

CLIMATE
CHANGE
PLAN
2018

Inverclyde
council

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EXECUTIVE SUMMARY

The Council's original Carbon Management Plan (2007) set a target to reduce carbon emissions from the Council's operations by 15% by the end of financial year 2012/13, using financial year 2007/08 emissions as a baseline. This target was surpassed a year early in 2011/12, with a reduction of 15.9% achieved by the end of the Plan period. The Council then devised a new Carbon Management Plan with a carbon reduction target of 12% by end 2016/17 using a baseline of 2011/12. The plan sought to reduce carbon emissions from the following sources:

- **Energy use in buildings**
- **Energy use for street lighting**
- **Fuel use for fleet transport**
- **Business travel miles**
- **Water use in buildings**
- **Municipal waste**



In the period of the 2012/17 Plan, the Council has seen an increase in its carbon emissions of 2.7%. This was largely due to changes in how emissions for municipal waste sent to landfill are calculated. The Council achieved significant reductions from all sources of carbon other than waste. Moreover, despite the changes to how carbon emissions from landfilled waste are calculated, the Council has reduced its carbon emissions by 13.7% over the period 2007/08 to 2016/17.

To continue the process of tackling climate change, the Council has released this Climate Change Plan. The reason for changing the name from Carbon Management Plan to Climate Change Plan is that this Plan will consider both climate change mitigation and adaptation. The previous

Carbon Management Plans were concerned only with mitigation through reducing the Council's carbon emissions. This Climate Change Plan seeks to not only address carbon reduction but to also look at how the Council can adapt to current and future climate change.

In terms of carbon emissions, the Climate Change Plan will continue to target the sources mentioned above. The previous Carbon Management Plans set reduction targets for each of the sources but since carbon is significantly more heavily weighted against some sources, this Plan has adopted a single overall target. The target set for reducing the Council's carbon emissions is **16% by 2021/22 from a 2007/08 baseline**.

The Scottish Government proposes very high national targets with respect to climate change mitigation. The targets involve the public sector which is expected to take the lead in tackling climate change. For example, in its draft Climate Change Plan, the Scottish Government has set a target for 94% of non-domestic buildings to have heating and cooling supplied by low carbon technologies. Moreover, the Scottish Government proposes that a statutory duty be placed on local authorities to develop 'Local Heat and Energy Efficiency Strategies' that take an area based approach to delivering energy efficiency and heat decarbonisation.

Achieving such targets will require a transformational change in terms of energy provision and other aspects of society that contribute to climate change. The Climate Change Plan recognises the Council's responsibility to contribute to this transformation. The Council will, therefore, investigate potential transformational projects and take steps to try and implement them.

Climate change adaptation is difficult to quantify and therefore set a target. The Climate Change Plan, therefore, details objectives for the Council to adapt to climate change. One particular concern for Inverclyde is flooding. Inverclyde's location along the coast of the Clyde makes it susceptible to flooding should sea levels rise from melting sea ice. Moreover, its topography means that in extreme rainfall, rain running down hills can flood lower lying areas.

There are, however, numerous impacts from climate change in addition to flooding. This Climate Change Plan states an objective to formally identify and record all the potential impacts and consider appropriate action. The Climate Change Plan sets out how the Council will make its contribution to being climate ready for the future.

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1. INTRODUCTION

Inverclyde Council is committed to playing its part in dealing with the issue of climate change. This has been demonstrated in its signing of Scotland's Climate Change Declaration and through previous Carbon Management Plans. This Climate Change Plan shows that the Council regards its obligation to address its impacts on climate change as continuous.

Since the last Carbon Management Plan was prepared in 2012, there have been a number of international and domestic policy changes with respect to climate change. In particular, there is the UN Paris Agreement and the subsequent Scottish Government Climate Change Plan and Climate Change Bill. Moreover, the Scottish Government enacted the Public Bodies Duties section of the Climate Change (Scotland) Act 2009 stating that the public sector must report annually on its climate change performance. These provide the context for the Climate Change Plan, which covers the period from 1 April 2017 to 31 March 2022.

1.1 Background

In December 2015, the United Nations Climate Change Conference was held in Paris. At the conference, a global agreement was made to limit the global temperature rise to 2°C by the end of the century and pursue efforts to limit the temperature increase even further to 1.5°C. This was termed the UN Paris Agreement and came into force on 4 November 2016.

In 2009, the Climate Change (Scotland) Act was passed by the Scottish Parliament. The Act set an overall greenhouse gas emissions reduction target of 80% by 2050 with an interim target of 42% by 2020 from a 1990 baseline. The most recent Scottish Greenhouse Gas Emissions Data covering the year 2014 showed that Scotland had achieved a 45.8% reduction in greenhouse gas emissions, thereby exceeding the interim target.

In response to the above, the Scottish Government decided to prepare a new Climate Change Plan setting out new greenhouse gas emissions targets for Scotland for the period 2017 – 2032. The new national target is a reduction in greenhouse gas emissions of 66% by 2032 from a 1990 baseline. Incorporated within this are targets and ambitions for sectors of the economy that have significant impacts on climate change. The Scottish Government considers the public sector, and in particular local government, as having a major role to play in the implementation of the Climate Change Plan.

The Council's original Carbon Management Plan was a step towards the Council meeting its objectives under the Scottish Climate Change Declaration 2007. It set a target to reduce carbon emissions by 15% by end of financial year 2012/13 from a 2007/08 baseline, which was surpassed in 2012. At this time, a revised Carbon Management Plan was written setting a new target of 12% by 2016/17 from a 2011/12 baseline. The revised Plan incorporated emissions from energy use in buildings and street lighting, fleet transport and staff business travel, municipal waste and water use. Furthermore, a 'carbon group' was formed made up of Council staff whose work influences emissions from these sources. The group has been retained for the Climate Change Plan and has played a central role in the preparation of the Plan.

1.2 Achievements 2007/08 – 2016/17

Between the baseline year 2007/08 for the Council's original Carbon Management Plan and the final year 2016/17 of the Council's revised Carbon Management Plan, the Council has achieved the following:

- Reduced overall carbon emissions by 13.7%, the equivalent of 4,221 tonnes of carbon.
- Reduced the total amount of waste sent to landfill by 18,574 tonnes.
- Reduced carbon emissions from energy use in buildings by 25.4%, the equivalent of 3,499 tonnes of carbon.
- Reduced electricity consumption from street lighting by 17%, over 900,000 kWh of electricity.



1.3 Implementation of previous Carbon Management Plans

In attempting to achieve the carbon reduction targets stated in the previous Carbon Management Plans, the Council implemented a range of initiatives including:

- Building rationalisation programme to reduce the number of Council properties.
- New build and refurbishment programme incorporating energy efficiency improvements and renewable energy technologies.
- Fitting 'smart' meters to accurately measure energy and water use and identify inefficiencies.
- Street lighting replacement programme incorporating installation of energy efficient LED lamps.
- Monitoring, training and awareness programmes to reduce emissions from the Council's vehicles.
- Improved recycling infrastructure and promotion of waste reduction and recycling.

These and other initiatives have contributed significantly to reducing the Council's carbon emissions.

2. DRIVERS FOR CLIMATE CHANGE ACTION

The drivers for the Council pursuing a programme to reduce its carbon emissions and adapt to climate change include the following:

2.1 Impacts of climate change

Climate change presents one of the most serious environmental threats facing the world today. Rising global temperatures will impact on food and water supply, buildings and infrastructure, and health. Stresses of this nature can have severe detrimental effects in terms of loss of species of flora and fauna, natural disasters and hunger and famine. With respect to a local authority like Inverclyde Council, climate change could adversely affect the provision of services, e.g. extreme weather events impacting on the roads network making transport difficult.

In its 'Fifth Assessment Report'¹, the Intergovernmental Panel on Climate Change (IPCC) states that it is 'now 95% certain that humans are the main cause of current global warming'. It is extremely likely that this is a result of increased concentrations of greenhouse gases, particularly carbon, in the Earth's atmosphere.

Impacts attributed to climate change caused by increased greenhouse gas emissions include the following:

- Increases in the intensity of rainfall and sea level rise potentially resulting in floods. This is particularly relevant to Inverclyde due to its location and topography. Flooding can have severe negative impacts on buildings and infrastructure.
- Increases in extreme weather events such as storms and heatwaves could impact on energy, transport, water and ICT networks. This has implications for the delivery of Council services and social and economic well-being.
- The changing climate is already resulting in landscape alterations such as coastal erosion. Being a largely coastal area, this has implications for Inverclyde.

The Council recognises its global responsibility to minimise its impact on climate change and deal with its effects from a local perspective.

2.2 Legal

In 2011, Part 4 of the Climate Change (Scotland) Act entitled 'Duties of Public Bodies Relating to Climate Change' came into effect. This places a legal obligation on public bodies, such as the Council, to exercise its functions in the way best calculated to contribute to the Act's emission reduction targets and deliver statutory adaptation programmes.

In November 2015, the Scottish Government introduced 'Public Bodies Duties Required Public Sector Climate Change Reporting'. The Public Bodies Duties section of the Climate Change (Scotland) Act had made provision for mandatory climate change reporting by major players in the public sector. National annual greenhouse gas emissions reduction targets had been missed

¹ IPCC Climate Change 2014 Synthesis Report

http://ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full.pdf

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three years in a row so the Scottish Government decide to enact this part of the Act. The Council must report annually on its activities and performance with respect to climate change including carbon emissions reduction, climate change adaptation and sustainable procurement.

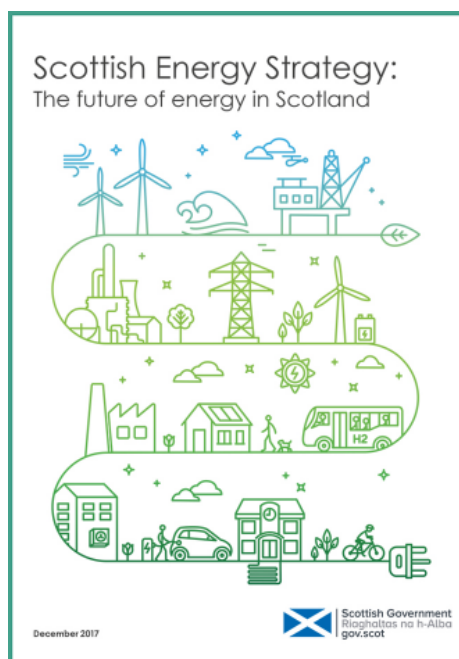
2.3 National policy

In 2017, the Scottish Government released a number of publications concerning climate change and energy. In particular are proposals for a new Climate Change Bill and Climate Change Plan. The new Climate Change Bill proposes a greenhouse gas emission reduction target of 90% by 2050 from a 1990 baseline, with interim targets of 56% by 2020, 66% by 2030 and 78% by 2040.

The Climate Change Plan includes a target for 94% of non-domestic buildings to have heating and cooling supplied using low carbon technologies by 2032. It also states that there should be a rapid uptake of electric and ultra low emissions vehicles. In its 2017 Programme for Government, the Scottish Government states a commitment that there will be no new diesel and petrol vehicles by 2032. In terms of waste, the Scottish Government has set a target to have only 5% of all waste sent to landfill by 2025.

Energy is often regarded as the 'golden thread' with respect to climate change mitigation. The Scottish Government released its proposed Energy Strategy that takes a whole system view, integrating power, heat and transport. The Energy Strategy states an objective that 50% of heat, electricity and transport consumption to be supplied from renewable sources provided by a range of technologies.

In association with the Energy Strategy, the Scottish Government is implementing the Scottish Energy Efficiency Programme from 2018 and proposes Local Heat and Energy Efficiency Strategies. The Scottish Energy Efficiency Programme is a 15-20 year programme to significantly improve energy efficiency for all buildings. The Scottish Government proposes a statutory duty on local authorities to develop Local Heat and Energy Efficiency Strategies. These are a long-term, area-based approach to identify opportunities for reducing heat demand and developing low carbon heat solutions. Local authorities would be required to work with relevant stakeholders to develop such strategies and set out costed, phased delivery programmes for their implementation.

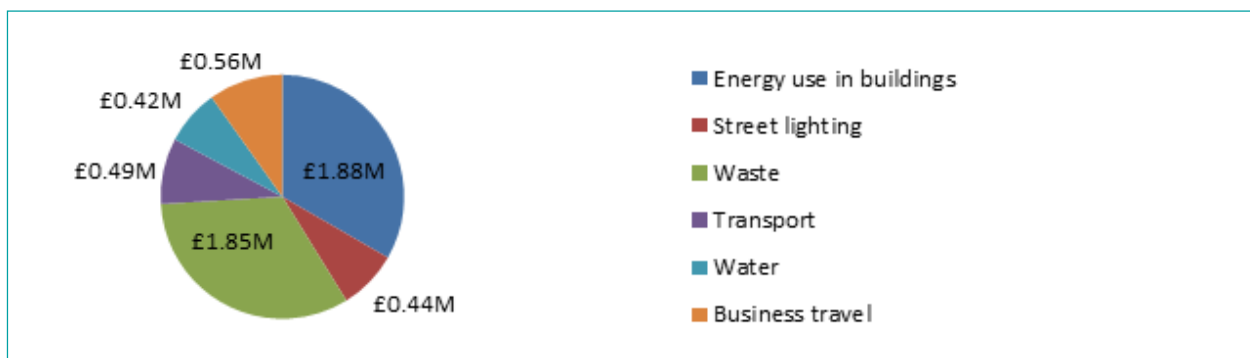


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2.4 Financial

The Council has a responsibility to ensure prudent use of funds raised from taxation and provided by central government. This is now particularly the case given the current pressure on public sector budgets. Reducing carbon emissions entails reducing consumption of utilities and fuel and the amount of waste sent to landfill. A benefit of this is the reduction in costs to the Council from these.

In financial year 2016/17, the estimated spend by the Council on all carbon sources was £5.64 million. This is split as follows:



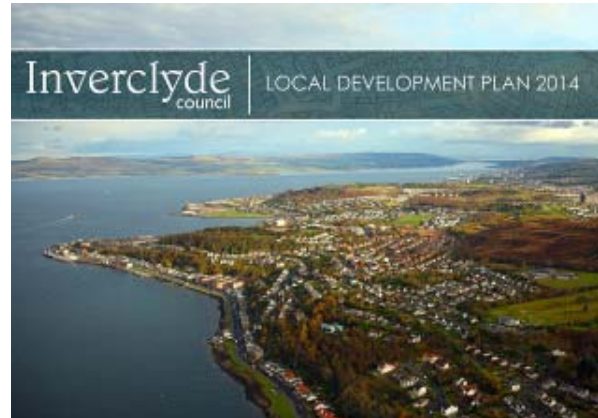
2.5 Council policy

In 2009, the Council launched its flagship environment policy 'Green Charter'. The policy aimed to reduce energy and waste and promote the sustainable use of resources within the Council and across the whole community of Inverclyde. Through Green Charter, the Council promised to reduce its carbon footprint and minimise the impacts of its actions on the environment.

In August 2014, the Council adopted the Inverclyde Local Development Plan. The Local Development Plan sets out where development should and should not take place and provides

the framework upon which all planning applications can be determined. Sustainable development is a key theme running throughout the Local Development Plan with the mitigation of and adaptation to climate change seen as a core responsibility of the Council with respect to its duties as a planning authority. It incorporates the nature of land use, energy efficiency of buildings and the adoption of renewable/low carbon energy, sustainable transport and identifies criteria against which proposals for waste management facilities will be considered.

One of the Council's Key Performance Indicators relates to sustainable development. This Key Performance Indicator includes the reduction of the Council's own carbon emissions which must be reported annually.



Inverclyde Local Development Plan

3. CLIMATE CHANGE STRATEGY

The Council's strategic approach to climate change mitigation and adaptation incorporates the following:

3.1 Leadership

The Climate Change Plan has been approved by the Council's Environment and Regeneration Committee and Corporate Management Team. Annual updates will be provided on progress against the aims and targets set out in the Plan.

3.2 Support from Services

To help embed climate change mitigation and adaptation practices throughout the Council, a 'Climate Change and Energy Group' meets regularly. The Group is made up of representatives from Legal and Property Services, ICT, Finance, Regeneration and Planning, and Environmental and Commercial Services. The Group is chaired by the Head of Legal and Property Services and meets bi-monthly to discuss progress against the objectives set out in the Climate Change Plan.

3.3 Buildings

Buildings are one of the largest sources of carbon emissions for the Council. The Council continuously reviews its building portfolio to determine opportunities for rationalising and improvement. This is with a view to ensure operations are carried out from only the required number of energy efficient buildings. Energy and water consumption in buildings is monitored via automatic meter reading equipment and Building Energy Management System software.

3.4 Street lighting

The Council is currently implementing a programme to replace existing street lamps with Light Emitting Diode (LED) lamps. LED lamps use much less electricity and provide a better quality of light output. The Council further considers possibilities for reducing operation time and dimming lamps.

3.5 Fleet management

The Council refreshes its vehicles every five to seven years to ensure they are operationally and fuel efficient. It has purchased a number of electric vehicles and is installing electric vehicle charging points throughout Inverclyde. A driver training programme has been established which incorporates fuel efficient driving. The Council has invested in vehicle tracking software to improve management of routes and determine vehicles that may be surplus to requirements.



Street lighting, Greenock

3.6 Waste

Alongside energy use, waste is one of the largest sources of carbon for the Council. The Council has implemented a large waste minimisation and recycling programme in terms of both infrastructure and promotion. The programme included kerbside recycling for various types of waste, education on how to reduce and recycle waste and generating energy from waste. The Council continues to develop ways to further divert waste from landfill.

3.7 Climate change awareness

Incorporated in the Green Charter policy is the education of staff on issues concerning climate change. The issues are communicated through a variety of media such as the staff intranet and training software. A number of workshops have been provided to staff on measures they can take to conserve energy and water. Climate change and energy lessons are provided to school pupils to inform them about climate change issues and encourage them to minimise their impacts on climate change.

3.8 Continuous improvement

The Climate Change Plan is a working document whereby the Council will continue to develop programmes to reduce its carbon emissions and adapt to climate change. In meetings of the Climate Change and Energy Group, existing projects are evaluated and new projects proposed. Climate change awareness programmes are ongoing and subject to refinement. The Council regularly attends events concerning climate change, environmental sustainability and utilities with public sector colleagues. Moreover, the Council is represented on the Steering Group of the Sustainable Scotland Network. The Council also works with Resource Efficient Scotland and its utility suppliers to improve monitoring and efficiency.

4. TARGETS AND OBJECTIVES

The Climate Change Plan incorporates the following target and objectives:

4.1 Climate change mitigation

The Climate Change Plan sets a **carbon reduction target of 16% by the end of financial year 2021/22 from a baseline of financial year 2007/08.**

Proposed projects with which to achieve the carbon reduction target are as follows:

Project/initiative	Estimated carbon savings (tonnes)
Demolition of Sacred Heart Primary School	87
Refurbishment of Lady Alice Primary School	25
Refurbishment of Moorfoot Primary School	26
Rebuilding of St Ninian's Primary School	18
Refurbishment of St Mary's Primary School	18
Replacement of windows in Greenock Municipal Buildings	17
Refurbishment of former Education HQ	16
Selling West Stewart Street Offices	69
Further roll out of LEDs in street lighting along with dimming and reduced operating times	350
Total	626

4.2 Climate change adaptation

The Climate Change Plan places an obligation on the Council to consider the impacts of climate change on its operations and ways it can adapt. The Council has implemented a number of adaptation related projects, notably concerning flooding, but has not recorded these under the heading of climate change adaptation. Public Bodies Duties reporting requires the Council to annually report on the action it has taken to adapt to current and future climate change. The Climate Change Plan, therefore, sets the following objectives for the Council:

- Record all existing projects and initiatives that are climate change adaptation related.
- Set a formal process to examine the nature of impacts climate change is likely to have on the Council's own operations and the Inverclyde area as a whole. The process should follow the criteria set under the 'Scotland Climate Change Adaptation Programme'.
- Consider possible climate change adaptation projects and initiatives that go beyond flooding.

4.3 Transformational change

This Climate Change Plan places an obligation on the Council to investigate potential projects that will help achieve the Scottish Government's objective to decarbonise energy provision and other aspects of society that contribute to climate change. The Council recognises that a step-change is required in how it and wider society sources and uses energy and uses and disposes of consumables. The Council will consider a range of innovations, technologies and behaviours and take the initial steps in trying to implement them. This will involve considerable planning and detailed feasibility studies.

5. REVIEWING THE CLIMATE CHANGE PLAN

Progress against the objectives and targets detailed in the Plan will be reported annually to the Climate Change and Energy Group, the Corporate Management Team and the Environment and Regeneration Committee.

The Head of Regeneration and Planning is the Project Sponsor for the Climate Change Plan. The Climate Change and Energy Group comprise staff from across a range of Council services. The Group is tasked with the implementation, monitoring, evaluation and reporting of the Plan. It meets bi-monthly to discuss progress in terms of delivery of projects in achieving the objectives and targets set out in the Climate Change Plan.

APPENDIX

(i) Baseline

The Council's baseline emissions with respect to the Climate Change Plan are as follows:

Source	Carbon (tonnes)
Energy use in buildings	13,803
Street lighting	2,931
Fleet transport	1,532
Business travel	517
Water	385
Waste	11,753
Total	30,921

Table A.1: Inverclyde Council baseline carbon emissions (2007/08)

(ii) Carbon reduction performance so far

In 2016/17, the Council's carbon emissions were as follows:

Source	Carbon (tonnes)
Energy use in buildings	10,304
Street lighting	1,750
Fleet transport	1,095
Business travel	362
Water	77
Waste	13,112
Total	26,700

Table A.2: Inverclyde Council 2016/17 carbon emissions

This is a 13.7% reduction from the 2007/08 baseline. Note that carbon emissions are calculated using 'greenhouse gas conversion factors' provided by the Department of Business Energy and Industrial Strategy and the Department of Environment, Food and Rural Affairs. The conversion factors change annually and the factor used to calculate carbon resulting from municipal waste sent to landfill in 2016/17 is more than double that used in 2007/08. The Council has performed well in reducing the amount of municipal waste sent to landfill since 2007/08 but the large change to the conversion factors has resulted in higher emissions for this and thereby the 2016/17 total.

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Performances in terms of the individual sources of carbon from the baseline 2007/08 to 2016/17 are given in the following table:

Source	Performance 2007/08-2016/17
Energy use in buildings	-25.3%
Street lighting	-40.3%
Fleet transport	-28.5%
Business travel	-30%
Water	-80%
Waste	+11.6%
Total	-13.7%

Table A.3: Inverclyde Council carbon performance from baseline 2007/08 to 2016/17

(iii) Annual carbon reduction performance

The following table gives the Council's carbon emissions for each year since the baseline 2007/08 to 2016/17:

Financial year	Carbon (tonnes)
2007/08	30,921
2008/09	30,586
2009/10	28,973
2010/11	28,907
2011/12	25,993
2012/13	25,493
2013/14	25,783
2014/15	27,335
2015/16	24,985
2016/17	26,700

Table A.4: Inverclyde Council carbon emissions from 2007/08 to 2016/17

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The following graph illustrates the Council's annual performance with respect to reducing its carbon emissions against the baseline year 2007/08:

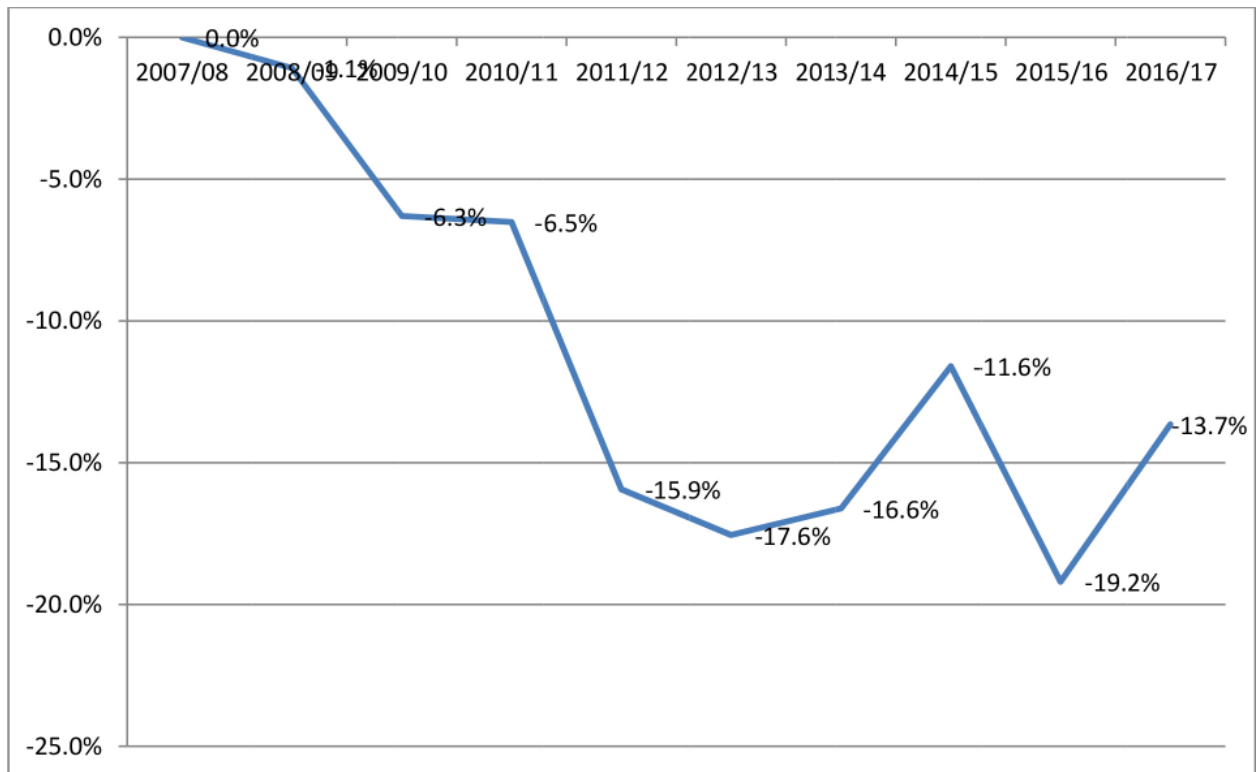


Figure A.1: Inverclyde Council annual carbon performance against baseline 2007/08

The logo for Inverclyde Council, featuring the word "Inverclyde" in a large, white, serif font, with the word "council" in a smaller, white, sans-serif font directly below it. The text is positioned in the bottom right corner of the page, which has a background of green and teal wavy bands.

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