

Essex Climate Action Scrutiny June 2023

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Climate Challenge

UK Domestic Green House Gas Emissions (GHG) by Sector 2020

Source: BEIS, HMG



Others include Public, Industrial Processes and the Land Use, Land Use Change and Forestry (LULUCF) sectors. The percentages may not sum to 100% due to rounding.

Final UK greenhouse gas emissions national statistics: 1990-2020 - GOV.UK (www.gov.uk)

We are legally required to achieve net zero green house gas emissions by 2050.

Government has agreed milestone of 78% reduction by 2035.

Transport is the largest contributor of green house gases in the UK, but is an even larger share of Essex emissions.

Our built environment is in line with the national average.

In 2020, UK territorial greenhouse gas emissions were 406 million tonnes CO2 equivalent (MtCO2e), reducing 9.5% from 2019 and were 49.7% lower than in 1990. Provisional results for 2021 show an increase from 2020 in emissions.





climate has already changed IN ESSEX

temperature and sea level are already rising

What has happened so far?



Global average surface temperature is more than 1°C above pre-industrial levels.



UK annual average temperature is about 1.2°C above pre-industrial levels. We have experienced a 0.8°C increase since 1961-1990.



Global mean sea level has risen $\sim 21\text{cm}$ from 1900.



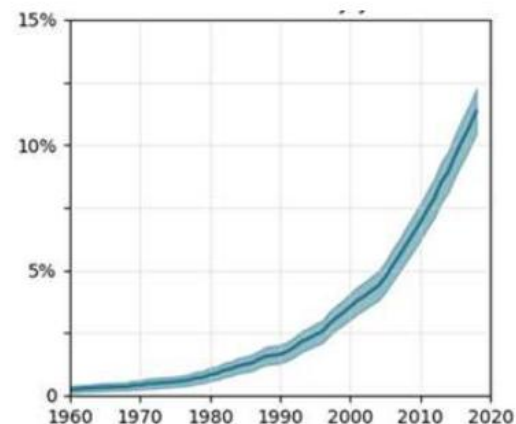
UK mean sea level has risen $\sim 16\text{cm}$ from 1900.



There are some indications of **increasing heavy rainfall** in the UK, though difficult to quantify.

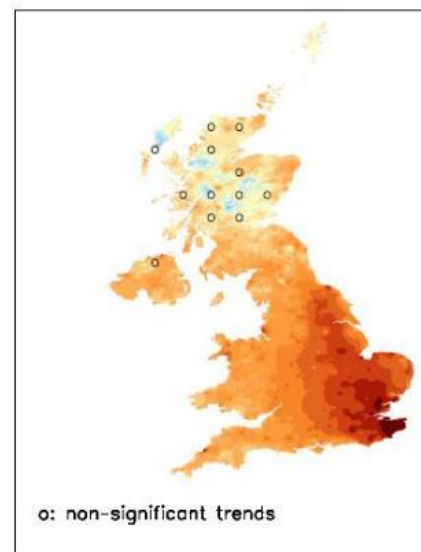


Increasing chance of UK heatwaves “like 2018 summer”. Now 10-25% chance each year, compared to $<10\%$ chance a few decades ago.



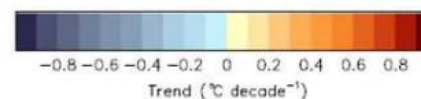
Chance of a UK “2018 Summer” increasing annually since 1960.

Chance >2018 by year
From the Met Office ‘UNSEEN’ project



Trend in the warmest day since 1960.

1960-2019 observed trends
Christidis et al. (2020)



Coastal Flooding & Erosion

The areas in Essex that could be underwater by 2050 thanks to climate change and what scientists say

There will be dramatic changes in Essex because of climate change

SHARE    By [Louise Lazell](#) Senior Reporter
12:51, 21 JAN 2020 | UPDATED 07:52, 22 JAN 2020

Enter your postcode for local news and info Enter your postcode In   YourArea

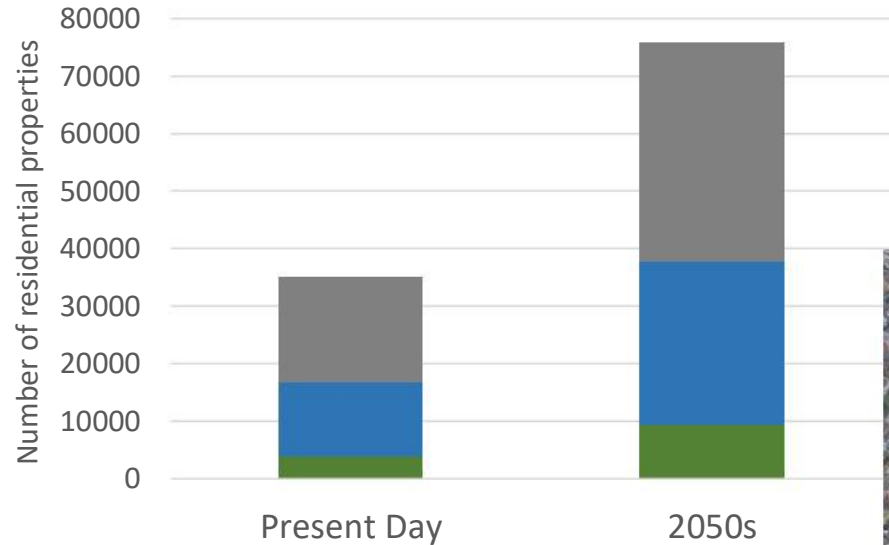


Cliffs at Cudmore Grove on Mersea Island are slowly being worn away.

Climate Central forecast huge swathes of the Essex coast below sea level by 2050.

Local impacts: Increased flooding & water scarcity

Residential properties at significant flood risk in Essex, Norfolk and Suffolk



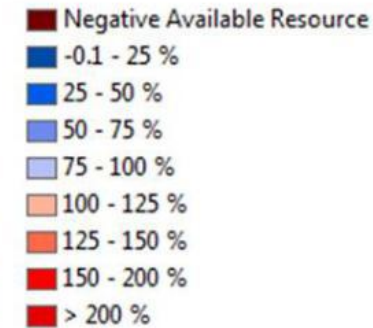
The number of homes at risk of surface flooding in Essex is expected to double between now and 2050.

Sayers et al. 2017 (CCRA2)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/300332/04-947-flooding-summary.pdf



Water demand as a % of water available for abstraction

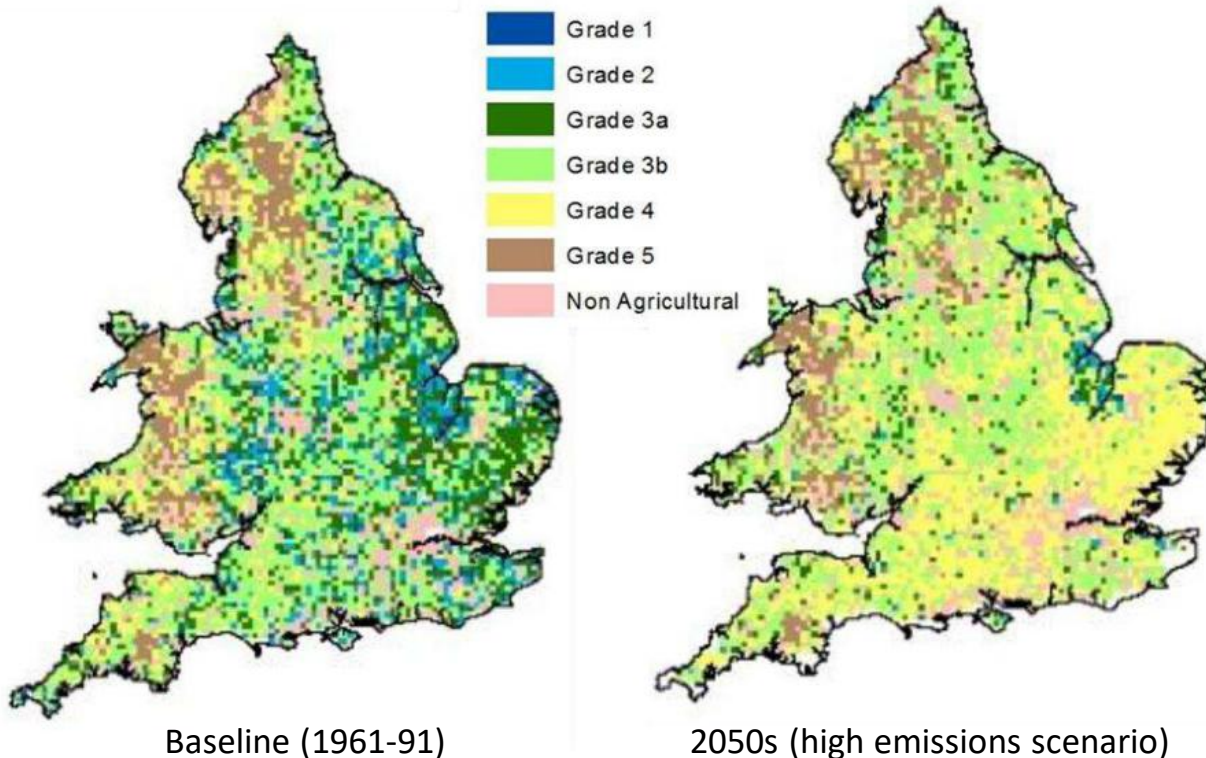


The whole of eastern England is now classified as seriously water stressed – **there is a water crisis**

([Water Resources East, Jan 2022](#))

FUTURE IMPACTS – AGRICULTURE, SOILS AND SUBSIDENCE

AGRICULTURAL LAND CLASSIFICATION IN ENGLAND AND WALES



Agriculture

Climate change will cause soil erosion – soil washed away in heavy rainfall in winter and blown away in drier summers - leading to degradation of our agricultural land and impacting our farming economy.

Subsidence Risk for Buildings & Roads

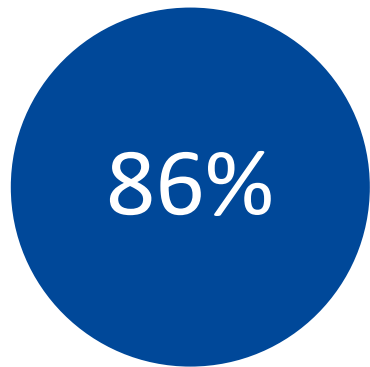
Climate change leading to hotter, drier summers, shrinks and cracks ground under houses.

British Geological Survey reports *risks of clay related subsidence increases by a third by 2030 and triples by 2050.*

This means the 1m homes at risk in the UK in 1990 is set to rise to 2.4m by 2030.

Essex is one of the key areas that will be affected.

Most residents claim to be concerned about climate change...



of Essex residents say they are extremely, very or somewhat worried about climate change

“The UK public **are concerned** about climate change and the environment and there is a **widespread desire for action to be taken**.

There are several positive trends such as shifts in diets, purchasing behaviours and the growing uptake of electric vehicles.

However, **most of us do not know what the most effective actions are** that we can take to reduce our emissions and environmental impacts, **nor do we appreciate the scale of change that will be needed** to reach net zero or adapt to climate change.”

In our hands: behaviour change for climate and environmental goals

House of Lords Environment and Climate Change Committee

Report [here](#)

Net Zero: Making Essex Carbon Neutral

Essex Climate
Action Commission



2021 EV strategy; E-Scooter Pilots running;
Ten Liveable Neighbourhoods
Community owned renewables
Essex Design Guide; Green construction training
Smart meters in schools
All new builds to have solar panels

2022 New schools commissioned net zero
25 school streets
10 local delivery hubs
5 E-cargo bike schemes
Energy sector innovation hub

2024 Network community reuse
and repair hubs

2023 Essex Housing Demonstrator net zero development
Developers to fund flood risk management via CIL
Coastal flood resilience scheme in critical areas completed

2025 All New buildings net zero and support circular
economy recycling
50% Essex schools retrofitted to net zero
All residents & businesses to have kerbside recycling
All biodegradable waste to beneficial use

2030 25% all roofs have solar panels
1.43GW solar energy
Bioenergy in difficult rural homes
Hydrogen store for renewable energy
20 Liveable Neighbourhoods
3 new park and choose sites

2030 All public sector estates in Essex NetZero
100% fuel poor homes retrofitted & supplied
with renewables
2/3 Essex houses retrofitted
1/3 commercial buildings retrofitted
100% schools retrofitted
All new buildings carbon positive

2030 25% land natural green infrastructure
(urban and rural)
50% farmland uses sustainable land stewardship
30% Essex in a Climate Focus Area
Per capita waste reduced by 10%
70% recycling rate
Zero waste to landfill

2035 All waste heat reused
All gas fired power repurposed to bioenergy
Network of community energy neighbourhoods
in every district

2040 All housing retrofitted
Zero GHG emissions from housing
Essex renewables meets all county needs
30% all land natural green infrastructure
75% farm land adopts sustainable
land practises

2050 All roofs have solar panels
75% all developments have integrated natural water management
100% farm land uses sustainable land practises

Net Zero: Making Essex Carbon Neutral
can be found [here](https://www.essexclimate.org.uk)

ECAC website www.essexclimate.org.uk

Essex's £200m climate action plan is unveiled



ECC has embedded carbon reduction fully into Governance, with climate impacts required in every decision paper

Carbon Literacy Training is currently being delivered for one thousand staff and members

Essex is moving to hybrid working to cut travel by staff and reduce carbon footprint of operations

ECC has a mandatory weighting for social value which includes climate. We will also be requiring consideration of carbon reduction plans in all tenders over £100k





Land Use and Green Infrastructure

Land Use Change

Essex Green Infrastructure Strategy

- Awarded Excellence by Natural England
- New Building with Nature principles developed with partners, on [Essex Design Guide](#)

Essex Forest Partnership

- Forest partnership committed to 1m trees by 2025 across Essex.
- [Essex Forest Initiative](#): ECC funding c 365k trees but has brought in over £1.1m in grants funding from Woodland Trust, Forestry Commission and private sector, and won the Green Apple award.
- 485 volunteers and a total of 2,425 hours spent tree planting across 22/23 planting season

Essex Tree Management Plan ([Cabinet paper](#))

Vision: That Essex County Council will lead the way on creating 30% Natural Green Infrastructure by protecting and increasing the tree stock on the Essex County Council estate

Space for Nature and Protecting Agricultural Productivity

- Nature Recovery Strategy (Statutory)
- [Local Nature Partnership](#)
- Climate Focus Area to accelerate action and provide exemplars.
 - Farming clusters to support move to sustainable farming
 - Natural Environment Investment Readiness Fund developing business plans with landowners: 4 pilot estates of 1,500ha aiming to convert x 200ha to natural GI
 - Working with Involve/parish/town councils to engage residents in the development of local nature plans



Essex Forest Initiative



Essex Climate Action Commission
Powering positive change





Land Use & Green Infrastructure

Climate Resilience

Flooding and Water Scarcity

- ECC is the statutory Lead Local Flood Authority and work with the EA and partners in the Flood Board to produce:
 - Flood Risk Management Plans (FRMPs) for Essex
 - Surface Water Management Plans (SWMPs) for Essex
- £4m Nature Based Flood Resilience Capital Programme in 23/24, of which 50% is grant funded from Environment Agency.
- Essex Water Strategy: ECC working with [Water Resources East](#) and partners across Essex and aim to publish early 2024

Sustainable Drainage (SuDS)

The [SuDS team](#) extensive advice to planners on Sustainable Drainage to reduce risks for, on average, improving flood reduction for 67,500 homes in new developments in Essex County Council per year.

- SuDs on our own estate: with projects at Essex Outdoors Danbury & Country Parks
- Suds on our Highways including [Make Rain Happy in Canvey](#)
- Grant programme for SUDs in 8 Basildon schools funded by Dept for Education and Anglian Water



Leaky Dams at Weald Country Park - delivered in 2022

Raingarden at
Park Avenue,
Canvey:
Make Rain Happy



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Transport



- Transport East aim for Essex to be net zero by 2040
- Revising Transport Strategy to focus on: “Avoid, shift, improve” **AVOID** unnecessary journeys; **SHIFT** to public and active travel; **IMPROVE** journeys by building active travel and EV infrastructure
- [New Bus Improvement Plan](#)
- [Walking Strategy](#) launched and warmly received by central government.
- [Local Cycling and Walking Infrastructure](#) plans: working with districts, developing a long-term framework
- Refreshing Cycling Strategy & developing Cycling Asset register
- EV Charging Strategy out for consultation 2023

Transport



500+ bikes distributed through Essex Pedal Power



E-scooter trial: 1.5M+ rides with 82% modal shift from car



New sustainable Army & Navy junction, Chelmsford



Travel Essex journey planner: 20,000 downloads



Launch of DigiGo – electric demand responsive bus



£10m Active Travel schemes in Colchester, Chelmsford, Braintree, Wickford, Brentwood



Programme of Local Walking and Cycling projects (LCWIPs)



5 Healthy Streets in Colchester, Chelmsford and Brentwood



Built Environment: Retrofit

Retrofitting Fuel Poor Homes

- ECC has a successful track record in securing over £15m in last 3 years funding from government from earlier Green Homes Grant Local Authority Delivery Scheme and Sustainable Warmth Scheme schemes, providing grants of up to £10k for Essex households suffering fuel poverty.
- The Council has worked with District partners to unlock a further £25 million in 23/24 from the Government Home Upgrade Grant, continuing this support.

Training for Front line Staff to Tackle Fuel Poverty

ECC worked with Citizens Advice Essex, local authorities and the NHS to develop and deliver training to over 400 front line staff NHS and local authorities.

Essex County Council

- Committed to be Net Zero (Scope 1 &2) by 2030
- ECC has invested over 2 years £9.4m across its core sites and £7.9m as part of the Public Sector Decarbonisation Fund.
- Essex Record Office moved from F to C with install insulation, solar panels and LEDs. Further works in train: LEDs & heat pump



Green Homes Grant Local Authority Delivery Scheme

Essex Schools

- ECC school energy surveyor team supporting decarbonisation planning and grant applications
- Retrofit programme across schools including 31 solar installations





Built Environment: New Build

The [Essex Design Guide](#) putting Net Zero as its primary objective

- Standards for net zero design and climate resilience
- NEW: Guidance for Solar Farms

Climate Planning Team to support planning authorities across Essex, providing guidance and training including a recent viability study

Essex Developers Charter

Working with the Essex Developers Group we have helped produce the [Essex Developers Charter](#), the first in the UK.

Net Zero homes

Essex Housing 10 home pilot site at Hargraves House, Chelmsford which will be *net zero in operation & construction*, and climate resilient



Sweyne Park School, Clacton County High School and Colne Community School are the first Essex schools to benefit from new buildings with net carbon design.

New Schools

Since December 2022, all school buildings in Essex are commissioned to be Net Zero in operation, with an A+ EPC rating. Three new school buildings are due to open in 2024.





Energy

Renewable Energy Procurement & Renewables on our Estate

- 100% ECC energy now from renewable supply
- Danbury Country Park, 31 schools, Essex Record Office

Grant Programmes

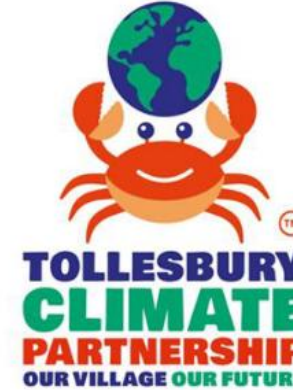
- Horizon 2020 for local area energy planning Jaywick (£19.4k)
- Innovate UK Pathfinder projects: ECC as lead on one (£77k) and partner in a second (£90k) for net zero neighbourhoods.
- Ofgem SIF Shield: ECC as partner on project for low carbon heat (£90k)

Solar Together

- residents bulk buy for solar panels. Since 2018, Solar Together Essex campaigns in 3.5MW solar capacity and displace over 1,200 tonnes of CO2 equivalent emissions annually.

Community Energy Groups

- ECC's ground breaking community energy partnership with Community Energy South, "Pathways" established a network of new Community Energy Groups.
- The project was recognised in the 2023 Community Energy England awards for scaling up community energy and led to (then) BEIS commissioning CES to roll the model out nationally
- [Support programme](#) with 4 new groups constituted
- Bringing forward c£1m their own renewables investments





Waste

New Essex Waste Strategy

- aim to consult 2023

Love Essex partnership

- Composting
- Waste busters
- Cloth nappies
- Champions: embedding volunteering

Blueprint for a Circular Economy

- ECC lead this international Interreg funded project
- Delivered training to 35 other local authorities to help them use the BLUEPRINT model and move to a circular economy.
- Pilots included Library of Things and school activity booklet.

The team has won national awards:

- Small Team of the Year
- Love Your Period campaign



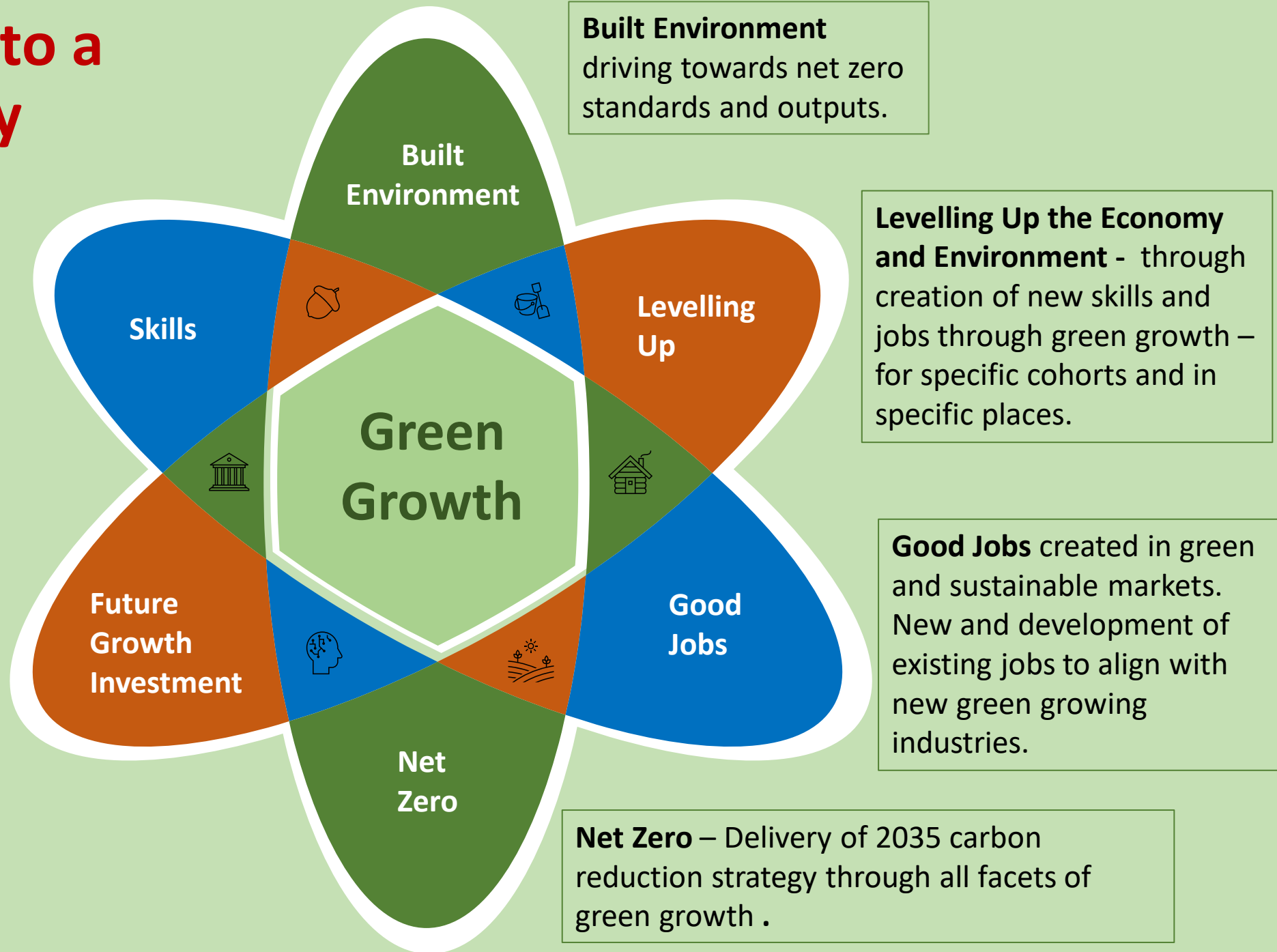
Essex Library of Things
Our place to reuse, borrow and share



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Just Transition to a Green Economy



Green Growth in Context of Sector Growth



Through **Everyone's Essex**, we have committed to 'help grow existing businesses and the **economic sectors of the future**'

Our **Sector Development Strategy** brings together public sector partners, businesses, and residents together to effectively plan for the economy of Greater Essex around 5 growth sectors:



Green Construction and Retrofit
(including NSIPs)



Clean Green Energy
(including low emission vehicles tech)



Advanced Manufacturing & Engineering
(supporting green transition)



Digitech (including Fin, Insure, Agri, Marine)



Life Sciences (focusing on med & care tech)

This is what the sectors are currently worth to the Essex Economy:

£9.7billion

£320million

£2.6billion

£1.4billion

£630million

Over the next 20 years, with no additional stimulus, they are projected to contribute an extra:

£4.1billion
37,000 jobs

£18million
1,000 jobs

£312million

£340million
2,700 jobs

£94million
3,500 jobs

← 27,000 green jobs in low carbon →

Ambition is for sector development activity to ensure Essex exceeds this growth rate



Just Transition to a Green Economy

Business Support

Training

- [Essex Skills Plan](#) focusing on building skills for sustainable future
- Retrofit Training (now extending to phase 2 with BEIS grant funding)
 - Partnership with The Retrofit Academy Community Interest Company (CIC) to deliver retrofit training to residents/business in Harlow and Tendring – 249 people were trained
 - Homes Decarbonisation Skills Training Competition - roll out training to Basildon, Castle Point and Colchester – working through ACL. Ongoing – 52 enrolled.

Net Zero Innovation Network

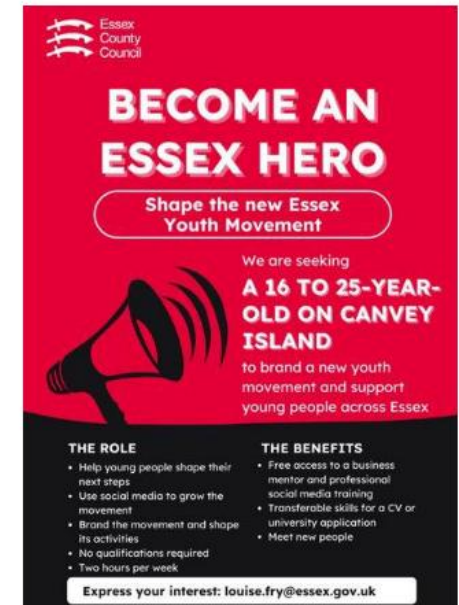
- Over 80 Essex businesses, Universities developing innovative projects to pull in investment([Essex Net Zero Innovation Network](#) | [Carbon Copy](#))

Great Start

- Business Accreditation Scheme – Supporting Climate and Green Growth Ambitions of businesses

Young Entrepreneurs

- **Green Entrepreneurs:** Supporting 30 individuals age 18-30 with green start-ups in Essex and hone the knowledge, skills, attributes and values for the future workforce
- **Youth Movement** to promote green economic growth including career and skills opportunities from peer to peer



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Community Engagement

Communities

- ECC one of only five authorities selected to be part of Involve's [Local Climate Engagement Programme](#) project group
- Proactive Community engagement to inform activity planning e.g. climate focus area
- [£500k Essex Climate Action Challenge Fund](#)-about to award first funds.
- A year-long webinar series for Essex Association of Local Councils and the annual EALC Climate Crisis Conference

Residents

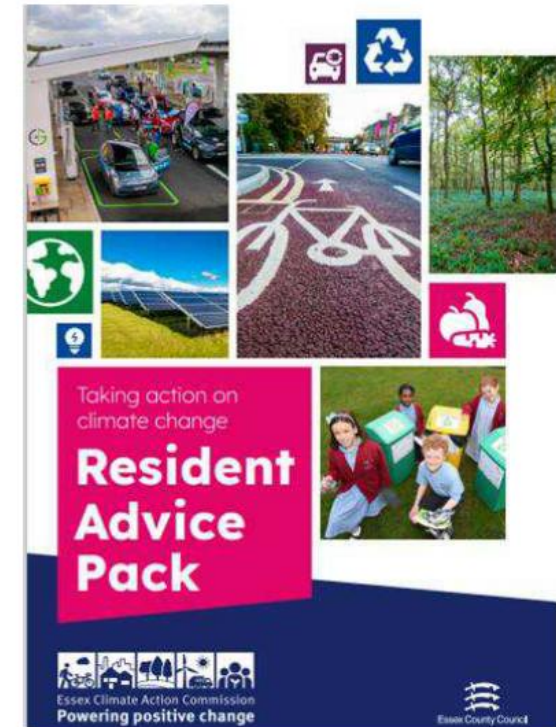
Rolling programme of events and communications including [monthly newsletter](#)

Advice Packs: Launched last year

Cutting Carbon Essex App: Launched this year

Social media

- [Essex is Green](#) reached over 10m newsfeeds in first year
- Essex is Green Changemakers group: over 200 groups admins meet to share information and gain support
- [Essex Climate Action Commission website](#)



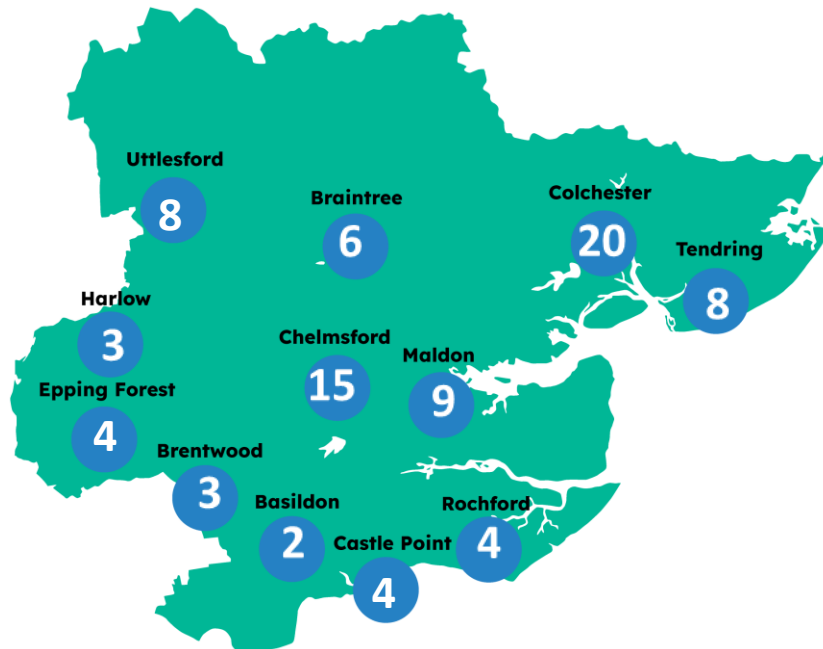
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Community Engagement

Climate Action Challenge Fund

Application regional breakdown



89
applications
received



41
applications
approved



£500,000
All awarded



Applicant type breakdown



Community
group

7



Registered
charity

35



CIC or Social
Enterprise

12



Parish
Council

11



School

20

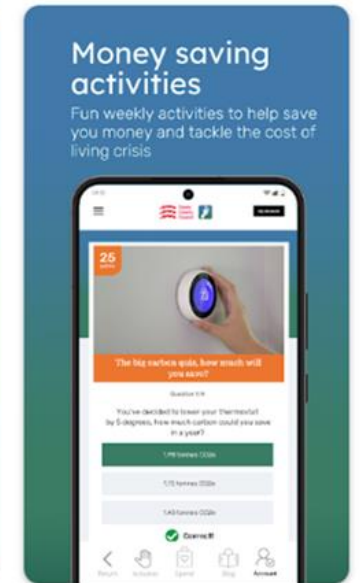
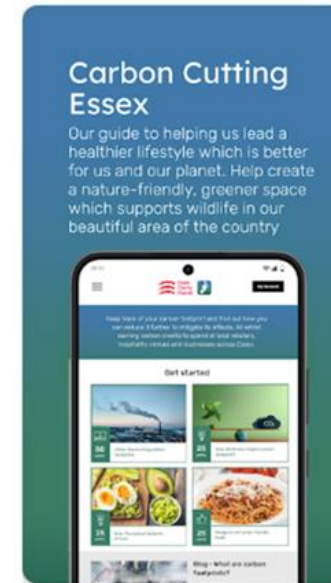
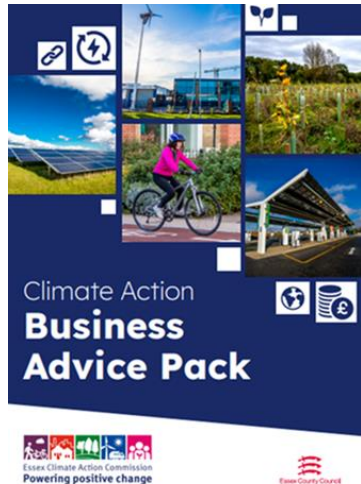


Other

4

Community engagement

Climate Action Advice Packs & Carbon Cutting Essex App



Link to the Climate Action Advice Packs

What can I do?

You can download the free app through:

- [GooglePlay](#)
- the [App Store](#)
- the [Greenreem website](#)



Our journey to become a net zero county



Signing of the UK100 Membership Pledge, Cllr Bentley, Leader and Cllr Peter Schwier, ECC's Climate Czar

- Essex County Council awarded 'A rating' by CDP and recognised as one of only 122 locations in the world leading on combating climate change.
- Significant action has been taken to put us on the road to net zero as highlighted in the first Essex Annual Climate Action report.
- ECC has joined the Local Governments for Sustainability (ICLEI), a global network of local governments committed to tackling climate change. ECC is one of just six UK members.
- Recently awarded Carbon Literacy Bronze Status.

Cutting Carbon Essex App

You can download the free app through:

- [GooglePlay](#)
- the [App Store](#)
- the [Greenredeem website](#)

