REPORTING ON SCOTLAND'S CLIMATE CHANGE DECLARATION: Year 5 - 2012/13

Dundee City Council

31st March 2013

Dundee City Council
www.dundeecity.gov.uk
CHANGING FOR THE FUTURE

Each of Scotland's 32 local authorities signed **Scotland's Climate Change Declaration**[1] in early 2007. The Declaration is a public statement wherein local authorities acknowledge the reality and implications of climate change and their responsibility to respond effectively. The Declaration also welcomes the actions of the UK and Scottish governments and the opportunities for local authorities to work in partnership with others in responding to climate change.

As signatories to Scotland's Climate Change Declaration, each Scottish local authority is committed to taking action across a range of key areas. These can be summarised as:

1. Providing effective **leadership, governance and management** on climate change.
2. Reducing the local authority's **own 'corporate' greenhouse gas emissions** from their estate, services and functions.
3. Taking action to reduce **emissions from the local authority area**
4. Assessing the risks of climate change impacts and working with others to **adapt to the impacts of climate change.**
5. Developing effective **partnership working and climate change communications**, including producing an annual statement of plans, activities and achievements.

This Annual Report focuses on these five key areas.

The principles of effective Declaration reporting include:

- Providing clear, consistent and comparable information.
- Linking climate change reporting with existing reporting requirements and the Council's own performance improvement agenda.
- Showing clearly how climate change is being integrated into Council and Community Planning agendas, especially through Single Outcome Agreements.
- Highlighting key achievements and initiatives
- Communicating with the community, making the report easy to understand and available to the public.

Section 1
Governance, Leadership and Management

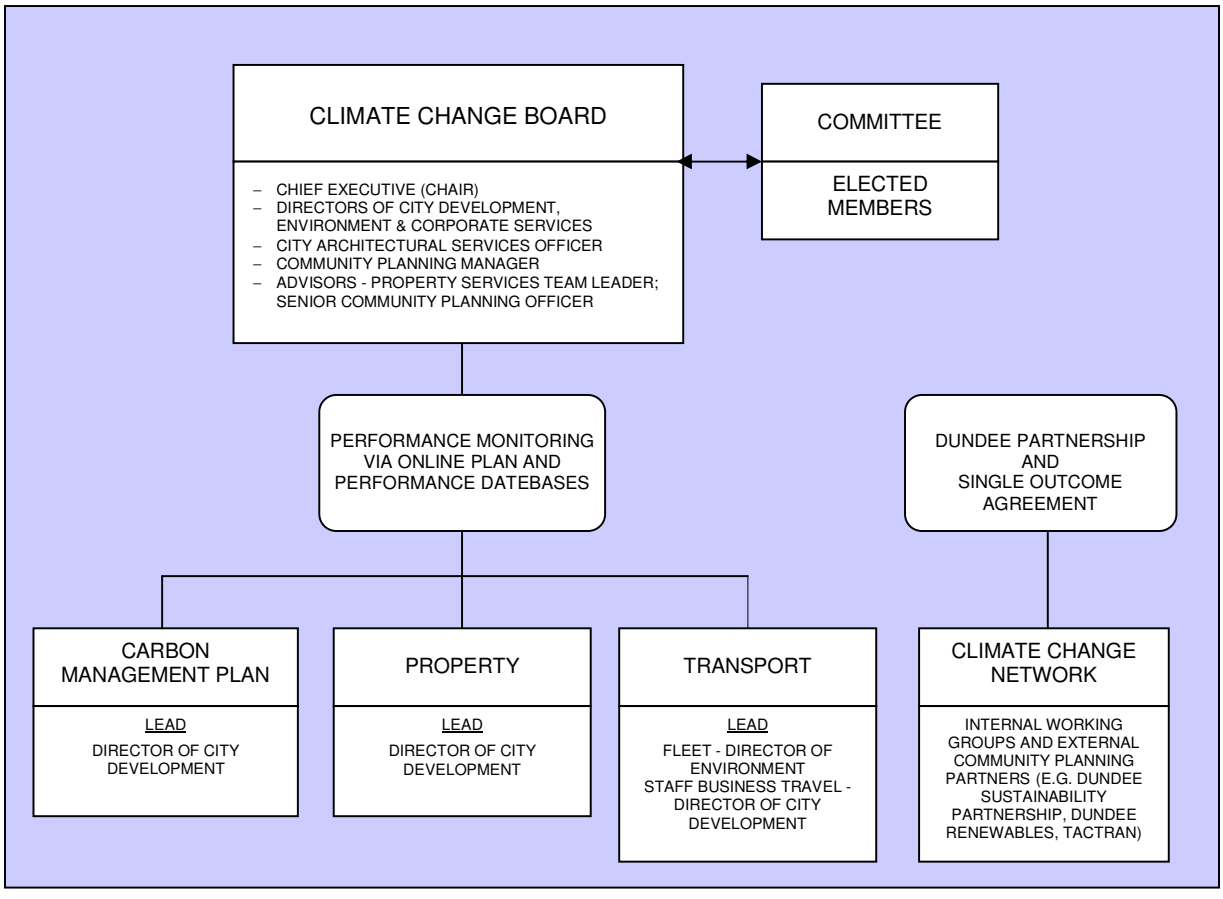
Governance and Leadership

Dundee City Council became a signatory to Scotland's Climate Change Declaration (SCCD) on 16th January 2007. In September 2008 the **Dundee Partnership Forum**[2] signed and endorsed a 'Supporting Scotland's Climate Change Declaration' for the city.

The **Council's Climate Change Board** is responsible for overseeing progress on climate change activity and in turn reports to the Council's Policy and Resources Committee. The Board is chaired by the Chief Executive and comprises Directors from relevant departments, who are responsible for leading on aspects of climate change work. Support is provided in the form of advisors, officers involved in the day to day implementation of climate change related activities.

Climate change is addressed as part of the Council's Sustainable Development Framework with action supported through the Climate Change programme. Performance is reported via the Council's Online Plan and Performance monitoring databases.

Diagram 1. Climate Change Governance



Management - incorporating Climate Change into other key policy

- **DRAFT Dundee Partnership Single Outcome Agreement (2013-2017)**

  The Dundee Sustainability Partnership is tasked with implementing Dundee Outcome 10 *"Our People will live in a low carbon, sustainable city".* Key Performance Indicators within the plan include:

  a) CO_2 emissions (tonnes) per capita.
  b) Percentage of children walking or cycling to school.
  c) Percentage of journeys to work made by public or active transport.
  d) Tonnage of household waste landfilled.
  e) Percentage of household waste recycled or composted.
  f) Percentage of Derelict Land.
  g) Local Environmental Audit and Management System street cleanliness score.
  h) Percentage of schools achieving Eco-Schools Scotland accreditation.

- **The Council Plan (2012-2017)**[3]

  Commits the organisation to reducing its carbon footprint and sets a priority focus to attract jobs in the renewable energy industry.

- **Sustainable Development Framework (March 2011)**[4]

  The framework aims to facilitate the integration of sustainable development into all Council policies, services and activities, through strategic corporate and service level action. Recognising that Climate Change and carbon management will play an increasing role in the Council's efforts in achieving sustainable development Climate Change has been identified as a priority Sustainable Development theme for action.

  - Within the framework, the **Sustainable Development Policy** publicly affirms the organisation's commitment to ensuring an improved and sustainable quality of life in the city and contains principles that relate to climate change.
  - At a departmental level all services were required to carry out an annual **Sustainable Development 'Self Assessment Questionnaire'** as part of their Service Plan development. Questions relating to mitigation and adaptation to climate change were included in the questionnaire.

- **Corporate Asset Management Strategy (2011-2015)**

  Guides the acquisition, use and disposal of the Council's assets to make the most of their service delivery potential and manage the related risks and costs over their entire life. The six key areas of asset ownership (Buildings and Property; Roads Infrastructure; Council Housing; Open Space; Vehicle Fleet and ICT) recognise the need to minimise their impact on the environment and reduce carbon emissions.

- **Strategic Development Plan - TAYplan (2012-2032)**[5]

  Recognises the long term implications of climate change and sea level rise. It supports the switch to a low carbon economy and zero waste economy by providing for appropriate infrastructure and improvements in our resilience to climate change and other potential risks. It seeks to deliver better quality development and places which respond to climate change by ensuring resilience built into the natural and built environments through a presumption against development in areas vulnerable to coastal erosion, flood risk and rising sea levels.

- **Local Development Plan (2014-2019)**[6]

  In considering the delivery of the proposed Tayplan vision there are several cross-cutting issues relating to climate change resilience that have informed the preparation of the Local Development Plan Main Issues Report (MIR):

  - Recognising that new developments will have to contribute positively to mitigating the causes of climate change and put in place adaptation measures to future proof places.
  - Recognising the need to ensure that climate change resilience is built into the natural and built environment.
  - Recognising the need to ensure that high resource efficiency and low/zero carbon energy generation technologies are incorporated within development to reduce carbon emissions and energy consumption to meet Scottish Government standards.

- **Local Housing Strategy (2013-2018)**

  The LHS is the primary strategy for the provision of housing and associated services to address homelessness, meeting housing support needs and tackling fuel poverty. Tackling climate change has been identified as one of a number of main areas for consideration within the strategy given the major role housing can play in reducing emissions.

- **Dundee City Council Staff Travel Policy (Sept 2011)**[7]

  This policy will reduce staff need to travel for work and, when they do need to travel, explicitly prioritise walking, cycling, public transport and car share over single-occupancy car. This will not only reduce carbon emissions from travel, but also contributed to cost savings and the Council's duty of care to its employees and others. The increased use of Electric Vehicle pool cars also ensures that those trips made by car are as sustainable as possible.

- **Energy Management Policy (2012-2020)**[8]

  The adoption of the Energy Policy demonstrates the City Council's commitment to the principles of responsible energy and water management in its operational buildings. The City Council will aim to improve its energy and water efficiency and reduce its energy and water consumption in line with the targets set out in this policy.

- **Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES)**

  Dundee City Council has worked within the requirements of the CRCEES and submitted the Annual and Footprint Reports within the dedicated time-scales. The CRCEES is a mandatory scheme designed to assist the Scottish Government in achieving its target of reducing carbon emissions. The scheme at present encompasses all organisations; private and public sector that consumed greater than 6,000Mwh during the calendar year 2008 recorded through a fiscal Half Hour electricity meter. For the footprint year (2010/11), the energy consumed in Dundee City Council properties equated to 38,471 tonnes of CO_2. The scheme requires all participants to buy an annual Carbon Allowance in relation to carbon emissions for certain energy consumption by the Council. Therefore, the CRCEES will provide an additional incentive for the Council to further reduce CO_2 emissions.

- **Dundee Air Quality Action Plan (Jan 2011)**[9]

  Sets out measures together with targets and indicators to achieve the compliance with the objectives for NO_2. It supports the integration of local air quality considerations within the Council's wider policies, strategies and plans, particularly those relevant to sustainable development, reduction in greenhouse gases and carbon emissions.

Section 1 Priorities for the year ahead

- Finalise the **Single Outcome Agreement 2013-2017** and develop the SOA Delivery Plan.
- Implement the new **Council Plan 2012-2017**.
- Implement and monitor the **Staff Travel Plan** and Staff Travel Policy.
- Continued use of **Strategic Environmental Assessment**[10] to consider and integrate climate change (mitigation and adaptation) matters into plans, programmes and strategies.

Section 2
Reducing the local authority's own direct greenhouse gas emissions from our estate and services.

Carbon Management Plan

In 2009 the Council graduated from the Carbon Trust's 'Public Sector Carbon Management Programme' which required the organisation to plan, monitor and review its carbon management aims and to build upon current commitment. The original Carbon Management Plan, approved in April 2009 (**P&R Committee Report No. 241-2009**[11]) provided detailed information on the policy drivers and targets that required action and established the Council's carbon emissions baseline for 2007/08.

The original Carbon Management Plan covered the period from 1st April 2008 to 31st March 2013 and committed the Council to a CO_2 target reduction of 10% by 2013 with potential financial savings of around £5.25 million.

Review in 2012

Following a review its performance in 2012, the Council's reaffirmed its commitment to carbon management by setting a new CO_2 emissions reduction target. **Emissions directly attributed to the Council's own operations shall be reduced by 5% each year until 31st March 2020.**

Our approach to emissions reduction remains the same:

- identification of areas where waste may be further reduced;
- ensure that the good practice already introduced is being effectively used throughout the Council;
- assess suitability of proven best practice measures for adoption;
- develop communication routes to facilitate awareness and motivation throughout the Council and its partners; and
- ensure the Council's commitment to greenhouse gas reduction is incorporated into our new and established strategies.

It is recognised that emission reduction related strategies must be embedded into the Council Plan, Departmental Service Plans, Sustainability Policy and action plan, Climate Change Declaration, Energy Management Action Plan and sustainable construction approach.

A review of emissions attributed to vehicle usage on Council business and internal waste management is currently underway.

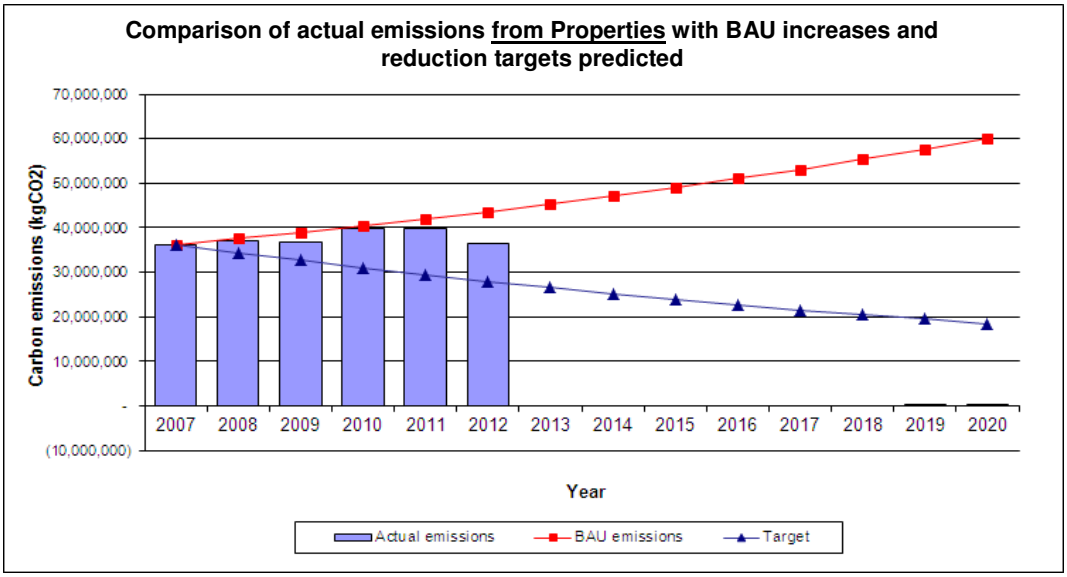
Emissions Baseline and Projections

The Carbon Management Plan established that the Council's CO_2 emissions baseline for 2007/08 to be over 51,000 tonnes, of which 36,185 tonnes was attributed to emissions from properties directly occupied by Council employees.

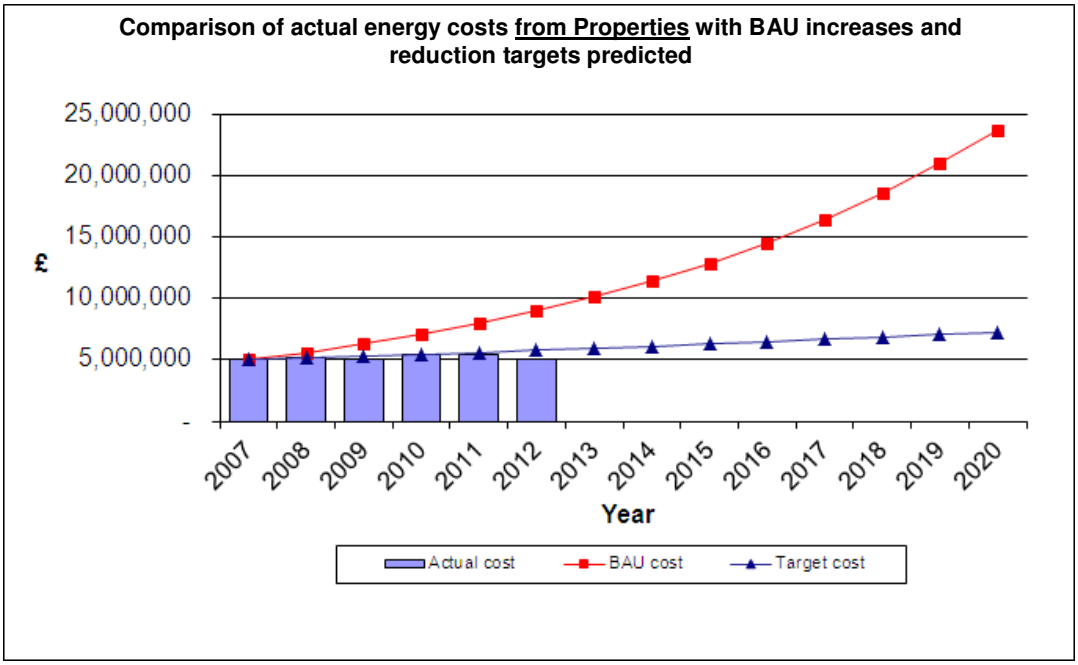
The Business as Usual (BaU) scenario (i.e. maintaining current policies and activities without any carbon reduction measures) projects from the existing 2007/8 baseline until 31st March 2020. The scenario uses actual figures until 31st March 2012 and predicts the annual emissions thereafter until 2020.

Assumptions

The basis of all calculations is the Baseline spreadsheet tool provided by the Carbon Trust, therefore the conclusions are subject to the suppositions and conversion factors embedded in the tool. The BaU projections scenario uses an 8% estimated cost increase per annum, which includes anticipated effects of inflation and price changes.



	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
BAU scenario total (t)	36,185	37,525	38,934	40,414	41,969	43,605	45,324	47,133	49,035	51,035	53,141	55,356	57,688
Reduced Emission Scenario (t)	36,185	34,358	32,624	30,977	29,414	26,520	25,181	23,910	22,703	21,557	20,469	19,436	18,455
Actual Emissions (t)	36,185	37,163	36,781	39,819	39,732	36,568							



Achieving the Targets

The Carbon Management Plan contains a number of initiatives across four areas, designed to achieve a reduction in the energy consumption of properties. Progress as of March 2013 is as follows:

MANAGEMENT SUPPORT	**To make equivalent contribution of a 15% reduction to the overall energy saving target.**
Intention	*To fully integrate energy management into the management structure.*
Activity	**Current Status**
Continual display of commitment to reduce the consumption of energy within properties.	Ongoing
Provision of a clear corporate strategic leadership.	Ongoing
Formal and informal communication to regularly emphasis the requirement to reduce waste of energy.	Ongoing
Detailed investment appraisal of all new-build and refurbishment projects to ensure reduction of energy consumption.	Ongoing
Procurement of all goods and services to fully support the reduction of energy consumption within properties.	Ongoing

STAFF AWARENESS & MOTIVATION	**To make equivalent contribution of a 15% reduction to the overall energy saving target.**
Intention	*To raise awareness among staff and use the current change culture to cut costs, reduce carbon emissions and enhance the Council's reputation.*
Activity	**Current Status**
Communication to be a cascade top down system to confirm and demonstrate management commitment.	Ongoing
Re- introduce "Energy Champions" Network.	Complete. Now fully adopted.
Energy Awareness Weeks – 1st week w/c 26th March 2012 , 2nd week before start of "heating season" i.e. September / October 2012	Complete. Now fully adopted.
Introduce a Web page & e-mail system to inform, educate and communicate.	Complete. Now fully adopted.
Publications – posters, stickers, leaflets.	Complete. Now fully adopted.
Training - Energy Awareness / e-learning / induction procedures.	Complete. Now fully adopted.
Introduce an incentive / suggestion scheme to maintain interest in initiative. Corporate Planning / Personnel	Target completion - 29th June 2013
Carry out ongoing reviews - Baseline attitude survey / ongoing surveys. Data analysis. IT / Personnel	Complete. Now fully adopted.

DATA COLLECTION & IMPLEMENTATION	**To make equivalent contribution of a 30% reduction to the overall energy saving target.**
Intention	*To analyse data collected to identify potential improvements in energy consumption and to implement no cost / low cost measures.*
Activity	**Current Status**
Ensure invoice data is a true & accurate account of the energy consumed. Data to be used to cross verify other data streams. Finance – invoice payments and CRC carbon purchase. CMT / Users – including schools DSM	Complete. Now fully adopted.
Utilise monitoring & targeting software to identify trends.	Complete. Now fully adopted.
Use Automatic Meter Readings systems to understand energy consumption and identify waste & targeting inefficiency.	Complete. Now fully adopted.
Use Building Management Systems to provide suitable internal environments without wasting energy.	Complete. Now fully adopted.

PHYSICAL MEASURES	To make equivalent contribution of a 40% reduction to the overall energy saving target.
Intention	*To maintain and improve the property's fabric and building services installations to ensure optimum use of energy.*

Activity	Current Status
Maintain property including internal system to ensure there is no energy waste.	Current phase complete 31st March 2012 - Ongoing
Fully utilise information from the Health & Safety contracts' feedback reports to ensure there is no energy waste.	Current phase complete 31st March 2012 - Ongoing
All designs to reflect DCC's current Climate Change obligations.	Current phase complete 31st March 2012 - Ongoing
Asset Management Plan for properties to consider the property's use of resources when evaluating its future.	Current phase complete 31st March 2012 - Ongoing

It is intended to utilise two "Spend to Save" funds one financed from the Renewal & Repairs Fund and the other from the Scottish Government's **Central Energy Efficiency Fund**[12] (CEEF).

CEEF consists of a revolving budget used to fund energy conservation projects and as such requires to be replenished by re-allocating the project costs from the energy procurement budget.
Initial project appraisal shall evaluate the proposal against the CEEF criteria. The terms and conditions of the CEEF scheme require that projects must have a payback period no greater than seven years and do not permit the financing of certain projects .

A similar Council fund is available to finance energy saving projects with a payback period equal to or less than the expected life of the equipment.

By joint funding from these two budgets, the City Council will benefit from investing in projects that can save money to be re-invested in to other projects.

Other examples of Carbon Saving measures

- The **Universal Home Insulation Scheme**[13] (UHIS) 3, which is for installation of loft insulation and cavity-wall insulation (where appropriate) to properties in the private sector in Dundee has, since starting at the beginning of 2013, resulted in the insulation of 122 cavities, 183 virgin lofts and has topped up insulation in a further 392 lofts where existing provision was inadequate. This will save around 280 tonnes of CO_2 a year for 40 years. There is still around £280,000 to be expended before end March and the final figures are likely to be 418 tonnes a year.

- The **Home Energy Efficiency Programme for Scotland** (HEEPS) is a key element of the Scottish Government's Sustainable Housing Strategy and will replace UHIS. £60M will be made available to Councils over 2013/14 and Dundee has been made an initial allocation of £854,839. This allocation will be targeted at reducing fuel poverty and carbon emissions across the housing stock. The Council will seek to maximise the leverage of Energy Company Obligation (ECO) monies from the energy companies and support the local economy in promoting these programmes.

- The **Community Energy Saving Project**[14] (CESP) project at the Dallfield multis which saw external wall insulation and gas-fired district heating installed to the 336 flats is likely to result in annual savings of CO_2 in the region of 900 tonnes a year. Once the Lochee CESP has been completed, a further 900 tonnes of CO2 will be saved a year. *(See Case Study 1 on p11 for further information on the Dallfield Project).*

- Dundee's **Street Lighting Partnership**[15] is already leading the rest of Scotland in the use of many new technologies such as the use of energy efficient white light sources and part night dimming. LED lanterns are now becoming more affordable and becoming more attractive as spend to save solutions. Dundee City already has 236 street lights which use LEDs and this number is expected to increase.

- Appointment of a Corporate Fleet Manager to create the necessary infrastructure that will be capable of bringing together the management of the Council's plant and vehicles in respect of procurement, maintenance and disposal. It is expected that with the introduction of a **new Fleet Management System** the Council will not only manage its assets more efficiently, but will provide detailed analysis on areas such as fuel costs and vehicle utilisation. The next 12 months will see the further development of the Council's use of electric vehicles, electric charging stations and car pools, these will be closely monitored to determine their environmental impact and carbon savings. These developments will work in tandem with the utilisation of fuel saving technologies within the vehicles, the drive to maintain the age profile of the fleet and the ongoing commitment to driver training, to help reduce vehicle emissions. (See Case Study 2 on p12 for further information on EV rollout in the Council).

- In January 2013, the Council's Climate Change Board agreed the purchase of **WARPit** (Waste Action Reuse Portal) - an online portal which provides a platform for the organisation to redistribute its resources (e.g. furniture, equipment, fixtures and fittings, electrical items, office consumables, books, laboratory/technical equipment) within the organisation and beyond. The tool makes allows departments to locate and procure spare or unwanted resources within the organisation, reducing procurement spend and waste disposal costs, as well as minimising waste and reducing associated carbon emissions.

Other examples of action taken by the Council to reduce emissions from its estates and services can be viewed in Years 1-4 SCCD Reports on the **Sustainable Scotland Network website**.[16]

CASE STUDY 1:
Dallfield Community Regeneration Project

- Dallfield consists of four 14-storey tower-blocks in central Dundee.
- The properties fall into the poorest 5% of data zones in the Scottish Index of Multiple Deprivation, ranked 275 out of 6505 zones.
- Declining popularity with 15% of prospective tenants accepting offer of a new tenancy.

- Funding utilised from the Community Energy Saving Programme to develop partnership project with Scottish Gas to install a gas-fired district heating scheme and to over-clad the tower-blocks with insulated render to reduce heat loss.
- Aim was to improve the poor energy rating of the buildings, and meet the Council's goals and national policy objectives to achieve the Scottish Housing Quality Standard, reduce carbon emissions and tackle fuel poverty.
- The capital investment totalled over £6 million, with the Council also funding new kitchens and bathrooms as part of the works in order to meet the Housing Quality Standard and achieve economies of scale in terms of running the contracts together.
- Energy efficient homes now cost tenants around 30% less to heat.
- Energy ratings improved from E to B and carbon emissions cut by 60%
- 85% of prospective tenants accepting offer of a new tenancy.
- Innovative multi-agency arrangements and bespoke metering systems formed that are now being replicated in other areas in the city.
- Replicating project at 4 more blocks.
- Winner of a 2013 **COSLA Gold Excellence Award**[17] and recognised by the Chartered Institute of Housing Scotland, winning its award for Excellence in Environmental Sustainability.

CASE STUDY 2:
Implementing an EV Policy and Making it Work

- Electric Vehicle (EV) Core Group set up and prioritised key areas for implementation:
  - Establish an EV fleet through a phased approach.
  - Create necessary charging infrastructure network to ensure future public access.
  - Align with Staff Travel Plan and Sustainable Transport Team
  - Maximise staff utilisation through effective training and promotion.
- First phase secured £100,000 through the 'Low Carbon Vehicle Procurement Support Scheme' for the purchase of 6 EV's to replace existing diesel and petrol vehicles for Dundee City Council, NHS Tayside and Tayside Police.
- Dundee City Council invested a further £97,000 for the purchase of 4 EV's and charging infrastructure to replace 6 existing diesel vehicles within its Environment Department.
- The trial scheme gave the Council its first opportunity to evaluate EV's in a wide range of operating scenarios via a pool car system and to provide feedback to the Scottish Government on their use and suitability across different operating environments, throughout a 12 month evaluation period.
- Analysis of initial trial of 4 EV's showed that they cost approximately £290 of electricity (generated from renewable sources) for 14,392 miles compared with £2,302 fuel of a diesel equivalent and equating to 3.52 tonnes of CO_2 saved.
- Phase 2 secured almost £289,000 funding from the 'Electric Vehicle and Plugged In Places Charging Infrastructure Procurement Support Schemes'. This enabled Dundee City Council, NHS Tayside and the University of Dundee to purchase a further 12 electric cars, vans (of which 9 were Council) and charging infrastructure, taking the total capital investment in Dundee to over £562,000 in two years.
- Strategic network of charging stations mapped across city according to the largest Council office hubs. Has enabled 'pool car hubs' of EV's and charging facilities to be located closest to need.
- Robust business case made for each new pool car hub with Corporate Fleet Section working with departments to provide co-ordinated series of driver training sessions.
- 90 trained users with a further 107 waiting for efficient driver training or vehicle capacity to be identified before they are able to join a car pool.
- Vehicles continually monitored through tracking system to ensure full utilisation.
- In total, Dundee City Council has now invested in 23 EV's (9 in Car Pools; 2 Vehicles in Ground Maintenance; 5 Vans on Laundry / Finance / Trades; 6 Dedicated Cars), 1 Fast Charger and 7 Dual Charging Points which will reduce carbon emissions by approximately 54.34 tonnes per year. It is estimated that the 23 vehicles will remove approximately 230,000 work miles that were previously driven in diesel or petrol engines.
- Won a 2013 COSLA Bronze Excellence Award.
- Further 17 EV's ordered for Car Pool and expansion of fleet of small vans for Trades as well as plans to increase city wide infrastructure for publicly available points.

Section 2 Priorities for the year ahead

- Continue to implement the Climate Change Programme as commitment to the SCCD.
- Continue the rollout and utilisation of the Council's Electric Vehicle Fleet.
- Replicate best practice from the Dallfield Community Regeneration Project to develop a partnership District Heating project in Lochee.

Section 3
Taking action to reduce the emissions from the local authority area

Local Authority Area-Wide Emissions

There are two are commonly used methods of looking at area-wide emissions. The first – a measure of our territorial or direct (**Production-based**) **emissions** - looks at the activities of sectors – industry, transport, domestic energy use, and land management. This is useful for sector-based analysis and can be used to look at the impact of domestic energy use.

The second – the carbon or greenhouse gas footprint - looks at all the activities of residents. It measures the carbon dioxide emissions associated with the domestic energy we use and the way we travel as well as what we eat and what we buy and use. These are known as **consumption-based emissions**. Because the carbon footprint focuses on people's everyday lives it helps relate climate change to local needs and priorities. This makes it relevant to local people and communities.

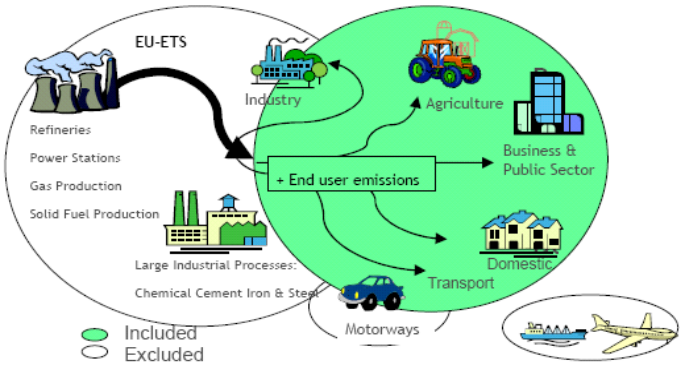
It is important to consider the 'consumption-based' emissions alongside our territorial emissions to understand the global impact of our lifestyles. Whereas an average Council produces at least 30,000 tonnes of CO_2 per annum, its community generates just over 1.8 million tonnes. Action on mitigating climate change therefore must address the consumption behaviour of local communities - and Scotland's Climate Change Declaration commitments reflect this need.

Production-based CO_2 Emission Estimates by sector (DECC)

This indicator is produced by AEA for the **Department of Energy and Climate Change** (DECC)[18] for all of the UK. AEA are also responsible for preparing the full UK Inventory of Greenhouse Gas Emissions, which is used by the UK to fulfil the international reporting obligations to the UNFCCC, and which is the top priority for the UK's reporting. It is a source of information rather than a 'tool' and does not allow for scenarios and projections based on policy options. Its main purpose is to track whether the UK is on course to meet national or international climate change targets. At the sub-national level it can be used to show if reductions are aligned with the aims of national policy and also what are the key drivers for emissions. It also helps the local authority know what contribution its area is making to the Climate Change Act targets. It measures direct or territorial emissions based on four main sectors: home energy use, transport, land use and industry.

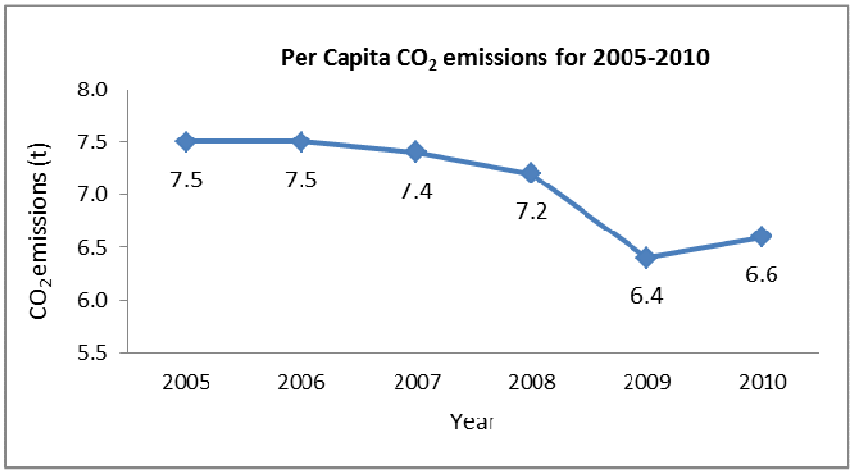
The most recent results are based on 2010 data. In order to ensure that the data for 2005 to 2009 is consistent and directly comparable with the data now available for 2010, the estimates for these years have been revised to incorporate both new data and improvements in the underlying methodology.

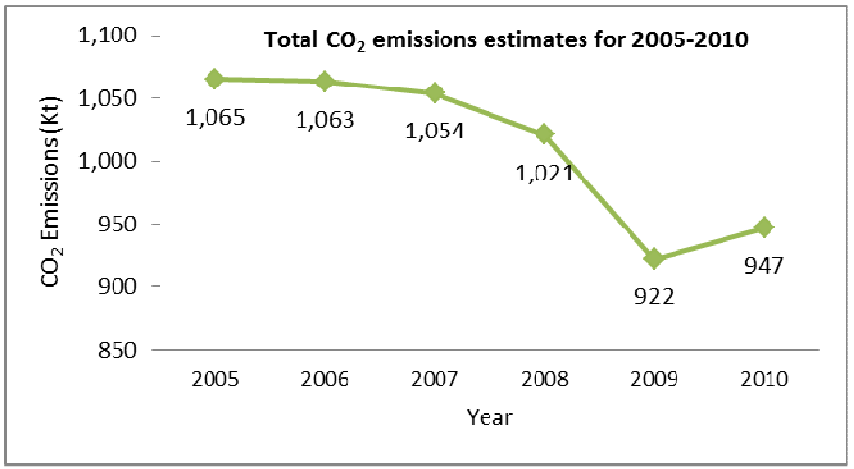
AEA estimate the local authority area-wide emissions by developing a local subset of the NAEI database and allocate emissions in sectors that can be influenced by local actions. For example, AEA allocate emissions from fuel producers to fuel users (e.g. power station emissions to users of electricity), and then use spatial datasets to allocate these emissions to local authority areas. EU-ETS emissions (energy supply industries, large processes and some other industrial/commercial operations), motorways, shipping and aviation emissions are also excluded.



CO_2 Emissions Estimates for 2005-2010, Dundee City

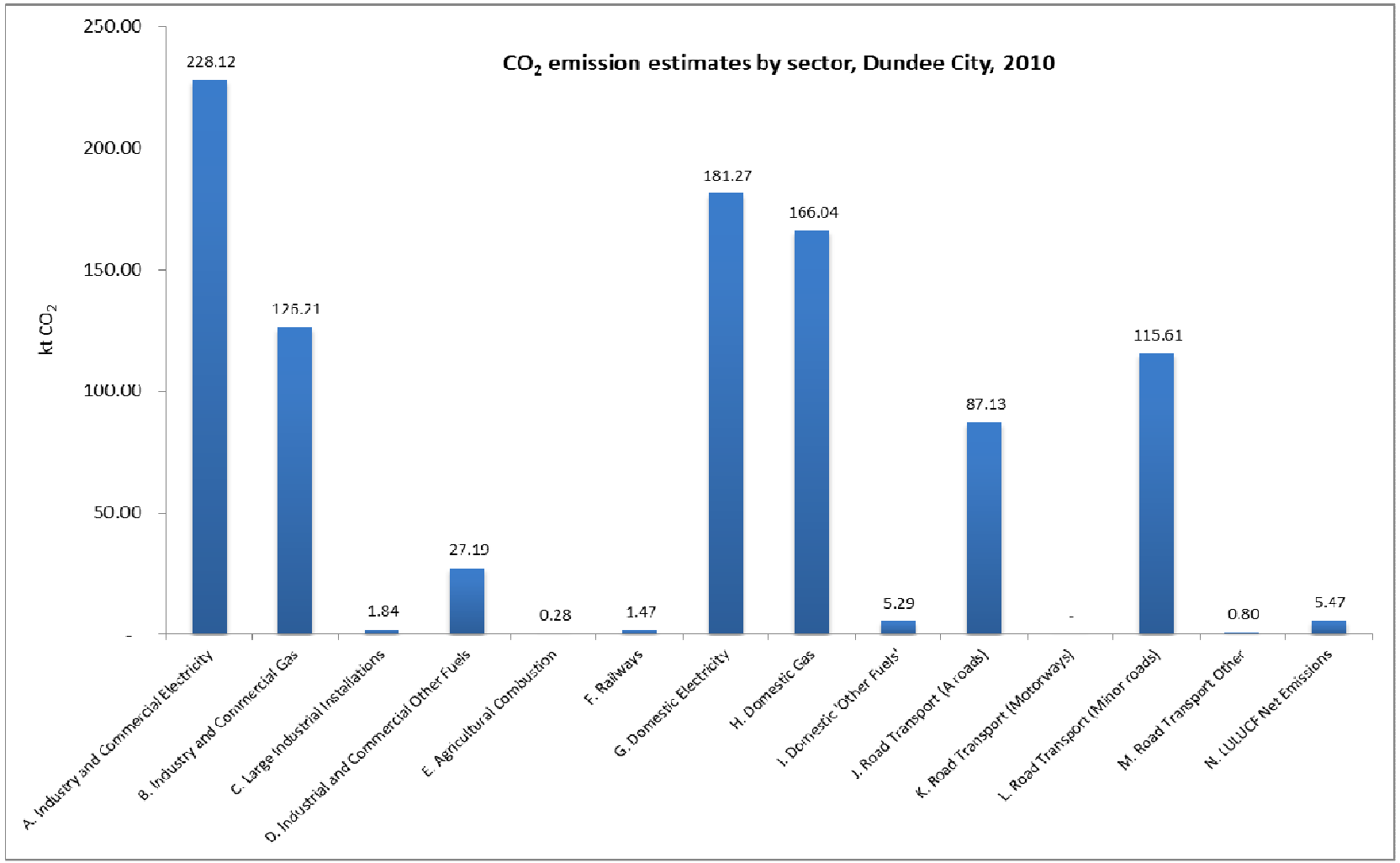
Year	Per capita - Industry and Commercial (t)	Per capita - Domestic (t)	Per capita - Road Transport (t)	Per capita - Total (t)	Industry and Commercial (kt)	Domestic (kt)	Road Transport (kt)	LULUCF (kt)	Total (kt)	Population ('000s, mid-year estimate)
2005	3.2	2.7	1.5	7.5	458	388	214	5	1,065	142
2006	3.2	2.7	1.5	7.5	457	387	214	5	1,063	142
2007	3.2	2.7	1.5	7.4	448	382	219	5	1,054	142
2008	3.0	2.6	1.5	7.2	425	377	213	6	1,021	143
2009	2.6	2.3	1.4	6.4	377	334	205	6	922	143
2010	2.7	2.4	1.4	6.6	385	353	204	5	947	144





https://www.gov.uk/uk-greenhouse-gas-emissions#local-authority-emissions-statistics ***(release date 23/08/12)***
Figures published previously for 2005-09 have been revised so that they are directly comparable to the 2010 figures.

Figures for 2010 are now the latest available, published by DECC in August 2012 and show that from 2005 to 2010 there has been a 11.1% reduction in per capita CO_2 emissions in the Dundee local authority area. From 2005 to 2010 there have been emissions reductions in road transport, industrial, commercial and domestic sectors. In 2010, 41% of end-user CO_2 emissions were attributed to the Industry and Commerce sector, 37% to the domestic sector, 21% to road transport and <1% to land use, land use change and forestry.



The above table provides a more detailed breakdown of the different sources of emissions. This highlights the importance of efforts to reduce electricity and gas consumption in industrial, commercial and domestic activity and to reduce emissions from road transport.

Consumption-based CO_2 Emission Estimates by sector

Dundee City (Population 142,170)

	PER CAPITA FOOTPRINT			TOTAL FOOTPRINT		
	Ecological Footprint (gha/capita)	Carbon Footprint (tonnes CO_2/capita)	GHG Footprint (tonnes CO_2eq/capita)	Total Ecological Footprint (gha)	Total Carbon Footprint (Tonnes CO_2)	Total GHG Footprint (Tonnes CO_2 eq)
TOTAL	**4.89**	**13.11**	**17.28**	**694,822**	**1,864,204**	**2,456,374**
Housing	1.31	4.75	5.25	185,910	674,797	746,936
Transport	0.89	3.24	3.73	125,966	460,721	530,903
Food	1.24	1.17	2.71	176,446	165,763	385,552
Consumer Items	0.62	1.23	1.88	87,864	175,303	267,617
Private Services	0.23	0.73	1.04	33,333	104,056	148,455
Public Services	0.51	1.61	2.20	73,143	229,071	312,918
Capital Investment	0.09	0.31	0.39	13,423	44,372	55,866
Other	-0.01	0.07	0.06	-1,264	10,122	8,127

THEMES AS PERCENTAGE OF TOTAL

	Ecological Footprint Percentage Breakdown	Carbon Footprint Percentage Breakdown	GHG Footprint Percentage Breakdown
Housing	27%	36%	30%
Transport	18%	25%	22%
Food	25%	9%	16%
Consumer Items	13%	9%	11%
Private Services	5%	6%	6%
Public Services	11%	12%	13%
Capital Investment	2%	2%	2%
Other	0%	1%	0%
Placing in Scottish LA's	19/32	23/32	21/32
UK Average	4.64	12.10	16.24
SCOTLAND Average	4.76	12.53	16.71

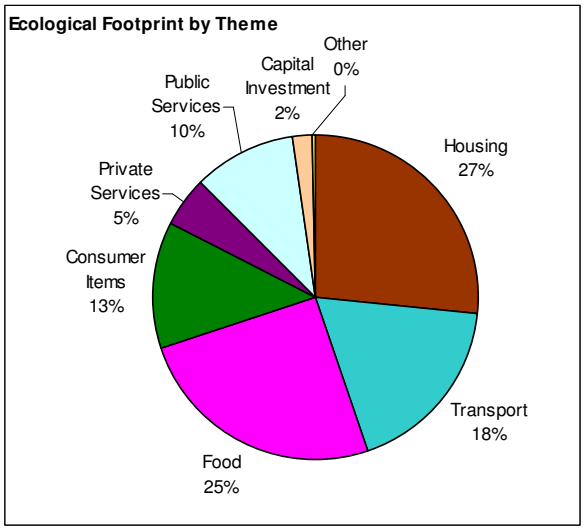
a) This spreadsheet provides Dundee area's 2006 results for:
- the ecological footprint in global hectares per capita
- the carbon footprint in tonnes of carbon dioxide (CO_2) per capita
- the greenhouse gas footprint in tonnes of carbon dioxide equivalent (CO2eq) per capita

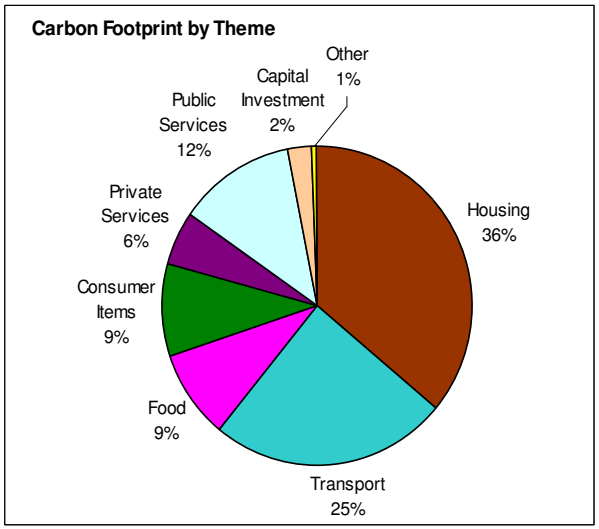
b) The footprint results are broken down in detail; by 63 household consumption categories, with a further 73 categories attributed to government services and public infrastructure (capital investment).

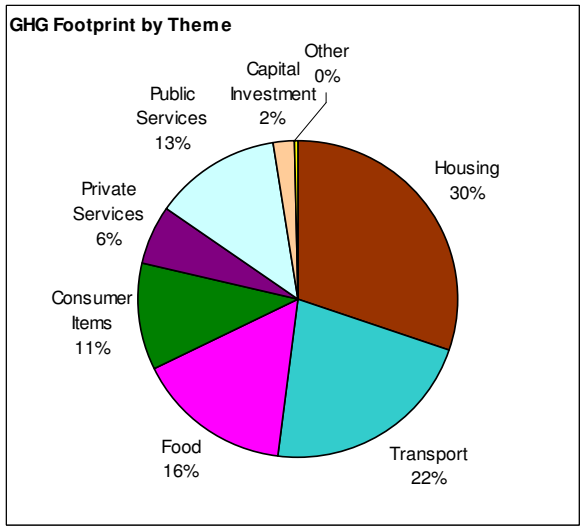
c) The 2006 estimates have been generated using Version 2 of the Resources and Energy Analysis Programme (REAP). Published by SEI October 2009.

d) The 2006 estimates supersede the 2004 estimates generated through REAP Version 1 and previously available online at www.sei.se/reap. Estimates for 2001, 2003, 2004 and 2006 are not directly comparable due to improvements in the source data and methodology used.

Source: REAP v2 release. Published by SEI October 2009. http://www.resource-accounting.org.uk/downloads







Stockholm Environment Institute, Biology Department, University of York, Footprint Results from BRIO model, October 2009.
Available at: http://www.resource-accounting.org.uk/downloads

Section 3 *(continued)*
Taking action to reduce the emissions from the local authority area

Measuring area-wide emissions

In common with most UK local authorities, Dundee City Council is not directly measuring carbon emission from the Dundee area. The DECC and SEI data above provides the best available estimate of area-wide emissions. Currently, direct carbon measurement represents a potentially costly and technically challenging undertaking for the Council to progress at this time.

The Council is currently using the above measurements to raise awareness of the importance of area-wide emissions. The Council is working with a number of partners to determine priority areas to target for reductions. For example, the area-wide consumption footprint indicates that housing and transport are the largest components, and the production figures indicate that industry, commercial and public sector are the largest impacts.

- Following TACTRAN workshop on public sector Climate Change duties, a **Transport Carbon Assessment Stage 1 Report**[19] was prepared in November 2012 by consultants Atkins. This sets out baseline forecasts and projections for land transport emissions to 2032 for both the Tactran region and the TAYplan Strategic Development Plan region and constituent Councils, with the aim of informing the Partnership's own and other public sector partners' understanding of issues and approaches to meeting statutory obligations and targets under the Climate Change Act 2009. The Partnership has agreed to procure further work on investigating transport carbon emissions mitigation options and prioritisation, reviewing the RTS Monitoring Framework with a view to embedding carbon abatement within this, and assessment of the requirement for a Climate Change adaptation strategy.

Previous annual reports have highlighted some examples of analysis work on area-wide emissions including:

- **Postgraduate students** studying MSc in Spatial Planning at the University of Dundee carried out analysis of Dundee's ecological/carbon footprints using the SEI REAP software. Questions were posed by the Dundee Partnership for the Environment to teams of students requiring them to identify the key footprinting issues for Dundee, data comparisons, limitations in the software, information gaps and to assess policy shifts required to affect a positive change in Dundee's ecological and carbon footprints.

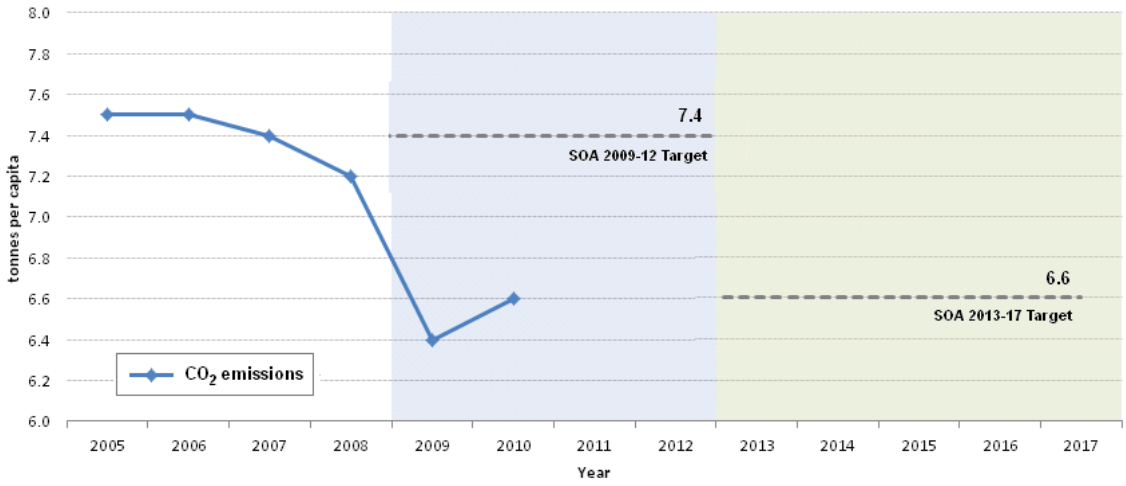
- **SUSTAY** - on behalf of SusTay (a grouping of public sector bodies in Tayside) Scottish Enterprise has engaged with Carbon Captured Ltd/University of Manchester to carry out a carbon emissions inventory and workshops using 'Greenhouse Gas Regional Inventory' (GRIP) tool. There are three levels of the work.
    1. Audit - GRIP will inventorise carbon emissions within the Tayplan area.
    2. Scenario workshops will be held. During these the attendees cover scenarios to try and reduce emissions in line with the Climate Change Bill - 42% by 2020 and 80% by 2050.
    3. Strategic discussions are undertaken which will put in place action to meet the targets.

- In March 2012 Solar Cities Scotland in association with Dundee Artists in Residence (D-AiR) and the Hannah Maclure Centre will host a **community visioning workshop** to create a vision of how Dundee can become a low carbon city and help meet 2050 targets. The Event is being run as part of a series of events around world water day and will be delivered by an IPCC expert using the GRIP tool.

Targets for the reduction of area-wide emissions

The Dundee Partnership Draft Single Outcome Agreement (2013-2017) 'Outcome 10' states that: *"Our people will live in a low carbon, sustainable city".* To help achieve this, a strategic 'above the waterline' target was set to reduce area-wide emissions by 2020.

Per capita CO_2 emissions in the local authority area



This DECC indicator (see also p15) has been used since the start of the SOA 2009-2012 process. When this indicator was selected for the SOA a target was set to maintain a 2007 baseline figure of 7.4 tonnes per capita. Figures for 2010 are now the latest available, published by DECC in August 2012 and show that from 2005 to 2010 there has been a 11.1% reduction in per capita CO_2 emissions in the Dundee local authority area. From 2005 to 2010 there have been emissions reductions in road transport, industrial, commercial and domestic sectors. In 2010, 41% of end-user CO_2 emissions were attributed to the Industry and Commerce sector, 37% to the domestic sector, 21% to road transport and <1% to land use, land use change and forestry.

Partnership working on climate change to reduce Area-Wide Emissions

There are a number of organisations and partnership initiatives in Dundee working to reduce the city's greenhouse gas emissions. Some examples over progress over the last year include:

- Dundee City Council is participating in the **Scottish Cities Alliance**,[20] formed by the Scottish Government to take forward a programme of collaborative action on four key areas: connected cities, sustainable cities, knowledge cities and vibrant & cultural cities. The Scottish Government is supporting the SCA with a £5 million Cities Investment Fund. The Sustainability Cities Action Team are progressing 3 initiatives that will help support the cities in the transition to a low carbon economy:

- **Heat Mapping** provides a fundamental tool in Dundee's transition to a low carbon economy by providing valuable information on current heat loads within the city. It can also assist in delivering projects on the ground by modelling future heat supply and demand scenarios for investment in new developments. It will provide a means for the Council to identify links between heat sources and heat demand to optimise resources and maximise investment opportunities. The Council is currently developing its GIS-based Heat Map and supporting the Scottish Government and AECOM to develop a Heat Map Manual for all Scottish Local Authorities by the end of March 2013.

- **Energy Efficient Street Lighting** - the Scottish Futures Trust and the Council's Street Lighting Team (inc. Chair of SCOTS Street Lighting Network), have developed a Toolkit to assist Local Authorities understand the investment costs along with the carbon and financial benefits of investing in energy efficient street lighting. The Toolkit and feasibility study will allow Local Authorities to analyse the impact of investing in energy efficient street lights, both in terms of future energy costs and meeting carbon reduction targets. It is recognised that affecting an investment into the Council's street lighting assets has the potential to deliver significant savings and protect against future energy costs rises.

- A commission to prepare a '**Mini' Stern Review**[21] for Dundee will be taken forward in 2013 together with reviews for the other six Scottish cities. The review will have a clear focus on assessing the economic benefits from the low carbon agenda for Dundee including employment opportunities, job creation and skills development. The review will assess the range of low carbon options available to Dundee, the scope for their deployment, the carbon savings and financial returns and the implications for the local economy as well as identifying where Dundee could collaborate with other cities where there may be economies of scale.

- Dundee City Council is supporting the University of Dundee to prepare a detailed Business Plan for the establishment of a proposed **Offshore Renewable Energy Institute**[22] to be based at the University. The proposed Institute would therefore be able to provide a comprehensive service to the offshore renewables industry in the fields of Regulation, Law and Economics, Environment and Consenting, Asset Management including Operations and Maintenance strategies, and the Design, Fabrication and Installation of offshore structures.

- The **Dundee Renewables**[23] partnership continues to build a renewable energy industry for Dundee. With a 153 hectares of land available now for supply chain development and Operations & Maintenance support, the focus for Dundee Renewables is very much on this as decisions around inward investment will not be made until there is certainty in the Electricity Market Reform.

- By marketing, attending and exhibiting at key offshore wind events, Dundee Renewables is known and recognised within many levels of businesses and associations. A number of business engagement supply chain and meet the buyer events were held in 2012 in partnership Scottish Enterprise, Dundee & Angus Chamber of Commerce and other Local Authorities. Direct intervention following meetings at All Energy Aberdeen 2012 led to 3 businesses locating and setting up in Dundee, SeaRoc, Bluewave Maritime and Cairndene. There are now 78 businesses listed on Dundee Renewables **Green Directory**.[24]

- Dundee City Council, in partnership with **Tactran**,[25] continues to promote a variety of local and regional transport schemes that will, amongst other benefits, reduce carbon emissions:

  - The Freight Quality Partnership is also providing staff input and support for Dundee City Council's participation in the Intelligent Europe **ENCLOSE**[26] (**EN**ergy efficiency in **C**ity **LO**gistics **SE**rvices) project. This will assess the applicability and benefits of energy-efficient and sustainable logistics measures in small and medium-sized historic towns. The project involves partner cities from 9 countries with the aim of enabling participating cities to develop a Sustainable Urban Logistics Plan.
  - Proposals for the Dundee West Park & Ride/Choose facility were the subject of a pre-planning application notification and public exhibition during November 2012 and it is intended to submit a detailed planning application in early 2013.

- The **Dundee Waterfront Partnership**[27] commissioned BREEAM to prepare a report on the actions needed to achieve **BREEAM Sustainable Communities**[28] Status. Dundee City Council, Scottish Enterprise and the University of Abertay continue to work together to realise the objective of attaining the status and become an exemplar for sustainable economic development.

- The **Dundee Energy Efficiency Advice Project**[29] (DEEAP) is supported through Partnership funding. Over the past year the project has exceeded all targets. In 2010/11 savings achieved through energy advice, insulation measures and social tariff fuel savings amounted to £447,110. The total savings made by the project for families in Dundee amounted to £841,361. Throughout the year DEEAP has dealt with 1572 energy enquiries, renegotiated 158 fuel debts and assisted 630 households to gain insulation. It has also targeted areas with high concentrations of electric heating to help families register for social tariffs. A total of 715 families are now registered, saving 20% on fuel bills. Partnership with Scottish Hydro Electric has enabled 191 families in fuel poverty to receive free white goods, saving £171,000. DEEAP also help families to maximise benefit claims, with £223,251 awarded during the year. The project assisted many families in the severe winter weather.

- Launched in January 2012, **Common Wheels**[30] continue to operate the first Car Club in Dundee. Common wheels is a 'pay by the hour' car club with cars parked in Bell Street Car Park and Dundee Science Centre allowing residents and employers access to shared cars, reducing the need for personal car ownership. Members can make use of car club vehicles as and when they need them, without any of the cost and hassle of owning a car. Car club membership also encourages people to think more about their journey, only taking the car when it's the best option, so helping to cut car use and tackle climate change.

Other examples of partnership working to reduce Area-Wide Emissions can be viewed in Years 1-4 SCCD Reports on the **Sustainable Scotland Network website**.[31]

Section 3 Priorities for the year ahead

- ❖ Work with the Scottish Government and other partners to develop a network of publically available electric vehicle charging points across Dundee.
- ❖ Progress Park and Ride from Strategy to Implementation.
- ❖ Support the establishment of the Offshore Renewable Energy Institute.
- ❖ Deliver a Heat Map and Mini-Stern Review for Dundee in partnership with the Scottish Cities Alliance.
- ❖ Continue to implement the Air Quality Action Plan.

Section 4
Assessing the risks of climate change impacts and working with others to adapt to the impacts of climate change.

- **TAYplan** partners and key agencies have been working with Adaptation Scotland to run two **climate change adaptation workshops**[32] with planners based within the TAYplan region. The first workshop took place on the 13th February 2013 and began with an introduction to adaptation presentation. This was followed by a workshop session used to discuss climate change impacts for an example area within the TAYplan region and, participants vision for climate ready places. A second workshop will take place in April 2013 and will look in greater detail at how planning policy can deliver adaptation at all levels of the planning system.

- The **Dundee Coastal Study Stage 2**[33] has been prepared to identify a framework within which local flood alleviation and coastal erosion defence schemes are developed at different locations along Dundee's 16.9km of coastal frontage. As part of the development of the programme, an Options Workshop was held to consider the types of coastal defences in each of the nine geographical management sections. Key issues and implications of existing environmental problems that affect or may be affected by the Dundee Coastal Study Stage 2 have been studied through Strategic Environmental Assessment.

- The Council, in partnership with Scottish Water, Angus Council and Perth and Kinross Council, is preparing an **Integrated Catchment Study** which will provide a collaborative sustainable approach to reducing flooding incidents within the boundaries of Dundee City.

- The Council has completed its first detailed inspection of water bodies within the City boundaries as required by the Flood Risk Management (Scotland) Act 2009.The remedial measures highlighted by this inspection will help in the reduction of flood risk from water bodies in the future. The Council is currently working in partnership with Angus Council, Aberdeenshire Council, Perth and Kinross Council, Scottish water and SEPA to prepare the **first Local Flood Risk Management Plan** for the Tay Estuary and Montrose Basin Local Plan District. This is a requirement of the Flood Risk management (Scotland) Act 2009 and will be published in 2016. The Plan will be reviewed on a 5 yearly basis and updated as necessary.

- All development within the City is controlled to ensure that it complies with government guidance given and that where appropriate, **Sustainable Urban Drainage Systems** (SUD's) are incorporated. The SUDS group meet with developers and their Agents to review proposed developments and to offer guidance on acceptable measures for dealing with surface water and to ensure that development does not encroach inappropriately into the flood plain. Developers and their agents are actively encouraged to participate in pre-application discussions with this group to facilitate the development process.

- All Council strategies, plans and programmes continue to undergo **Strategic Environmental Assessment (SEA)**[34] to assess their environmental impact including addressing climatic factors.

Other examples of how the Council has been assessing the risks of climate change impacts and working with others to adapt to these impacts can be viewed in Years 1-4 SCCD Reports on the **Sustainable Scotland Network website.**[35]

Section 4 Priorities for the year ahead

- Identify climate change adaptation challenges and opportunities in Dundee. Plan and implement work required to address these.

Section 5
Developing effective partnership working and climate change communications, including producing an annual statement of plans, activities and achievements.

Communicating climate change

- As part of Dundee City Council's ongoing commitment to efficiency and emissions reductions a new **Energy Awareness Campaign** was launched with an awareness week, starting on the 26th of March 2012 to coincide with **WWF's Earth Hour**[36] initiative. During this week information and promotional material was provided to all DCC staff and operational buildings as well as delivering focussed training sessions to key groups of staff in association with the Carbon Trust and NIFES Consulting Group. The main aim of this campaign was to reduce waste and improve efficiency in the Council's buildings in order to achieve the target of a 5% reduction in energy emissions each year until 2020. The next climate change staff awareness week is proposed for the week commencing 18th March 2013 to coincide with the Council's contribution to Earth Hour 2013.

- The Council is participating in **Climate Week**[37] (4-10th March 2013) by launching its Climate Change Staff Network. These Champions will be considered an effective method for communicating, facilitating and promoting the Council's Climate Change programme throughout the organisation.

- A variety of activities promoting **www.tactranliftshare.com** are being undertaken throughout 2012/13 including during National Liftshare Week in October. These include radio promotions, outdoor advertising and focussed events with Councils and Universities in the region.

- The **www.travelknowhow.org.uk** web-based travel plan implementation toolkit is exclusively available to support Travel Plan development by businesses and organisations within the Tactran region. Dundee City Council is one of public and private sector organisations have now signed up for the on-line support provided through The Partnership is keen to offer support to other public, private and community organisations seeking to promote more sustainable travel behaviour.

- **Solar Cities Scotland's**[38] Dundee Green Challenge project was awarded £414,170 to work with the Community Representative structures from the West End and North East Wards of Dundee to engage residents in a three stage behaviour change programme that will encourage 2600 households to take up low carbon living. This is currently being delivered alongside a household renewable energy and insulation advice service giving tailored guidance on how to improve residents homes through the installation of energy saving measures and renewable energy technologies.

- The St. Aiden's Project (£108,813), Skill Share Dundee (£181,885) and Factory Skatepark (£49,976) received Climate Challenge grants aimed at cutting carbon and costs, learning new skills and reducing fuel poverty.

- The Council continues to participate in this international **Eco Schools**[39] programme designed to promote environmental awareness in a way that links to many curriculum subjects, including citizenship; personal, social and health education (PSHE) and education for sustainable development. As of 28th February 2013, 41 schools have attainied the Bronze Award, 25 have attained Silver and 7 have gained Green Flag status.

Section 5 Priorities for the year ahead

- ❖ Continue to improve partnership reporting for Scotland's Climate Change Declaration.
- ❖ Work in partnership to improve community capacity on climate change issues.
- ❖ Further develop the Climate Change Staff Network within the Council.

Climate Change Progress Highlights of the Past Year

- The award winning Dallfield Community Regeneration Project is changing the lives of 336 tenants. With the assistance of the Community Energy Saving Programme, the Council is providing energy efficient homes which tenants can heat for around 30% less cost, thanks to a new district heating system and insulated render on the properties. To secure this investment, the council made it part of a wider regeneration project which has transformed the appearance of the buildings, improved housing management, tackled crime and anti-social behaviour and left a community legacy in the form of a residents' lounge and community space. A multi- agency local action team was set up to support the planned investment by tackling the area's poor reputation. As a result of the achievements of the Council, its partners and the local community, Dallfield is now a sustainable community where demand for properties has increased and 85% of people offered a property now accept at the first offer, compared to only 15% before the initiative began *(see Case Study 1 on p11).*

- Electric vehicles are a vital part of the City Council's plans for a modern and efficient fleet that deliver our carbon reduction targets and put Dundee at the forefront of developing the national infrastructure and creating a cleaner, healthier city. Through a strategic and focused approach the Council has become a public sector early adopter of electric vehicles and has worked closely with partners to provide investment that has delivered real savings as well as benefits to the environment by improving air quality, cutting emissions and reducing noise pollution. This has culminated in winning a COSLA 2013 Bronze Excellence Award *(see Case Study 2 on p12).*

- Community projects in Dundee seeking to tackle climate change by reducing the carbon footprint of their communities have secured £754,845 through the Climate Challenge Fund.

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[1] http://climatechange.sustainable-scotland.net/index.asp?pg=3

[2] http://www.dundeepartnership.co.uk/content/dundee-partnership-forum

[3] http://www.dundeecity.gov.uk/dundeecity/uploaded_publications/publication_3480.pdf

[4] http://www.dundeecity.gov.uk/reports/reports/57-2011.pdf

[5] http://www.tayplan-sdpa.gov.uk/

[6] http://www.dundeecity.gov.uk/localdevplan

[7] http://www.dundeecity.gov.uk/reports/reports/413-2011.pdf

[8] http://www.dundeecity.gov.uk/reports/reports/470-2012.pdf

[9] http://www.dundeecity.gov.uk/environment/airquality/

[10] http://www.dundeecity.gov.uk/cplanning/sea/

[11] http://www.dundeecity.gov.uk/reports/reports/241-2009.pdf

[12] http://www.energy-efficiency.org/ceef/CCC_FirstPage.jsp

[13] http://www.scotland.gov.uk/Topics/Built-Environment/Housing/warmhomes/uhis

[14] http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/cesp/Pages/cesp.aspx

[15] http://www.dundeecity.gov.uk/reports/reports/5-2013.pdf

[16] http://climatechange.sustainable-scotland.net/index.asp?pg=3

[17] http://awards.cosla.gov.uk/2013/03/strong-and-sustainable-communities-dundee-city-council-dundees-dallfield-community-regeneration-project/

[18] https://www.gov.uk/government/organisations/department-of-energy-climate-change

[19] http://www.tactran.gov.uk/documents/121211Item6ClimateChangeDutiesAppendixA.pdf

[20] http://scottishcities.wordpress.com/

[21] http://webarchive.nationalarchives.gov.uk/+/http:/www.hm-treasury.gov.uk/sternreview_index.htm

[22] http://www.dundeecity.gov.uk/reports/reports/41-2013.pdf

[23] http://www.dundeerenewables.com/

[24] http://www.dundeerenewables.com/directory.asp

[25] http://www.tactran.gov.uk/

[26] http://www.dundeecity.gov.uk/minutes/article?articleKey=62076

[27] http://www.dundeewaterfront.com/

[28] http://www.breeam.org/page.jsp?id=372

[29] http://www.dundeecity.gov.uk/housing/energyadvice/

[30] http://www.co-wheels.org.uk/

[31] http://climatechange.sustainable-scotland.net/index.asp?pg=3

[32] http://www.adaptationscotland.org.uk/7/7/373/TAYpan-Adaptation-workshop---1.aspx

[33] http://www.dundeecity.gov.uk/dundeecity/uploaded_publications/publication_2417.pdf

[34] http://www.dundeecity.gov.uk/cplanning/sea/

[35] http://climatechange.sustainable-scotland.net/index.asp?pg=3

[36] http://scotland.wwf.org.uk/how_you_can_help/wwfs_earth_hour/

[37] http://www.climateweek.com/

[38] http://www.solarcitiesscotland.org.uk/

[39] http://ecoschoolsscotland.org/