



Carbon Management Plan 2018 – 2022

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1 Foreword

I am pleased to present Newport City Council's Carbon Management Plan.

There is an urgent need for the world to decarbonise if we are to limit global temperature rise to 1.5C above pre-industrial levels and avert the worst impacts of climate change. As a globally responsible organisation, the council aims to show leadership in decarbonisation and work with others to do the same for the benefit of our city, country and the planet.

We are facing very challenging times in local government, with decreasing budgets and increasing demands for services which are being addressed within a weak economy at national and local level. The need has never been greater to improve operational efficiency and financial performance. Investing in carbon reduction schemes will deliver long-term sustainable savings while also improving resilience and environmental impact. Every pound saved is a pound available to invest in services.

This plan sets out the council's vision, mission, objectives and strategy for carbon reduction from 2018 until 2022 and beyond.

I will continue to work closely with the community, partner organisations, elected members and officers to ensure the council continues to work towards our challenging but exciting and achievable vision of becoming a net carbon neutral organisation by 2030.

Councillor Davies

Cabinet Member for Sustainable Development

2 Introduction

Greenhouse gas¹ emissions are driving man made climate change. A changing climate will have significant impact on the way we live with far-reaching consequences. It is globally recognised that there is an urgent need to reduce carbon emissions to limit the impact we have on the planet's environment. This document outlines how Newport City Council intends to reduce our own carbon emissions while supporting the city to do the same.

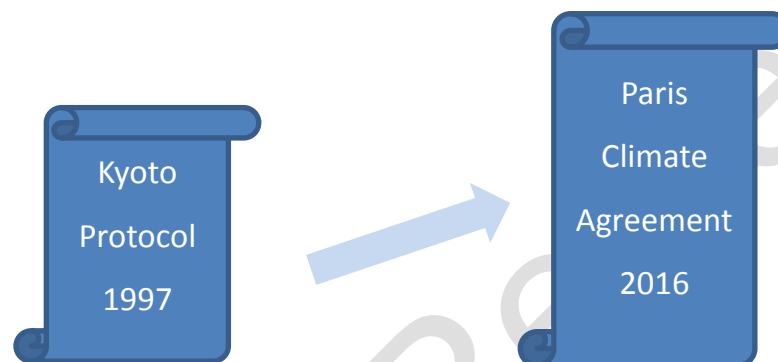
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¹ Hereafter referenced as carbon emissions (equivalent) or CO₂e.

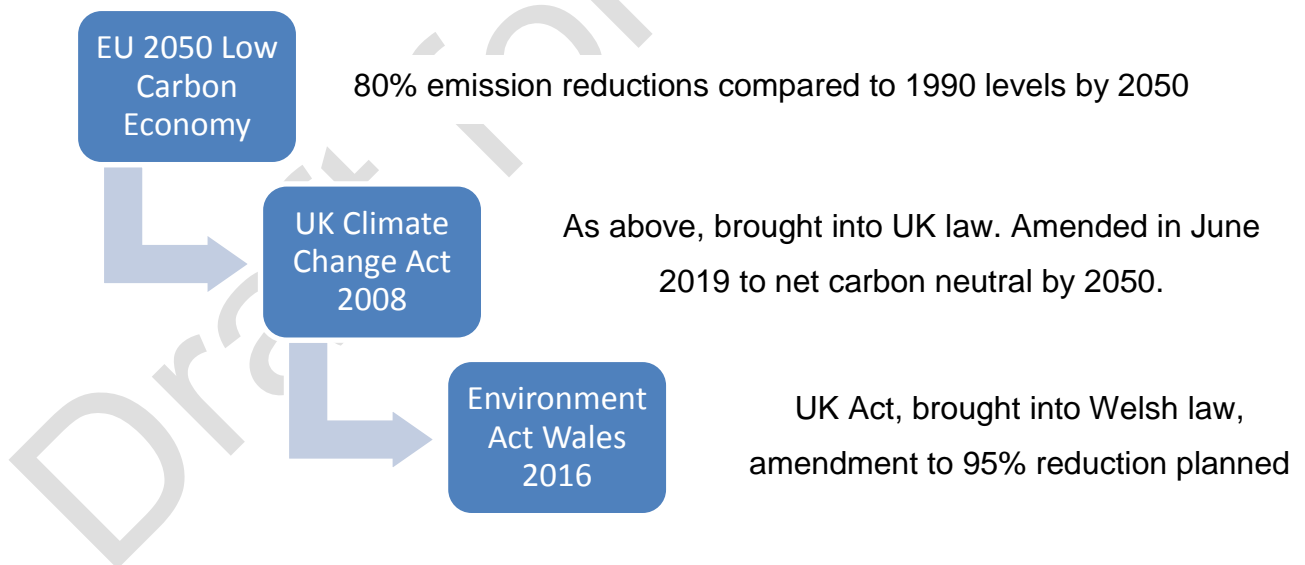
3 Context

The Carbon Management Plan has been developed in line with the following international and national legislation and organisational context.

International Agreements



Legislation



Ambitions



The Environment Act Wales (2016) legislates for an 80 per cent reduction in emissions from 1990 levels by 2050 as a minimum requirement. In June 2019, the Welsh Government announced plans to increase this target to a 95 per cent reduction by 2050. These national targets will driver local and organisational targets.

The Well-being of Future Generations Act (2015)

This Act is about improving the social, economic, environmental and cultural well-being of Wales. The act of law requires, for the first time, that public bodies listed in the Act must do what they do in a sustainable way. The sustainable development principle of the Act consists of five ways of working that public bodies are required to take in to account when applying sustainable development. These are:

- Considering the **long-term** so that the ability of future generations to meet their own needs is not compromised;
- Understanding the root causes of issues to **prevent** them from occurring;
- Taking an **integrated** approach so that public bodies look at all the well-being goals when decision making;
- Working with others in a **collaborative** way to find sustainable solutions;
- **Involving** a diversity of the population in the decisions that affect them.

Carbon reduction requires a long-term and a preventative approach to reduce pollution. It also needs an integrated approach that supports a number of the well-being goals, namely *Prosperous Wales, Globally Responsible Wales, A Healthier Wales* and *A Resilient Wales*, and does not adversely affect any of the other well-being goals. The council is working on carbon reduction with partners in a collaborative way through the Public Services Board, One Newport, and the implementation of the Local Well-being Plan.

Organisational Context

The council is committed to decarbonisation. In addition to the significant external drivers, it recognises the benefit to both the organisation and the City of Newport. Decarbonising brings environmental benefits and ongoing financial benefits which will help the council, and therefore the city, to become more sustainable in the long-term.

This Carbon Management Plan supports *Objective 4 – Modernised Council* in the regeneration, investments and housing service plan 2018-2022. It is strongly linked with the strategic asset management plan 2018-2022 that lays out the strategy for the buildings in the council's estate. As three quarters of the council's carbon emissions are due to utility consumption in buildings, the strategy for reducing carbon emissions is intrinsically linked to the estate management strategy.

As part of showing the council's commitment to decarbonisation, it has signed up to the UK100 pledge with the aim of using 100 per cent clean energy by 2050. The organisation already purchases 100 per cent renewable electricity and, as laid out below, is considering options to reduce usage and generate more of its own electricity, as well as using renewable energy to power its vehicles.

The council is guided by the ambition from the Welsh Government for the Welsh public sector to be net carbon neutral by 2030 and is working within the context of the Well-being of Future Generations Act to achieve this.

4 Emission baseline

In order to understand more about the council's carbon emissions and develop a plan, analysis was undertaken to establish an emissions baseline and breakdown of emissions per function. This information can be used to target emissions reduction projects and track progress. Details of the scope of emissions can be seen below.

4.1 Emissions Scope

The reporting of greenhouse gas emissions falls into well-defined categories:

Scope 1: Direct – estates and council-owned vehicles

Scope 2: Indirect – purchased energy for organisational use

Scope 3: Indirect – all other activities and supply chain.

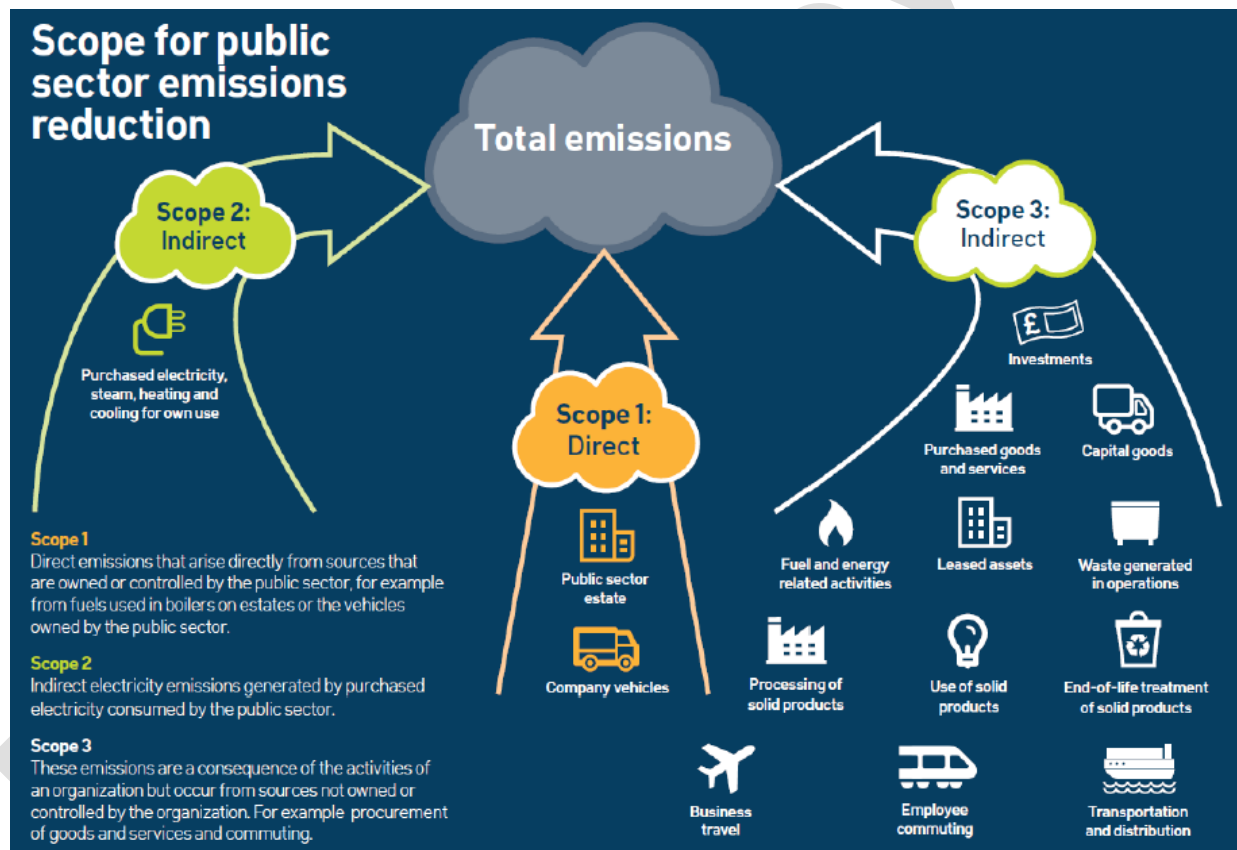


Figure 1: Explanation of Emission Scopes

The council's carbon management plan 2018-2022, will focus primarily on:

- Scope 1 - Direct: The council can have most direct influence in the area, success in the organisation will allow us to build a base from which to support others.
- Scope 2 – Indirect: Emissions per unit from the consumption of electricity and other fuels are externally dictated and changes are outside of the council's control but will affect our reported emissions. However, every opportunity will be taken to reduce the consumption which should reduce overall reported emissions.
- Scope 3 – Indirect: Opportunities to make improvements will be taken, where suitable, although they will not be the focus of the council's activities for its present CMP. Nevertheless, planned council activities such as reducing business travel and supporting active travel will make a contribution towards decarbonisation. Welsh Government is expected to drive improvements in the supply chain through procurement policy.

The Welsh Government's support for the public sector to decarbonise is currently focused on Scope 1 and Scope 2 emissions. The council's carbon management plan 2018-2022 is also focused in these areas.

At the time of writing, the Welsh Government is planning to implement further reporting requirements and standards for the Welsh public sector which are likely to incorporate some scope 3 emissions. This is likely to come into effect in 2021.

4.2 Baseline

The carbon management plan has taken the financial year 2017/18 as its baseline:

- The source data is the council's carbon reduction commitment reporting data and purchased liquid fuel volumes
- The reporting measurement unit is tonnes of carbon dioxide equivalent tCO_{2e}.
- The conversion units used to calculate emissions are the Department for Energy and Climate Change greenhouse gas emission factors 2017²
- Electricity is broken down into two categories, the first being all buildings where the council pays the utility bills and all electrical supplies which feed on-street equipment, pumping stations and similar locations. The second category is unmetered street lighting assets.

The data for the baseline year is as follows:

Table 1: Carbon Emission Baseline

Newport City Council - Carbon Emissions 2017/18					
Fuel	Emissions Scope	Value	Unit	Tonnes CO _{2e} / Unit	tonnes CO _{2e}
Electricity (Buildings+)	2	16,389,656	kWh	0.000352	5,762
Electricity (Streetlighting)	2	7,387,918	kWh	0.000352	2,597
Natural Gas	1	35,247,505	kWh	0.000184	6,491
Gas Oil	1	183,492	Litres	0.002954	542
Propane	1	5,823	Litres	0.001508	9
Diesel	1	652,094	Litres	0.002600	1,696
Petrol	1	20,800	Litres	0.002197	46
Scope 1 Total					8,783
Scope 2 Total					8,359
Grand Total					17,142

The baseline of 17,142 tonnes CO_{2e} will be used to measure the council's future performance.

² <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2017>

4.3 Analysis

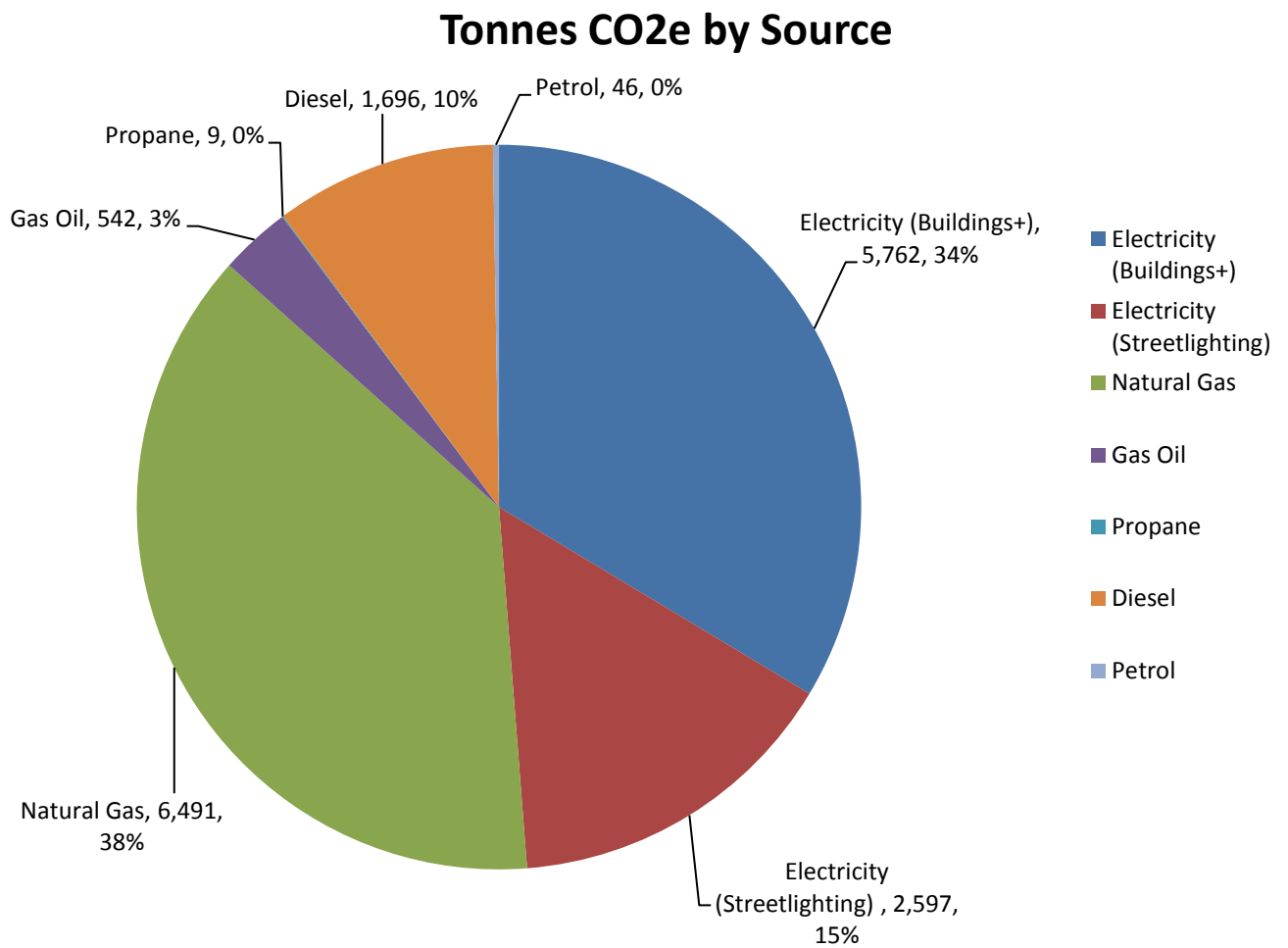


Figure 2: Breakdown of Carbon Emissions by Fuel

The chart highlights the fuels that contribute most to our overall emissions; electricity at 49 per cent, natural gas at 38 per cent and diesel for vehicle and plant operation at 10 per cent.

Further estate-wide data analysis and benchmarking has been undertaken and will inform internal project choices.

5 Carbon Management Plan

5.1 Vision

Newport City Council to be net carbon neutral by 2030³.

5.2 Mission

To be a locally and globally responsible organisation by decarbonising our buildings, fleet, and operations while reducing our costs and environmental impact for the benefit of future generations.

5.3 Objectives

The council will:

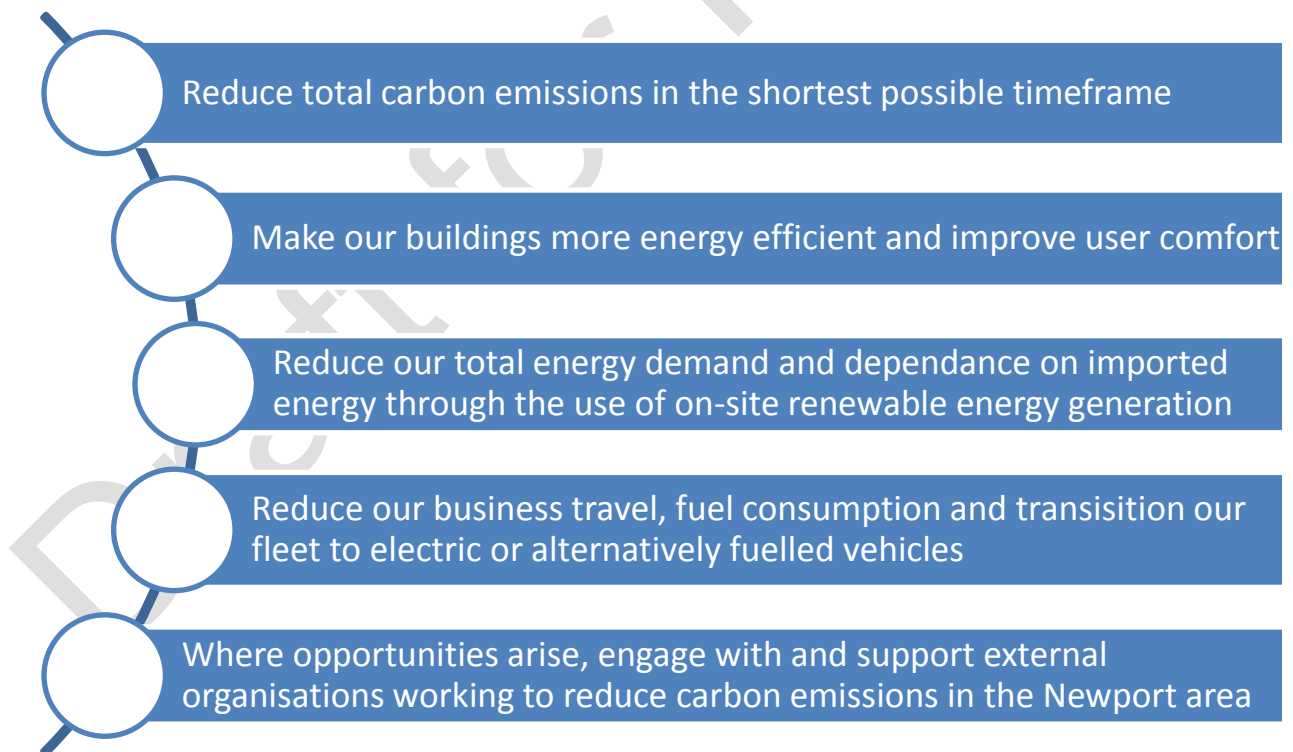


Figure 3: Carbon Reduction Objectives

³ The net balance of Scope 1 and 2 emissions

5.4 Targets

The council aspires to achieve the following targets:

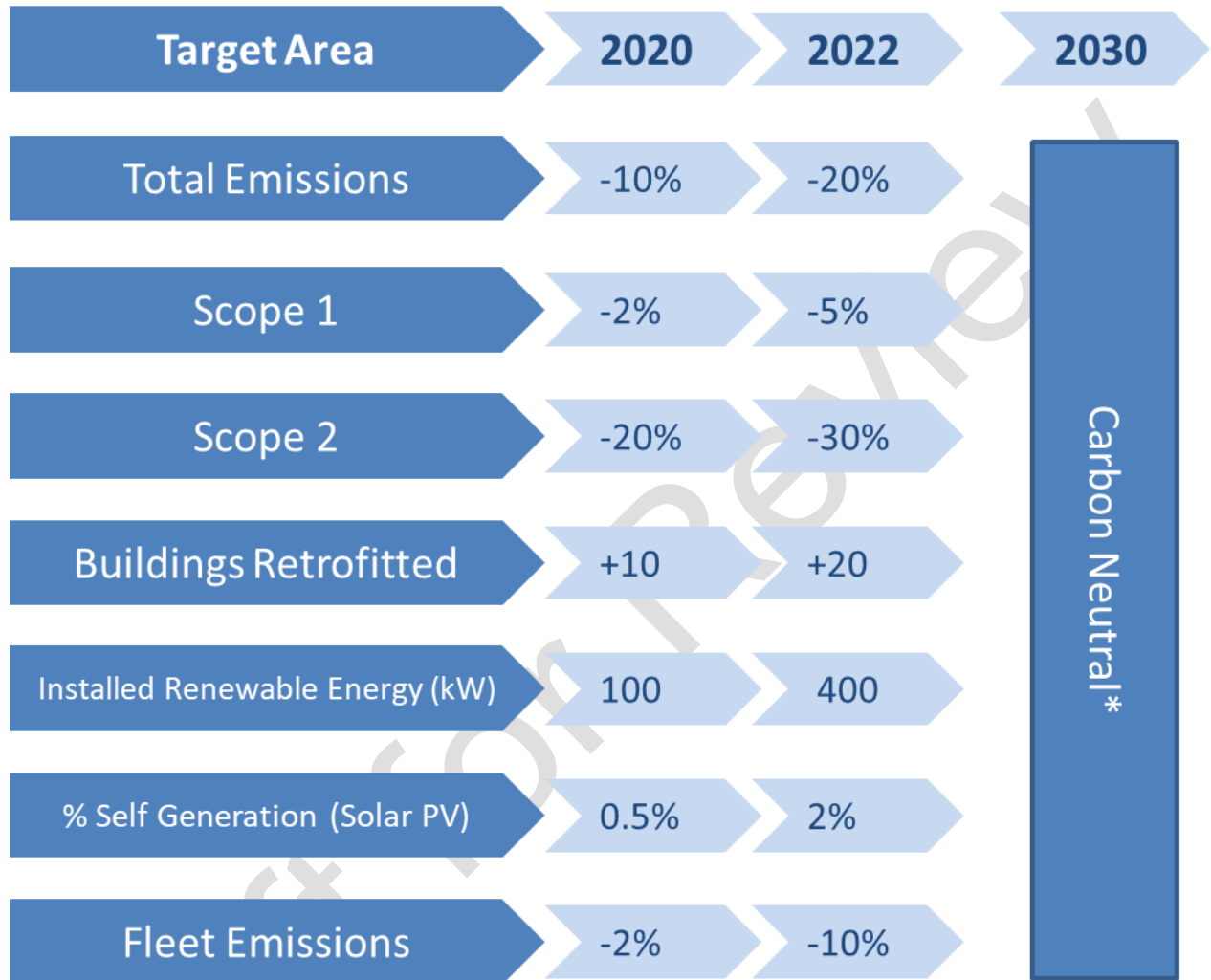


Figure 4: Carbon Reduction Targets

The above targets are designed to give a breadth of drivers to support carbon reduction activities, they cover building heating fuels, electricity consumption/generation and fleet fuel consumption / source. The targets are ambitious but achievable.

* The exact targets required as part of becoming carbon neutral by 2030 will be reviewed and set as part of the 2022-2026 carbon management plan. An interim

monitoring report will be produced in 2020 to track progress within the current plan period.

5.5 Strategies

In order to work towards achieving the council's stated objectives and targets, specific strategies will be developed for each source of emissions. The broad basis for these strategies is as follows:

5.5.1 LED Street Lighting

The implementation of LED street lighting is a priority due to the ability to deliver carbon and cost savings in a relatively short timeframe. In recent years, the council has taken steps to reduce the carbon emissions of street lighting via measures such as implementing part-night operation of selected streetlights. In addition, when an older light reached the end of its a more efficient LED replacement would be installed life which resulted in the installation of around 2,900 high efficiency LED lights which saved, on average, 60 per cent on electricity, cost and carbon compared with those being replaced.

In 2019 a project was started to change all remaining street lights to LED by March 2020. This will deliver carbon savings of 1,050 tCO₂/yr or 6 per cent from the 2017/18 baseline.

5.5.2 Energy efficiency in buildings

Three quarters of the council's direct emissions are a result of consumption within its buildings so these offer the greatest potential for emission reduction in the long-term.

A desktop study looked at the energy saving potential of implementing three simple measures across our estate (including the implementation of LED lighting). Potential savings are estimated to be significant as a proportion of our total carbon emissions. The study aimed to give an initial indication and did not include site visits and all possible energy saving measures, further feasibility work is required to establish exact figures.

Further work is now being undertaken to establish the emission reduction potential within the council's building estate and it is anticipated the first major works will be completed by the end of 2020.

5.5.3 Solar PV

The strategy will be to implement solar PV on council-owned buildings wherever viable. Building-mounted Solar PV is the principle way in which the council can generate zero carbon electricity for use in its own buildings. A small number of building-mounted solar PV installations are currently in place which generate electricity equivalent to less than 0.5% per cent of the council's total electricity consumption.

Due to the number of buildings that the council owns and operates, a significant proportion of its electricity could be generated on-site. A high-level desktop study undertaken in the summer of 2018 indicated that there could be the potential to generate the equivalent of one fifth of its total electricity consumption if solar PV installations sized at just 10 per cent of building floor area were installed on each building.

Though there are constraints to installation many sites and detailed feasibility is required, the council will endeavour to maximise the potential for solar PV installations across the estate, both on new and existing buildings as it works towards the maximising the proportion of consumed electricity from its own renewable electricity generation.

The Welsh Government has set out the ambition for 70 per cent of the electricity consumed in Wales to be generated from renewable sources by 2030. In order to help achieve this goal, local authorities are being supported to identify potential sites within their estates for grid scale renewable energy installation and the council is engaging fully with this. Due to their potential scale, ground-mounted solar PV installations have the ability to significantly reduce the council's overall emissions

and provide other opportunities for carbon reduction and revenue generation. The council is currently progressing towards a planning application on a grid scale solar PV farm which if developed would provide a revenue stream and contribute significantly towards the objectives and targets within this plan.

5.5.4 Transport fleet and equipment

Fuel use from owned and or operated vehicles and plant currently represents 10 per cent of the council's direct carbon emissions. The strategy to reduce these emissions should be as follows:

1. Provide options for active travel and attempt to reduce vehicle mileage
2. Implement zero emission vehicles, plant and equipment
3. Implement more efficient vehicles and driving

At the time of preparing this report, the council had two electric cars for staff use and further electric vehicles scheduled for delivery. The council will develop a plan to meet the One Newport Public Services Board target of at least 10 per cent of its fleet to be zero emission in the next five years, however, as per the targets set out above the focus will be on reducing fleet emissions overall which can only be done by reducing or displacing fuel consumption.

5.6 Financing

For the duration of this plan all carbon reduction initiatives will be funded on an invest to save basis using low and interest free borrowing available to the council. All projects must show a financial return on investment as well as a carbon (or water) reduction. The council will commit to continue to make funding available to fund the implementation of viable schemes to ensure the agreed targets and objectives set out above are met.

Projects will be prioritised for implementation principally taking into consideration: carbon benefit, revenue benefit and complexity of delivery.

5.7 Embedding carbon reduction across the Council

Carbon reduction is the responsibility of all elected councillors, members of staff and users of our estate. Therefore, the council will work to embed a culture of carbon reduction across the organisation via communication and engagement with staff and through the development of policies in support of this carbon management plan. By 2020 the council will:

- 1) Update and re-implement an energy policy within the estate
- 2) Put forward a more detailed carbon reduction implementation plan

5.8 Review and Reporting

Progress against the council's stated objectives and targets will be monitored through regular meetings of the carbon reduction steering group involving the stakeholders integral to the success of the plan and its goals. A full governance structure can be found in the appendices of this document. Progress against the plan will be reported on an annual basis from summer 2020 and the plan will be renewed in 2022.

Future reporting structure:

Baseline	Plan period 1 – 2018 - 2022			
	NA	Interim	Annual	Period end
2017-18	2018-19	2019-20	2020-21	2021-22

Plan period 2 – 2022 - 2026			
Annual	Interim	Annual	Period end
2022-23	2023-24	2024-25	2025-26

Plan period 1 – 2026 - 2030				2030
Annual	Interim	Annual	Period end	Net Carbon
2026-27	2027-28	2028-29	2029-30	Neutral