

Climate Basics

Sarah Howard, Lucy Robinson & Dan Rowe – Procurement
July 2022

Procurement Services
Realising Essex's potential through our suppliers



Essex County Council

Climate Challenge

UK Domestic Green House Gas Emissions (GHG) by Sector 2019

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 to 2019 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2019)

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. As we do not host a heavy industrial sector, the contribution of our business sector is below the national average.

In 2019, UK territorial greenhouse gas emissions fell by 3% from 2018 and were 44% lower than in 1990

Climate has already changed IN ESSEX, temperature and sea levels 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 ~21cm from 1900.



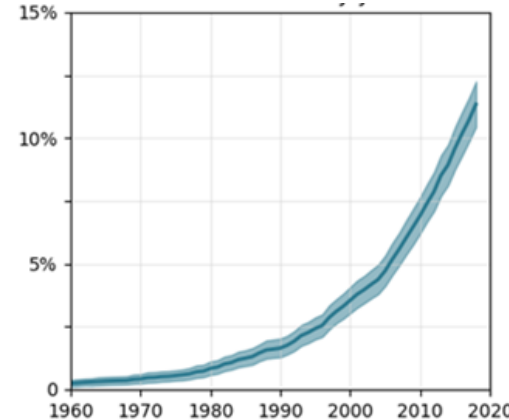
UK mean sea level has risen ~16cm from 1900.



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

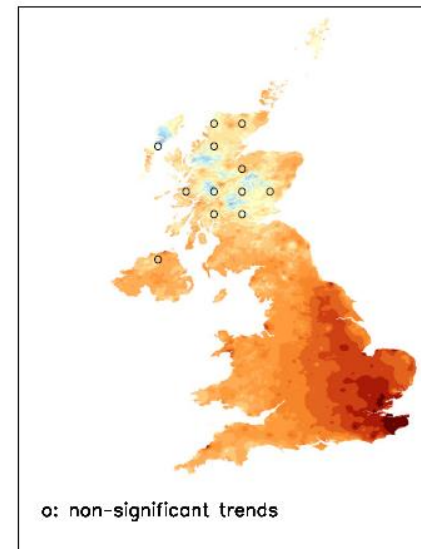


Increasing chance of UK heatwaves “like 2018 summer”. Now 10-25% chance each year, compared to <10% chance a few decades ago.



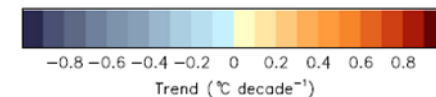
Chance of a UK “2018 Summer” increasing annually since 1960.

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

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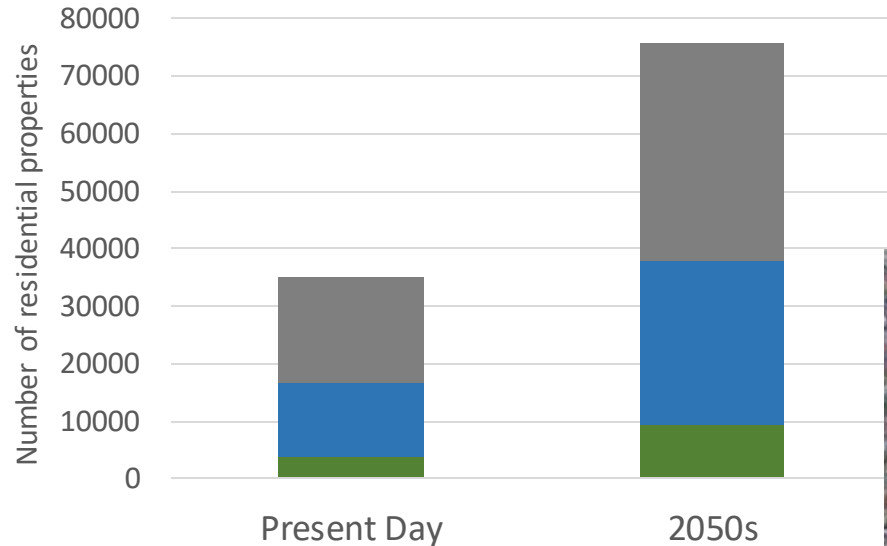


Cliffs at Cudmore Grove on Mersea Island are slowly being worn away.

[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



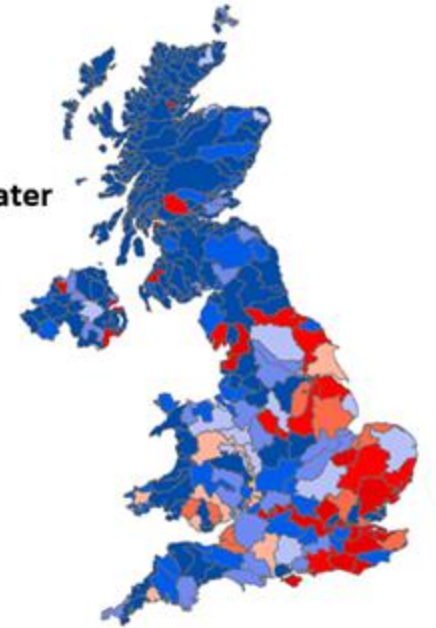
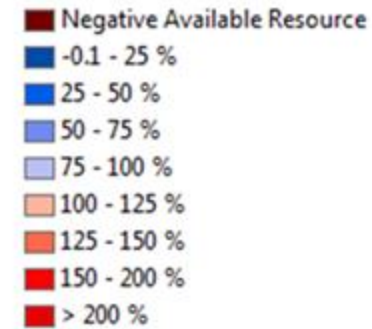
The number of homes at risk of surface flooding in Essex is expected to **double** between now and 2050.

Sayers et al. 2017 (CCRA2)

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



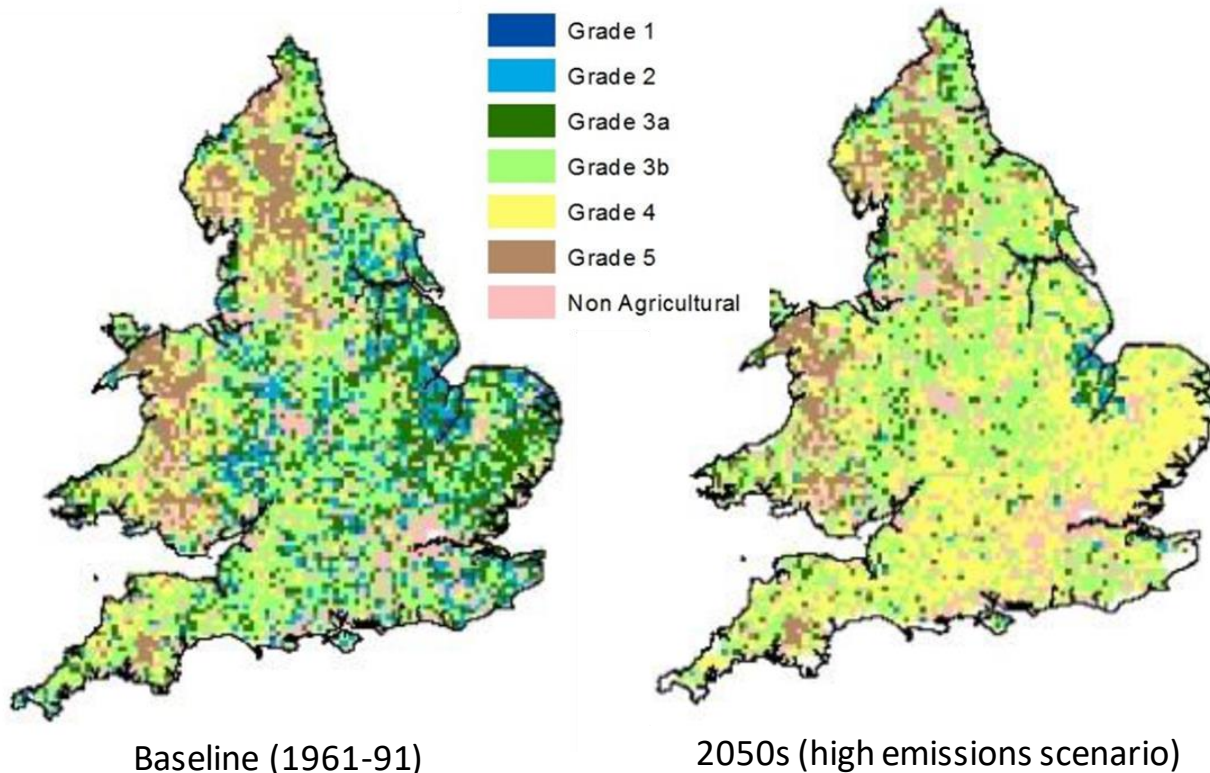
Water demand as a % of water available for abstraction



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.

Everyone's Essex: Our Aims & Commitments

Our strategy is structured around 4 strategic aims – and 20 commitments that we will deliver:



Strong, inclusive and sustainable economy

- 1. GOOD JOBS**
- 2. INFRASTRUCTURE**
- 3. FUTURE GROWTH AND INVESTMENT**
- 4. GREEN GROWTH**
- 5. LEVELLING UP ECONOMY**



High quality environment

- 6. NET ZERO**
- 7. TRANSPORT & BUILT ENVIRONMENT**
- 8. MINIMISE WASTE**
- 9. GREEN COMMUNITIES**
- 10. LEVELLING UP ENVIRONMENT**



Health, wellbeing and independence for all ages

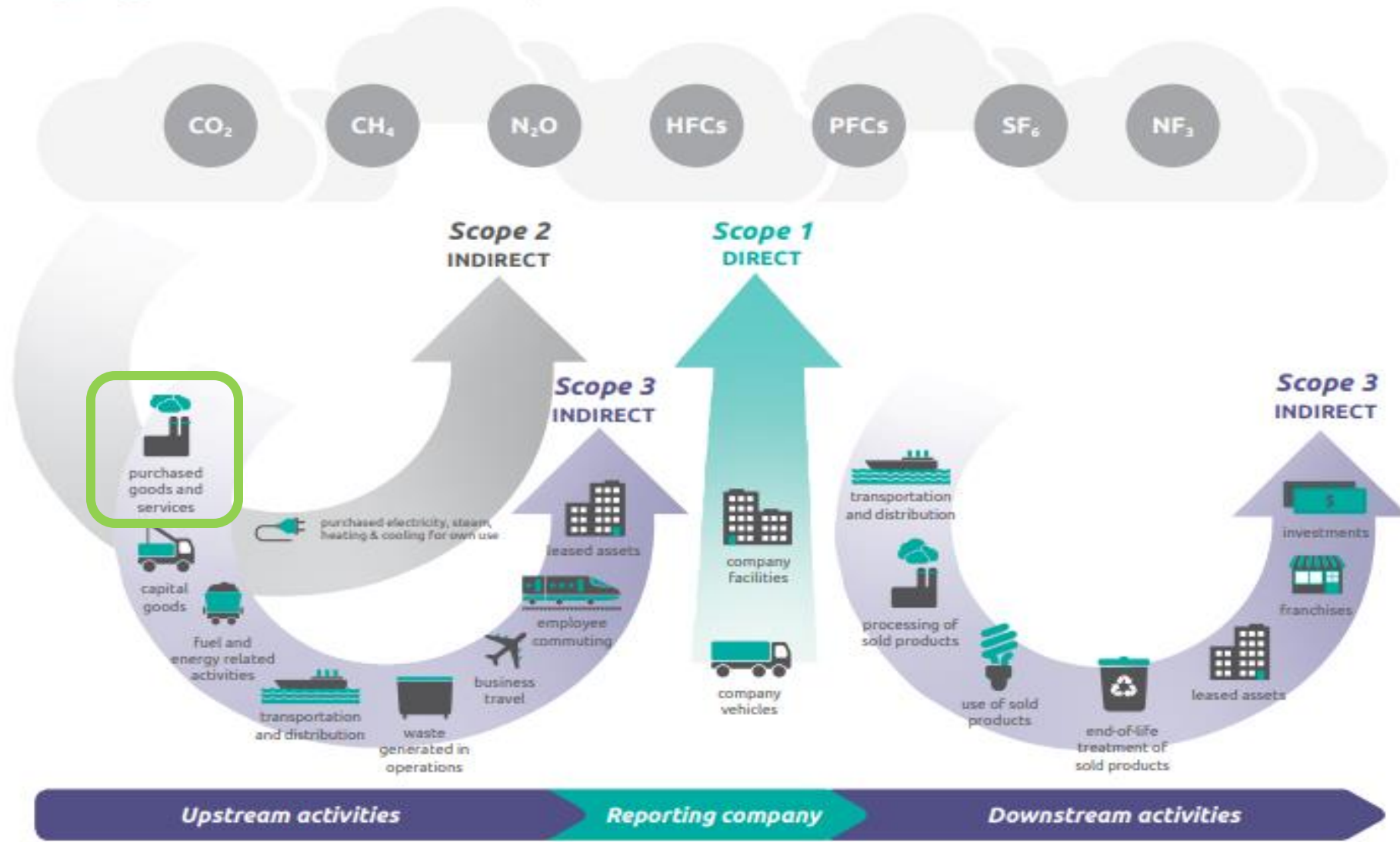
- 11. HEALTHY LIFESTYLES**
- 12. PROMOTING INDEPENDENCE**
- 13. PLACE-BASED WORKING**
- 14. CARERS**
- 15. LEVELLING UP HEALTH**



A good place for children and families to grow

- 16. EDUCATION OUTCOMES**
- 17. FAMILY RESILIENCE AND STABILITY**
- 18. SAFETY**
- 19. OUTCOMES FOR VULNERABLE CHILDREN**
- 20. LEVELLING UP OUTCOMES FOR FAMILIES**

Scope 1, 2 and 3 Emissions

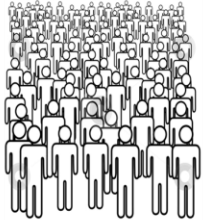


Source: Corporate Value Chain (Scope 3) Accounting and Reporting (Greenhouse Gas Protocol, 2011)

Why Procurement Matters



£1.2 billion per annum
(5 x pay bill!)



9,000 suppliers
700 managed
20-30,000 workforce (est.)

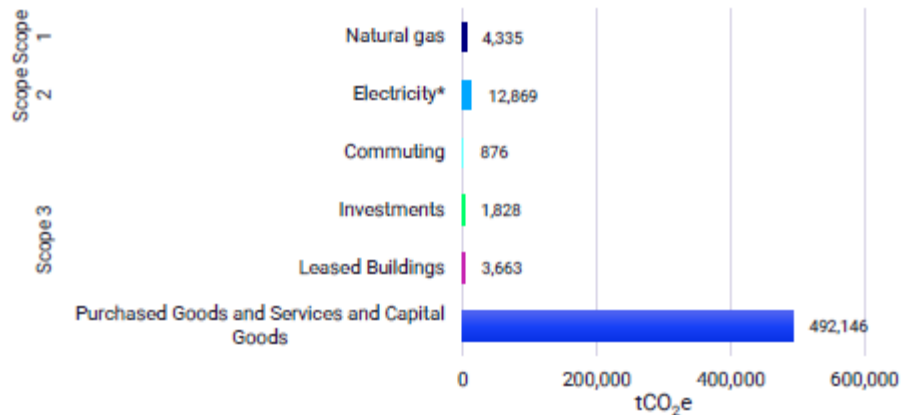


1 OJEU per week

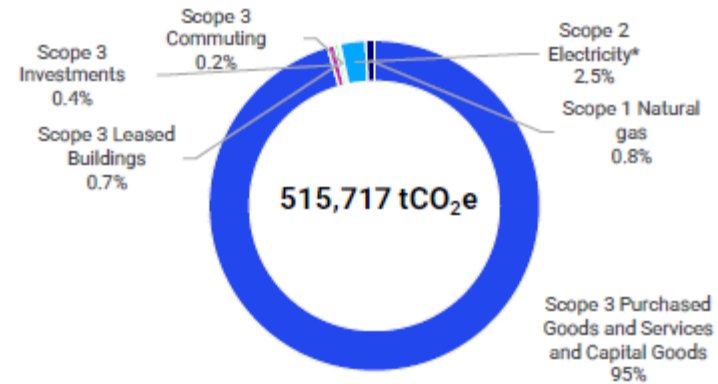


Over 60% of ECC spend is through local suppliers

Carbon Trust have recently baselined some of ECC's scope 3 emissions and compared them against our previously measured scope 1 (natural gas) & 2 (electricity consumption) emissions. This exercise shows that the emissions from the overall footprint have been estimated to be 515,717tCO₂e, with **scope3 emissions contributing 97% of this footprint**, with the vast majority (**95%**) from **Purchased Goods and Services and Capital Goods**.



Emissions breakdown by emissions category



Emissions categories as proportion of total emissions

ECC Adoption of PPN 06/21 – Carbon Reduction Plans

Inclusion of requirement in all tenders over £100,000 to be considered from September 22

Suppliers will be required to baseline Scope 1, 2 and some Scope 3 emissions

A net zero target will be established, with an action plan on how it will be achieved

Signed off by CEO, published on company website and updated annually

ECC Adoption of PPN 06/21 – Carbon Reduction Plans

Benefits of Adoption by ECC

Easy to implement, evaluate and monitor throughout life of the contract

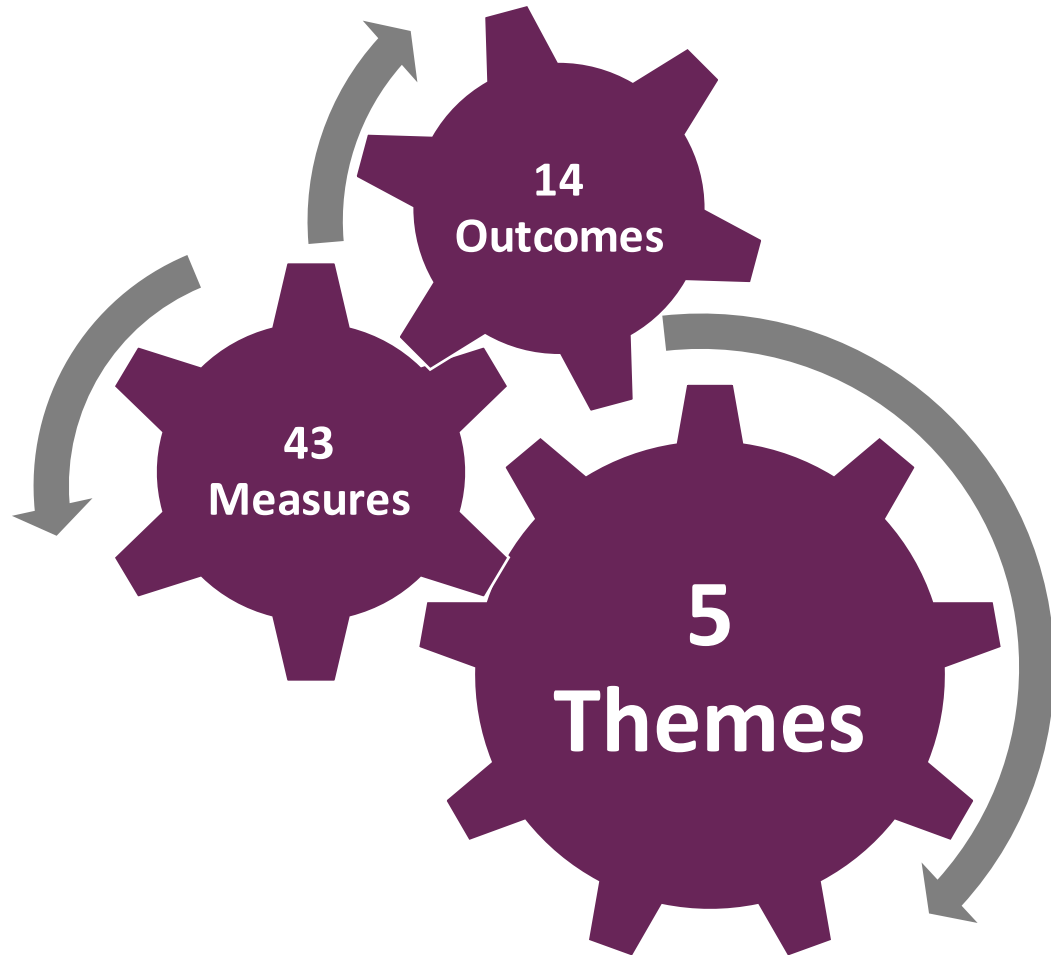
Raises supplier awareness of where their emissions are having the biggest impact

Suppliers implementing action plans will result in reduced emissions

Approach can be adapted depending on the category, spend value and maturity of the market to gain maximum impact

ECC can work with suppliers, through contract management, to maximise benefits of action plans

The Essex TOMs



Tailored version of the National TOMs (Themes, Outcomes and Measures)

All have a value assigned to them

Wide range of Social Value practices

Potential suppliers were able to select what to propose in their offers and further deliver through the contract

Multiplier applied to ECC Priority Measures to focused on Local Authority strategic aims

Essex 2019 Climate TOM's - Themes, Outcomes and Measures



| Themes | Outcomes | ECC Ref | NT ref | Measures | Units | Proxy value |
|--|----------------------------------|---------|--------|---|------------------------------|-------------|
| Help create great places to live and work | Improve the environment in Essex | ECC 21 | NT31 | Savings in CO2 emissions on contract not from transport (please specify in your Supporting Statement how these are to be achieved). | tonnes CO2e | £67.01 |
| | | ECC 22 | RE 41 | Savings from renewable energy measures in CO2e emissions | tonnes CO2e | £67.01 |
| | | ECC 23 | NT32 | Car miles saved on the project (e.g. cycle to work programmes, public transport or car pooling programmes, etc.) | hundreds of miles saved | £1.66 |
| | | ECC 24 | NT33 | Number of low or no emission staff vehicles included on project (miles driven) | hundreds of miles driven | £0.76 |
| | | ECC 25 | NT34 | Voluntary time dedicated to the creation or management of green infrastructure, to increase biodiversity, or to keep green spaces clean | no. staff volunteering hours | £14.80 |
| | | ECC 26 | - | Initiatives undertaken to support the reduction of single use plastics | text | £0.00 |

Proposed ECC Climate TOMs



| Theme | Measure | Units | PROXY Value |
|------------------------------|--|---------------------------|---------------|
| Air pollution is reduced | Car miles saved on the project as a result of a green transport programme or equivalent (e.g. cycle to work programmes, public transport or car pooling programmes, etc.) | Miles saved | £ 0.06 |
| | Fleet emissions monitoring programme on the contract, including data collection (miles, type of vehicle, engine type, emission standard) | Y/N - Provide description | Non-financial |
| Carbon emissions are reduced | Savings in CO2e emissions on contract achieved through de-carbonisation (i.e. a reduction of the carbon intensity of processes and operations, specify how these are to be achieved) against a specific benchmark. | Tonnes CO2e | £ 244.63 |

Proposed ECC Climate TOMs



| Theme | Measure | Units | PROXY Value |
|---|--|------------------------|-------------|
| Resource efficiency and circular economy solutions are promoted | Support provided internally and to MSMEs and VCSEs within the supply chain to adopt Circular Economy solutions - business case and leadership for circular economy | No. staff expert hours | £ 101.00 |
| | Hard to recycle waste diverted from landfill or incineration through specific recycling partnerships (e.g. Terracycle or equivalent) | Tonnes | £ 96.70 |
| | Reduce waste through reuse of products and materials | Tonnes | £ 96.70 |

Proposed ECC Climate TOMs



| Theme | Measure | Units | PROXY Value |
|--------------------------------------|---|--|-------------|
| Safeguarding the natural environment | Activities to influence staff, suppliers, customers and communities to support environmental protection and improvement. | No. staff expert hours | £ 101.00 |
| | Total volume of reduced plastics against a relevant benchmark | Kilos | £ 158.02 |
| Sustainable procurement is promoted | Requirements or support (for micro or small enterprises) for suppliers to demonstrate climate change and carbon reduction training for all staff - e.g. SDGs Academy courses, Supply Chain Sustainability School bronze or higher or equivalent | No. hrs (total session duration)* no. attendees | £ 1.00 |

Slido.com - #1491824

<https://app.sli.do/event/x2GFCW1PeNhADYM4BHrB3V>



Which of the measures are you currently reporting on?
Which are you planning to report on in the future?
Which are the most important to your organisation?
Which ones would you like further advice/guidance on?



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