




Developing Dundee's Climate Action Plan

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Role

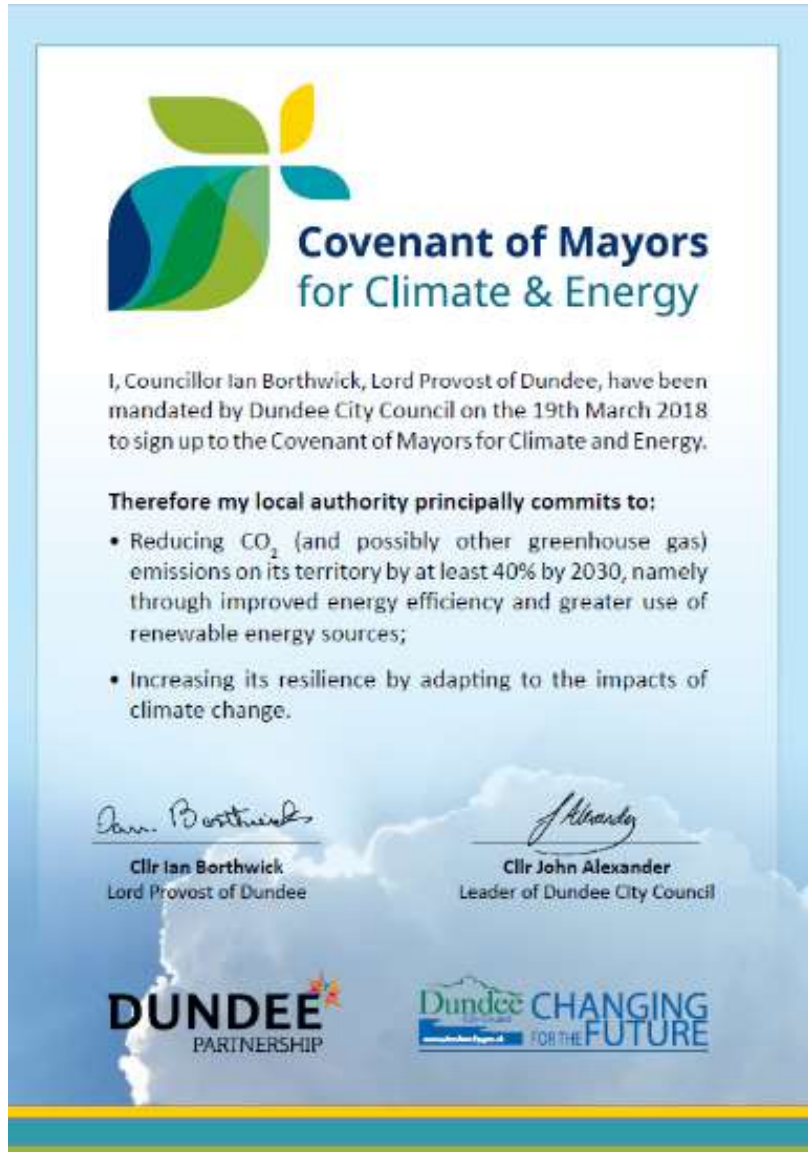
- Reducing greenhouse gas emissions
- Adapting to the affects of climate change
- Re-asserting our low carbon credentials

Challenges

- An increasing population and visitor numbers
- Inward investment, business growth and jobs
- Tackling fuel poverty
- Decoupling of CO₂ emissions from economic growth

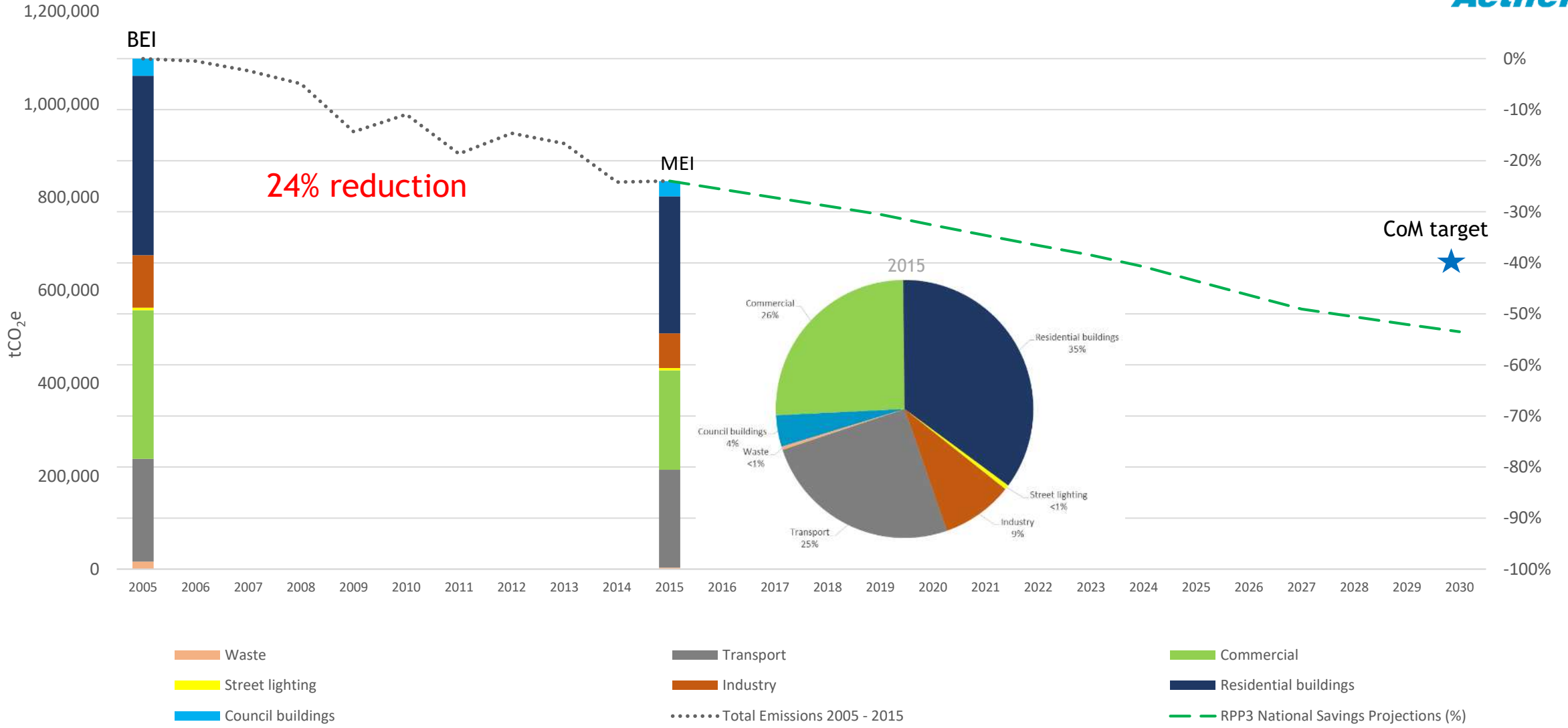


City-wide Climate Action Plan

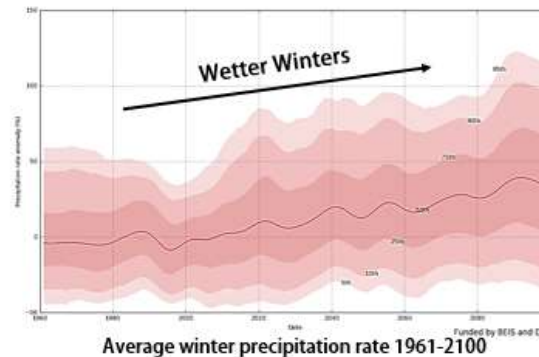
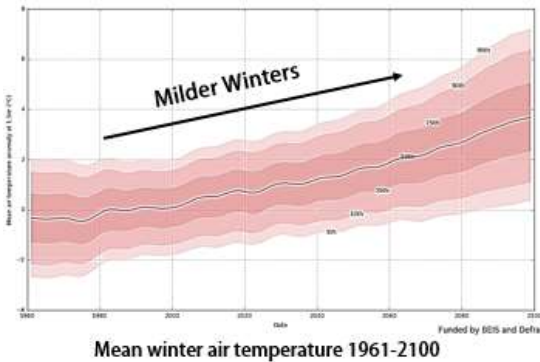
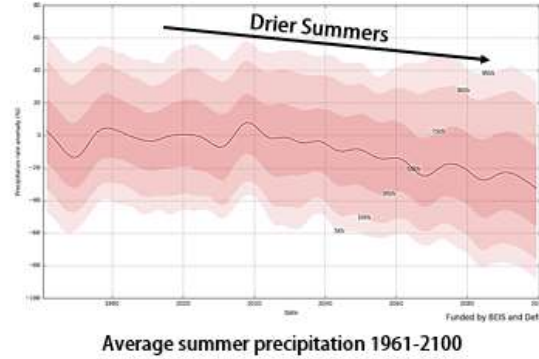
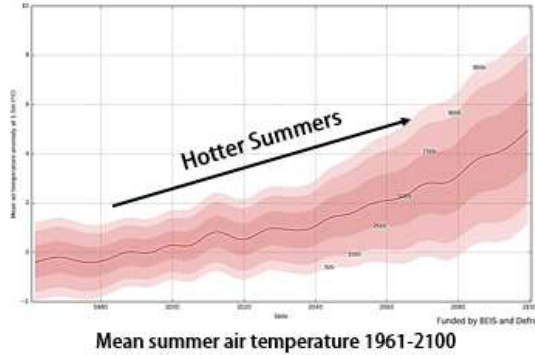


- Global Covenant of Mayors for Climate and Energy
- Signed 19th March 2018
- Committed the city to at least 40% emissions reduction by 2030
- Committed the the city to develop a Climate Action Plan (i.e. Sustainable Energy & Climate Action Plan - SECAP)
- Collaboration between public, private and third sector organisations
- Prerequisite tasks:
 - Commissioned Greenhouse Gas Inventories and future projection
 - Prepared a Climate Risk & Vulnerability Assessment
- Prepare Strategic Environmental Assessment - Environmental Report

Emissions Inventories for Dundee City



Climate Risk and Vulnerability Assessment



UKCP18 climate projections for Dundee in a high emissions scenario, showing expected change in mean precipitation and daily temperatures for the 21st century

Policy Sector	Examples of Impacts
Buildings	Increased demand for cooling and insulation, higher costs for repair and maintenance.
Transport	Damage to transport infrastructure, extreme weather impact on mobility, higher maintenance costs.
Energy	Damage to electrical infrastructure and power generation facilities.
Water	Increased water scarcity and drought, impacts upon flora and fauna, lower ground water recharge.
Waste	Damage to waste infrastructure and treatment facilities, site and access disruption. Resource scarcity.
Land Use Planning	Urban heat island effect, erosion and floods, including coastal.
Environment & Biodiversity	Ecosystem degradation, species migration, insect infestation, habitat loss due to flooding, access to food.
Health	Increased disease and mortality rate, hygiene issues, increased incidence of injury.
Civil Protection & Emergency	Increased number of disasters/deployments, increased insurance costs.
Tourism	Decline in tourism and demand, closure of museums, increased maintenance costs, reduction in bathing water quality.

Example: Tourism Sector Impacts and actions in Dundee

Impacts

Extreme weather leading to closure of tourist attractions

Higher water demand due to higher visitor numbers

Greater tourist numbers due to warmer drier coastal location

Extreme weather disrupting supplies & transport

Sea level rise impact on waterfront based tourist premises

Hotter days leading to heat island effect in city centre/more rain leading to greater surface water

Greater maintenance and repair costs for buildings

Loss of beach cover and reduction in water quality

Examples of Actions

Develop communications plan with relevant agencies

Work with SEPA to reduce sewage discharges to the water environment

Invest in rainwater harvesting infrastructure

Promote water refill points

Replenish and recreate sand dunes as part of Dundee coastal Flood Protection

Increase green infrastructure to increase shading and water attenuation

Update Green Tourism Accreditation to incorporate climate adaptation.

Support community growing hubs and food businesses

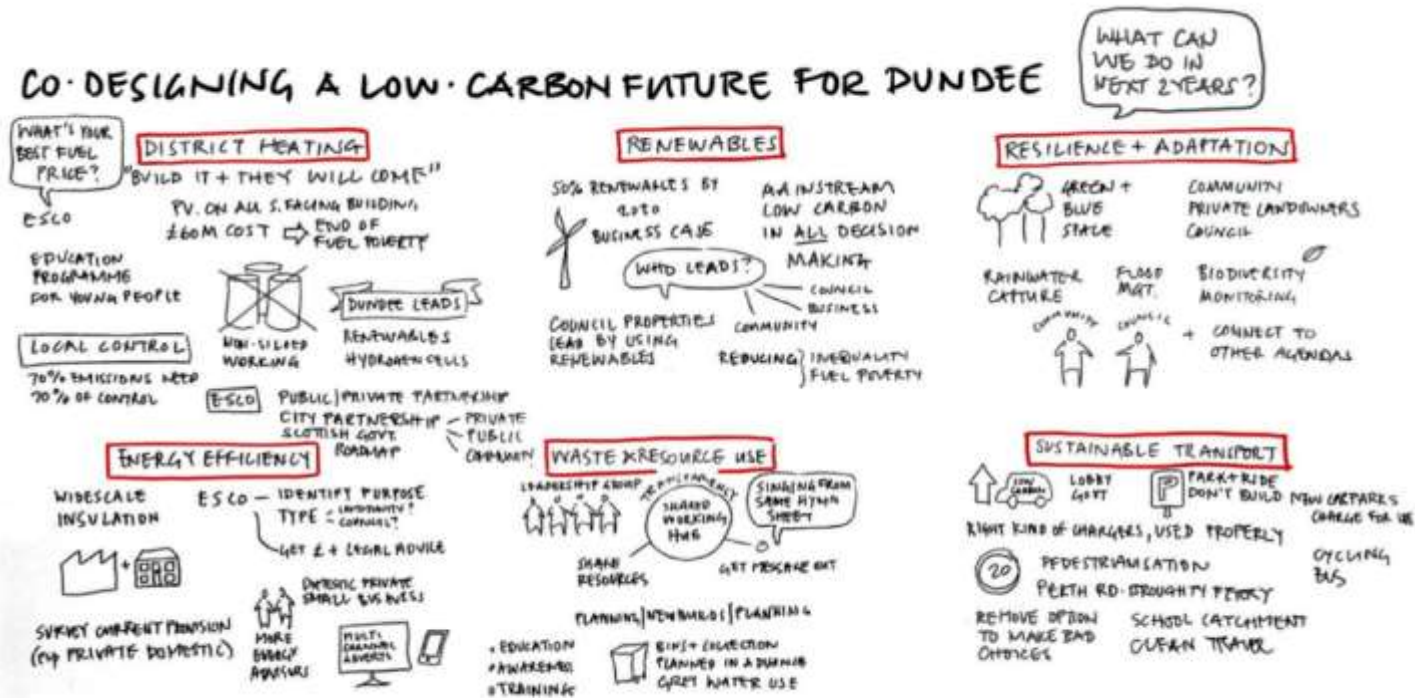


Dundee 2030

Envisioning a Low Carbon Future

- 50 Participants
- 20 Organisations representing public, private and community sectors
- Over 100 actions defined across the themes
- Mitigation and Adaptation actions

CO-DESIGNING A LOW-CARBON FUTURE FOR DUNDEE





Friends of the Earth Tayside



University of Dundee



OPEN CHANGE



Scottish Water Always serving Scotland



DUNDEE & ANGUS CHAMBER OF COMMERCE



sustainable DUNDEE



Energy



Transport



Waste



Resilience

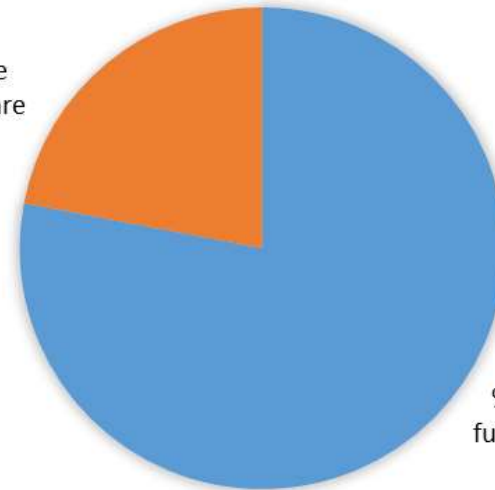
Split of actions by type



Split of actions by theme



% of actions where funding/resources are required, 22%



% of actions where funding/resources are identified, 78%

DECLARE A
CLIMATE
EMERGENCY



extinction
rebellion



OLST
FÖR
KLIMATET

NO PLANET B





Net Zero
The UK's contribution to
stopping global warming

Committee on Climate Change
 May 2019



The Scottish Government has
 proposed a legally binding target
 of net-zero greenhouse gas
 emissions by

2045

at the latest



gov.scot

Net Zero
 greenhouse

"Scotland has
 declared a global
 climate emergency
 and now Scotland
 must act as one
 to safeguard our
 planet for future
 generations."

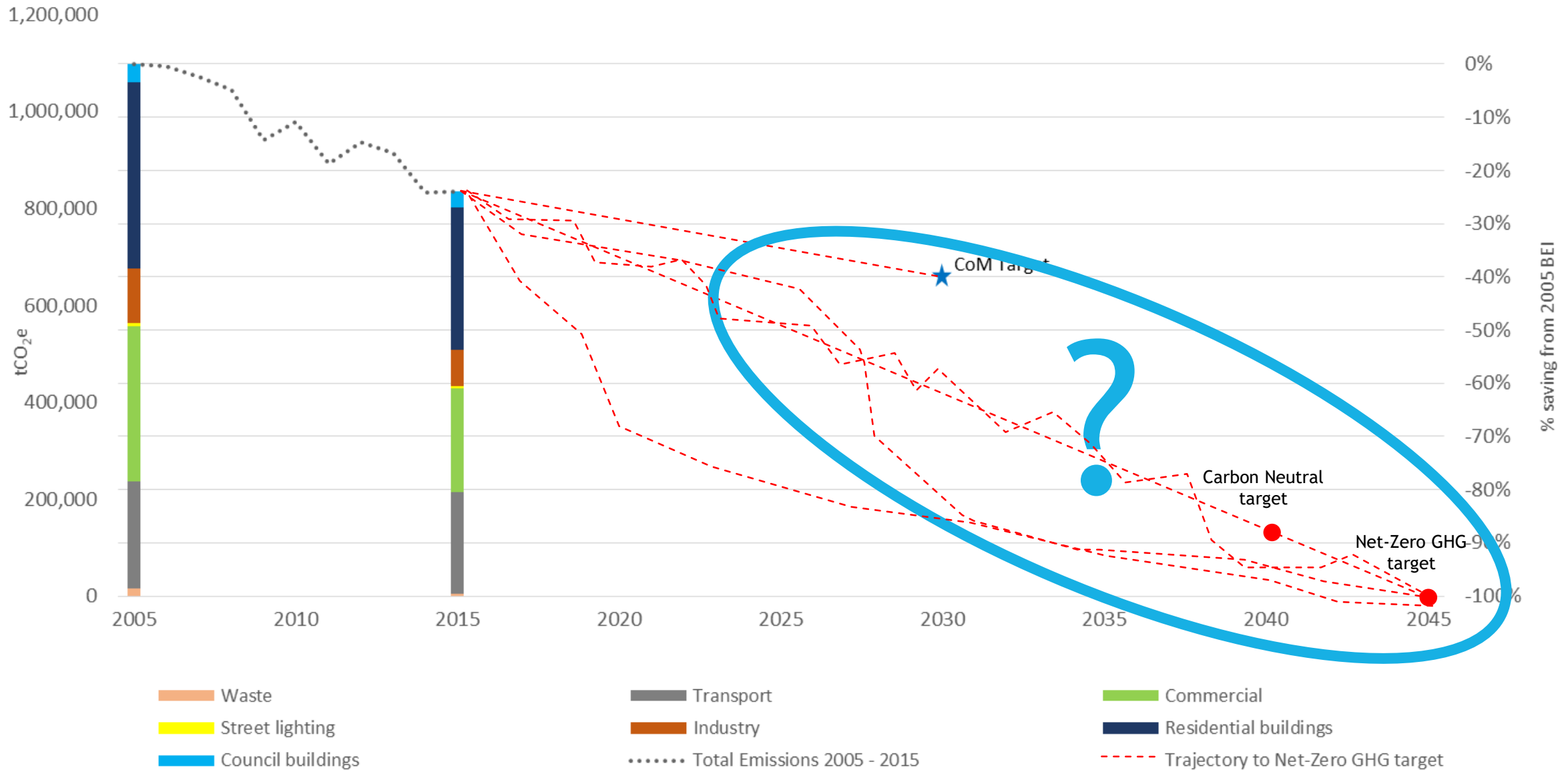
Roseanna Cunningham
 Climate Change Secretary



gov.scot



Emissions Inventories



DUNDEE CLIMATE ACTION PLAN

- Approved at Policy & Resources Committee 18 Nov 2019
- Launched 4th Dec 2019
- 64 actions from public, private and community organisations.
- Represents first set of partnership actions in pathway to net-zero, recognising that a concerted city-wide effort is required.
- Dundee Climate Change Partnership to be established
- Climate Change Conference to be held in 2020.





Energy

Objective: Reduce the consumption of energy, promote energy efficiency and increase the proportion of power and heat from low and zero carbon technologies.

Energy Efficiency

Domestic

- By 2015, all Council housing stock reached required energy ratings, via replacement of all electric storage heating with gas central heating and ensuring all suitable properties had appropriate insulation.
- 3,500 hard-to-treat properties (Council and private) have had external wall insulation fitted, reducing carbon emissions.
- A further 1300 properties will be completed by the end of 2019.
- On-going installation of photovoltaic panels installed on multi-story developments
- DEEAP carries out 4,000 energy advice home visits per year and their staff attend events across the city to raise awareness of the service.



Energy Efficiency

Non-Domestic - Retrofit

- Energy Performance Contracting - £1.7m investment in 8 properties initially (7.5yr payback).
- Measures include: LED Lighting, more efficient hardware/software (motors, boiler burners, control of pumps), Combined Heat and Power, insulation, solar PV.
- Contractor has to guarantee the energy savings with DCC monitoring and measuring the energy consumption which an independent 3rd party expert verifies.
- Will achieve savings of at least £222,000 per annum and a further 1,000 tonnes of CO₂.
- Long term plan to include more than 100 Council properties.



DUNDEE INTERNATIONAL SPORTS CENTRE



Energy Efficiency

Non-Domestic – LED Street lighting

- Council owns 25,000 streetlights including 2,500 illuminated signs and bollards.
- 5,000 energy efficient LED streetlight installed since 2012/13.
- Resulting in 35% reduction in CO₂ emissions.
- From 2018/19, £4.8m being invested for another 18,000 LED lights which will reduce emissions by at least 50% and cut energy costs.





V&A Dundee - Geothermal Energy

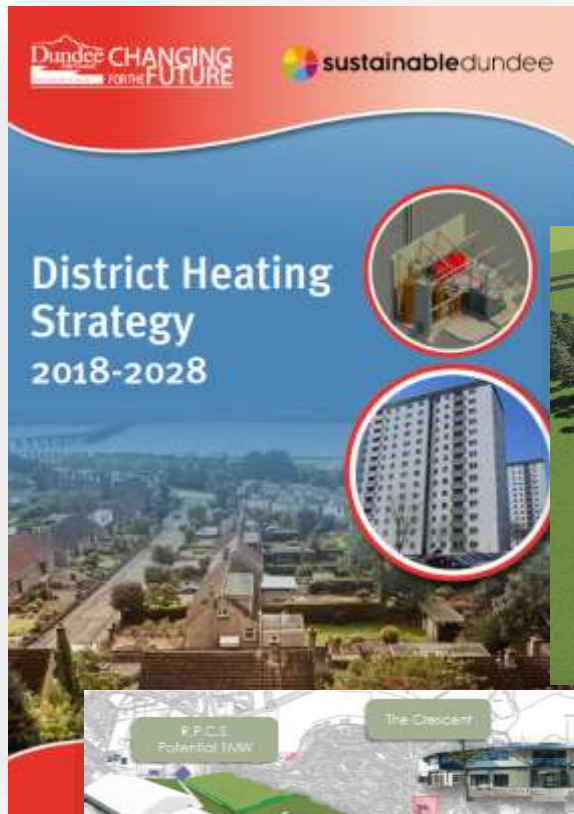
The building runs solely on geothermal energy.

Design includes thirty, 200-metre dep bore holes for heating and cooling of the building along with air source head pumps on the roof.

This form of renewable energy provides the building with 800,000 kWh/annum of heating and 500,000 kWh/annum of cooling.

Scottish Green Energy Awards 2018 – Carbon Reduction Award (V&A Dundee Heat System) awarded to DCC and GE Energy.

Low Carbon Heat



- Strategy developed and published in Spring 2018. Sets out long-term vision to support the city's growth and transition to a low carbon economy using decentralised energy.



- Low Carbon District Energy Hub at Regional Performance Centre for Sport.
- £3m LCITP funding awarded + £3m capital investment.
- LZCT's combines heat pumps, gas CHP, solar thermal, PV and large thermal stores.
- Capable of generating 100% of its electrical demand and save >536 tCO₂ per annum.
- Catalyst project with future capacity to feed adjacent housing.



- Dighty Corridor network: £68k awarded in 2018 for Investment Ready Business Case to link RPCS to Energy from Waste plant.



Transport

Objective: Encourage active travel through walking, cycling and public transport and deploy sustainable alternatives to decarbonise transport.

Electric Vehicle commitment



102 COUNCIL VEHICLES

128 CITY TAXIS

+700 REGISTERED VEHICLES



190,000 CHARGING SESSIONS



80 CHARGING POINTS

3 NEW HUBS



5.4M ELECTRIC MILES



£8M LOCAL INVESTMENT



LARGEST EV FLEET OF ANY LOCAL AUTHORITY IN THE UK



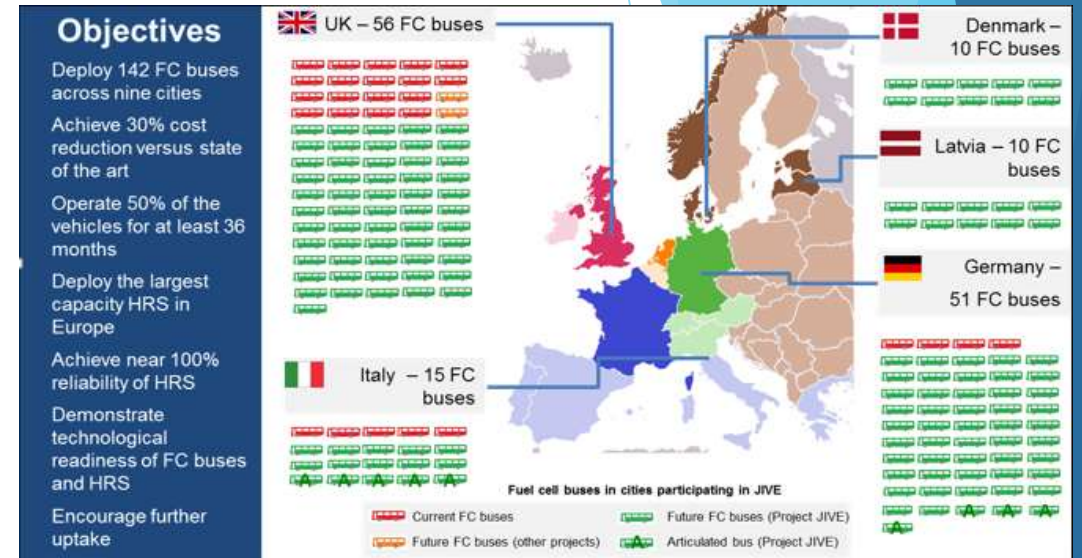
ONE MISSION



POLICY MEASURES TO INCREASE ELECTRIC VEHICLES INCLUDE PARKING REGULATIONS AND TAXI LICENSING

JIVE: Joint Initiative for Hydrogen Vehicles across Europe

- Advance commercialisation of hydrogen fuel cell buses through large-scale deployment of vehicles and infrastructure
- 12 new hydrogen buses would be operational in Dundee
- Development of 'state of the art' integrated energy park deploying hydrogen fuel buses, fleet vehicles and hydrogen refuelling infrastructure with energy being derived from renewable technologies



**FUEL CELLS AND HYDROGEN
JOINT UNDERTAKING**





MICHELIN-
SCOTLAND
**INNOVATION
PARC**



Low Emission Zone

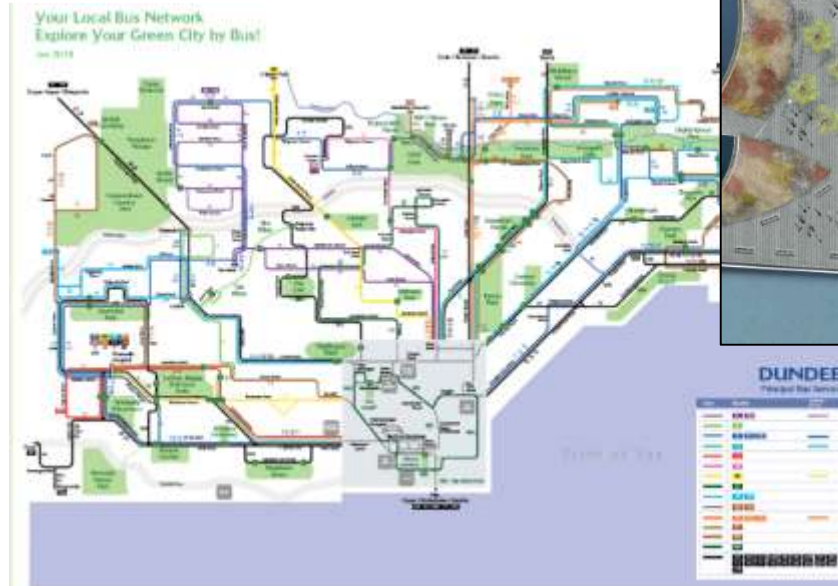
- Objective is to improve air quality, resulting in benefits to public health
- Provisions within Transport (Scotland) Bill to enable local authorities to implement and enforce
- Details on exemptions, penalty rates, emission standards, enforcement, minimum grace periods will be in Regulations currently in development
- Penalties to drivers who enter LEZ in non-compliant vehicles
- Scenario testing, Air Quality City model and Paramics traffic model
- Stakeholder engagement



Transport

Active Travel

- Dundee Cycling Strategy 2016
- Waterfront Active Travel Hub in 2020
- Mobility Innovation Living Laboratory project
 - (MILL) Smart parking sensors
 - Electric Bike sharing
 - Fleet sharing
 - Car Club Drop-off zones
 - Cashless parking payments
- 'Walk Once a Week' school challenge
- Pedal to the Pool
- Get on the Go
- Safer Routes.



A photograph of a recycling bin filled with various waste items including plastic bottles, paper cups, and cardboard boxes. The bin is green and has a blue handle. The background is a blurred indoor setting with other people and bins.

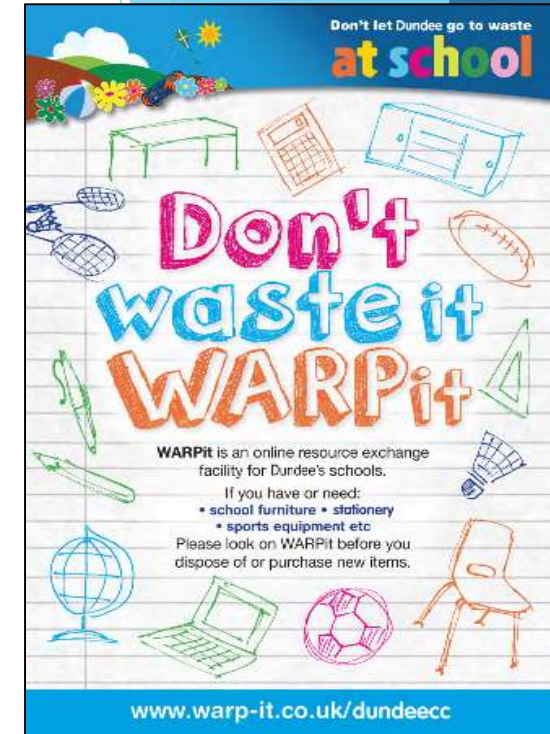
Waste

Objective: Manage waste sustainably by reducing, reusing, recycling and recovering waste to improve resource efficiency whilst working towards a circular economy.



Circular Tayside

- Joint initiative to maximise circular economy opportunities.
- Focus on Food and Drink, Manufacturing, Energy/Oil and Gas and Manufacturing sectors.
- Currently at opportunity identification stage.
- Circular Tayside education and awareness strategy to be developed.



- Baldovie Community Reuse Hub pilot project.
- Items are saved from the skip and repaired, reducing waste.
- approximately 135,000kg of goods have been recovered since Sept 2015.

- Online reuse portal to share surplus items
- Saved £320,000 in item replacement, waste disposal and procurement costs.
- Saved 154,000kg CO₂ and 53,000kg in waste disposal.
- £69,000 items donated to charities



Resilience

Objective: Ensure our communities, green networks and infrastructure are adaptable to a changing climate and reduce the risks and vulnerability to unavoidable impacts.

Resilience



- £6.9m invested to construct set back walls and flood gates from central waterfront to Dundee Airport using local stone to minimise the carbon footprint and incorporated a combined cycle walkway.
- 15.5m Broughty Ferry Flood Protection scheme will see construction of setback wall and gates along with a combined cycle walkway. Also includes soft flood protection measures utilising the existing sand dunes along Esplanade.

- Approx. 10,000 trees planted since 2017.
- Future Dundee tree planting strategy will include over 500 more trees being planted at the Law as part of the Law Heritage Project
- Preparing Biodiversity Action Plan for safeguarding and enhancing existing habitats.

- Local growing space projects now established in Menzieshill, Douglas, Lochee, Ardler, Charleston and Maryfield and work ongoing with the local community to establish a growing space in Fintry.
- Developing a Local Food Growing Strategy.

Annual Campaigns

Earth Hour - March

Awards

- WWF Super Local Authority Badge Winners
- WWF Scotland Earth Hour Ambassadors
- WWF Scottish Local Authority Champion
- OSCA's Year of Young People Award
- COSLA's Bronze Award (Strong and Sustainable Cities Category)
- International Green Apple Awards for Environmental Best Practice - Scotland Green Champion Award



Clean Air Day - June



Plastic Free July

- Internal promotion / awareness raising amongst staff



Annual Campaigns

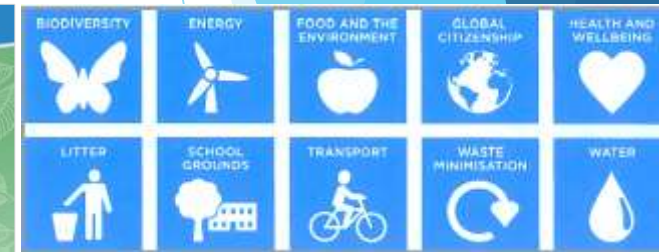
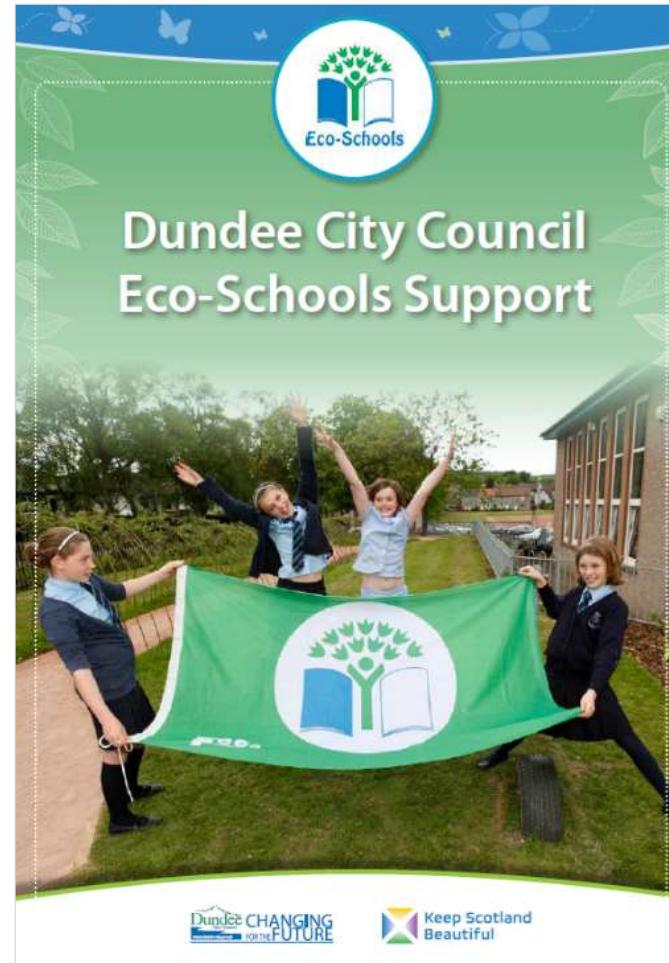
Climate Week – Oct

- Social Media campaign over the week promoting work of DCC and partners.
- Developing Staff Travel Plan 2019/20

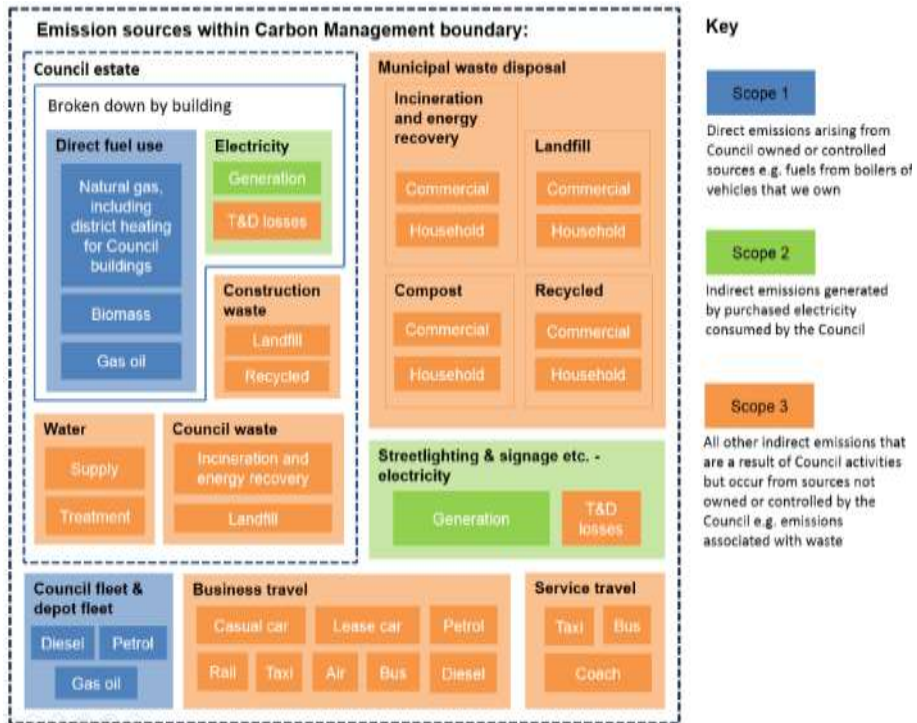


Eco-Schools - ongoing

- Working with Education to raise Eco School attainment in Dundee.
- 12 schools involved in pilot taken forward in 2019/20.
- Eco Schools Conference in March 2020.

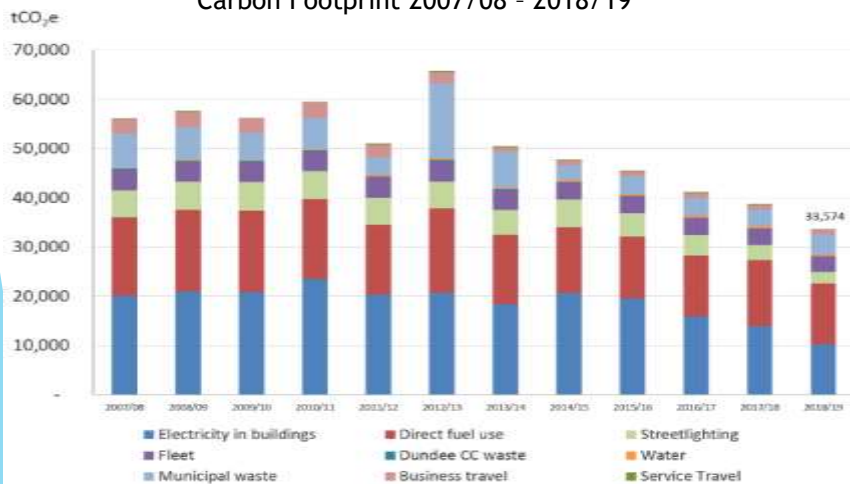


Dundee City Council - Carbon Footprint

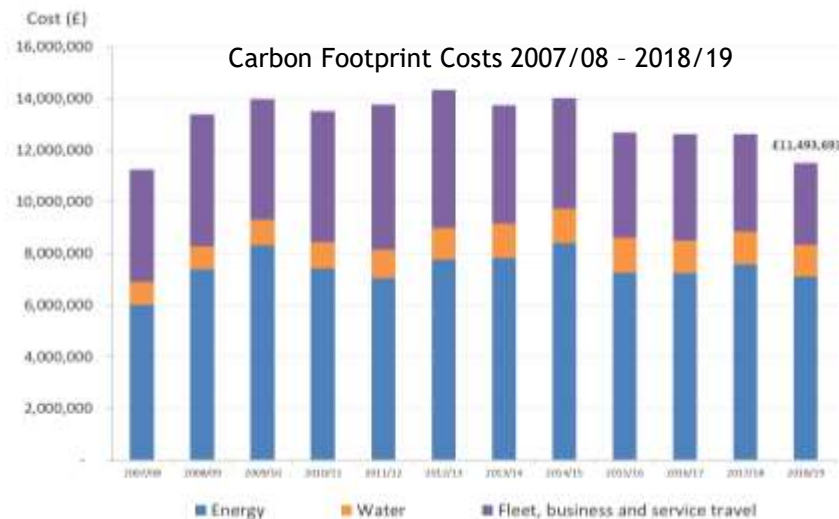


- Boundary reassessed and extended with full emissions inventory and datasets now available back to 2007/08.
- Carbon Projects Register - Further developed in summer 2018
- Requirement for new Carbon Management Plan in 2020.
- Exploring Carbon Budget for Council
- Mandatory – ‘Public Bodies Climate Change Duties’ - Annual Report

Carbon Footprint 2007/08 - 2018/19



Carbon Footprint Costs 2007/08 - 2018/19



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