Decarbonisation Delivery Plan for council operational activities 2025 – 2030

Part of the DARE – Delivery programme

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Working with:

CARBON TRUST

The Carbon Trust's mission is to accelerate the move to a decarbonised future.

Version	Date
FINAL version 1.0	11/11/2025

The Carbon Trust have supported Neath Port Talbot Council's Decarbonisation, Energy and Climate Change (DECC) Team to develop and formulate this Decarbonisation Delivery Plan, with their aims and ambitions for Net Zero by 2030. Workshops and other discussion formats were used to bring together staff from across the organisation to highlight existing and planned activities that will impact the Council's carbon footprint going forward.

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1. Introduction and Background

Neath Port Talbot Council has been working to reduce its impact on the environment over many years, driven not only by the Welsh legislation but the desire to provide the best services and high quality of life for residents within the county. The Council has a proven track record for progressing the decarbonisation agenda evidenced by the formulation of the Decarbonisation and Renewable Energy (DARE) Strategy and through the declaration of a Climate Emergency in 2022. This delivery plan is complemented by a number of thematic action plans including the Corporate Asset Management Plan, Zero Emissions Fleet Transition Plan, Biodiversity Duty Plan, Procurement Strategy, Local Area Energy Plan, and underscored by a key transformational programme, 'Responding to the Climate & Nature Emergency' in the Council's Corporate Plan.

It is understood that the financial and technological challenges in decarbonising areas of the Council's service delivery will be sizable but the Council's net zero plan will aim to achieve a co-ordinated and holistic approach for the development and formulation of adequate solutions for moving towards and achieving net zero.

Decarbonisation projects have been part of the ongoing Council operations for many years. Some notable recent activities include the Bay Technology Centre, an energy positive operational building opened in June 2023, electric vehicles in the fleet and corresponding charging infrastructure and roof mounted PV solar panels.

2. Carbon Footprint

Footprint baselines are essential to provide a benchmark for measuring and tracking an organisation's progress in reducing its carbon emissions over time. They help to assess the effectiveness of sustainability initiatives and track progress against NPT's existing carbon reduction target. The carbon footprint in FY2022-23 as reported in the Welsh Public Sector Net Zero Reporting was 35,537 tCO_2e. The carbon footprint in FY2023-24 was 30,371 tCO_2e. The most significant contributions to the footprint are indirect emissions associated with the organisation's Purchased Goods & Services, with other significant emissions sources relating to Buildings, Fleet and Equipment. Operational emissions are defined as emissions from sources where the Council has a large influence and ability to impact outputs.

	FY2022-23	**FY2023-24**
Operational Emissions	20,936 tCO_2e	19,427 tCO_2e
Supply Chain Emissions	14,601 tCO_2e	10,944 tCO_2e
Land use and land use change*	18,473 tCO_2e	18,460 tCO_2e
Renewables*	-140 tCO_2e	-186 tCO_2e

*Land use and Renewables are not included in the carbon footprint total but are reported separately.

3. Emissions Pathways

The carbon footprint is a baseline that tells us where we currently stand; the net zero target tells us where we need to get to. The emissions pathway uses analysis to examine how NPT Council can move from the baseline to the target. Taking the baseline footprint and adding in the impacts of planned decarbonisation actions and the overarching electricity grid emissions, we can model the future energy consumption of the Council year by year.

The expected operational footprint for 2030, if the Council operates business as usual, is 17,526 tCO_2e. If all the proposed actions listed in the 2025 Decarbonisation Action Plan are completed, the operational footprint in 2030 will be 9,152 tCO_2e which still leaves a gap to the net zero target.

In the next few years, the Council will need to consider the additional actions to take, to further reduce the emissions forecast for 2030. Naturally, most impact will be generated from actions taken soonest, though additional actions should be planned to continue the decarbonisation activity.

More innovative, aspirational actions should not be discounted, as technology may improve in the future and costs may reduce to an extent that ideas not appropriate for the level of risk of the Council now may become more commonplace in the future. Variability in energy costs impact the returns on investments, and the viability of each project business case can quickly change to be more or less advantageous to the Council. Reviewing financial viability of potential projects may open up opportunities previously dismissed.

Large scale renewable energy generation will be considered, building on feasibility and identification work already carried out to source suitable sites for wind and solar generation.

4. Governance

A unified, organisation-wide commitment is needed to achieve net zero. It is essential that every staff member, in every department, embraces this responsibility. In order to plan, implement and capture the benefits of carbon reduction measures across all operational service areas of the Council, a robust governance structure for decarbonisation needs to be established and firmly embedded, that clearly sets out roles and responsibilities for staff throughout the organisation.

Cabinet Member and senior officer support is critical to drive through the actions and hold the Council accountable and it is recommended that the Council's Chief Executive should have ultimate responsibility for the Council's decarbonisation delivery plan, with the Director of Environment and Regeneration and the Director of Strategy and Corporate Services taking lead responsibility in the development and implementation of the decarbonisation programmes and projects.

All staff should understand the Council's ambitions for Net Zero by 2030 and internal messaging will be used to explain how they can carry out their role with due consideration of their environmental impacts.

Setting up a new governance structure for the wider climate change remit would enable cross-departmental discussion on actions needed that may impact operations in different areas of the organisation. Thematic steering groups could be set up to report on progress against actions in the Decarbonisation Action Plan, and to develop and assess the feasibility of further projects.

Communication and training are important to increase and retain engagement in net zero activities throughout the organisation and will be a key focus of the next year.

5. Funding and Implementation

To support the proposed decarbonisation delivery plan, various funding sources have been identified, including internal funds, loans and grants for specific low carbon technologies. Once projects have been developed and added to the pipeline of potential projects, funding can be allocated and grants applied for as and when available, supported by an internal business case where appropriate.

From an operational perspective, to transition and progress towards achieving net zero a dedicated net zero funding plan will need to be developed that is adaptable and flexible to align with the financial challenges of delivering net zero. The Council will have to plan and create an approach that is able to respond to funding streams at short notice and deliver projects to challenging timeframes.

6. Next Steps

The Decarbonisation Action Plan 2025-2030 lists proposed projects across all emissions areas, including Fleet, Buildings, Supply Chain, Ways of Working, Land Use and Renewables.

Several items listed are enablers, so must be carried out first to allow other projects to be actioned. These include completion of works already in progress such as reviews of building stock and energy performance, trialling low emission vehicle types for specific uses, and reviewing roof space for potential roof mounted PV. These enabling actions have little to no cost to the organisation and will provide much of the data and evidence required to confirm the business case for the projects.

Whilst a financial return on investment must be carefully considered, the carbon impact must also be included when prioritising actions. Grant funding opportunities should also be taken into account, and could lead to some projects moving higher up the priority order as and when funding becomes available.

The Decarbonisation Action Plan should be reviewed annually to ensure it is fit for purpose, and as a way of tracking progress against this delivery plan.

1. Background

NPT Council have a proven track record for progressing the decarbonisation agenda evidenced by the formulation of the Decarbonisation and Renewable Energy (DARE) Strategy and through the declaration of a Climate Emergency in 2022. It is understood that the financial and technological challenges in decarbonising areas of the Council's service delivery will be sizable but the Council's decarbonisation delivery plan will aim to achieve a co-ordinated and holistic approach for the development and formulation of adequate solutions for moving towards and achieving net zero.

1.1. NPT Council Organisational Information and emissions sources

Our people **5,432 FTE staff**		• including 2,101 FTE in schools
Our buildings and land **171 Operational assets**		• 171 Assets owned and operated (including 77 Educational) • 102 buildings leased to others • 30 non-residential buildings leased from others • 264,422 m² of floor space • Responsible for 2,365 ha of land
Our vehicles **318 vehicles** **Including 50 ZEVs**		• 29 cars • 160 vans • 41 minibuses • 88 commercial vehicles including road sweepers and waste collection vehicles • 50 electric vehicles of all types (16% of the fleet)
Public Lighting **22,272 Streetlights, Signs & Bollards**		• 19,640 Streetlights (mostly LED lights) • 19,265 columns • 2,632 illuminated signs and bollards
Parks **4 Country Parks, 12 Urban Parks, 4 Ornamental Parks**		• Afan Forest Park • Gnoll Country Park • Margam Park • Craig Gwladus Woods

1.2. Net Zero-related Welsh Legislation

Wales continues to address the long-term impacts of climate change by enacting legislation that prioritises future generations. The Well-Being of Future Generations (Wales) Act, 2015 tasks public bodies with improving the nation's social, economic, environmental, and cultural health, aiming to secure a better quality of life for the people of Wales. This is complemented by the Environment (Wales) Act, 2016 which supports the sustainable management of natural resources while balancing infrastructure development with the preservation of critical ecosystems. Under this law, Welsh Ministers are required to establish decarbonisation targets and carbon budgets with the goal of achieving net zero emissions by 2050, as reinforced by amendments introduced in 2021.

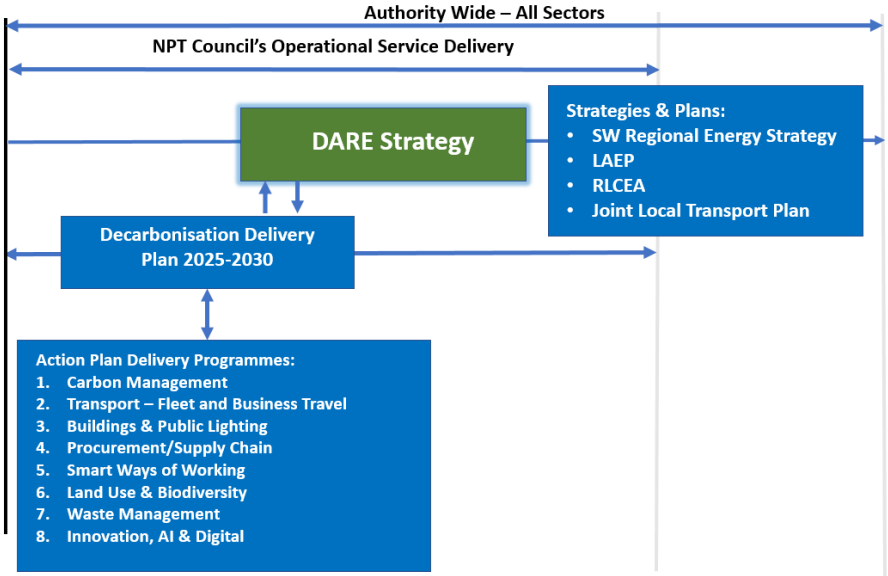
In response to the Climate Emergency declared in 2019, Wales has established a statutory framework of five-year carbon budgets outlining its path to achieving its net zero 2050 target. The Government introduced Prosperity for All: A Climate Conscious Wales, a strategic plan that lays out key actions for decarbonisation to meet the targets set by the first carbon budget. The 2021 publication of Net Zero Wales: Carbon Budget 2 report outlines 123 specific actions to meet the second carbon budget (2021-2025), aiming to cut emissions by 37% compared to baseline levels.

In addition, the Government has set a more stringent goal of net zero 2030 for the Welsh public sector. The Net Zero Carbon Status by 2030 Route Map, published in 2021, identifies priority actions and milestones to help public sector bodies create and implement their decarbonisation strategies. Additionally, the Public Sector Net Zero Reporting Guide, launched alongside the route map, offers a framework for public bodies to track and measure their emissions.

1.3. Net Zero-related NPT Corporate Plans and Strategies

Neath Port Talbot Council has been working to reduce its impact on the environment over many years, driven not only by the Welsh legislation but the desire to provide the best services and high quality of life for residents within the county. Strategies and plans developed by departments throughout the Council state specific objectives in line with this decarbonisation delivery plan and go a long way to highlighting the breadth of scope needed to reduce carbon emissions within the Council. A summary of relevant strategies and plans are given below, with key aims noted.

Overview of DARE & Decarbonisation Delivery Plan 2025-2030, Scope and Relationship



Decarbonisation and Renewable Energy (DARE) Strategy 2020

The DARE Strategy is the most recent iteration of the council's carbon management plan and outlines a range of projects and initiatives across three main thematic areas. These have been used as a guide throughout this decarbonisation delivery plan.

- Transport – includes electric vehicles, integrated transport and biofuels
- Buildings and spaces – includes building standards, street lighting and renewable energy
- Influencing behaviour – includes sustainable procurement, agile working and partnerships

Key projects and initiatives include: Homes as Power Stations (HAPS) and Supporting Innovation and Low Carbon Growth (SILCG), a programme of eight inter-related projects which together are designed to deliver low carbon, sustainable and inclusive economic growth for the region.

Net Zero Bridging Report 2022

This supplementary document to the DARE Strategy is the gap analysis between Welsh Government's net zero 2030 aspirations and the pathway for delivering a net zero carbon 2030 Council, focused on its operational service delivery emissions.

This report sought to address recommendations from the findings of the Audit Wales decarbonisation report in 2022 and define actions for mobilising and preparing the Council for transitioning towards net zero identifying the next steps needed to further embed plans and actions across the delivery services of the Council.

Corporate Plan 2024-2027

The **Corporate Plan 2024-2027**, subtitled 'Working towards a more prosperous, fairer and greener NPT', integrates sustainability as a core focus. One of the four well-being objectives is to ensure that 'Our local environment, culture, and heritage can be enjoyed by future generations'. Additionally, one of the key transformational programmes, Programme 6, is dedicated to 'Responding to the Climate & Nature Emergency', underscoring the Council's commitment to addressing environmental challenges and promoting long-term sustainability.

Corporate Asset Management Plan 2024-2029

The **Asset Management Framework** (Policy, Strategy and Action Plan) will define the principles, criteria and processes through which decisions will be made regarding the use of the council's assets. Property assets include schools, offices, specialised buildings and development land.

Items covered include disposals, acquisitions, corporate landlord approach, management of land and property and portfolio performance.

Strategic School Improvement Programme (SSIP)

The **Sustainable Communities for Learning** programme (previously 21st Century Schools) is a collaboration between the Welsh Government and local councils in Wales. It is a significant, long-term and strategic capital investment programme with the aim of creating a generation of 21st Century Schools in Wales, improving amongst other goals, the energy efficiency of buildings used for schools.

The Council has adopted four key principles for schools, one of which, the quality and suitability of school accommodation, speaks to the need to decarbonise school buildings. All planned developments under the Strategic School Improvement Programme (SSIP) are designed to achieve BREEAM Excellent standards. Additionally, the programme promotes influencing behaviour through education, as outlined in the Biodiversity Strategy. This includes raising awareness of environmental issues, enhancing biodiversity, and fostering practices such as waste reduction and renewable energy adoption (as aligned with the DARE Strategy).

Procurement Strategy 2024-2028

The **Procurement Strategy 2024-2028** outlines several key objectives aimed at enhancing sustainability and reducing environmental impact. One of the primary goals is to reduce waste, lower energy consumption, and maximise carbon sequestration. Additionally, the strategy seeks to promote best practices in procurement and encourage the use of sustainable and renewable resources throughout the supply chain.

To ensure these objectives are met, the strategy proposes utilising annual reports on managed spend to gain a better understanding of the Council's carbon footprint. This will allow for targeted carbon reduction efforts within procurement practices, maximising their impact on the environment. Furthermore, the strategy supports initiatives that raise awareness of climate change and the principles of the circular economy, both within the organisation and among suppliers.

Another important aspect of the strategy is the integration of carbon reduction into the entire procurement cycle. This ensures that sustainability is embedded at every stage of purchasing decisions. In addition, when evaluating high-energy-consuming goods, the Council will undertake a lifetime cost analysis.

Zero Emissions Fleet Transition Plan 2021

The **Fleet Transition Plan (2021)** and the (unpublished) update in 2024 outlines the local authority's phased approach to transitioning its fleet vehicles to hybrid or electric. In December 2024 there were 279 vehicles in the fleet, with 44 light vans and cars, 2 minibuses, a refuse and recycling vehicle, a 15t road sweeper and a town centre sweeper already transitioned to electric vehicles. This transition plan does not include school minibuses.

To support this transition, the Council will provide training for staff on driving, breakdown procedures, and fuelling for electric and hybrid vehicles, covering both the council fleet and staff private vehicle transitions. Additionally, the Council will identify suitable locations for electric vehicle charging points, ensuring there is adequate parking and energy capacity to support the growing number of charge points needed for future fleet requirements.

The **Fleet Procurement Programme 2023-24** outlines the Council's commitment to achieving net zero carbon emissions for all light vehicles by 2025. As part of this initiative, vehicles purchased through the renewals fund will have their residual value deducted from the purchase cost. Additionally, grant funding will currently cover the additional cost of any new zero-emission vehicles that come with a higher purchase price.

Biodiversity Duty Plan 2023-2026

The **Biodiversity Duty Plan 2023-2026** aims to ensure that the planning and development processes within the Council adhere to key biodiversity principles, in alignment with both Planning Policy Wales 11 and the Environment (Wales) Act 2016. The plan outlines the steps to integrate biodiversity considerations into decision-making and development processes, ensuring that biodiversity is both protected and enhanced across the region.

Impact assessments are implemented to support the Council decision making processes: ' The Integrated Impact Assessment (IIA) that accompanies all committee reports includes an appropriately evidenced assessment of the impact on biodiversity in line with the Environment (Wales) Act 2016.'

Biodiversity Supplementary Planning Guidance (SPG) is implemented in line with LDP policies and biodiversity audits on land within Council ownership and control are undertaken. The Council is also managing areas currently for biodiversity to ensure these areas are resilient, and will undertake Green Infrastructure Assessments on new developments and implement habitat creation on buildings where possible.

Waste Strategy 2023

The Waste Strategy incorporates 18 actions which the Council are exploring to drive up the level of recycling within the county borough with a view to achieving the national recycling targets of 70%. This is an iterative document which will be updated to reflect the changing targets.

Digital, Data and Technology Strategy 2023

The Digital, Data and Technology Strategy aims to transform service delivery using the latest digital approaches and technologies. This strategy builds on the previous “Smart and Connected” strategy and focuses on embracing new technologies to provide user-centred products and services.

The strategy outlines ambitious aims and four key themes: developing services based on user needs, ensuring robust and secure technology, modernising data management for decision-making, and recognising the importance of people in service delivery. Additionally, the council is committed to digital inclusion, promoting basic digital skills, and helping digitally excluded residents access online services.

1.4. Net Zero-related County-wide policies and regional context

NPT Local Area Energy Plan 2024

The **Local Area Energy Plan (LAEP)** 2024 outlines a range of changes required for the local energy and built environment to achieve net zero by a specified date. The LAEP key policy driver for Neath Port Talbot net zero energy system are the Net Zero Wales Carbon Budget, outlining national ambitions to be net zero by 2050. Guidance has also been drawn from The Llwybr Newydd (Wales Transport Strategy), The South West Wales Regional Energy Strategy, Zero Emissions Fleet Transition Plan and Infrastructure strategy, the Local Development Plan and the DARE Strategy.

The objectives of the LAEP include:

- Promote cost effective solutions for energy generation, distribution and consumption whilst reducing carbon emissions
- Enhance the efficiency, security and resilience of the local energy system via sector-based interventions
- Enable the planning of energy infrastructure that aligns with the current and future needs of the community
- Stimulate economic development and job creation through the growth of local clean/ green energy industries
- Address equity and social inclusion in the energy system to maximise wellbeing and wider community benefits.

Options for the future to achieve this include high levels of EV adoption and widespread uptake of technologies such as heat pumps. Other options include system-wide implementation of hydrogen infrastructure.

Local Development Plan 2011-2026

The **Local Development Plan** provides the basis for decisions on land use planning in the County Borough. It includes strategic policies on climate change, biodiversity, environmental protection, renewable and low carbon energy.

The **Replacement Local Development Plan (RLDP) (2023-2028)** is not yet published; the Delivery Agreement sets out a 3.5 year process to anticipated adoption of an RLDP in April 2027, with a plan end date of 2038. The Integrated Sustainability Appraisal of the RLDP has been completed, and documents how the authority proposes to assess the sustainability of the RLDP.

- Improve proximity to active travel networks
- Improve air quality, preventing and reducing emissions
- Increasing overall mitigation and adaptation measures to reduce and respond to the effects of climate change. Including supporting minimisation of energy usage, reducing GHG emissions from key economic sectors, facilitate investment and promote use for low carbon infrastructure and restore or create a network of natural carbon capture environments.
- Minimising waste production and promoting principles of circular economies. Promoting use of local resources and minimising importation of minerals

2. Carbon Footprint

Annual carbon footprints are essential to provide a benchmark to measure and track an organisation's progress in reducing its carbon emissions over time. They help to assess the effectiveness of sustainability initiatives and track progress against NPT's existing carbon reduction target.

2.1. Footprints for 2022-23 and 2023-24

The carbon footprint in FY2022-23 as reported in the Welsh Public Sector Net Zero Reporting was 35,537tCO_2e. The carbon footprint in FY2023-24 was 30,371tCO_2e as can be seen in *Figure 1* below.

The total carbon footprint from Neath Port Talbot Council has reduced from financial year 2022-23 to 2023-24. This is encouraging to see and shows the impact of projects completed in the last year, as detailed in *3.1 Recent Achievements*.

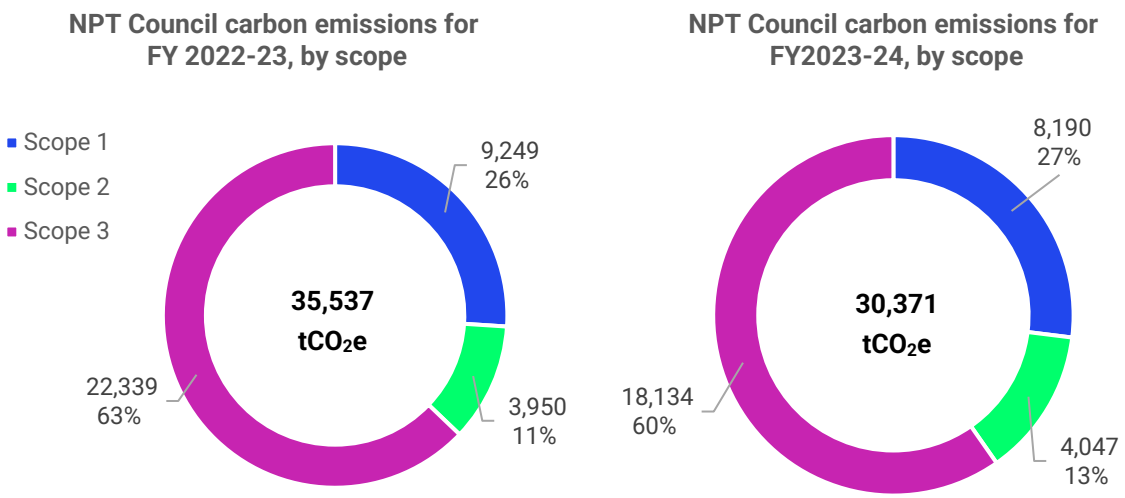


Figure 1: Carbon footprint for FY2022-23 and FY 2023-24

Footprints are split into three scopes to describe the source and ownership of the carbon emissions.

Scope 1 – Direct emissions from combustion of gas and other fuels

Emissions have reduced in Scope 1 indicating that a range of projects have been effective at mitigating emissions from fuel and gas usage.

Scope 2 – Emissions resulting from the generation of purchased electricity

Emissions from Scope 2 have increased by 2.5%. The total electricity consumption during the period actually fell so this rise in emissions was entirely due to the higher carbon intensity of the grid electricity used.

Scope 3 – Emissions made by third parties in connection with operational activities

Emissions have also decreased for Scope 3, largely made up of supply chain emissions. However, in 2023, the emissions factors for a range of purchased goods and services were recalculated by Government, leading to lower emissions factors for some categories. This reduction in the emissions factors meant that for the same amount of spend on a service, the emissions in FY2023-24 were calculated to be lower.

2.2. Emissions Hotspots

Looking at the sources of emissions in more depth (see *Figure 2*) helps to identify priority areas to be addressed first, and helps establish a relative comparison of emissions and therefore effort required to decarbonise the whole organisation.

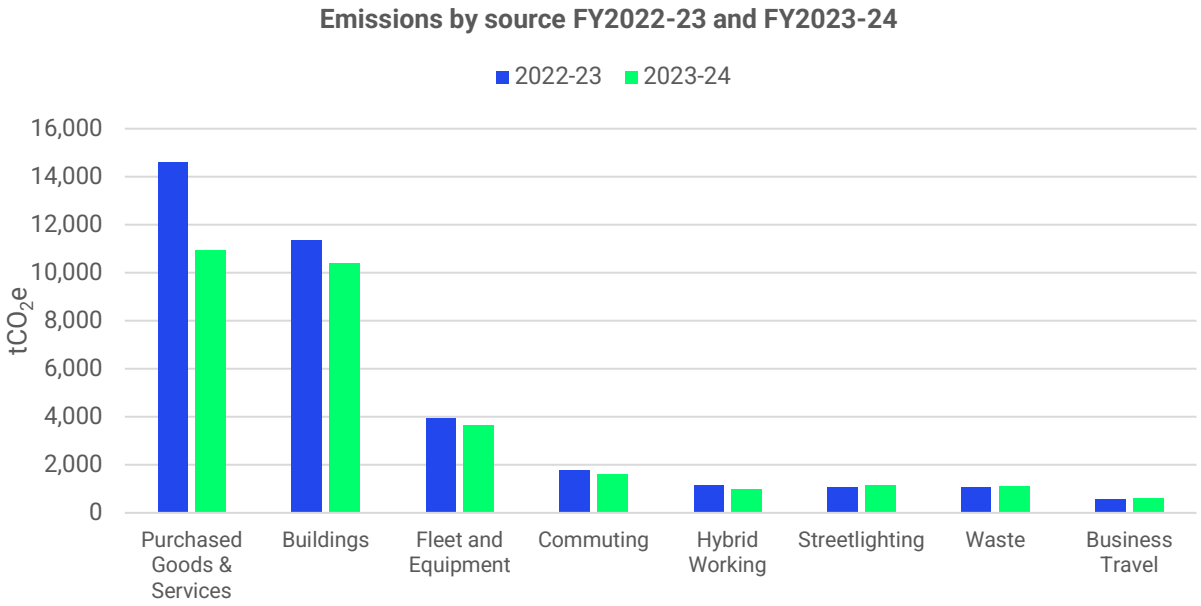


Figure 2: Carbon emissions by source FY2022-23 and FY2023-24

The most significant contributions to the footprint are indirect emissions associated with the Council's Purchased Goods & Services, making up 41% and 36% of the overall footprint. There is a larger reduction in the emissions in this source as emissions factors for a range of purchased goods and services were recalculated by Government in 2023, leading to lower emissions factors for some categories.

Other significant emissions sources are those related to Buildings (Electricity, Gas, Other Fuels, F-Gas and Water) making up 32% and 34% of the overall footprint. These emissions have reduced year on year, to a lesser extent than Purchased Goods & Services.

Emissions from Fleet and Equipment are third, with 11% and 12% of the footprint, including cars and larger vehicles in the Council's fleet, and equipment such as street sweepers and leaf blowers.

Commuting emissions from staff travelling to work and home emissions from Hybrid working make up 8% of the footprint in both years.

Streetlighting, Waste and Business Travel make up the remaining 8% and 10% of the footprint altogether.

2.3. Operational Emissions

Operational emissions are defined as emissions from sources where the Council has a large influence and ability to impact outputs. These include emissions generated from heat and power for buildings and infrastructure, fuel for fleet, business travel and commuting and hybrid working.

The footprint for operational emissions has reduced year on year, driven by reductions in building emissions and fleet, see *Figure 3*.

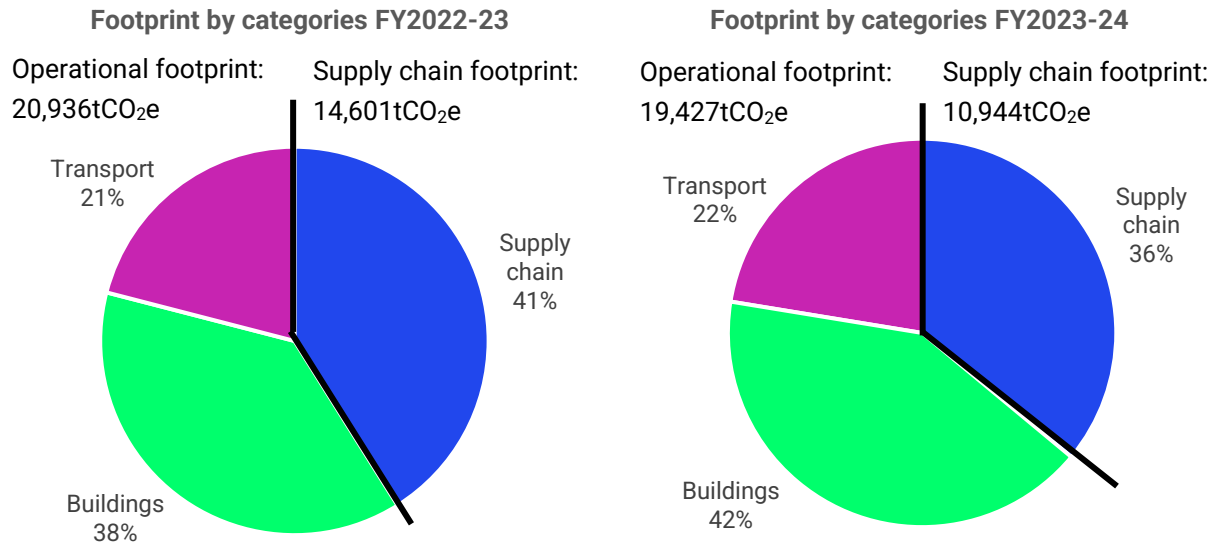


Figure 3: Operational and Supply chain split of carbon footprint FY2022-23 and FY2023-24

A staff travel survey was carried out across the Council in August 2024 to better understand commuting and hybrid working habits. The results from the 522 staff who responded showed that 95% of respondents commute to work by private car, 2% by public transport and 3% by active travel (walking and cycling).

2.4. Supply Chain

Currently, the supply chain footprint is calculated using spend-based proxies, taking the category of purchases and applying a standard emissions factor. This is a useful way to identify spend categories with high emissions in order to prioritise efforts. Further breakdown of the goods and services procured in the top emissions categories of health and social care, manufacturing and mining and quarrying, would allow for a better understanding of the suppliers to focus our decarbonisation efforts on.

The supply chain emissions are broken down by category in *Figure 4* which shows a large decrease in emissions from FY2022-23 to FY2023-24.

The spend recorded in 2023-24 was £60m, compared to £79m spend in 2022-23[1] which is a contributor for the difference in the supply chain footprint. The types of goods and services purchased by the Council remain similar each year, but the emissions factors for a range of purchased goods and services

[1] This reduction in spend is likely due to timings of when contracts and invoices have fallen, either side of the financial reporting years.

were recalculated by Government in 2023, leading to lower emissions factors for some categories. There was a similar spend year on year for the top category in 2023-24 ‘Human health and social work activities’. However, with the 2023 emissions factor realignment, the emissions factors have increased for the three associated categories, giving higher calculated emissions this year.

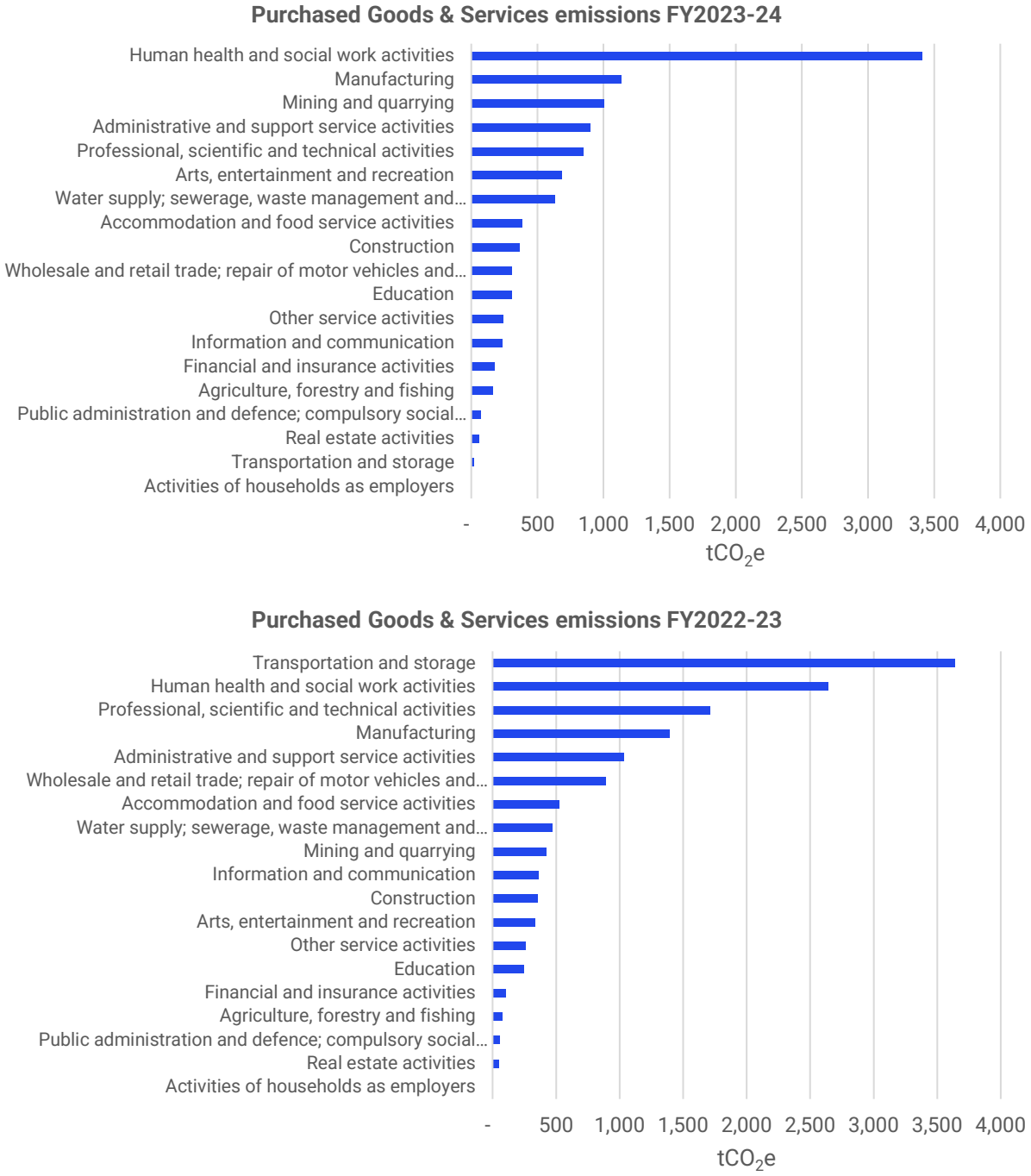


Figure 4: Emissions from Purchased goods and services FY2022-23 and FY2023-24

Spend-based proxies, while a useful starting point, can be prone to inaccuracies, as identical expenditure on different suppliers or products can result in vastly different emissions. Adopting supplier or product-specific data enables tailored mitigation strategies and more precise emissions reductions. In future, moving towards supplier or product-specific footprints will improve the accuracy of emissions recorded.

For example, NHS Wales encourages suppliers to set their own carbon reduction targets and to provide evidence of their efforts to meet this over time. Suppliers are required to provide data on the carbon footprint of the products and services they supply, this includes information on the embodied carbon (the carbon emissions associated with the production and transport of goods), as well as operational emissions linked to the use and disposal of those products.

2.5. Land Use and Land Use Change[2]

Depending on how land is used and managed, it can either sequester carbon or can be a source of carbon emissions. For example, grassland is a carbon sink, but where forest has been removed and replaced with grassland, this land then becomes a net emitter.

Despite all the forested land in the county, the emissions as a result of settlements vastly outweigh the carbon sequestered by trees, as shown in *Figure 5*.

The net carbon emissions from land use and land use change in FY2023-24 were 18,460 tCO_2e.

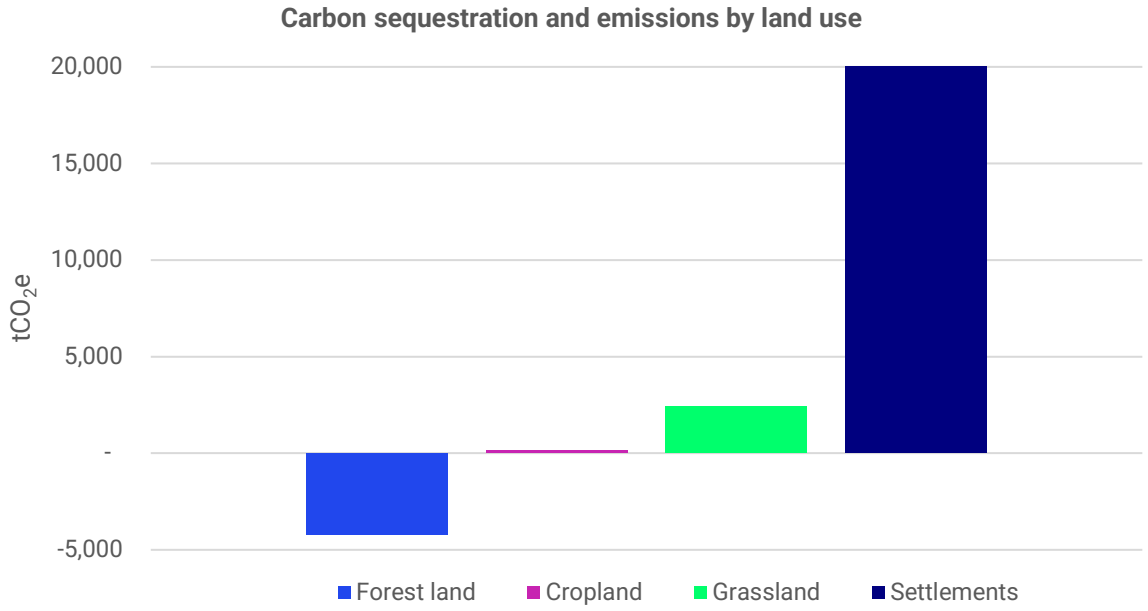


Figure 5: Carbon sequestration and emissions from land use

There have been difficulties measuring the land owned by the Council to the accuracy required by the carbon footprint methodology. Also, peatland and wetlands are not currently included in the measurement methodology. However, there are large areas of upland and lowland peat within Neath Port Talbot, which when well managed can be considered a good carbon sink.

The methodology for land-based removals and emissions for the Welsh Public Sector is likely to be under review over the next few years. Development of geospatial databases are likely to lead to

[2] Note, this is reported on but is not in scope for the carbon footprint, in line with the GHG Protocol methodology. It should not be added or subtracted from the main footprint, but can be shown alongside to give a fuller picture of the emissions from the Council.

improved data resolution and more accurate assessment of carbon stocks and changes, as well as opportunities for the Welsh Public Sector to work jointly to identify and implement carbon sequestration projects. The Council are already actively at mature stages of delivering such a project with the Lost Peatlands Project, in partnership with RCT and NRW.

2.6. Renewable Energy Generation[3]

NPT has 1.7MW capacity of roof mounted solar PV and solar canopies already installed at a number of sites, including the Bay Technology Centre, Crymlyn Burrows Waste Transfer Station and several schools. This has the potential to generate renewable electricity equivalent to 186 tCO_2e not emitted.

It is estimated that 474,000kWh of electricity generated was used onsite to reduce the demand from the electricity grid and thereby reducing energy bills by an estimated £118,000.

Another 203,000kWh of electricity generated was estimated to be exported to the grid as the building connected to the array could not use all the generation (e.g. electricity was generated at weekends and summer holidays when buildings were closed). This export to the grid helps to lower the national grid emissions factor for electricity but cannot be counted towards the Council's use of renewable energy.

Recent installations of a significant number of electric vehicle charging stations at The Quays will allow more of the electricity generated on site to be used and not exported. There are also plans to relocate the waste fleet to the Waste Transfer Station and install electric vehicle charging stations to ensure the electricity generated there is benefitting the Council's vehicles also.

Sub metering on current and future arrays will enable the Council to more accurately understand how much solar generation is being used by buildings and electric vehicle charging infrastructure connected to these arrays.

The Council does not currently have any ground-mounted solar arrays or wind turbines. These projects typically have a capacity over 1MW and cover large areas of land, feeding into the grid or private wired to large off-takers. The Council undertook extensive feasibility work in 2015 to establish opportunities for renewable energy generation by using the council's land and building assets. A number of roof-mounted schemes were taken forward at the time but others were not considered to be economically viable. Given the climate change ambitions of the country and the council, and the changing international energy market, this feasibility work is now being reassessed with a view to maximising the use of our assets to generate clean and affordable energy where possible. Potential schemes include Giants Grave and Longlands Lane.

[3] Note, this is reported on but is not in scope for the carbon footprint, in line with the GHG Protocol methodology. It should not be added or subtracted from the main footprint, but can be shown alongside to give a fuller picture of the electricity generation potential of the Council.

3. Pathway to Net Zero 2030

3.1. Recent Achievements (FY 2023-24)

Figure 6: The Bay Technology Centre – Groundbreaking & multi award winning operational energy positive building for commercial use

As demonstrated within the DARE Strategy and various Council plans and strategies, decarbonisation projects have been part of the ongoing Council operations for many years. Some notable recent activities are highlighted below:

- Operational energy positive building with the Bay Technology Centre, opened June 2023 (see *Figure 6*)
- LED lighting programme, including LED public lighting (£2m+)
- Electric vehicle charging infrastructure (£100k)
- Boiler upgrades and replacements
- Lost Peatlands Project
- 1.5 MW roof mounted PV solar panels, including MREC (£550k)
- Green Infrastructure
- 30x30 target for land management
- Electric bikes in Cycle to Work scheme
- Tusker staff vehicle scheme for EVs and hybrid vehicles
- Hybrid working where applicable across the operational building portfolio
- Solar canopy for charging electric vehicles at the Quays

3.2. Principles for Reducing Emissions

To effectively reduce the Council's carbon footprint, a whole council holistic approach is essential. Decarbonisation measures must be implemented across all departments within the Council, integrating low-carbon ways of working into daily operations. By establishing clear principles for each focus area and communicating them across the organisation, all staff will have guidance that they need to make decisions that positively impact carbon emissions.

3.2.1. Decarbonising Buildings under Neath Port Talbot Council's operational management control

The Council's operational assets could make a major contribution towards becoming a Net Zero Carbon Council by 2030 due to the carbon emissions from the energy that we use to heat and power our operational building portfolio.

Managing the council assets responsibly and sustainably through the adoption and effective use of smart energy technologies together with renewable energy production will reduce emissions and contribute to the reduction of occupier costs.

We must also recognise that not all assets can be carbon neutral so we must look at opportunities to find innovative solutions for the estate as a whole.

Actions to decarbonise the building portfolio should include the following measures, in order. **The Council have started to implement the first few measures and are looking to undertake low carbon heating and PV measures in greater scale moving forward.**

1. **Understand the building stock** – noting the energy use, energy efficiency, carbon footprint, fuels used for heating, fabric and insulation levels and any recent condition surveys
2. **Closing the buildings that we don't need** – operating efficiently within the office buildings that we need and disposing of the buildings we don't. Include energy efficiency in decisions on asset rationalisation and disposal, with cost and ease of improving energy performance forming part of the scoring matrix when deciding upon which buildings to keep.
3. **Optimise, Using less energy** – improving energy efficiency in our offices and other buildings and reducing running costs. Ensuring all buildings have LED lighting, Building Management Systems (BMS) and control systems, insulation and building fabric upgrades where possible.
4. **Using low carbon heating measures** – replacing fossil fuelled gas boilers with electric heat pumps where suitable. Decarbonising existing heating systems within the operational building stock is going to be one of the most challenging delivery areas of net zero, the Council propose to initially produce a specific low carbon heating policy to create the focus needed to produce a carefully formulated low carbon heating delivery programme.
5. **Maximising and optimising income** – investing in buildings where additional income can be generated such as PV on rooftops and solar canopies, potentially linked to batteries and electric vehicle charging infrastructure.
6. **Net zero new buildings** – specifying low carbon technologies and net zero standards is especially important when commissioning new buildings, as these will contribute to the Council's footprint for years to come.

3.2.2. Decarbonising Buildings leased out to others

NPT own over 100 properties that are leased out to other organisations, with the operational control passing to the occupiers. This is classed as Scope 3 in the carbon footprint, as the Council has less direct influence in emissions generated through use of these buildings.

However, NPT as building owner and landlord has a responsibility to improve the energy efficiency of these buildings, in discussion with the tenants. Areas the Council should consider including in decarbonisation projects are:

- **Building services** – areas that can be controlled such as lighting and heating.
- **External building structure** – the Council own the external building fabric, so can approve roof mounted solar PV or cavity wall insulation for example.
- **Energy performance** – the current MEES legislation states that all properties leased out must have a minimum EPC rating of E. Potential emerging legislation is being considered that would require all buildings leased to have a minimum EPC rating of C.
- **Asset transfer** – as the buildings are leased to others and not used by the Council, the number of owned sites could be rationalised by selling buildings to the existing users or transferring assets under other legal schemes.

3.2.3. Decarbonising Buildings leased from third parties

NPT lease many properties from third party organisations, taking on the operational control from the owner. This is also classed as Scope 3 in the carbon footprint, as the Council may have less direct influence or ability to reduce emissions from buildings they do not own.

However, there are measures that can be taken to reduce energy use:

- **Building operations** – energy management controls can be installed such as PIR and daylight lighting sensors on lighting.
- **Staff training** – ensure staff have an understanding of the local protocols regarding power usage and thermostat set points and appoint building managers with responsibility for reporting issues to maintenance in good time.
- **Monitoring energy usage** – regularly checking the electricity and heat usage through billing meters or sub meters ensures high usage is spotted and corrected quickly.

3.2.4. Decarbonising Vehicles in Neath Port Talbot Council's fleet

In line with the Welsh Public Sector ambition, Neath Port Talbot are aiming for all new cars and light goods vehicles in the fleet to be ultra-low emission vehicles in the near term, by 2025. Plans are already well under way to switch to electric vehicles for this category, with suitable charging infrastructure also being installed in Council car parks and depots.

Given the complex specifications of HCVs, refuse collection vehicles, minibuses and other large vehicles, the date for replacement of this category of vehicle with ultra-low emission vehicles when purchased new is 2035. Work has begun in this category, with several larger electric vehicles recently being trialled and purchased and the procurement of a new recycling fleet is currently underway.

It is important to ensure charging infrastructure is installed to match up with demand from the various fleets, including those which could be charged slowly overnight, and those that need to use rapid

chargers in order to be used for a second shift. Specific overnight tariffs are also being investigated through support from the Welsh Government Energy Service.

Fleet managers must ensure service levels are maintained, especially for refuse, emergency response and maintenance vehicles. A strict charging operational policy needs to be put in place and communicated to staff to ensure vehicles are not left with low battery levels but are ready for the next service user when required.

All Council staff who use fleet vehicles need to be given sufficient training on the relevant vehicle types, to give confidence in what may be a new technology, and to encourage their use. An electric vehicle that is never used by staff is not helping to reduce emissions. A review of fleet utilisation is currently under way to ensure the Council has sufficient vehicles and are using them efficiently, to avoid over provision or under-utilisation at the same time as spot hiring from vehicle hire firms.

As well as electric vehicles, the Council are also looking into hydrogen as a fuel for heavy vehicles. This technology is still in the early stages of development but is thought to be a good alternative fuel for certain vehicle types. In line with other public sector organisations, the Council is keen to trial these when available to assess the benefits and operational performance. The Supporting Innovation and Low Carbon Growth (SILCG) programme for Swansea Bay City Deal is supporting NPT and the University of South Wales with the Hydrogen Stimulus Project.

3.2.5. Decarbonising Neath Port Talbot Council's Supply Chain

The Council recognises the impact and influence it has with its suppliers, and the opportunity this brings to make a positive difference which passes down through suppliers and their contractors. National guidance is also available through Welsh Procurement Policy Notes on decarbonisation and Carbon Reduction Plans.

Working with the existing procurement systems, the Purchasing department have looked to incorporate sustainability criteria into supplier tender scoring, asking for footprint and emissions data from companies looking to work with the Council.

The Council recognises the challenge in regard to decarbonising supply chain emissions and would look to undertake the following supply chain improvement actions:

- Develop supply chain plan.
- Embed net zero/sustainable actions and considerations into Procurement process.
- Review Council expenditure and improve supply chain data collection and quantification.
- Engage main suppliers and communicate supply chain aims and ambitions (Target 20% of suppliers, possibly account for 80% of expenditure or organisations with spend over £5m).
- Work/collaborate with WG and other Public Sector organisations.
- Identify best practice actions and supportive tools and methods.
- Identify quick and long-term wins how to increase influence over supply chain emissions.
- Test concept that by 2030 all suppliers must publish a carbon reduction plan.
- Engage and actively support low carbon & local suppliers.

Figure 7 shows the challenge of addressing supply chain emissions in comparison to other Council service delivery areas, with Purchased goods & services having high emissions but low potential to influence.

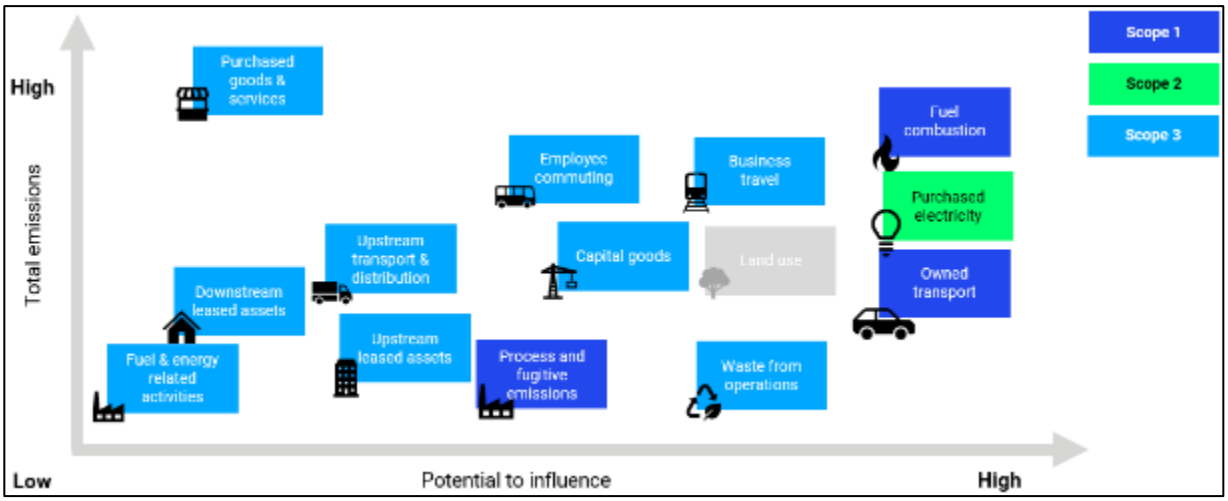


Figure 7: Emissions sources shown by ability to influence and size of emissions

3.2.6. Enhancing the carbon sequestration of Neath Port Talbot Council's land

Neath Port Talbot Council owns significant areas of land and buildings that present opportunities for both carbon sequestration and renewable energy generation.

Carbon sequestration efforts could include additional tree planting, effective management of existing woodland and peatland restoration. These initiatives would enhance the natural carbon storage capacity of the land while supporting biodiversity and contributing to the Council's climate objectives. When considering changes to land use, it is crucial to adopt a prioritised decision-making framework that incorporates carbon emissions reduction and sequestration potential.

At the same time, the Council's land and buildings hold substantial potential for renewable energy projects. These include large-scale ground-mounted solar arrays, wind turbines, and hydroelectric schemes. The high potential for such projects is evidenced by the success of private renewable energy developments across the county. While some areas of Council land have been assessed, further work is required to develop robust business cases for future projects. Increasingly, grid constraints are a barrier to large-scale renewable projects, so regular discussions with the Distribution Network Operator, NGED, are essential to understand and address connection issues and identify viable opportunities. Financial arrangements for selling electricity must also be considered, with options including Power Purchase Agreements with third parties or private wire connections to large energy users.

Integration of renewable energy generation with Council-owned buildings offers additional benefits. Feeding renewable energy directly into these buildings can power electric heat pumps, support electric vehicle charging infrastructure, and reduce reliance on the national grid. This would lower operating costs while enhancing the Council's resilience to energy market fluctuations.

To maximise the potential of its assets, the Council should adopt an overarching, joined-up policy that coordinates efforts across Estates, Biodiversity, and DECC (Decarbonisation, Energy and Climate Change) teams. This policy would ensure a unified approach to prioritising projects, balancing biodiversity conservation with renewable energy and carbon sequestration goals, avoiding conflicting land management priorities.

3.3. Operational Emissions Pathway

3.3.1. Emissions Pathway Modelling

The carbon footprint is a baseline that tells us where we currently stand from a carbon impact perspective; the net zero target tells us where we need to get to. The emissions pathway uses analysis to examine how NPT Council can transition and move from the baseline to the target. Taking the baseline footprint and adding in the impacts of planned decarbonisation actions from the Council and overlaying the predicted national electricity grid emissions, we can model the future energy consumption of the Council year by year.

This pathway model acts as a framework to help inform the Council of the scale of decarbonisation that must be achieved, to identify opportunities and help in the decision-making process when prioritising areas of focus, and to inspire radical action to bridge the gap to net zero.

3.3.2. Business as Usual

The first stage is to model the emissions trajectory across NPT Council's operations for business as usual, including any activities currently underway, but not including any planned projects.

The emissions trajectory is compared to the straight-line pathway required to achieve a 90% reduction by 2030, using the 2023-24 baseline, as shown by the red broken line in *Figure 8*. This target aligns with thresholds considered acceptable by the Science Based Target initiative (SBTi) to reach net zero.

Operational emissions (excluding those from procurement) in 2030, if the council operates business as usual are expected to be 17,526 tCO_2e.

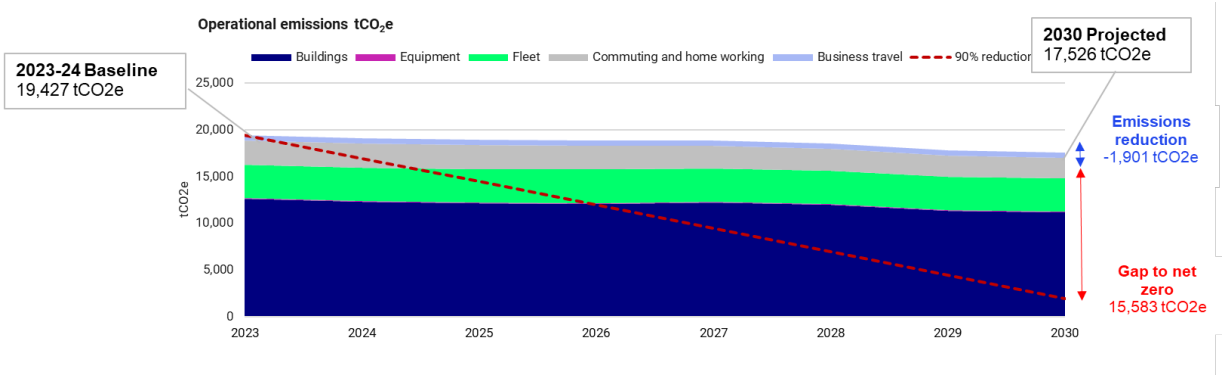


Figure 8: Emissions pathway to 2030 with business as usual

The reduction by 2030 is both a consequence of the electricity grid decarbonising as further renewable generation enters the generation mix nationally, and also includes projects that have been completed in 2024-25 after the baseline footprint was reported. Projects implemented in 2024-25 to reduce carbon emissions cover LED lighting upgrades in several schools, leisure centres and offices, building rationalisation and small PV arrays.

3.3.3. Pathway to Net Zero

The impact of implementing all the actions in the 2025 Decarbonisation Action Plan reduces the operational emissions in 2030 to 9,152 tCO_2e (a reduction of 10,275 tCO_2e), as shown in *Figure 9*. Even with additional uses of electricity for electrifying heating and travel, the reduced emissions intensity of the grid gives an overall reduced operational carbon footprint in 2030.

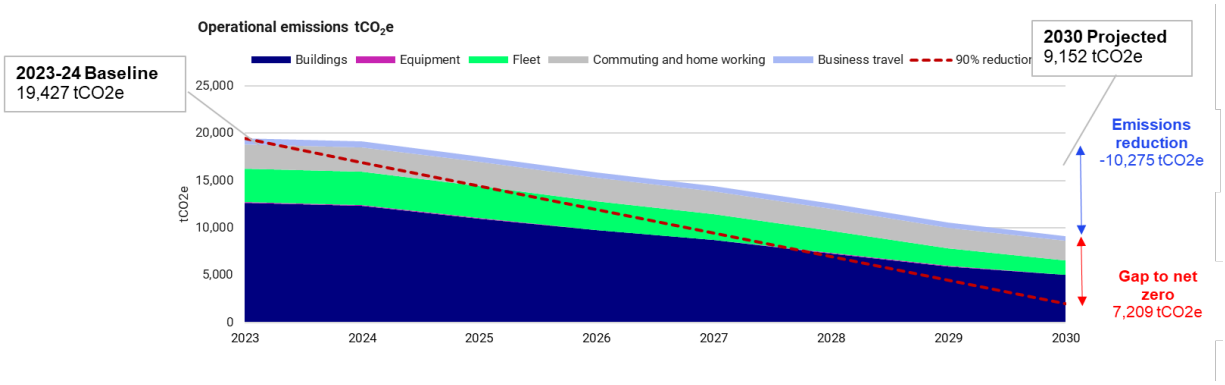


Figure 9: Emissions pathway to 2030 implementing proposed action plan

Separate pathway models have been calculated for each operational area; Fleet & Business travel, Buildings, and Homeworking & Commuting.

Fleet

Emissions from the Fleet's fossil fuel use reduce significantly by 2030 to 2,051 tCO_2e, as much of the diesel and petrol fleet are replaced with electric vehicles, as shown in *Figure 10*. The remaining ICE vehicles will be replaced by 2035. It is important to note that the charging infrastructure for electric vehicles taps off the building's electricity supply in most cases, so emissions move into the Buildings category.

Emissions from equipment also decrease but are a far smaller contributor to overall emissions.

Business travel emissions see some reduction as staff use of the electric pool cars increases over time and more meetings are held virtually rather than in person. When staff use their own vehicles to travel for work, emissions are harder to control. ICE vehicles are the most prevalent vehicle type currently although the Council's EV salary sacrifice scheme is one way to influence staff to switch travel types.

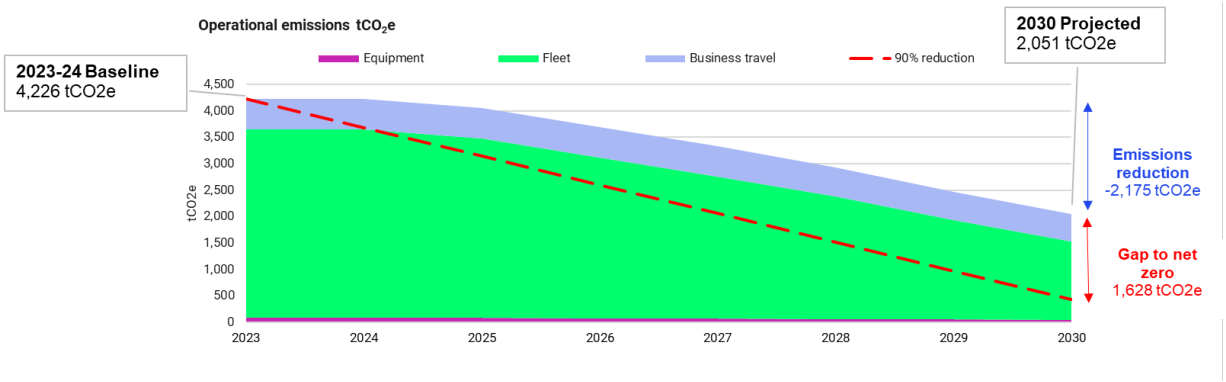


Figure 10: Fleet emissions pathway to 2030 implementing proposed action plan

Buildings

Emissions from Buildings (including gas, electricity, F-gas, waste and water) decrease to 5,017 tCO_2e by 2030, as shown in *Figure 11*. The transition to heat pumps has reduced heating oil and natural gas usage but has increased electricity use, albeit with a lower emission factor. The building rationalisation plan and increases in LED lighting and PV generation help to reduce use of electricity from the grid, somewhat countering the increase from heat pumps.

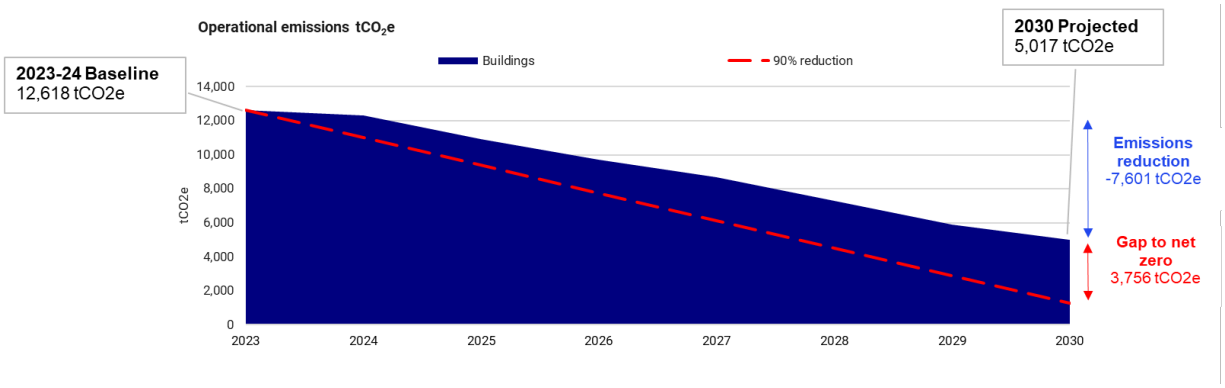


Figure 11: Buildings emissions pathway to 2030 implementing proposed action plan

Home working and Commuting

Emissions from home working and commuting are not predicted to reduce significantly, leaving 2,084 tCO_2e in 2030, as shown in *Figure 12*. Home working may increase given changes in working patterns and changes to the building portfolio, but this should be counteracted by reduced commuting to the office. However, the need for staff to travel to the office, currently mainly in their own vehicles (the majority of which are ICE vehicles), leaves a large gap to net zero for this category.

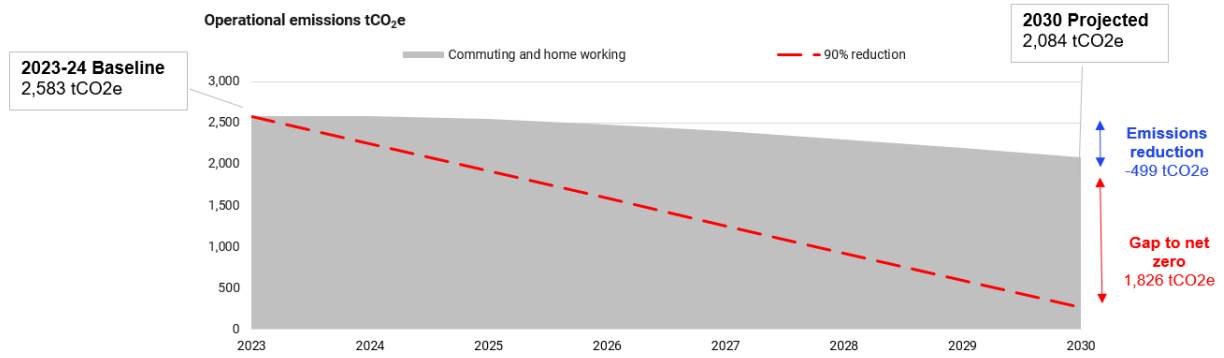


Figure 12: Home working and commuting emissions pathway to 2030 implementing proposed action plan

3.4. Gap to Net Zero and Offsetting

3.4.1. Net Zero

Net Zero, as defined by the Science Based Targets initiative (SBTi), covers Scopes 1, 2 and 3 and demands emissions reductions in line with limiting global heating to 1.5°C. A minimum of 90% of the baseline footprint must be reduced, with a maximum of 10% of the baseline footprint being removed through GHG removals. For NPT, the 2030 Net Zero target is therefore 1,943 tCO_2e.

Through the actions included in the 2025 Decarbonisation Action Plan across the whole Council, the operational emissions will reduce by around half, meaning there is still a gap to target of 7,209 tCO_2e.

3.4.2. Additional Future Actions

In the next few years, the Council will need to consider the additional actions to take, to further reduce the emissions forecast for 2030. Naturally, most impact will be generated from actions taken soonest, though additional actions should be planned to continue the decarbonisation activity.

More innovative, aspirational actions should not be discounted, as technology may improve in the future and costs may reduce to an extent that ideas not appropriate for the level of risk of the Council now may become more commonplace in the future.

Large scale renewable energy generation could be considered, building on feasibility and identification work already carried out to source suitable sites for wind and solar generation. *Figure 13* shows the impact of a large 24MW ground mounted solar array generating electricity by 2030. Note, this is not actually feasible given the timelines for developing such a scheme (which includes site identification, land rights, planning permission, DNO capacity and approval, and commercial negotiations with suppliers and installers) but shows the scale of renewable generation needed to provide emission-free electricity for buildings and fleet within NPT Council. Such a scheme would cost over £22m.

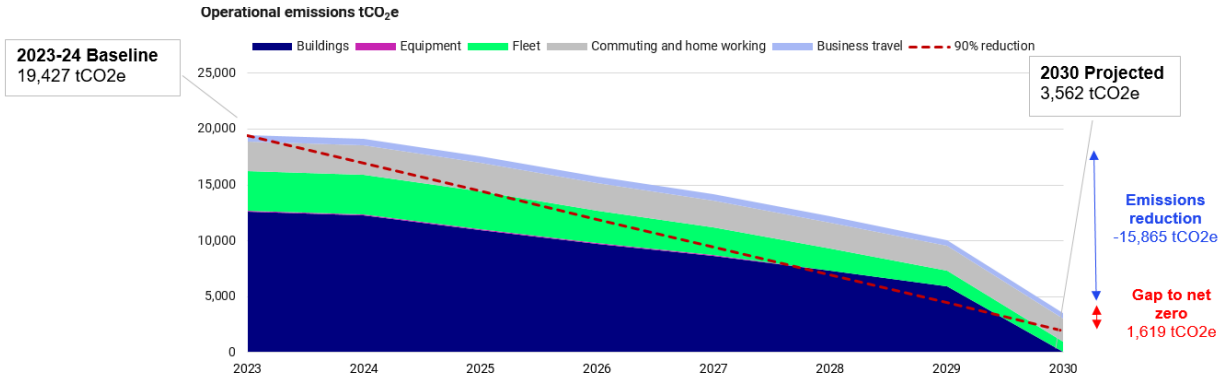


Figure 13 Emissions pathway to 2030 including a hypothetical 24MW solar array

However, even with this large-scale investment, there is still a gap to net zero, due to the heavy fleet vehicles still using fossil fuels, staff commuting and home working.

Artificial Intelligence (AI) is a relatively recent development of technology that could prove useful in synthesising data and providing better management controls for energy using systems, battery deployment, weather compensation etc. Engaging the IT department more in decarbonisation measures could yield improved savings through better use and efficiencies of existing equipment, or through novel technologies.

3.4.3. Offsetting Emissions

Options for offsetting remaining carbon emissions should only be considered when emissions have been reduced as far as possible. The 90% minimum mitigation target set by the SBTi means that a maximum of 10% of the original baseline emissions can be offset through carbon credits or biodiversity schemes.

Welsh Government are yet to set expectations for a suitable offset approach for the Welsh public sector net zero ambition.

Carbon credits could be purchased in sufficient quantity to offset residual emissions. Accreditation bodies and standards (such as The Gold Standard organisation) verify carbon credits and ensure emissions are actually being removed through the projects stated, but the offset market is still a voluntary one. Often these projects are in non-UK countries and involve afforestation and social value programmes promoting clean cooking fuels etc.

A better approach with more local benefits would be to sequester carbon through tree planting, high quality land management practices and peatland restoration. This removes carbon dioxide from the atmosphere and locks it up in the vegetation and soil. These schemes can also improve biodiversity and air quality.

4. Responsibilities and Resourcing

4.1. Responsibilities

The Council's Corporate Plan 2024 strongly highlights the importance and desire for a sustainable green approach to delivering operations within the Council and throughout the County borough. This approach was highlighted in the 2022 Audit Wales report, which stated that the Council has a good understanding of the task it faces to achieve net zero by 2030, which is clearly articulated in its Decarbonisation and Renewable Energy (DARE) Strategy.

In order to plan, implement and capture the benefits of carbon reduction measures across all operational service areas of the Council, a governance structure for decarbonisation needs to be established and firmly embedded, that sets out roles and responsibilities for staff throughout the organisation. A whole organisation approach is needed as net zero is the responsibility of all staff in every department.

4.1.1. Senior support

Cabinet Member support is essential to drive through the actions and hold the Council accountable. This support should come from several Members, including the Member for Climate Change and Economic Growth.

It is recommended that the Council's Chief Executive should have ultimate responsibility for the Council's decarbonisation delivery plan, with the Director of Environment and Regeneration and the Director of Strategy and Corporate Services taking lead responsibility in the development and implementation of the decarbonisation programmes and projects.

4.1.2. Organisational roles

The following table contains the key organisational roles and responsibilities across the Council with regard to assisting the Council transition and deliver net zero.

Role	Responsibility
Cabinet Member for Climate Change and Economic Growth	Top level supporter of the net zero ambition. The Net Zero Portfolio Board would sit under this role and develop actions to reduce carbon emissions.
Chief Executive	Executive responsibility for reporting carbon emissions to Welsh Government. Responsible for ensuring that the senior management understand the Council's ambitions for net zero and that the staffing structure includes suitable roles so that decarbonisation is managed and considered throughout the organisation.

	Should work together with the procurement functions to align all suppliers to the Council to work towards decarbonising their own operations.
Director of Environment and Regeneration	Responsible for developing and implementing plans to improve the energy efficiency and quantity of low carbon heating schemes within the Council's buildings, including building integrated renewables. They will also work to assess feasibility of large-scale renewable generation schemes such as ground mounted solar and wind farms. Will work with the wider team to ensure carbon emissions are considered as a lifecycle approach in all aspects of work related to buildings and properties owned and managed by the Council.
Director of Strategy and Corporate Services	Responsible for supporting the net zero ambitions throughout the organisation using the communications strategy, and working to increase staff engagement. Supported by the **Internal Communications team**, and using ways of working such as **NPT Connect.**
Director of Finance	Responsible for allocating the Council budget and managing finances in relation to low carbon heating, energy efficiency, ultra-low emission vehicles, renewables and related net zero projects. Provides access to alternative financing through loans and grant available to the public sector.
Director of Education and Lifelong Learning	As service users of the largest portfolio of properties within the Council, responsible for working with the Environment and Regeneration team to improve energy efficiency within existing and planned school buildings.
Director of Social Services, Health and Housing	As the department with the highest emissions from purchased goods and services, responsible to promote decarbonisation activities and ways of working across social services, health services and housing. Specifically working with suppliers across this sector to help them decarbonise their operations.
Head of Property and Regeneration	Champion of decarbonisation activities across the portfolio of corporate building and land assets. Supporting the implementation of energy efficiency and low carbon heating projects across the estate.
Decarbonisation Strategy Manager	Responsible for this decarbonisation delivery plan.
Decarbonisation Programme Manager	A new role to be established within the DECC team with the remit for monitoring progress against objectives and driving each department to achieve net zero.
Energy Manager	Responsible for monitoring and reporting energy use annually to Welsh Government, and more regularly internally within the Council. Developing

	business cases for projects and actions to reduce energy from design stage through to building, operation and maintenance.
Procurement team	Essential role in helping the Council decarbonise the purchasing of goods and services. Whilst not directly involved in all purchases, the Procurement team set the Corporate Procurement Plan and policies for all departments to follow in dealing with suppliers.
Head of People and Organisational Development	Responsible for actions on the cycle to work scheme, electric vehicle salary sacrifice scheme and their promotion, reducing emissions from business travel and commuting, and making staff aware of resources available to help them lower their carbon emissions whilst at work. Working together with the **Fleet Manager** and **Communications** team.
Head of Planning and Public Protection	Responsible to ensure that the planning functions within the Council prioritise activities that support the net zero aims, including land use management, protection of biodiversity and building standards.
Head of Street care	Responsible for reducing energy use across street lighting and refuse collection services. Working together with the **Fleet Manager**.
Head of Engineering and Transport	Together with the **Fleet Manager**, has responsibility for the council's vehicle fleet and making the switch to low emission vehicles in line with Welsh Government ambitions.
Accountable Managers	A key tier of staff within the organisation's structure and essential for communicating new ways of working to all staff thus ensuring support for the decarbonisation of the Council's activities. Responsible for communicating with their staff and providing feedback to senior management on progress of actions.
Climate Change Champions	Key members of staff who volunteer to act as main points of contact within service sections/directorates to actively engage in decarbonisation efforts by promoting activities and initiatives above and beyond normal staff activities.
All staff	Will understand the Council's ambitions for Net Zero by 2030 and will understand how they can carry out their role with due consideration of their environmental impacts. It is important to consider the actions required by staff across the Council. Whilst departments have specific areas of responsibility, it is not solely the responsibility of the energy team to reduce energy use or the procurement team to purchase low carbon goods and services.

Communications & Engagement	Will help support and deliver the key net zero messages and activities to a wider audience within NPT and further afield.

4.1.3. Decarbonisation, Energy and Climate Change (DECC) team

To deliver decarbonisation of the Council, particularly net zero, it is necessary to bring together a diverse range of staff with different skill sets from across the wider council. Energy management forms a core of reducing carbon emissions, but as shown in the carbon footprint (figure 1), emissions from transport and particularly the supply chain are also key areas for the Council. Conversely, land management has great potential as a source of carbon removal and renewable energy generation so should also be included in the discussion.

Setting up a new governance structure for the wider climate change remit would enable cross-departmental discussion on actions needed that may impact operations in different areas of the organisation. These steering groups would meet to report on progress against actions in the Decarbonisation Action Plan, and to develop and assess the feasibility of further projects.

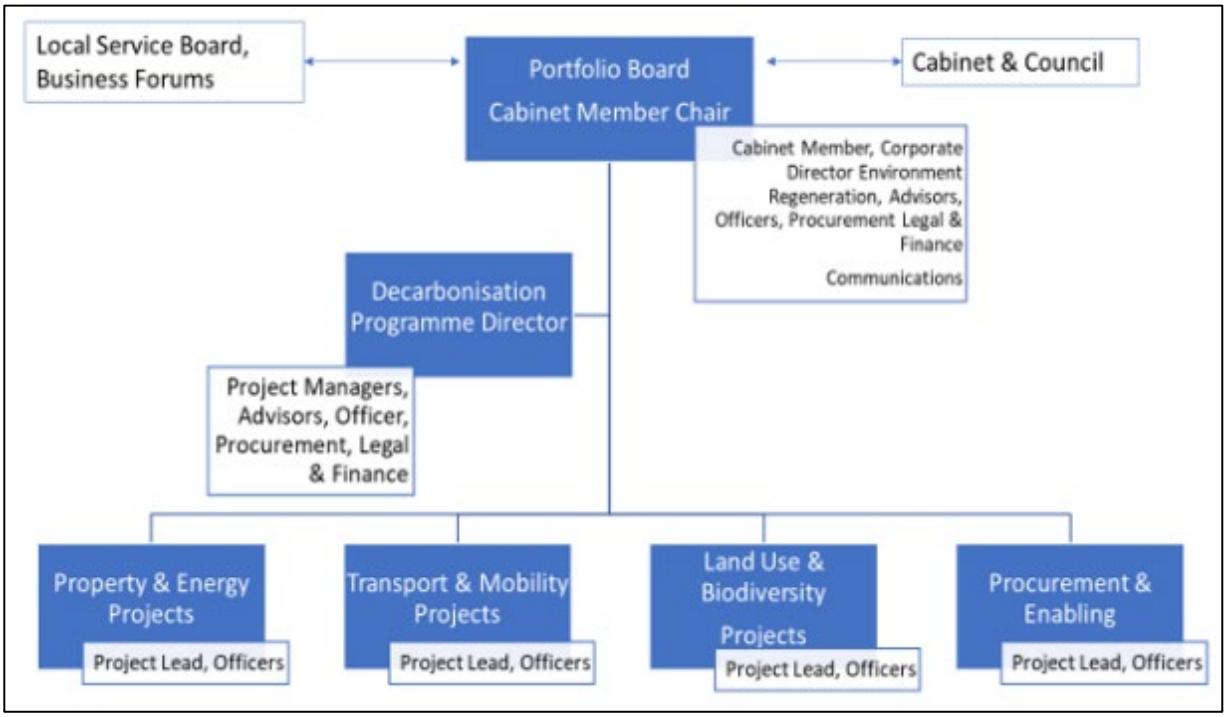


Figure 14: Proposed governance structure of decarbonisation steering groups

Recommendations made in the Net Zero Bridging Report include setting up a Net Zero Carbon 2030 Portfolio Board, chaired by the Cabinet Member with responsibility for Environment and Regeneration, see *Figure 14*.

These internal working groups would have formal terms of reference and would be tasked with specific objectives related to their cross-cutting themes of Property & Energy, Transport & Mobility, Land Use & Biodiversity, Procurement & Enabling.

One remit of these working groups would be to discuss operational and governance changes that could be implemented to support NPT to make more sustainable decisions.

The structure could follow *Figure 15* below:

Council activity emissions

Property & Energy Projects	Transport & Mobility Projects	Land Use & Biodiversity Projects	Procurement & Enabling Projects
• Corporate Estate • Building Design • Building Materials • Energy Efficiency • Heat Pumps • Heat Networks • Roof mounted PV • Large Scale Renewables (Solar & Wind) • Hydrogen	• Active Travel & Grey Fleet • ULEV Fleet (Rationalise, Electric/Hydrogen, Waste Collection) • EV Charging Infrastructure • Schools & Social Services Transport • LED Street Lighting	• Sequestration • Land Use Planning • Biodiverse Planting • Sustainable Urban Drainage Schemes • Parks Diversification • SINC Management, Peat & Woodland • Tree Planting	• Sustainable Procurement Implementation • Partnerships • Policy Review • Communications • Carbon Data Collection Management & ICT • Training • AI

Community activity emissions

Property & Energy Projects	Transport & Mobility Projects	Land Use & Biodiversity Projects	Procurement & Enabling Projects
• Homes as Power Stations (HAPS) • RSL Housing Parterships to decarbonise • District Heat Network options • Bay Technology Centre • Swansea Bay Lagoon	• Hydrogen fuel development • Partnered approach to Taxi and Bus ULEV transition • Public EV charging infrastructure (EVCI) • Global Centra Rail Excellence (GCRE) • APMA Zones, speed reduction	• Lost Peatlands of South Wales partnership • Connecting Green Infrastructure SW Wales • Countywide Green Infrastructue Plan • Joining public partners & landowners	• Steel Science • Develop supply chain support system to stimulate low carbon innovation inprocurement • Renewable Energy Planning SPG • Joint public education programmes

Figure 15 Thematic Steering Groups

4.1.4. Climate Champions

In addition to the formal working groups suggested above, everyday engagement with staff could be driven through a network of climate champions; staff with a keen interest in decarbonisation either as part of their role within the Council or through personal activities such as being a member of a local environment group or using active travel choices.

A first step in identifying climate champions would be through the existing communication channels such as NPT Connect and the intranet, putting out a call for those interested in becoming a champion to attend a short meeting. Across a large organisation, the net zero agenda can be expected to gain some level of interest, especially if phrased to encompass all areas included in the working groups.

It is important to ensure the final list of champions has representatives from across all the Council departments/sections/directorates. There may be a need to co-opt staff perhaps from the Accountable Managers where take up does not arise organically.

These climate champions can be used to promote sustainable activities and ways of working that are not covered through specific mandated policies, such as encouraging colleagues to use the electric vehicles for business travel and increasing recycling rates within offices.

4.2. Reporting

4.2.1. Net Zero Reporting

An annual Carbon Report is compiled in early September each year in line with the Welsh Government guidance for the Welsh Public Sector Net Zero Reporting. Responsibility for collecting the data for this report sits with the Energy Manager as an interim arrangement, yet data is required from departments across the Council, including estates, waste, fleet, HR and finance. Ultimate responsibility for this submission sits with the Chief Executive.

The annual footprint result will be reported to the Senior Leadership Team and the Cabinet Member with Net Zero responsibility in order to track our performance against the net zero 2030 ambition, through the Scrutiny Committee.

4.3. Net Zero Communication, Training & Engagement

It is essential to build carbon management and energy efficiency into the everyday function of employees' work, from senior management through to operational and frontline staff across the whole Council. Work is already underway to design an integrated Engagement, Communication & Training plan that will consist of the following key actions:

Communication

- Create an engagement plan for the Net Zero Plan (Internal communication and dissemination plans).
- Convey holistic messaging approach targeting high carbon users informing them of best practice actions focused on energy saving, green active travel, waste reduction and carbon procurement.
- Understand staff motivation for adopting carbon best practice
- Messages, awareness raising and establishing effective communication channels:
    - Create content
    - Select relevant motivational themes
    - Use appropriate language
    - Identify effective/current communication channels including Emails, Carbon Literacy Training, Presentations, Posters/stickers, Staff newsletters/website posts, Issue best practice guidance, Display boards, Suggestion schemes.

Training

- Identify and deliver specialist Net Zero training and support to meet the needs of key delivery staff.
- Continue to develop and deliver a carbon literacy programme for all staff and elected members.

Engagement

- Embed carbon assessments into all Council programmes and project decisions, and formulate tools for assessing the impact of business cases.
- Create a feedback mechanism and periodic review of how effectively the governance structure and these procedures impacts decision making, and ultimately reduces the carbon footprint of the Council's activities.

4.4. Commuting & Home working

There is a need to formulate a specific net zero commuting & home working improvement plan consisting of the following key actions:

Commuting

- Continue with the annual staff commuting and homeworking survey to collect real data on staff commuting habits.
- Stimulate and support the transition and uptake of low carbon forms of travel to work from home including the Cycle to Work scheme, travel loans and EV charging infrastructure.
- Review effectiveness of the salary sacrifice scheme for private electric vehicles.

Homeworking

- Increase accuracy of estimations for homeworking energy emissions through annual surveys and best practice.
- Engage Welsh Government, Energy Saving Trust and other Councils to create an awareness and engagement exercise for staff, identifying advice and support available for measures to decarbonise their own homes.
- Find a balance between staff working at home, at their base office and other flexible working options across the Council's estate.

For both topic areas it would be beneficial for NPT Council to engage other local Councils to understand their approach for negating the carbon impact of commuting and homeworking, and use resources available through the WLGA and Welsh Government and Energy Service.

5. Funding and implementation

5.1. Funding

To support the proposed decarbonisation delivery plan, various funding sources can be utilised. The following outlines potential avenues for financing projects aimed at carbon reduction.

5.1.1. Council Funds

Leveraging existing Council funds is a pragmatic approach, particularly for projects that offer quick paybacks and align with standard practices in other organisations. Examples that will continue to be carried out across the Council include replacing fluorescent and T5 bulbs with LED lighting and insulating pipework and plant room equipment. The savings generated from these initiatives can subsequently be reinvested into future projects. Given the current pressures of the Council's budget, this option is unlikely at present, and loans and grants will be needed.

Capital budgets can be earmarked for specific projects, similar to how other large-scale programmes request internal funding. It is essential to consider that the costs for like-for-like replacements (e.g., gas boilers or internal combustion engine vehicles) are typically factored into the forward budget. Hence, only the additional costs of opting for lower carbon alternatives should be factored into our action plan.

In addition to this, establishing a dedicated internal carbon fund could streamline the financing of carbon reduction initiatives. This fund could focus specifically on projects that yield immediate benefits while supporting long-term sustainability goals.

Moreover, existing maintenance budgets may be utilised for some proposed energy efficiency works, enabling earlier implementation and quicker realisation of savings.

Projects that result in revenue or direct cost savings, like installing roof-mounted solar photovoltaic (PV) systems, could be funded through Council resources as well. In some cases, it may be feasible to advance operational cost budgets from future years to cover initial capital investments, although care needs to be taken to model sensitivity to future energy costs.

5.1.2. Loans

In situations where Council funds are limited or where larger sums are necessary, loans can be a viable option. The Welsh Government has set up various funding mechanisms to support public sector efforts in decarbonisation.

The **Wales Funding Programme**, managed by Salix Finance, provides low-interest loans specifically for public sector bodies focusing on energy efficiency and renewable energy projects. Key features of this programme include:

- A competitive interest rate of 2.05%.
- Eligibility criteria requiring a 10-year payback period and a target of £350/tCO_2e.
- The flexibility to group measures together as a single project, allowing for balanced payback and carbon savings.

- The possibility of considering inflation to meet the payback requirements (for example, tariff inflation).
- An option to retain 25% of savings upfront, which could extend the repayment period by an equivalent duration.
- The ability to combine this funding with other financial sources, thereby enhancing overall investment potential.

The **Public Works Loan Board (PWLB)** lending facility is operated by the UK Debt Management Office (DMO) on behalf of HM Treasury and provides loans to local authorities, funding capital projects at competitive interest rates. Key features include:

- Flexible repayment periods range from one to 50 years, allowing the choice of terms that suit a wide range of financial strategies.
- Rates are typically lower than those from commercial lenders, updated weekly based on government borrowing costs.
- Offers various repayment methods, including annuity and equal principal schemes.

The **National Wealth Fund** (previously UK Infrastructure Bank) is another alternative lending facility from HM Treasury. They offer impartial advisory services and are currently the lowest cost source of finance for local authorities delivering ambitious infrastructure projects that tackle climate change and support economic growth.

5.1.3. Grants

The Welsh Government has introduced several grant schemes in recent years to encourage the adoption of new technologies such as electric vehicles (EVs) and heat pumps. These schemes are expected to continue in future rounds, and it is advisable to maintain regular communication with Welsh Government, the Welsh Local Government Association, and the Welsh Government Energy Service for updates.

The **Local Authority Low Carbon Heat Grant** provides capital funding for installing low carbon heating systems to replace fossil-fuelled boilers. Funding is administered by the Welsh Government Energy Service and there have been three rounds previously. This non-repayable grant can cover up to 90% of the capital costs for new low carbon heating systems, and projects must meet certain criteria:

- New systems installed under this grant must produce heat emitting less than 100g CO_2e/kWh.
- Projects may include supporting upgrades such as building fabric improvements, emitter and thermal store upgrades, and electrical infrastructure enhancements.
- To be eligible, buildings must be owned or under a long-term lease (at least 10 years) and included in the organisation's annual carbon reporting to the Welsh Government.
- Projects should also have undergone prior feasibility and development work, with the organisation having identified the appropriate technology and committed to delivering the low carbon heating scheme.

The **ZEV and EVCI Grant** aims to promote the use of zero-emission vehicles (ZEVs) and electric vehicle charging infrastructure (EVCI) to reduce carbon emissions and air pollution. The Council have made use of this grant to purchase electric vehicles and charge points.

- It provides funding for up to 100% of the capital costs of EVCI and offers gap funding to cover the difference in cost between ZEVs and their internal combustion engine (ICE) equivalents. Eligible entities include Welsh local authorities, NHS Wales bodies, fire and rescue services, national parks, and other Welsh Government-sponsored organisations.
- The grant covers costs for charging infrastructure, grid connection upgrades, electrical infrastructure improvements, and energy storage linked to vehicle charging.
- For ZEVs, it funds goods vehicles over 3.5 tonnes, large MPVs, minibuses, and utility vehicles.
- The grant is currently distributed across several funding waves, with deadlines in September, November, and January.

The **ULEV Transformation Fund** facilitates the development of public, staff, and visitor Ultra Low Emission Vehicle charging infrastructure, while the **Workplace Charging Scheme (WCS**), run by the Office for Zero Emission Vehicles (OZEV), offers up to 75% funding for EV charger installation, with applications closing in March 2025.

The **Resource Efficiency Circular Economy (RECE)** Grant from the Welsh Government provides capital for decarbonising local authority operations, covering up to 80% of the cost difference between diesel and electric vehicles for waste collection.

- It can also fund renewable energy generation projects that have a viable business case and provide generation to RECE operations (private wire to processing operations/vehicle charging etc.).
- The amount of grant funding will be considered case by case based on the business case submitted, however the proportion of any capital contribution provided is likely to be linked to the proportion of generation directly consumed by RECE services.

The **Sustainable Communities for Learning** programme (previously 21st Century Schools) is a collaboration between the Welsh Government and local councils in Wales. It is a significant, long-term and strategic capital investment programme with the aim of creating a generation of 21st Century Schools in Wales, improving amongst other goals, the energy efficiency of buildings used for schools.

The **Ynni Cymru Capital Grant** supports community-owned renewable energy and Smart Local Energy Systems (SLES), combining generation, storage, and infrastructure to maximise local benefits.

- NPT Council submitted a bid proposal to Ynni Cymru Round 1[4] for the Quays/SRC Smart Energy System Project. The aim of the project programme is to decarbonise the operational office and service response centre and transition the operational hub towards becoming an energy positive/net zero facility from a building and vehicle charging perspective. The project consisted of maximising the roof mounted solar PV generation on both the Quays (Office with regional datacentre) and the Service Response Centre (Office, Stores & Workshop). The solar

[4] Note, unfortunately this project proposal was not successful for Ynni Cymru funding in November 2024.

PV system installed at the SRC would be complemented by a battery storage system. An overarching energy monitoring system would be installed to ensure that all of the energy demand, generation, vehicle charging and storage systems are fully optimised across the two electricity connections.

Local community groups could be another source of funding for projects run jointly with the council and local groups. These schemes would also help to contribute to Welsh Government's aim for locally owned renewable energy schemes.

Other funding sources include **Ystadau Cymru** for strategic collaboration, **Transforming Towns** (£25 million interest-free loan fund for 2022-2025), National Lottery funds (heritage lottery), municipal bonds (e.g. Abundance Investment), philanthropic trusts/foundations, and the Development Bank of Wales' "Make my House Green" scheme. The Guide: Financing Green Ambitions by the Local Government Association offers further insights into creative financing for green projects.

5.2. Implementation and Routes to Market

A range of support is available free of charge from the Welsh Government Energy Service to develop and deliver a pipeline of carbon reduction projects, including guidance on tender specifications, procurement and funding for building energy efficiency, fleet and renewable energy projects.

For technical projects, expertise may be available in-house within the Council, or a Project Manager or a technical Owners Engineer may be procured to assist with a project from inception to completion.

5.2.1. Project Pipeline

By developing a pipeline of potential projects that are 'ready to go', funding can be matched to projects as and when available, through grants and other sources. Often, funding from Welsh Government and others is available on a short-term basis, in funding rounds, so projects need to be developed to a certain level to apply. Whilst funding has been available for feasibility and design stage work previously, it is more common to require this work to be undertaken before grant application, with grants being available for capital works only. Funding for feasibility studies will therefore be required from the Council's budgets in order to be ready for future grant opportunities

Feasibility studies may mean having a design to RIBA Stage 2 or above, investigating if planning permission is required or if confirmed as permitted development by the local planning team, engaging with the DNO or confirmation that DNO upgrades are not required, and having an initial quote from a contractor or supplier. This will involve bringing the Council's planning, legal and purchasing teams together to initiate projects and bring them to the required level of preparation.

With increasing deployment scale and technological advancements, tipping points will be reached that enable exponential growth. We have already observed this phenomenon in the renewable energy sector and are beginning to see it with smaller electric vehicles. Figure **16** Energy Conservation Measures prioritised over time serves as an illustrative example; while it may not fully align with all the net-zero objectives, accelerating the pace of deployment could exacerbate the funding gap. This underscores the need for a balanced approach.

Certain projects, such as retrofitting insulation, exhibit very slow financial payback, yet they are unequivocally "no regrets" measures. While these projects may never deliver substantial financial

returns, they are essential for achieving long-term sustainability goals. Consequently, more innovative financing strategies may be necessary to support these vital initiatives.

Initial (<3 years)	Fast Followers (3 6 years)	Longer term / harder to reach
LEDs	Energy storage and batteries	Hydrogen
EVs and EV charging infrastructure	Circular economy	Ground mounted solar PV
Roof mounted and carport solar PV	Nature recovery	Wind turbines
Retrofit	Retrofit	
Heat pumps	Heat networks	

Figure 16 Energy Conservation Measures prioritised over time

5.2.2. Applying for Funding

From an operational perspective to transition and progress towards achieving net zero, a dedicated net zero funding plan will need to be developed that is adaptable and flexible to align the financial challenges of delivering net zero. The Council will have to plan and create an approach that is able to respond to funding streams at short notice and deliver projects to challenging timeframes.

If the option is to purposefully use grant funding as it becomes available for different technologies and projects, it would be useful to give responsibility to a team member to actively look for funding sources and opportunities. This practice is already implemented in the Land and Biodiversity team within the Council, so knowledge of the overarching process could be transferred to other departments. A new role is to be created within the DECC team, and funding will be part of these responsibilities.

The Strategic Funding team already carry out this function at a corporate level, but funds identified may not be specific enough for decarbonisation actions.

The Action Plan includes projects across all departments, so projects can be prioritised within the Council as different funding streams are identified.

Once funds are identified, there is a separate piece of work to apply for funding, ensuring relevant conditions are met. This often needs to be completed in a short time period, along with competing priorities for department leads, so thought could be given to recruiting external support to both identify and apply for funding for a range of decarbonisation projects.

5.2.3. Procurement Routes

With many of the specific low carbon technologies, there are particular procurement frameworks available to allow the council to find the best providers for the projects. For example:

- An Electric Vehicle Procurement framework is currently in place through Welsh Government.
- A new Electric Vehicle Charging Infrastructure Framework was launched in September 2024.

- Various frameworks are also available for solar photovoltaic panel procurement, including system design, build, operation and ongoing management.

Where specific project management support is required for net zero projects, consultancy support could be procured, or temporary project management roles within the Council could be created on a per project basis. An Owner's Engineer position is particularly relevant for renewable generation projects, but can also be applied to other areas.

Alternatively, Energy Services Companies and energy performance contracting frameworks such as Re:fit are another way to procure these services, and would outsource the project management, purchase and installation of multiple technologies. The Council are keen to pursue this route and are in contact with teams at the Welsh Government Energy Service and Local Partnerships to keep up to date with the opportunities with Re:fit 5 in Wales.

NEXT STEPS

6. Next Steps

The Decarbonisation Action Plan 2025-2030 lists proposed projects across all emissions areas, including Fleet, Buildings, Supply Chain, Ways of Working, Land Use and Renewables.

The Action Plan should be reviewed every year to ensure it is fit for purpose, and as a way of tracking progress against this delivery plan.

Several items listed are enablers, so must be carried out first to allow other projects to be actioned. These include reviews of building stock and energy performance, trialling low emission vehicle types for specific uses, designing heat pump systems in order to obtain quotes for capital and running costs, and reviewing roof space for potential roof mounted PV. These enabling actions have little to no cost to the organisation and will provide much of the data and evidence required to confirm the business case and enable the projects to be started.

Whilst a financial return on investment must be carefully considered, the carbon impact must also be included when prioritising actions. Grant funding opportunities should also be taken into account,and could lead to some projects moving higher up the priority order as and when funding becomes available.

Traditionally the energy management hierarchy states that energy use should be measured, used efficiently, then reduced before looking to generate additional energy. This thinking is now being challenged, with preference for sites to be retrofitted with solar, heat pumps and electric vehicle chargers at the same time. This ensures sufficient grid capacity is made available for all planned technologies, and with solar in first, this provides the electricity for the heat pumps and EV chargers.

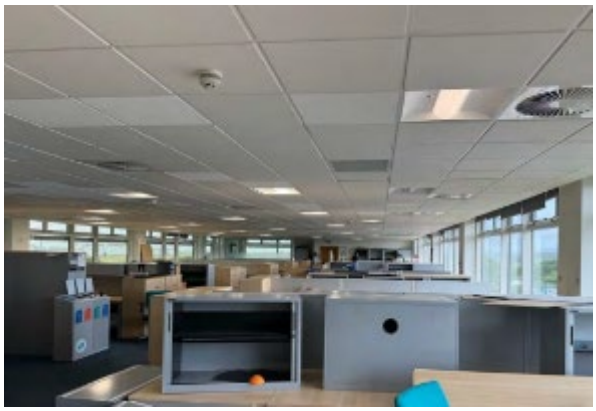
The key priority projects for the next 12 months are listed in the Action Plan.

CASE STUDY

Civic Accommodation Lighting Improvement Projects

Upgrades took place at Neath Civic Centre, The Quays and the Service Response Centre (SRC) to replace old inefficient lighting. Optimised lighting design and planned individual illumination levels for the new LED light fittings, combined with daylight controls and motion sensors has improved the energy use, running cost and ambience of all areas.

£730k was spent on the project across the three sites, funded by the Council's Accommodation Strategy. Paybacks are expected in under 8 years, with savings of 70 tCO_2e a year.



CASE STUDY

Solar PV at the Crymlyn Burrows Waste Transfer Station (previously known as MREC, Materials Recovery Energy Centre)

A 740kW solar PV array was installed on the roof of the Waste Transfer Station facility in 2024. This install cost £500,000 and is expected to produce 713,000kWh of renewable electricity a year, the majority of which will be used onsite. The main building is a prime site for solar generation, with its vast south-facing roof and sturdy construction.

The reduction in electricity purchased from the grid because of this array is expected to save the Council £178,200 each year. Further plans are being developed for an additional array.

CASE STUDY

Gnoll Primary School Lighting Improvement Project

Existing inefficient light fittings throughout the school were replaced with energy efficient LED equivalents, including integrated motion and daylight linked controls, in 2018.

The project cost £77,000 with an 8 year payback, and saves 27,000kWh and 7 tCO_2e a year.

Benefits of the project:

- Greater control of the school's environment improving internal comfort conditions, leading to a healthier and more comfortable learning and teaching environment
- Reduction in energy costs, with cost savings redistributed into the school budget for teaching resource
- A reduction in the school's carbon footprint, demonstrating social responsibility and improving the school's reputation and sustainability. This assisted the school to achieve the schools eco awards accreditation
- Potential for the project to be used as a lesson plan on climate change and carbon reduction, leading to further energy awareness across the school.

There has been some great feedback received from staff at the school:

"The lighting has improved the classroom environment immeasurably. Previously there were areas with very poor lighting or conversely very harsh lighting. Now, the lighting covers the whole classroom with a clean, dimmable light." (Rhys Harris, Head Teacher)

"We should see a reduction in our electricity usage as now large areas like the hall now turn off when not used." (Frances Williams, School Bursar)

7. Appendices

7.1. Modelling Assumptions

The Future Energy Scenarios (FES), developed by the National Grid, have been utilised to forecast the electricity emissions of the grid as part of pathway modelling efforts. These scenarios provide insights into potential trajectories for the energy system based on variables such as national policy decisions, technological advancements, and consumer behaviours.

There is a forecasted reduction in electricity emissions factors up to 2030, highlighting the anticipated reductions in grid carbon intensity over time.

The 'Counterfactual' scenario has been used to model emissions intensity from electricity. This is the least optimistic but most realistic scenario for the near-term future.

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7.3. Abbreviations

BAU	Business as Usual
BEV	Battery-electric vehicle
BMS	Building Management System
DARE	Decarbonisation and Renewable Energy strategy
DECC	Decarbonisation, Energy and Climate Change team
DFES	Distribution Future Energy Scenarios
DNO	Distribution Network Operator (National Grid Electricity Distribution)
EPC	Energy Performance Certificate
EST	Energy Saving Trust
EV	Electric vehicle
EVCI	Electric vehicle charging infrastructure
GHG	Greenhouse Gas
HCV	Heavy commercial vehicle
HGV	Heavy goods vehicle
LAEP	Local Area Energy Plan
LED	Light emitting diode (low energy lightbulbs)
LGV	Light goods vehicle
MREC	Materials Recycling Energy Centre (Now called Crymlyn Burrows Waste Transfer Station)
NGED	National Grid Energy Distribution
PV	Photovoltaic solar panels
RIBA	Royal Institute of British Architects
SBTi	Science Based Targets initiative
tCO_2e	Tonnes of carbon dioxide equivalent
ULEV	Ultra-low emission vehicle
WFP	Wales Funding Programme
WGES	Welsh Government Energy Service
WLGA	Welsh Local Government Association

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