Waste Strategy do not increase the council's risk to flooding. |
| Essex Green Infrastructure Strategy, 2020 | |
| The Essex Green Infrastructure Strategy enables a protection, creation and improvement of green infrastructure for the local biodiversity and people. The Strategy also improves connectivity and inclusivity all whilst contributing to economic growth. | The SEA should make sure scenarios in the Waste Strategy have no significant impact on current or future green infrastructure creation. |
| Levelling Up Essex Strategy, 2022 | |
| The Strategy sets out how the council will support people living in priority areas of the county to benefit from the same opportunities and life chances as the wider Essex population. | The Waste Strategy and SEA should seek to benefit and support those people in the priority areas of Essex. |
| Essex Joint Health and Wellbeing Strategy, 2022-2026 | |

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| The Strategy aims to improve health and wellbeing outcomes for people of all ages in the Essex County region. | The SEA should seek to improve the health and wellbeing of those living in the Essex County area. |
| Economic Plan for Essex, 2014 | |
| The economic plan for Essex outlines how the council intends to support economic growth in the region. | The SEA and Waste Strategy should ensure economic growth is supported in the region. |
| Essex Waste Local Plan, 2017 | |
| The plan sets out how Essex and Southend-on-Sea aim to manage waste for its duration, seeking to deal with waste sustainably, encourage recycling and reduce reliance on landfill. | Scenarios set out in the Strategy should align with the Essex Waste Local Plan policies. |
| Everyone's Essex: our plan for levelling up the county 2021 to 2025, 2021 | The Waste Strategy should align with the 20 commitments outlined. |
| Essex Green Infrastructure Strategy, 2020 | Where relevant the Waste Strategy should align with the Green Infrastructure Strategy objectives in protecting, improving, creating and connecting green infrastructure to benefit wildlife and people's health and wellbeing. |
| Relevant Waste Collection Authority waste plans and strategies | Scenarios set out in the Strategy should align with the relevant Waste plans and strategies. |
| Essex Climate Action Plan 2022 | Scenarios set out in the Strategy should align with the Essex Climate Action Plan. |
| Relevant Council Climate statements, plans and programmes | Scenarios set out in the Strategy should consider and align with the relevant Climate statements, plans and programmes. |
| Relevant Council Heritage plans and strategies | Scenarios set out in the Strategy should consider and align with the relevant Heritage plans and strategies. |

# APPENDIX D BASELINE ANALYSIS

## D.1 MATERIAL ASSETS AND WASTE MANAGEMENT

### D.1.1 Baseline

#### *D.1.1.1 Resource use and waste*

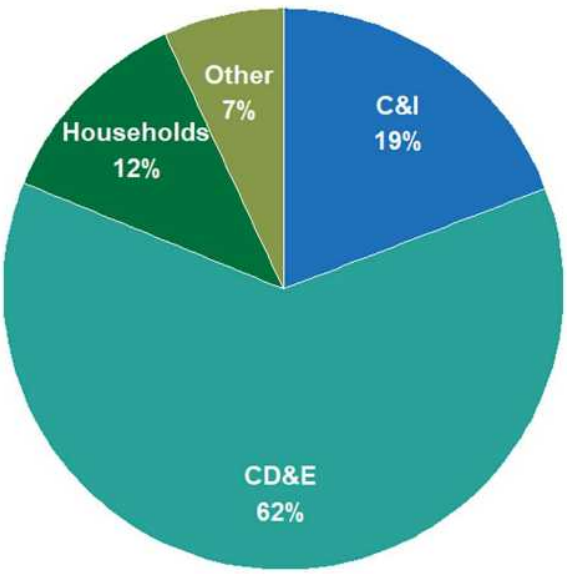
There is a need for society to reduce the amount of waste it generates, by using materials more efficiently, and improving the management of waste that is produced in order to achieve sustainable living.

The majority of municipal waste which is received at landfill is classified as 'mixed' waste (i.e. waste that cannot be routinely identified as being a part of a certain waste stream e.g. food waste). In 2020, a total of 10,425 thousand tonnes of municipal waste were sent to landfill in England[16]. Biodegradable municipal waste (BMW) is municipal waste which will decompose within landfill producing greenhouse gases such as methane. Typically, BMW includes food waste, green waste, cardboard and paper. In the UK BMW has reduced each year since 2010 (expect in 2016), with 6.1 million tonnes of BMW sent to landfill in 2020[17].

Household recycling rates in England have climbed to almost 45% (from 11.2% in 2000). In 2020, the recycling rate for England was 44% which has seen no significant change from 2015 (44.3%); waste generated by businesses declined by 29% in the six years to 2009 and business recycling rates were above 50% in 2011[1819]. Approximately, 37.2 million tonnes of commercial and industrial (C&I) waste were generated in 2018 in England[20].

A total of 2,886 thousand tonnes of waste were collected in the East of England with the region having the smallest proportion of waste sent for incineration. Through 2018-2020, the East of England had the second highest recycling rates across the UK with approximately 47%, with the South West, the highest, having an approximate 49% recycling rate[21]. In line with the widely adopted 'waste hierarchy', best practice for waste management is to prevent, re-use, recycle and recover[22], and only then should disposal (or storage) in landfill be considered.

Figure D. 1 Waste generation split by source in 2018




[16] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[17] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[18] Defra (2011) Government Review of Waste Policy in England 2011. pb13540-waste-policy-review110614.pdf (publishing.service.gov.uk)
[19] UK statistics on waste - GOV.UK (www.gov.uk) Section 4, Table 1
[20] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[21] Defra (2021) Statistics on waste managed by local authorities 2019 (publishing.service.gov.uk)
[22] Waste hierarchy evidence summary (publishing.service.gov.uk)

Data on waste arisings is collected in a range of categories; Commercial and Industrial; Construction, demolition and excavation (CD&E); Households; and Other [consisting of waste from mining, agriculture, forestry and fishing]. Table D. 1 and Table D. 2[23] outline the waste generation from each of these categories in the UK. Construction, demolition and excavation generated approximately 62% of total UK waste in 2018, with Commercial and Industrial (C&I) accounting for 19% [24].

Table D. 1 Waste generation split by responsible economic activity in the UK [million tonnes] [25]

| Year | Commercial & Industrial | Construction, demolition & excavation (includes dredging) | Households | Other | Total |
|---|---|---|---|---|---|
| 2016 | 39.8 | 136.2 | 27.3 | 15.0 | 218.3 |
| 2018 | 42.6 | 137.8 | 26.4 | 15.4 | 222.2 |
| Change | 7.0% | 1.2% | -3.3% | 2.8% | 1.8% |

The Essex County Council and Southend-on-Sea Borough Council Waste Local Plan (2017) outline the existing waste management capacity with data from the Plan presented in Table D. 2[26].

Table D. 2 Summary of Existing Waste Management Capacity in Essex

| Facility Type | Operating and Under Construction | |
|---|---|---|
| | Number | Number Estimated Capacity (tonnes) |
| Transfer | 116 | 1,776,928 |
| Non-Inert Materials Recovery | 120 | 2,262,963 |
| Biological Treatment | 13 | 280,938 |
| Inert Materials Recovery | 39 | 2,072,073 |
| Energy Recovery | 2 | 21,792 |
| Disposal Landfill | 12 | 17,964,802 |
| Hazardous Landfill | 0 | Previous facility closed in April 2014 |
| Total | 168 | 22,602,560 |

The East of England is a large consumer of electricity, with a total domestic consumption in 2020 of 11,344GWh, the 4th highest region in the UK. Non-domestic electricity consumption follows a similar trend, being the 4th highest region in the UK. Renewable electricity generation in the UK fell by 9.3% in 2021 compared to 2020. The East of England is a large producer of renewable electricity generation having a capacity of 6,269GW (56% from wind and 34% from Solar PV). Two new large schemes were also set to be installed in 2021 in Eastern England and are both now operational[27][28]; Little Staughton Solar PV (50MW) which

[23] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[24] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[25] Defra (2022) UK statistics on waste - GOV.UK (www.gov.uk)
[26] Essex County Council and Southend-on-Sea Borough Council (2017) waste-local-plan-2017-compressed.pdf (ctfassets.net)
[27] Colony Farm - CNG Services
[28] Staughton Solar PV Park, UK (power-technology.com

and Colony Farm Anaerobic Digestion (4MW)[29]. It is important to note that neither of these new schemes are within the Essex County Council area.

The current baseline of collection and treatment type, service and frequency across the county of Essex is summarised in Table 5.3 within the main body of the report.

### D.1.2 Future Baseline

The Government's National Infrastructure Strategy[30] (2020) outlines a legal commitment to decarbonise the economy by 2050, strategies to rebuild the economy following the COVID-19 pandemic and plans to 'level-up' UK cities and regional powerhouses. Throughout the Strategy, waste is a prominent theme with focus on investment in the waste sector. Plans for green-growth clusters in formerly industrial areas and investment via the Towns Fund[31] could benefit the Essex region in terms of the economy, industry, resource usage and the built environment. The UK Government also plans to accelerate the deployment of green technology through private sector investment in the retrofitting of existing stock, carbon capture and low-carbon hydrogen[32].

The 25 Year Environment Plan (2018)[33] runs alongside the Industrial Strategy (2017)[34] and outlines the government's approach to safeguarding the environment and sustainable management of the economy. A prominent theme within the plan is "Increasing resource efficiency and reducing pollution and waste". Specific commitments made in the 25 Year Environment Plan are:

- Make sure resources are used more efficiently and kept in use for longer to minimise waste and reduce its environmental impacts by promoting reuse, remanufacturing and recycling
- Work towards eliminating all avoidable waste by 2050 and all avoidable plastic waste by end of 2042
- Reduce pollution by tacking air pollution in the Clean Air Strategy and reduce the impact of chemicals

The Resources and Waste Strategy (2018)[35] sets out actions, in line with the 25-Year Environment Plan, on how the UK will preserve stock of material resources by minimising waste, promote resource efficiency and move towards a circular economy. This overall aim of the Strategy is to set out a blueprint for *"eliminating avoidable[1] plastic waste over the lifetime of the 25 Year Plan, doubling resource productivity, and eliminating avoidable waste of all kinds by 2050"*[36].

### D.1.3 Key Issues

The key sustainability issues arising from the baseline assessment for Material Assets and Resource Use are:

- The need to minimise the consumption of resources, including water and energy.
- The need to follow the 'waste hierarchy' of 'reduce, re-use, recycle and recover' with the aim of reducing the proportion of waste sent to landfill.
- The need to maintain consistently high recycling rates.
- The need to promote and move towards a regenerative circular economy.

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[29] BEIS (2021) Regional renewable electricity in 2021 (publishing.service.gov.uk)

[30] HM Treasury Infrastructure UK (2020). National Infrastructure Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938539/NIS_Report_Web_Accessible.pdf

[31] Ministry of Housing, Communities and Local Government (2019). Towns Fund Prospectus. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/924503/20191031_Towns_Fund_prospectus.pdf

[32] HM Treasury Infrastructure UK (2020). National Infrastructure Strategy https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938539/NIS_Report_Web_Accessible.pdf

[33] HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

[34] HM Government (2017) Industrial Strategy. Building a Britain fit for the future. https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future

[35] Defra (2018 Our waste, our resources: a strategy for England. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf

[36] Defra (2018) Resources and waste strategy: at a glance. https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england/resources-and-waste-strategy-at-a-glance

- The need to support regional and national commitments to decarbonisation.

## D.2 BIODIVERSITY, FLORA AND FAUNA

### D.2.1 Baseline

Biodiversity is the variety of plants (flora) and animals (fauna) in an area, and their associated habitats. The importance of preserving biodiversity is recognised from an international to a local level. Biodiversity has importance in its own right, and has value in terms of quality of life and amenity. The Essex region has a number of valuable and rare habitats for flora and fauna, including coastal saltmarshes, mudflats, wetlands, ancient woodlands and veteran trees.

The Essex County area includes a number of sites that are designated as important for biodiversity at an international level, namely 13 Special Protection Areas (SPA)[37], 3 Special Areas of Conservation (SAC)[38] and 11 Ramsar[39] sites.

86 Sites of Special Scientific Interest (SSSI)[40] and 7 National Nature Reserves (NNRs)[41] are located within the County area. SSSIs and NNRs relate to the country's best wildlife and geological sites. Local Natural Reserves (LNRs (51)) together with areas of Ancient Woodland are also located throughout the Essex County Council region. A number of non-statutory designated sites are also present in the region including 1,600 local wildlife sites (LWSs).

Some nature based sites and designations may be vulnerable to certain air quality impacts through nitrogen deposition, sulphur deposition, acid deposition and other pollutants such Sulphur Dioxide and Nitrogen Oxide. The Air Pollution Information System (APIS)[42] database includes the individual vulnerabilities and critical loads of habitats and species around the UK. This information can help identify which sites are more likely to experience negative effects from certain pollutants and air quality impacts. Where there are spatial impacts from air quality, the APIS database will be utilised to identify potential impact pathways.

### D.2.2 Future Baseline

The Defra 25 Year Environment Plan[43] includes a commitment to restoring 75% terrestrial and freshwater protected sites to favourable condition and to create or restore 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits. The 25 Year Plan also proposed an adoption of 'Biodiversity Net Gain'[44] approach to development, an approach introduced into national planning policy in 2019 and which is mandated in the Environment Act.

The 25-year Plan also includes a commitment to support land management at landscape and catchment level and to support the adoption of long-term sustainable land management practices to significantly expand wildlife habitat and provide opportunities for species and ecosystem recovery.

Climate change is anticipated to have an impact on wildlife in the future by exacerbating existing pressures such as changes to the timing of seasonal activity, and water scarcity. It is acknowledged that there is a need to allow wildlife to adapt to the impacts of climate change. Climate may limit species' distributions indirectly

[37] Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds (79/409/EEC), also known as the Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds, listed in Annex I to the Birds Directive, and for regularly occurring migratory species. www.jncc.org.uk

[38] Special Areas of Conservation (SACs) are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). www.jncc.org.uk

[39] Ramsar sites are wetlands of international importance designated under the Ramsar Convention.

[40] Natural England has responsibility for identifying and protecting the SSSIs in England under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000). www.naturalengland.org.uk

[41] NNRs are protected under Sections 16 to 29 of the National Parks and Access to the Countryside Act, 1949 and the Wildlife and Countryside Act, 1981.

[42] APIS (2023) UK Air Pollution Information System (APIS). https://www.apis.ac.uk/

[43] https://www.gov.uk/government/publications/25-year-environment-plan

[44] Biodiversity Net Gain is an approach in which biodiversity enhancement can be embedded into a development or project to demonstrate the importance of biodiversity's vital function in society and the economy. An important feature of BNG is avoiding and minimising biodiversity loss as much as possible, and then achieving net gains that are measurable which contribute towards local and strategic biodiversity priorities (CIEEM (2019) Biodiversity net gain. Good practice principles for development. https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf)

though the impact of invasive species on native species along climatic gradients[45]. It will affect the abundance and diversity of natural enemies, competitors and species that constitute resources, as well as a species' ability to compete for resources or resist natural enemies.

### D.2.3 Key Issues

The key sustainability issues arising from the baseline assessment for biodiversity are:

- The need to protect or enhance the region's biodiversity, particularly protected sites designated for nature conservation.
- The need to avoid activities likely to cause irreversible damage to natural heritage.
- The need to take opportunities to improve ecological resilience.
- The need to control the spread of Invasive Non-Native Species (INNS).
- The need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of the ecosystem services.

## D.3 POPULATION AND HUMAN HEALTH

### D.3.1 Baseline

#### *D.3.1.1 Population*

The East of England has centres of densely populated areas, many of which are located within the Essex region. Essex has the highest population of counties in the East of England. As per the first results of the 2021 census, the administrative county of Essex is estimated to have a population of 1,503,300, one of the largest non-metropolitan county populations in the United Kingdom[46,47].

Table D. 3 Population and Household Statistics (based on administrative area of Essex)

| Region | 2011 Population | 2011 Households | 2021 Populations | 2021 Households | Population Change (%) | Household Change (%) |
|---|---|---|---|---|---|---|
| Essex | 1,393,587 | 581,589 | 1,503,300 | 626,500 | 7.8% | 7.7% |
| East England | 5,846,965 | 2,423,035 | 6,334,500 | 2,628,700 | 8.3% | 8.5% |
| England | 53,012,456 | 22,063,368 | 56,489,800 | 23,435,700 | 6.6% | 6.2% |

Population change is the function of natural change (difference between births and deaths) and net migration (the difference between the number of people moving into and out of an area). The balance of factors underlying population change varies by region. **Error! Reference source not found.** presents the population and household change over ten years since 2011.

#### *D.3.1.2 Human Health and Deprivation*

The Waste Strategy has the potential to influence quality of life, including human health, well- being, amenity and community, through actions to improve waste collection systems and recycling practices.

In comparison to other regions of England, Essex has a higher-than-average life expectancy at birth for both males and females.

It has been shown that, in some cases, people in disadvantaged areas experience greater exposure to negative impacts on human health including air pollution, flooding, and proximity to large industrial and waste management sites[48]. The Index of Multiple Deprivation combines a number of indicators, chosen to cover a

[45] Pateman & Hodgson (2015) Biodiversity Climate change impacts report card technical paper. Available from: http://www.nerc.ac.uk/research/partnerships/lwec/products/report-cards/biodiversity/papers/source06/

[46] ONS (2022) Population and household estimates, England and Wales: Census 2021 - Office for National Statistics (ons.gov.uk)

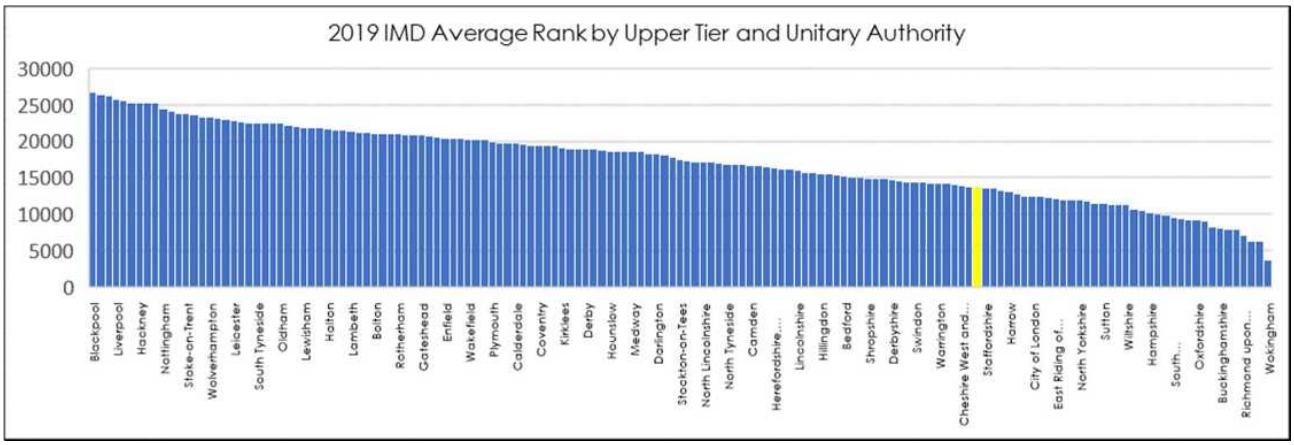
[47] ONS (2011) Population and household estimates - Office for National Statistics (ons.gov.uk)

[48] Defra (2006) Air Quality and Social Deprivation in the UK: an environmental inequalities analysis

range of economic, social and housing issues[49], into a single deprivation score for each Lower Super Output Area[50] (LSOA) in the UK. This allows each area to be ranked relative to one another according to their level of deprivation. The Indices are used widely to analyse patterns of deprivation, identify areas that would benefit from special initiatives or programmes and as a tool to determine eligibility for specific funding streams.

The 2019 Indices of Deprivation show that Essex compares favourably with other Local Authority regions. Essex has lower levels of deprivation than 70% of upper tier authority areas (County Councils in England). Compared to other counties in the south-east of England, the percentage of Essex residents living in the most deprived 20% of areas is amongst the highest in the south east. There is also a reported large gap between the most and least deprived districts with significant structural factors such as income and employment affecting deprivation in Essex. 75 neighbourhoods (LSOAs) in Essex, home to 120,000 Essex residents, are among the 20% most deprived nationally[51]. Figure D. 2[52] shows the county level rank for overall deprivation. Compared to other upper tier and unitary authorities in England, Essex is within the 30% least deprived areas nationally.

Figure D. 2 County level rank for overall deprivation




*D.3.1.3 Human Health and Waste*

Mismanagement of waste can have significant negative effects on human health through factors such as air pollution, water and soil contamination, increased risk of infection and transmissible disease, and direct interaction with dangerous substances from waste material (e.g. electronic and industrial waste).

Globally, around 54 million tonnes of e-waste (e.g. TVs, computers) are generated annually with this figure expected to increase to 75 million tonnes by 2030[53]. The United Kingdom has significantly higher recycling rates of e-waste compared to other international regions: global e-waste recycling rates were 17.4% in 2019 with the UK 67% in 2018[54,55]. Exposure to poorly managed e-waste has been reported to cause adverse health and developmental impacts in young children[56].

A report commissioned by the Environment Agency[57] identified evidence of socially unequal distribution of IPC sites (Integrated Pollution Control). It was found that significant sources of pollution are disproportionately situated in the more deprived areas in England. Waste sites, in particular, are disproportionately located in those areas with higher deprivation levels. Although there is evidence of a relationship between proximity to

[49] Income Deprivation, Employment Deprivation, Health Deprivation and Disability, Education Skills and Training Deprivation, Barriers to Housing and Services, Living Environment Deprivation, and Crime.

[50] Super Output Areas (SOAS) are a set of geographical areas developed following the 2001 census. The aim was to produce a set of areas of consistent size, whose boundaries would not change, suitable for the publication data of such as the Indices of Deprivation. They are an aggregation of adjacent Output Areas with similar social characteristics. Lower Layer Super Output Areas (LSOAs) typically contain 4 to 6 OAs with a population of around 1500.

[51] Essex County Council (2019) Changes in the Index of Multiple Deprivation for Essex: IMD 2019.

[52] Essex County Council (2019) Changes in the Index of Multiple Deprivation for Essex: IMD 2019.

[53] WHO (2019) Compendium of WHO and other UN guidance on health and environment. who_compendium_chapter4_v2_01092021.pdf

[54] ITU (2020) Global E-waste monitor 2020. Global E-waste Monitor 2020 (itu.int)

[55] Statista (2022) Recycling rate of electrical and electronic waste in the United Kingdom (UK) UK: e-waste recycling rate 2010-2018 | Statista

[56] WHO (2019) Electrical/electronic waste and children's health. Training for health care providers. Geneva (https://apps.who.int/iris/handle/10665/331057)

[57] Walker et al (2003). Environmental Quality and Social Deprivation 1 (publishing.service.gov.uk)

IPC sites and areas of deprivation, this study was commissioned by the Environment Agency in 2003 with no recent, updated research carried out.

Hazardous waste or unsafe waste treatment can directly harm waste workers or vulnerable groups residing in local communities[58]. Improper waste collection has the potential to increase the risk of water borne diseases through the excess creation of environmental and marine pollution entering water bodies subsequently impacting drainage networks[59,60]. Extreme flooding events may increase the potential for direct impact pathways between contaminated waste and human health if waste is not managed in the correct manner.

Waste management industries are required to tackle environmental controls including noise pollution under the Environmental Permitting Regulations 2016. Material recovery facilities have processes which can emit noise levels exceeding 80dB (Lower Exposure Action Value) and 85dB (Upper Exposure Action Value) which require action to be taken under the Control of Noise at Work Regulations 2005[61]. Managing these risks can be achieved through controlling the noise at the source whilst also adopting reasonable practicable controls such as spatial management of site locations and adopting vehicles which contain 'quiet cabs'[62].

### D.3.2 Future Baseline

In response to recent studies, access to the recreational resources, green spaces and the historic environment will have greater importance in future planning. The National Planning Policy Framework[63] suggests a range of areas that should be taken into account, including the provision of appropriate facilities for recreation that preserve the openness of the green belt.

The National Ecosystem Assessment[64] and the Marmot Review[65], *Fair Society, Healthy Lives*, demonstrate the positive impact that nature has on mental and physical health and as a result the Government intends to establish a Green Infrastructure Partnership with civil society to support the development of green infrastructure in England.

### D.3.3 Key Issues

The key sustainability issues arising from the baseline assessment for population and human health are:

- The need to ensure waste sites and waste management are not disproportionately impacting deprived or vulnerable communities.
- The need to protect human health.
- The need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas.
- The need to ensure waste is not mismanaged so as to impact upon human health through chemicals, air pollution, land contamination and increased risk of infection and/or disease.
- The need to ensure high recycling rates are maintained.
- The need to accommodate an increasing population.
- The need to contribute towards maintaining sustainable growth in the region.

[58] WHO (2019) Compendium of WHO and other UN guidance on health and environment. who_compendium_chapter4_v2_01092021.pdf

[59] Ibid

[60] Solid Waste Management (MOOC). Open learning campus. Washington: World Bank Group; 2020 (https://olc.worldbank.org/content/solid-waste-management-mooc,

[61] Noise in the waste management and recycling industry (hse.gov.uk)

[62] Noise in Material Recovery Facilities (MRFs) (hse.gov.uk)

[63] Department for Levelling Up, Housing and Communities (2012) National Planning Policy Framework https://www.gov.uk/guidance/national-planning-policy-framework

[64] National Ecosystem Assessment Initiative (2022) NEA Initiative (ecosystemassessments.net)

[65] Marmot, M (2010) Fair society, healthy lives : the Marmot Review : strategic review of health inequalities in England post-2010. Department for International Development. https://www.gov.uk/research-for-development-outputs/fair-society-healthy-lives-the-marmot-review-strategic-review-of-health-inequalities-in-england-post-2010

# D.4 WATER

## D.4.1 Baseline

In the context of the Water Framework Directive (WFD), the water environment includes rivers, lakes, estuaries, groundwater and coastal waters out to one nautical mile. There are 5 operational catchments in the Essex combined management region; Blackwater; Chelmer; Colne Essex; Crouch and Roach; and Stour OC.

Provision and management of water resources is vital to human health, social wellbeing, and economic stability. Pollution and flooding events can have a significant impact on the economy, society and environment making it vitally important to manage, monitor and protect water resources. Water quality is assessed in England based on the General Quality Assessment classification which takes into account, chemical (e.g. dissolved oxygen, ammonia and biochemical oxygen demand) and biological (e.g. macroinvertebrates)[66] factors. Recent (2019) water quality statistics have found that nationally, only 16% of waters meet the criteria for 'good ecological status' [unchanged from 2016]. New monitoring techniques have been adopted to classify water bodies more accurately[67]. The 25 Year Environment Plan and Environment Act have now set ambitious water quality objectives and legally binding targets to improve the state of water bodies and concentrate on pollutants impacting the water environment.

The Essex Rivers Hub Partnership works to ensure rivers, wetlands and water resources are "resilient to changing climate and population growth, are richer in biodiversity, support a thriving economy and contribute to the well being of the citizens of Essex"[68]. Current challenges identified in the region include:

- Pollution from agriculture and rural areas
- Pollution from waste water
- Physical modifications: removal of redundant structures and modifications to increase ecological resilience

One of the wider challenges identified by the Essex Rivers Hub Partnership relevant to the Waste Management Strategy is to remove plastics and litter from the water environment.

Leachate is a liquid which drains or leaches from a landfill and has the potential to cause significant issues to human health, and the quality of surface water and groundwater due to leachate's chemical composition (dissolved organic chemicals, ammonia and metals). Infiltration due to rainfall can encourage leachate to enter water bodies and groundwater and must therefore be monitored and managed appropriately through groundwater risk assessments, and leachate management plans[69]. Liners can be used to create a seal against the liquid attempting to escape, mitigating against leachate entering water bodies.

Fly-tipping also poses a risk to watercourses. For 2020/2021, local authorities in England dealt with an increase of 16% since 2019/2020. Fly-tipping incidents to watercourse, compared to other land types is relatively low, however still poses a risk[70].

### *D.4.1.1 Flood Risk*

The Essex Local Flood Risk Management Strategy[71] outline 9 objectives to inform, understand and manage flooding in the county. These include: ensuring people understand the risk of flooding; how flood risk is assessed and prioritised; ensure planning decisions consider flooding and future impact of any development; highlight detailed information and legislation regarding flooding. A measure set out by the local flood risk Strategy is keeping a record of structures of features which form part of local drainage strategies. This database has approximately 10,000 records and can be used to ensure flood planning is transparent and supported by data.

[66] Defra (2010) River water quality indicator - GOV.UK (www.gov.uk)

[67] Defra (2020) Latest water classifications results published - Defra in the media (blog.gov.uk)

[68] Environment Agency (2022) Essex Rivers Hub | Catchment Data Explorer

[69] Gov.uk (2022) Landfill operators: environmental permits. https://www.gov.uk/guidance/landfill-operators-environmental-permits/manage-leachate

[70] Defra (2021) Fly-tipping statistics for England, 2020-2021. https://www.gov.uk/government/statistics/fly-tipping-in-england/fly-tipping-statistics-for-england-2020-to-2021#total-number-of-fly-tipping-incidents-in-england

[71] Essex County Council (2018) essex-local-flood-risk-management-strategy.pdf

### D.4.2 Future Baseline

Originally, the WFD set a target of aiming to achieve at least 'good status' in all waterbodies by 2015. However, provided that certain conditions are satisfied, it was acknowledged that in some cases the achievement of good status may be delayed until 2021 or 2027. The primary objective in the short-term is to ensure no deterioration in status between status classes: the 2015 water body classification is the baseline from which deterioration between classes is assessed; no deterioration between status classes is permitted unless certain and specific conditions apply.

The UK Climate Change Risk Assessment (CCRA3) 2021 Evidence Report[72] draws together and interprets the evidence gathered CCRA regarding current and future threats and opportunities for the UK posed by the impacts of climate change up until 2100. Findings of all CCRA assessments include:

- Changing climatic conditions and extreme events, including temperature change, water scarcity, wildfire, flooding, wind, and altered hydrology (including water scarcity, flooding and saline intrusion)
- Increasing pressure on the UK's water resources due to changes in hydrological conditions and regulatory requirements to maintain good ecological status
- Increases in water demand for irrigation of crops
- A reduction in public water supplies due to increasing periods of water scarcity
- Lower summer river flows across the UK due to warming and drying conditions
- An increase in precipitation in winter months due to a combination of greater depths and more frequent heavy rainfall events – suggesting larger volumes of runoff with potential negative impacts on flood risk and sewer overflows in urban environments
- Flash-flooding associated releases from combined sewer overflows (CSO) could in turn increase associated illnesses at the coast due to the varying occurrence of microbial pathogens in the marine environment.

### D.4.3 Key Issues

- The need to further improve the quality of the region's river, estuarine and coastal waters taking into account WFD objectives and designated sites objectives (i.e. assessment against Common Standards Monitoring Guidance, where relevant).
- The need to maintain the quantity and quality of groundwater resources taking into account WFD objectives.
- The need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change on surface waters and groundwaters.
- The need to ensure sustainable abstraction to protect the water environment and meet society's needs for a resilient water supply.
- The need to ensure that people understand the value of water.

## D.5 SOIL, GEOLOGY AND LAND-USE

### D.5.1 Baseline

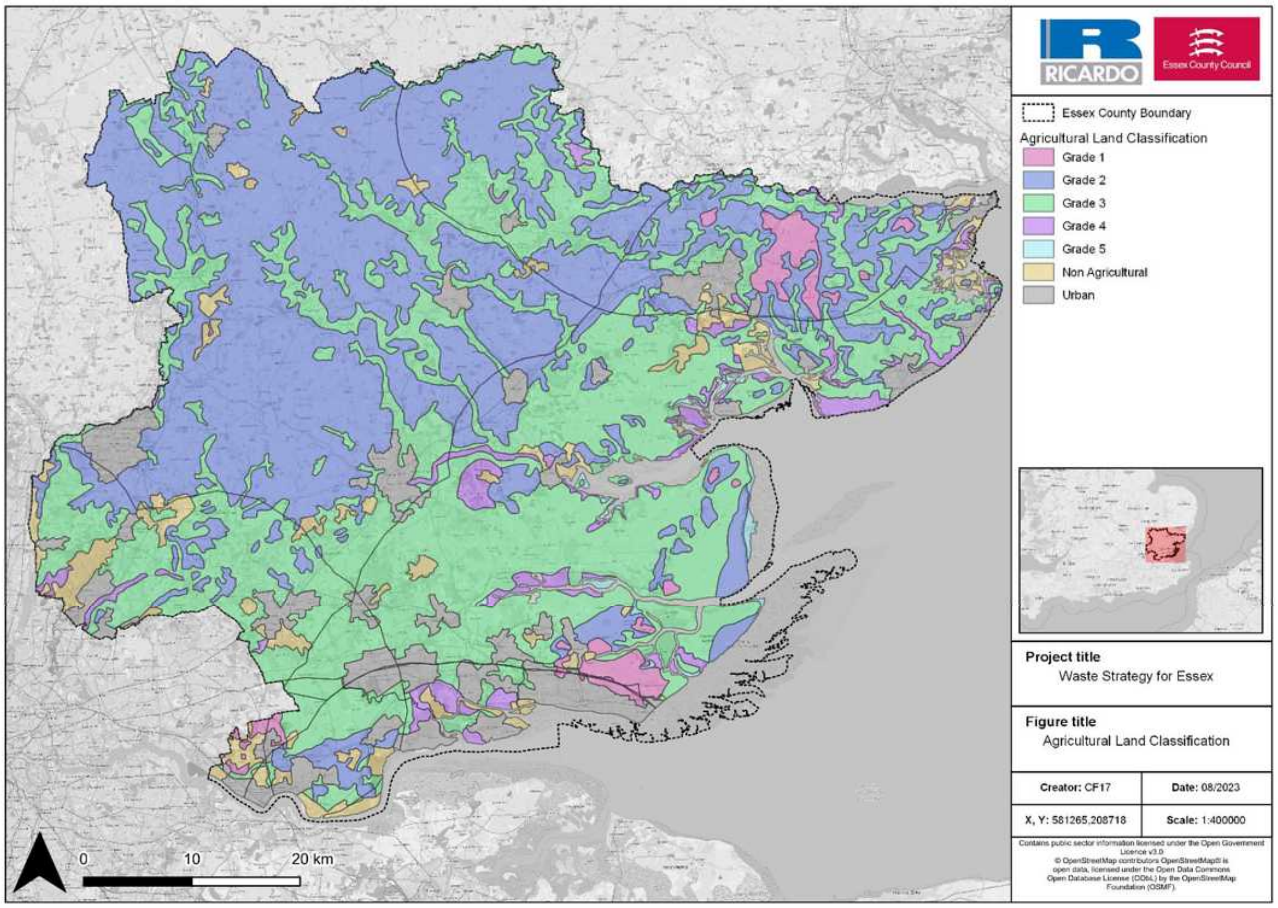
#### *D.5.1.1 Agricultural Land Classification*

The county region of Essex has a varying degree of Agricultural Land ranging from Urban to Excellent as shown in Figure D. 3. The Agricultural Land Classification (ALC) provides a method for assessing the quality of land and farmland to help enable choices with the intention of protecting the best and most versatile agricultural land[73]. With respect to the Waste Strategy for Essex, the ALC database should be utilised to ensure Strategy scenarios do not have negative impacts on best and most versatile agricultural land.

[72] Defra (2016) The UK Climate Change Risk Assessment 2017 Evidence Report

[73] Natural England (2012) Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049)

Figure D. 3 Agricultural Land Classification in Essex County Council




*D.5.1.2 Geology*

The Essex County region is diverse and with a relatively young geology. A significant proportion of the region is made up of London clay in the East and South of the area, with Glacial Till being in the North/North West[74]. The geodiversity of Essex is typically subdued relief with gentle slopes resulting in a soft, young underlying geology. This geology generally produces, arable and fertile soil[75].

Three National Character Areas (NCAs) dominate the Essex region and their characteristics, geology and features are discussed below:

**Greater Thames Estuary** – predominantly a remote, tranquil landscape with shallow creeks, drowned estuaries, low-lying islands, mudflats, tidal salt march and reclaimed grazing marsh lying between the North Sea and rising ground inland. This NCA contains some of the least settled areas on the English coasts with few major settlements and medieval patterns of small villages and hamlets on higher ground. Sea defences are present which protect large areas of reclaimed grazing marsh. A number of historic military landmarks characterise the coastal landscape[76].

**Northern Thames Basin** – the area is diverse extending from Hertfordshire to the Essex coast. Included in the NCA are suburbs of North London with historic and planned new towns and cities throughout the area. Arable agriculture is a dominant industry in the area with soil quality ranging from good to poor quality. The London Clay proves poor quality soil becoming waterlogged in the winter and cracking/shrinking in the summer. Good quality soil is found in alluvial deposit areas from the Thames and other rivers. There is a rich geodiversity, archaeology, history and diverse landscape in the area. Urban expansion is a feature of the area with significant pressure on the area in terms of housing, schooling and other critical infrastructure[77].

[74] GeoEssex (2022) Essex Geology - GeoEssex
[75] GeoEssex (2013) essex_lgap_final_march_2013.pdf (geoessex.org.uk)
[76] NCA Profile: 81 Greater Thames Estuary - NE473 (naturalengland.org.uk)
[77] NCA Profile:111 Northern Thames Basin - NE466 (naturalengland.org.uk)

**South Suffolk and North Essex Clayland** – the NCA covers four counties including Essex. The ancient landscape is wooded arable countryside with a character of gently undulating, chalky boulder clay plateau. A complex network of species-rich hedgerows, ancient woods and parks, meadows with streams and rivers characterise the area. Traditional irregular field patterns are discernible over the area despite field enlargements in the 20th century. The soil is moderately fertile, chalky clay giving the vegetation a calcareous character. Gravel and sand deposits are important geological features typically exposed during mineral extraction which also provide a great deal of evidence in understanding ice-age environmental change[78].

#### *D.5.1.3 Landfill*

There are 534 landfill facilities in England, 24 more than in 2016. In the Essex region, there are 33 permitted landfill sites that are currently operating. Historically, landfills in the United Kingdom were the most common option for waste disposal and for certain waste types are still recognised as the Best Practicable Environmental Scenario (BPES). However, certain rules apply to waste before they are disposed in landfill, such as classifying of the waste, treatment, and confirmation that waste can be accepted[79]. UK biodegradable municipal waste (BMW) sent to landfill has fallen from approximately 6.6 million tonnes in 2019 to around 6.1 million tonnes in 2020.[80]

'Soils' make up 58% and 'mineral wastes' 6% received by landfills. The two other features of waste at landfills are 'household & similar wastes' (10%) and 'other wastes' (26%) [includes 'sorting residues', typically mixed wastes following processing to remove recyclates[81].

### D.5.2 Future Baseline

One of the core planning principles of the NPPF is to encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value. The NPPF also places great importance with respect to Green Belt policy, the aim of which is to prevent urban sprawl by keeping land permanently open. The Green Belt policy serves five purposes: to check the unrestricted sprawl of large built-up areas; to prevent neighbouring towns merging into one another; to assist in safeguarding the countryside from encroachment; to preserve the setting and special character of historic towns; and to assist in urban regeneration, by encouraging the recycling of derelict and other urban land. Although the NPPF promotes a presumption in favour of sustainable development, this does not apply where proposed developments may affect European or other designated sites covered by specific policies.

### D.5.3 Key Issues

The key sustainability issues arising from the baseline assessment for soil, geology and land use are:

- The need to encourage effective use of the land, benefitting landowners, other stakeholders, the environment and sustainability of natural resources.
- The need to apply the Waste Hierarchy; prioritising prevention, enhancing recycling and reducing the amount of waste going to landfill.

## D.6 AIR AND CLIMATE

### D.6.1 Baseline

The scenarios in the Waste Strategy may include increased numbers of vehicles on the road, operational and process changes at existing locations and development of new infrastructure. Therefore, there is potential for adverse effects on air quality and climate through emissions associated with construction (on site and transport) or through the operation of the schemes.

#### *D.6.1.1 Greenhouse Gases and Climate Change*

Robust information on climate change and variability is required to adapt, build resilience and inform decision making. UK Climate Projections 2018 (UKCP18) are the latest national climate projections and provide the most recent scientific evidence on projected climate changes.

[78] NCA Profile: 86 South Suffolk and North Essex Clayland - NE515 (naturalengland.org.uk)
[79] Gov.uk (2021) Dispose of waste to landfill. https://www.gov.uk/guidance/dispose-of-waste-to-landfill
[80] Defra (2022) UK Statistics on waste. UK statistics on waste - GOV.UK (www.gov.uk)
[81] Defra (2022) UK Statistics on waste. UK statistics on waste - GOV.UK (www.gov.uk)

The average temperature over the past decade has been on average 0.3°C warmer than the 1981-2010 average and 0.9 °C warmer than the 1961-1990 average. All the top ten warmest years for the UK, in the series from 1884, have occurred since 2002[82]. The highest ever summer temperature was recorded in the East of England with 38.7°C at Cambridge Botanic Gardens (2019). The UK is experiencing wetter days than the previous decade, with an increase of 5% more rain than 1961-1990 and average UK extreme rainfall increasing. However, given the geography of the East of England, there are not significant total rainfall increases seen during extreme rain events.

The UK Climate Change Risk Assessment (CCRA3) 2021 Evidence Report, which is required to conduct its assessment every five years[83], draws together and interprets evidence gathered by CCRA regarding current and future threats and opportunities for the UK posed by the impacts of climate change up until 2100. Overall, the findings of the CCRA3 have identified eight priority areas for Government and other organisations to address within the next five years:

- Risks to the viability and diversity of terrestrial and freshwater habitats and species from multiple hazards
- Risks to soil health from increased flooding and drought
- Risks to natural carbon stores and sequestration from multiple hazards leading to increased emissions
- Risks to crops, livestock and commercial trees from multiple hazards
- Risks to supply of food, goods and vital services due to climate-related collapse of supply chains and distribution networks
- Risks to people and the economy from climate-related failure of the power system
- Risks to human health, well-being and productivity from increased exposure to heat in homes and other buildings
- Multiple risks to the UK from climate change impacts overseas.

The UK Climate Change Act 2008 set legally binding targets for the UK to reduce greenhouse gas emissions by at least 80% by 2050, and CO2 emissions by at least 26% by 2020, both set against a 1990 baseline. Under the requirements of the Act, the Government has set five year carbon budgets to set out a trajectory for emissions reductions to 2050. Budgets have been set covering the periods 2008-12, 2013-17, 2018-22, 2023-27 and 2028-32, equivalent to 22%, 28%, 34%, 50% and 57% reductions in carbon emissions compared to 1990 levels respectively. The National Adaptation Programme (NAP)[84] is currently in its second period [2018-2023] which sets out the actions that government and others will take to adapt to climate change challenges in England. The NAP addresses climate risks which could affect the natural environment, critical infrastructure, communities and businesses and consequently explains associated actions and future responses on risks such as flooding and coastal change, risks to health from high temperatures, and risk of public water supply shortages[85].

#### *D.6.1.2 Landfills and Greenhouse Gases*

The IPCC, in the latest Climate Change Report, identified that waste management as a sector is a significant global producer of methane and an important contributor to global warming[86]. Landfill sites contain biodegradable waste which produces greenhouse gases such as methane and carbon dioxide[87]. Emissions from landfill do not arise immediately and can take place at differing timescales dependent on the greenhouse gas and waste type. Greenhouse gas emissions from UK landfill in 2020 were 12.8 million metric tonnes $CO_{2e,}$ down from 24.3 in 2010[88]. Landfill gas emissions make up 3.1% of the total UK greenhouse gas emissions with Waste Management as a whole making up 4.2% (2019)[89].

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[82] Met Office (2022) ukcp18_headline_findings_v4_aug22.pdf (metoffice.gov.uk)

[83] Defra (2021) The UK Climate Change Risk Assessment 2021 Evidence Report. Available at: https://www.theccc.org.uk/wpcontent/uploads/2021/07/Independent-Assessment-of-UK-Climate-Risk-Advice-to-Govt-for-CCRA3-CCC.pdf

[84] Defra (2018) The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727252/national-adaptation-programme-2018.pdf

[85] DEFRA (2018) The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting. Available at: nationaladaptation-programme-2018.pdf (publishing.service.gov.uk)

[86] IPCC (2021) Short-lived Climate Forcers: Chapter 6 https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf

[87] Defra (2004) Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69391/pb9052a-health-report-040325.pdf

[88] UK: landfill greenhouse gas emissions 2010-2020 | Statista

[89] BEIS (2019) final-greenhouse-gas-emissions-tables-2019.xlsx (live.com)

Climate mitigation models have suggested that strong decreases of $CO_2$ emissions and other 'Short-lived Climate Forcers' are dependent on reductions in methane production from waste activities[90].

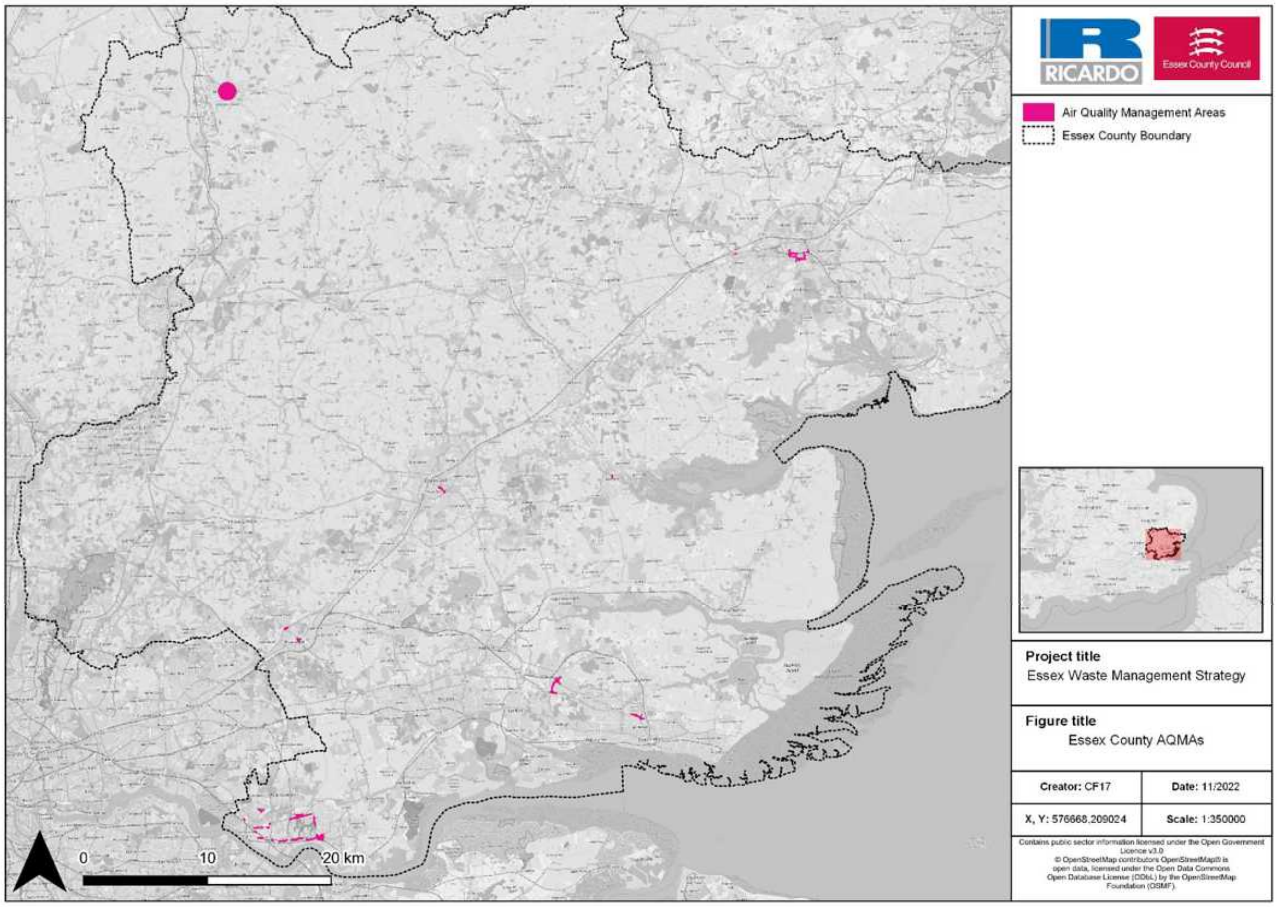
#### *D.6.1.3 Air Quality*

The air quality baseline can be best described through reference to information produced by the local authorities in Essex that have declared Air Quality Management Areas (AQMA). A local authority declares an AQMA when UK National air quality objectives are unlikely to be met. The majority of the AQMAs in the UK have been declared because of emissions from road transport.

Scenarios within the Waste Strategy may include a change in waste vehicle types or frequency of vehicles on the roads which may have an impact on vehicle emissions and associated local air quality. Reference to AQMAs will be made when considering any adverse impacts on air quality of the Waste Strategy scenarios.

30 AQMAs are located within the Essex County Council region and are presented in Figure D. 4.

Figure D. 4 AQMAs located in the Essex County Council region




### D.6.2 Future Baseline

Government and international targets will require significant cuts in greenhouse gas emissions by 2027. The UK met the first and second carbon budgets with headrooms of 36 and 384 MtCO2e respectively and is currently projected to meet the third carbon budget with a headroom of around 26 MtCO2e (until 2022)[91]. Objectives are being achieved for many air pollutants (lead, benzene, 1,3-butadiene and carbon monoxide (CO)). However, measurements show that long-term reducing trends for $NO_2$[92] and $PM_{10}$[93] are flattening or

[90] IPCC (2021) Short-lived Climate Forcers: Chapter 6 https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf

[91] DECC (2020) Updated energy and emissions projections 2019. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/931323/updated-energy-andemissions-projections-2019.pdf

[92] Nitrogen Dioxide

[93] Particulates with a diameter of 10µm or less

even reversing at a number of locations, despite current policy measures.

The Government's Net Zero ambition is to "*reduce emissions by 78% by 2035 compared to 1990 levels, taking the UK more than three-quarters of the way to reaching net zero by 2050*"[94]. Measuring waste management activities using the generation of carbon emissions as a key metric will be required to monitor performance against this target.

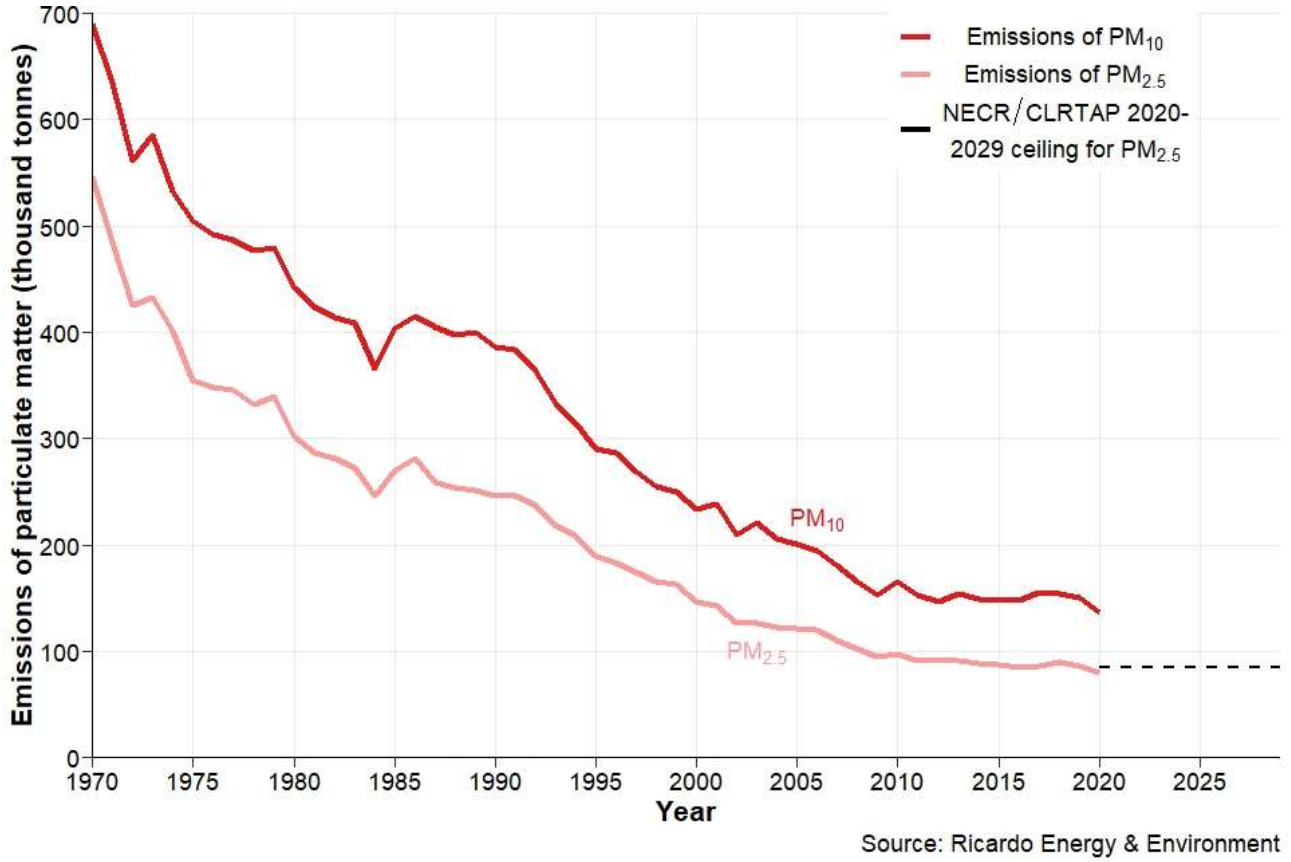
Future climate change is projected (UKCP18) to cause a change in the seasonality of extremes through an extension of the convective season from summer to autumn, with increases in heavy rainfall intensity in the autumn. Although an overall summer drying trend is to be expected in the future, data from the Met Office's UK Climate Projections (UKCP18 [Local 2.2km] projections) suggest increases in heavy summer rainfall event intensity[95]. The UKCP18 also estimates that summers in central England are likely to be between 1.1°C to 5.8°C warmer, 57% drier and 9% wetter[96].

Emissions of $PM_{10}$ and $PM_{2.5}$ have been relatively stable since 2009. The Government's aim was to reduce emissions of $PM_{2.5}$ against the 2005 baseline by 30% by 2020, and 46% by 2030. The trends in total annual emissions from 1970 to 2020[97] are shown in Figure D. 5.

There is a target to decrease emissions of $NO_2$ against the baseline of 2005 by 55% by 2020. There has been an average decline of 1.3% between 1997 and 2021[98]. Targets to reduce emissions of sulphur dioxide against the 2005 baseline have been set at decreases of 59% by 2020, moving to 88% by 2030[99]. Emissions of sulphur dioxide have fallen by 98 per cent since 1970, to 136 thousand tonnes in 2020[100].

[94] UK enshrines new target in law to slash emissions by 78% by 2035 - GOV.UK (www.gov.uk)
[95] Met Office (2021) UK Climate Projections: Headline Findings
[96] Defra, BEIS, the Met Office and the Environment Agency (2018) – UKCP18 Climate Change Over Land: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-infographicheadlinefindings-land.pdf
[97] Emissions of air pollutants in the UK – Particulate matter (PM10 and PM2.5) - GOV.UK (www.gov.uk)
[98] Concentrations of nitrogen dioxide - GOV.UK (www.gov.uk)
[99] Defra (2019), Clean Air Strategy 2019
[100] Emissions of air pollutants in the UK – Sulphur dioxide (SO2) - GOV.UK (www.gov.uk)

Figure D. 5 Annual emissions of PM10 and PM2.5 in the UK: 1970-2020




Residual waste in landfill sites can remain in situ for multiple years. The degradation process of landfill waste releases greenhouse gases such as methane and carbon dioxide and can take place over a long period of time. Future baseline of landfill emissions is therefore variable and uncertain. Landfill emissions can also be affected by the influence of climate change through decomposition rates being affected by higher temperatures and rainfall variations[101]. Other waste management activities can be affected by changing climate with examples shown in Table D. 4[102].

Controlling landfill gas is important to minimise local environmental issues and limit the contribution of greenhouse gases. Best practice in England for managing landfill gas is to collect the gas and use it as an energy source to generate electricity or simply burnt as a flare. These two approaches involve the process of oxidation of methane to carbon dioxide. As gas yields and methane concentrations vary over time in light of climatic change, these common oxidation techniques become less effective. In light of this, waste managers should use guidance and framework to identify the best technology available (e.g heat and power generation; high temperature flares; micro power generation; biofilters; biocovers) relevant to individual scenarios. Key variables include: methane concentrations, whether a landfill site has an active extraction system; whether a landfill site has an electrical grid connection; technical performance of technology; capital and operational costs; emissions from the technology (noise, air quality, odour)[103].

[101] Environment Agency (2003) Potential Impacts of Climate Change on Waste Management. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/290358/sx1-042-tr-e-e.pdf

[102] Environment Agency (2003) Potential Impacts of Climate Change on Waste Management. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/290358/sx1-042-tr-e-e.pdf

[103] Environment Agency (2017) Landfill methane oxidation techniques. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/650318/Landfill_methane_oxidation_techniques_-_report.pdf

Table D. 4 Climate Change Impacts on Waste Management Processes

| Climate Variation | Waste Management Change |
|---|---|
| **Higher Temperatures** | Alter waste decomposition rates |
| | Reduced water availability altering site hydrology and leachate production |
| | Reduced water availability increasing the strength of leachate as a result of dilution reductions |
| | Increased risk of water borne disease transmission |
| | Increased risk of odour nuisance |
| **Reduced Precipitation in summer** | Reduce waste decomposition rates |
| | Increase leachate strength |
| | Reduce water availability for site management |
| | Increase risk of shrinkage in clay lining and capping layers |
| **Increased Precipitation in Winter** | Increased waste decomposition rates |
| | Increased risk of flooding and pollution incidents |
| | Increase leachate production |
| **Increase of extreme weather (e.g storms)** | Lead to increased incidents of windblown litter and debris |
| | Increased infrastructure damage and risk of pollution incidents. |

### D.6.3 Key Issues

The key sustainability issues relevant to the Waste Strategy and the SEA, arising from the analysis of the air quality and climate baseline are:

- the need to minimise emissions of pollutant gases and particulates and enhance air quality;
- the need to reduce the need to travel and promote sustainable modes of transport;
- the need to reduce greenhouse gas emissions arising from implementation of the Waste Strategy;
- the need to take into account, and where possible adapt to, the potential effects of climate change;
- the need to increase environmental resilience to the effects of climate change.

## D.7 ARCHAEOLOGY AND CULTURAL HERITAGE

### D.7.1 Baseline

Table D. 5 outlines the designated heritage assets in the Essex County region[104].

Table D. 5 Designated heritage assets in Essex

| Asset | Essex |
|---|---|
| World Heritage Site | 0 |
| Scheduled Monuments | 303 |
| Conservation Areas | 210 |
| Listed Buildings | 13992 |
| Registered Parks and Gardens | 39 |
| Registered Historic Battlefields | 1 |

[104] Historic England - Championing England's heritage | Historic England

| Asset | Essex |
|---|---|
| Protected Historic Wrecks | 0 |

### D.7.2 Future Baseline

Core planning principles in the NPPF include those aiming to protect heritage assets, including "conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations"[105]. Recent and ongoing national economic difficulties may have a negative effect on removing heritage assets from the heritage at risk register. Climate change could have variable impacts on heritage assets in the future. Some types of assets and landscapes have already experienced and survived significant climatic changes in the past and may demonstrate considerable resilience in the face of future climate change. However, many more historic assets are potentially at risk from the direct impacts of future climate change[106].

### D.7.3 Key Issues

The key sustainability issue arising from the baseline assessment for archaeology and cultural heritage is:

- The need to conserve or enhance sites of archaeological importance and cultural heritage interest.

## D.8 LANDSCAPE AND VISUAL AMENITY

### D.8.1 Baseline

The landscape character network[107] defines landscape character as 'a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse'. The National Character Areas have been identified in the Essex County region in Section 3.6.

#### *D.8.1.1 Nationally Designated Sites*

Some landscapes are special because they have a particular amenity value, such as those designated as Areas of Outstanding Natural Beauty (AONB). Others may have an intrinsic value as good examples or be the only remaining examples of a particular landscape type. Two AONBs are situated within the Essex County border, Dedham Vale and Suffolk Coast & Heaths. Some landscapes are more sensitive to development whereas others have a greater capacity to accommodate development. Assessments of landscape character and landscape sensitivity enable decisions to be made about the most suitable location of development to minimise impacts on landscapes. Another important protected landscape assets in the UK are National Parks, however no National Parks are located within the Essex County area and therefore not applicable to this report.

#### *D.8.1.2 Green Belt*

The main characteristics of Green Belt are its openness and permanence. The main aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The Green Belt therefore aims to check the unrestricted sprawl of large built-up areas; prevent neighbouring towns merging into one another; assist in safeguarding the countryside from encroachment; preserve the setting and special character of historic towns; and assist in urban regeneration while encouraging the recycling of derelict and other urban land.

Large areas of the South and South West of the council region are Green Belt, with no Green Belt areas in the Northern reaches of Essex. A total of 16 Green Belts are located in Essex.

### D.8.2 Future Baseline

The NPPF highlights the different roles and character of different areas, promoting the vitality of our main urban areas, protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it. The NPPF states that great weight should be given to conserving landscape and scenic beauty in National Parks and AONBs, which have the highest status

[105] CLG (2012) National Planning Policy Framework, Communities and Local Government. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf
[106] English Heritage, now known as Historic England, (2010) Climate Change and the Historic Environment
[107] www.landscapecharacter.org.uk

of protection. It identifies that planning permission should be refused for major developments in these designated areas except in exceptional circumstances and where it can be demonstrated they are in the public interest.

### D.8.3 Key Issues

The key sustainability issue arising from the baseline assessment for landscape and visual amenity is:

- Landscape and designated sites should be maintained and enhanced for the enjoyment of the public.

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**Forward Plan Ref No. FP/181/07/23**

| | |
|---|---|
| **Report title:** Decisions taken by or in consultation with Cabinet Members | |
| **Report author:** Secretary to the Cabinet | |
| **Date:** 12 September 2023 | **For:** Information |
| **Enquiries to:** Emma Tombs, Democratic Services Manager, 03330 322709 | |
| **County Divisions affected:** All Essex | |

The following decisions have been taken by or in consultation with Cabinet Members since the last meeting of the Cabinet:

**Leader of the Council**

***FP/187/07/23** Entering into agreements with Network Rail for delivery of Park Station and with Homes England to revise Housing Infrastructure Fund (HIF) obligations

**FP/204/08/23** Army and Navy Sustainable Transport Package

**Deputy Leader & Cabinet Member for Levelling Up and the Economy**

***FP/162/06/23** Commissioning of Voluntary and Community Sector Infrastructure

**Cabinet Member for Children's Services and Early Years**

***FP/133/05/23** New Solo Children's Home for Children in Care – Woodlands

**Cabinet Member for Education Excellence, Life Long Learning and Employability**

**FP/185/07/23** Appointment and Re-Appointment of School Governors by Essex LA - Schedule 434

**FP/186/07/23** Appointment and Re-Appointment of School Governors by Essex LA - Schedule 435

***FP/116/05/23** Hogarth Primary School - Changing the Age Range and Changes to the Operation of the Nursery

**FP/191/07/23** Appointment and Re-Appointment of School Governors by Essex LA - Schedule 436

**Cabinet Member for Health, Adult Social Care and ICS Integration**

| | |
|---|---|
| ***FP/115/05/23** | DWP Grant Funding for Employment Support in Primary Care |
| **FP/182/07/23** | Award of accommodation-based support for people with mental health needs |
| **FP/193/07/23** | Integrated Residential Nursing (IRN) Intermediate Care Beds Procurement 2023 |
| ***FP/119/05/23** | Recommissioning of Unpaid Carers Core Offer |
| **FP/223/08/23** | Grant Funding for Digital Social Care Records |

**Cabinet Member for Highways Maintenance and Sustainable Transport**

| | |
|---|---|
| **FP/188/07/23** | Lightship Way, Colchester – Adoption recommendation |
| **FP/196/08/23** | Park and Ride Service – Fees and Charges |
| **FP/524/10/22** | Winter Service Review – Snow Clearing Farmers Rates |
| ***FP/430/05/22** | Supporting Communities During Road Closures |

**Cabinet Member for Planning a Growing Economy**

| | |
|---|---|
| **FP/189/07/23** | ECC response to the Tendring Colchester Borders Garden Community Submission Version Plan - Regulation 19 consultation (Summer 2023) |
| ***FP/127/05/23** | Harlow HIG – Construction Contract for Cambridge Road Junction in Harlow including the acquisition of land, a variation to the HIG Contractual Arrangements and a grant agreement with Harlow District Council |

**Cabinet Member for The Arts, Heritage and Culture**

| | |
|---|---|
| **FP/206/08/23** | Essex Cultural Strategy |

**Climate Czar & Cabinet Member for Environment, Waste Reduction and Recycling**

**The Chancellor of Essex**

| | |
|---|---|
| ***FP/127/05/23** | Harlow HIG – Construction Contract for Cambridge Road Junction in Harlow including the acquisition of land, a variation to the HIG Contractual Arrangements and a grant agreement with Harlow District Council. |
| **FP/197/08/23** | Draw down of funds from the Adults Transformation Reserve for an extension to the Meaningful Lives Matter Programme |
| **FP/199/08/23** | Drawdown from Reserve for Additional Funding for Transformation Programme Shaping Support |
| **FP/201/08/23** | Drawdown of Funding for the 16–25-Year-Old NEETs Levelling Up Delivery Plan 2023-25 |
| **FP/203/08/23** | Improvement of employability skills and employment brokerage – drawdown from reserves |
| **FP/204/08/23** | Army and Navy Sustainable Transport Package |
| **FP/205/08/23** | Drawdown from the Everyone's Essex reserve for the Community Energy programme. |
| **FP/207/08/23** | In-House Fostering Business Case 2022- Draw Down from Reserves |
| **FP/208/08/23** | Drawdown from the Children's Transformation Reserve: Special Guardianship and Adoption Financial Support |
| **FP/209/08/23** | Drawdown from Reserves - Retrofit and Low-Income Households |
| **FP/218/08/23** | Greater Essex Careers Hub Proposal – Drawdown from Reserves |

*** Key Decisions**