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Climate Change Report 2026



TRAFNIDIAETH CYMRU
TRANSPORT FOR WALES

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Introduction

Transport for Wales (TfW) is committed to supporting the Welsh public sector ambition of net zero by 2030. To achieve this, emissions from transport (excluding plane travel) need to be roughly halved by 2030. We're reducing greenhouse gas emissions from transport in Wales through introducing more sustainable trains and buses, electric vehicle charging points, and encouraging more people to walk, wheel and cycle.

We're already experiencing the effects of changing weather caused by climate change. We need to prepare for more extreme weather in the future and find ways to minimise the impact on our people, our customers and the public services we provide.

In accordance with the Companies Act 2006, as amended by the Companies (Strategic Report) (Climate-related Financial Disclosure) Regulations 2022, this Strategic Report includes our climate-related financial disclosures, aligned with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

We have assessed climate change to be a principal risk to the organisation, primarily because of the risk of disruption due to an increase in extreme weather events.

Governance

This section addresses our governance framework, outlining key structures, policies and strategic objectives that guide our organisation. Effective governance is fundamental to ensuring accountability, transparency and sustainable decision making.

Table 1: Our governance model and responsibilities for managing climate-related issues.

Committees	Roles, Responsibilities and Activities
Transport for Wales (TfW) Board	- Oversees and monitors progress against goals and targets, both directly and via the sub-committees. - Presented with monthly Strategic Risk Reports - Committed to meeting Welsh Government's ambitions on climate change.
Executive Leadership Team (ELT)	- Embed climate risk into corporate strategy and business planning. - Presented with monthly Strategic Risk Reports - Assign ELT members to be responsible for the risk and mitigations.
The Audit and Risk Committee (ARC)	Monitors our internal controls for managing climate change risks and opportunities, including transition risks and those impacting the delivery of objectives outlined in the Climate Adaptation and Resilience Plan and those that will be outlined in our Energy Strategy and Carbon Management Plan
The Major Projects Committee (MPC)	- Provides governance and oversight of major decarbonisation, energy and climate adaptation projects, including associated investments. - Major resilience projects or those focused on carbon abatement of energy requiring additional capital investment will be referred to our Investment Committee.
Health, Safety, and Sustainability Committee	- Monitors compliance with relevant energy and climate change legislation, standards and systems. - Receives quarterly reports and oversees progress to deliver on TfW's carbon, energy and climate adaptation, resilience strategic objectives, and associated investment decisions. - The Committee also oversees progress in delivering our strategic objectives related to carbon, energy, climate adaptation, resilience, and any associated investment decisions.

Committees	Roles, Responsibilities and Activities
Climate Change Steering Group (CCSG)	• Provides oversight alongside and accountability for the work of the Climate Change Adaptation Working Group (CCAWG). • Responsible for providing oversight and advice regarding investment decisions relating to our climate strategy. • Reports on TfW's Climate Risk Appetite quarterly and annually to the Audit and Risk, and Health, Safety, Sustainability and Wellbeing Committees.
CVL Climate Adaptation Working Group (CVL CCAWG)	• Meets monthly and reports into the CCSG on its activities and progress. • Reports on the risks and opportunities relating to matters of both climate resilience and adaptation.

Strategy

Corporate strategy

Our [Corporate Strategy](#) outlines key priorities and objectives to encourage people to travel more sustainably.

Climate Adaptation and Resilience Plan

Our [Climate Adaptation and Resilience Plan \(CARP\)](#) was published in May 2023. It sets out our strategy for embedding climate resilience into everyday decision making, assessing risks and implementing adaptation solutions. It ensures our transport network can recover quickly from extreme weather.

Rapid adaption

We're creating adaptation pathways and developing resilience interventions for our key CVL stations, routes and assets. We've collaborated with Network Rail and are sharing learning and setting out our approach to weather resilience at climate adaptation pathways workshops, as well as contributing to industry guidance as part of various adaptation working groups.

We've completed adaptation pathways assessments for our key routes. The main findings to improve resilience are:

- Setting monitoring routines to improve incident response and recovery rates.
- Improved watercourse, shoreline, vegetation and earthworks management.
- Improved asset protection and maintenance planning for infrastructure assets.

In 2025, we contributed to several of these climate adaptation workshops. These workshops assessed long-term climate risks and developed resilience strategies to guide future business and asset planning.

Weather Resilience and Climate Change Adaptation strategy

We're developing our Weather Resilience and Climate Change Adaptation (WRCCA) strategy to complement the CARP. The strategy will set out our best options for managing weather and climate risks.

It will provide a phased approach with annual objectives linked to CARP actions, and will remain a live, iterative document informed by ongoing monitoring and evaluation. The WRCCA strategy aims to integrate practical resilience measures across the organisation from asset management and condition monitoring to strategic planning, performance management, resilience targets

and improved weather delay attribution to strengthen our understanding of extreme weather impacts and enhance long term network resilience.

Adaptive Capacity assessment

We follow an Adaptive Capacity assessment (Maturity Matrix) to build upon our current adaptation maturity level. At the time of writing, we currently sit at a level of 2-3 out of 5, suggesting we are strong in governance and strategy for climate resilience and adaptation. Based on the findings and recommendations of this maturity assessment, we have taken steps to improve upon our maturity level and adaptive capacity by embedding and implementing our strategic objectives.

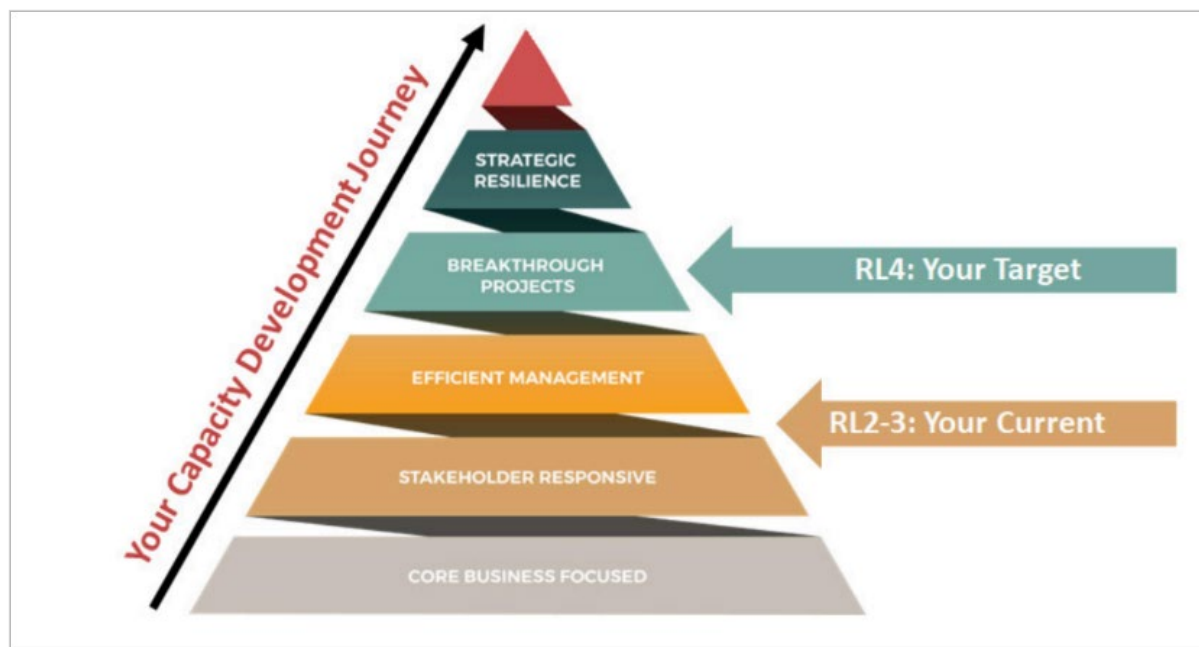


Figure 1 – Transport for Wales Adaptive Capacity Assessment Profile, April 2025

The outcomes of the RAPA and maturity assessment have directly informed our strategic planning:

- Governance and Strategy: We are currently at a maturity level of 2–3 out of 5, indicating strong governance and strategic intent, with further work needed on implementation and operational integration.
- Operational Planning: Climate scenarios are now embedded in asset management plans and design standards.
- Investment Planning: Adaptation measures such as improved drainage systems, heat-resilient materials, and vegetation management are being incorporated into investment programmes.
- Organisational Development: Training and awareness programmes are being developed to embed climate resilience across all functions.

Financial planning

We're integrating climate-related risks and adaptation costs into our long-term financial planning and capital allocation processes.

Future investment decisions will be assessed against both RCP6.0 and RCP8.5 scenarios to ensure financial resilience under a range of climate outcomes. These scenarios were chosen to:

- Ensure consistency across the rail sector in risk assessments and strategic planning.
- Reflect both realistic and worst-case climate futures, supporting robust adaptation planning.

In relation to direct emissions during the transition period as we decarbonise our fleet, increasing services and passengers means that our carbon dioxide emissions are likely to rise.

Assessing Climate Adaptation and Resilience

Our Climate Change Risk Assessment (CCRA) framework was published in May 2023. It sets out the criteria we use to enhance our ability to identify climate-related risks and opportunities; ensuring that our operational practices, corporate, strategic, and financial decisions are structured to respond effectively.

Risk assessments

We conduct site specific CCRA's for our key assets, routes and facilities to account for the effects of climate change. We use the findings of these risk assessments to implement mitigation measures, to ensure we maintain a high standard of safety and service for our customers and key stakeholders. We also capture the observed impacts of extreme weather events on our network: customers, staff, operations and assets.

Station surveys

We've conducted several station surveys across various CVL routes including the Treherbert, Rhymney, Barry and Bridgend lines. These CCRA site surveys consider the risk from a range of weather impacts for asset health, passenger safety and service quality. We'll begin setting out next steps for implementing climate adaptation and weather resilience interventions to improve outcomes for safety, cost, performance, and customer satisfaction.

Desk-based research

To build upon these field assessments, we have also conducted desk-based CCRA's for multiple CVL stations and depots. These provide a more detailed, data-driven analysis of climate risks, ensuring a comprehensive and evidence-based approach to resilience planning across our infrastructure network.

Outputs from CCRA's are integrated into our existing risk processes and monitored through the Active Risk Manager (ARM) system.

Risk Owners

Those accountable for specific assets or projects are responsible for regularly reviewing climate risks and implementing appropriate mitigation measures. Where risks exceed agreed thresholds, they are escalated to the CCRG for further evaluation and action.

The frequency of risk reviews is tailored to the nature and timeframe of each risk. Short-term risks may require more frequent monitoring, while long-term or strategic risks are reviewed periodically to ensure continued relevance and alignment with our evolving climate risk profile.

Risk management team

Our risk management team plays a central role in embedding climate-related risks and opportunities into day-to-day operations. The ARM system is used to record and monitor any climate risks and opportunities identified from CCRA's. These link strategic objectives to operational activities, such as our asset renewals risk scoring and site-specific incident procedures.

Programme Management Office

We've been exploring opportunities to influence project teams to incorporate climate adaptation principles in their project development and ways of working. This builds upon our embedding of the CCRA framework into our Programme Management Office processes; all new capital projects are required to assess climate risks and opportunities at the pre-design stage. This ensures early identification of risks, reduces exposure, avoids long-term lock-in, and supports the delivery of climate-resilient infrastructure.

Climate change and energy team

The climate change and energy team is consulted for input to capital projects, calling on relevant subject matter experts to provide perspective and insight on climate risks pertinent to their business function. This involves working with other departments to consider what risks may be shared, or potential cascade risks between us.

Financial Impact

Financial Effects of Climate-related Risks and Opportunities

Climate-related risks and opportunities could affect Transport for Wales' financial performance, position, and revenue. These include sudden impacts, such as extreme weather events, as well as longer-term changes like rising temperatures and changing rainfall patterns. There are also risks linked to the transition to a low-carbon economy. We are continuing to improve how we measure these impacts, and the information below is based on our current best estimates using available data.

Extreme weather events represent the most significant short-term climate-related financial risk to the organisation. On the Core Valley Lines, severe disruption could result in financial losses from £100,000 to £600,000 per day. We calculated this figure using historical fare revenue and estimating the loss which could result from service disruption. Where disruption persists for multiple days, extreme weather events may result in much higher total losses.

We're exposed to the following financial risks:

- Infrastructure maintenance and asset repair associated with weather damage
- Operational disruption costs, including delays and service recovery
- Incident response and emergency management costs
- Customer compensation payments and performance-related costs.

Looking ahead, climate change is expected to increase both the frequency and severity of extreme weather events, which may lead to:

- Increased operating expenditure due to higher maintenance and repair requirements
- Higher capital investment requirements to improve resilience of infrastructure and assets
- Increased volatility in revenue due to service disruption
- Higher insurance costs and potential changes in insurance availability.

Climate-related opportunities may partially offset financial risks and support long-term resilience. These include:

- Reduced operating costs through improved asset resilience and reduced disruption
- Energy cost savings through increased energy efficiency and renewable energy projects
- Revenue growth from increased modal shift to public transport
- Access to funding and investment aligned to low-carbon and resilience objectives

We're integrating climate-related financial effects into our financial planning and investment processes. This includes:

- Incorporating climate risk considerations into projects and business cases
- Monitoring financial impacts of adverse weather events, including disruption costs and asset damage
- Embedding climate-related risks into our broader risk management framework and reporting systems.

We're actively working to improve data quality, modelling capability, and the robustness of our financial impact assessments, including through collaboration with partners and stakeholders. We'll continue to enhance our approach to quantifying climate-related financial effects.

Risk Management

Our most significant climate-related risk is weather related. Weather can result in potential damage to property and facilities, financial losses, delays to operations due to recovery efforts and potential threats to the safety of staff and customers.

Last year we held a stakeholder workshop to discuss and define this risk and to create mitigations and actions and assign them to responsible parties. This will help us develop long term climate operations planning and reactive strategies.

Climate-related risks are integrated into our overall risk management framework. We identify, assess, and manage these risks through site and asset-specific risk assessments and regular monitoring.

We outline our climate risks and associated mitigation controls in our [annual report](#).

Opportunities

There are several opportunities as well as risks. These include:

- Improving public transport and increasing electric vehicle numbers (short term).
- Developing our renewable energy portfolio through solar (medium term).
- A transport network that is resilient and operational in the face of future climate change impacts (long term).

Collaboration

We're working collaboratively with key stakeholders to develop effective, long-term solutions. By sharing expertise and aligning strategies, we can reduce emissions, enhance resilience, and support sustainable development across Wales.

These stakeholders include:

- Network Rail through shared data, joint planning, and coordinated action. We're also collaborating on adaptation measures and decarbonisation initiatives to reduce emissions and support a more sustainable railway.
- Amey Infrastructure Wales to produce Extreme Weather Plans and implement our Strategic Asset Management Plan, which focuses on improving asset knowledge and resilience.
- Natural Resources Wales to help us conduct a detailed study on river flooding and its potential impacts on the CVL network, aiming to identify vulnerable areas and develop targeted resilience strategies.
- Natural Resources Wales and Dŵr Cymru Welsh Water to potentially establish a Memorandum of Understanding to support joint resilience planning.
- Cross-disciplinary Climate Change Adaptation Working Groups, including those led by UK infrastructure bodies and Public Services Boards in Cardiff, the Vale of Glamorgan, and Cwm Taf Morgannwg. These partnerships are vital for driving coordinated, region-wide adaptation strategies.
- Corporate Joint Committees (CJCs) to embed climate adaptation into Regional Transport Plans for the Cardiff Capital Region.

Metrics and targets

We're developing adaptation metrics and using industry intelligence (guidance, standards, best-practice) to develop targets and standards for adaptation and resilience. This includes:

- Adaptation Metrics ([Climate change adaptation metrics](#)) set by the Rail Safety Standards Board
- Resilience standards for train performance, safety, asset health
- Metrics and targets for adaptation & resilience as part of our environmental management system
- Train performance data around punctuality of our services
- Asset management planning with specific climate change-related scoring for renewals.

We're committed to aligning our climate resilience and adaptation efforts with Welsh Government objectives. We recognise that addressing climate-related risks and opportunities requires robust governance, strategic foresight, and measurable progress.

While we have made progress in establishing initial targets and indicators, we acknowledge the need to develop a more comprehensive suite of quantitative and qualitative metrics. These will align with the evolving nature of climate risks and opportunities and support transparent reporting.

Our current focus is on:

- Refining methodologies for assessing climate impacts and adaptation effectiveness.
- Enhancing data collection to support evidence-based decision-making.
- Developing KPIs that reflect both physical and transition risks, as well as resilience outcomes.
- Establishing monitoring and evaluation routines to track progress against baselines and inform future investment.

Our Weather Resilience and Climate Change Adaptation Strategy will provide a structured approach to tracking performance and aligning with national and international climate disclosure standards.

Organisational Targets

Welsh Government targets and commitments

Table 2: Targets and commitments

Description of risk	Risk term	Commitment	Our objectives, targets and KPIs
Welsh Government targets and commitments	Short term (to 2030)	By 2030, choosing zero carbon options will be routine and embedded.	100% renewable energy on CVL.
Welsh Government targets and commitments	Medium term (to 2040)	Increase the public transport mode share from an estimated 5% today to 7% by 2030, and 13% by 2040.	Deliver the commitments set out in the <u>2022–27 Sustainable Development Plan</u> , including promoting sustainable travel and reducing reliance on private car use.
Industry targets	Medium term (to 2040)	Phasing out diesel-only trains by 2040, in line with UK-rail industry commitments.	Phasing out diesel-only trains on CVL and South West Main Line by 2040.

Organisational KPIs

- Annual % decrease carbon emissions
- Rolling Stock Carbon Emissions
- Total Energy Use
- % Energy from renewables
- % Energy sourced from Wales
- Minimum of 10 CCRA's completed each year.

Carbon Emissions Report

Governance

We account and report our annual carbon emissions in line with the Welsh Government Reporting Requirements which is consistent with globally accepted standards. The guidance has been developed to support Welsh public sector bodies to reduce collective emissions to net zero by 2030.

Our Carbon Management Plan and associated carbon targets are in development. We report our rolling stock carbon intensity (grams of carbon dioxide equivalent per passenger km) to Service Excellence Steering Group every four-week financial period. We also report on our annual rolling stock carbon intensity as part of our Business KPIs.

Strategy

We're committed to supporting the Welsh Government's ambition for a net zero public sector by 2030. Our strategy focuses on reducing operational emissions, improving energy efficiency, and transitioning to low-carbon transport services. Key strategic initiatives include:

- Carbon Management Plan: we're developing a costed action plan to manage Scope 1, 2, and 3 emissions.
- Energy Strategy: published as an internal document, this is a roadmap for decarbonising our energy supply and improving energy efficiency across our estate.
- Energy and Carbon Improvement Plan: will outline technical pathways for implementing low-carbon energy schemes and enhancing long-term operational resilience.
- Modal transport shift and electrification: investment in electrified rail and low-emission bus fleets to reduce transport-related emissions.

We recognise that as our services expand and electrification increases, energy demand will rise. Our strategy includes measures to reduce energy expenditure and emissions through renewable energy sourcing, energy audits, and infrastructure upgrades.

Our Scope 1, 2 and 3 emissions for financial year 2025/26

Table 3: Our Scope 1, 2 and 3 emissions for financial year 2025/26

Scope	2020-21 emissions tCO ₂ e	2021-22 emissions tCO ₂ e	2022-23 emissions tCO ₂ e	2023-24 emissions tCO ₂ e	2024-25 emissions tCO ₂ e	2025-26 emissions tCO ₂ e
Scope 1	70,674	81,572	91,338	92,348	100,225	99,245
Scope 2	2,647	2,736	2,514	2,060	2,453	4,971
Scope 3	176,482	184,193	198,651	221,911	188,113	175,332
Land use emissions	-689	-702	-757	-591	-565	-564
Out of scope emissions	N/A	N/A	N/A	68	134	3,483
Total	249,114	267,799	291,746	315,728	290,226	278,984

The total figures in the table above have been amended to exclude the 'out of scope' emissions as per standard reporting procedure. The figures for 2024/25 have also been amended to reflect corrected emissions from commuting.

The annual carbon intensity for total rolling stock emissions (Scope 1) was 71 gCO₂e/PAX km. Scope 1 emissions are those arising from activities within our direct operational control, in this instance fuel consumption by our trains. The carbon intensity of our rolling stock has reduced by 11% compared with 2024/25.

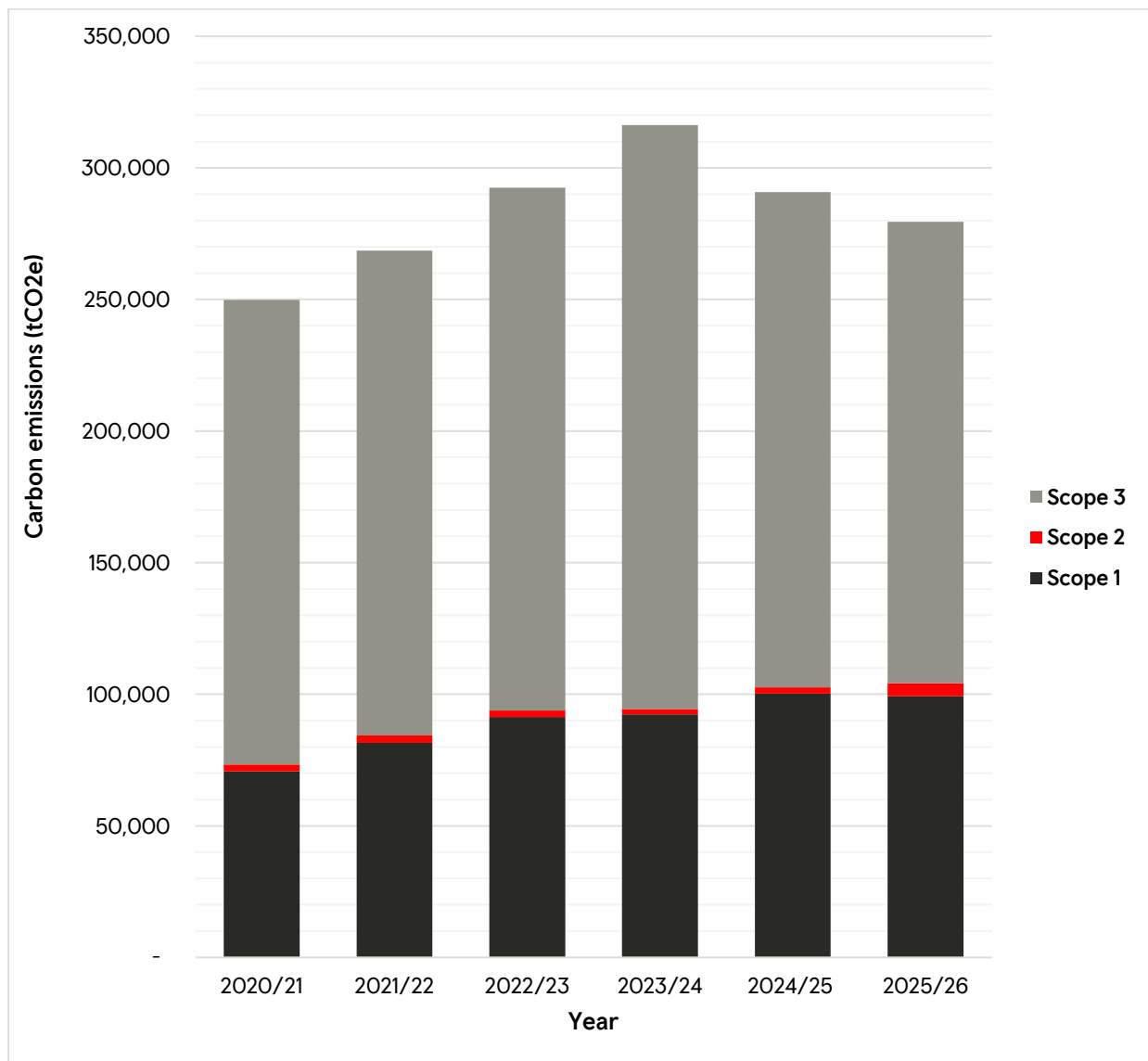
Our total emissions decreased by 4% or 11,242 tCO₂e in 2025/26 from 2024/25. 35% of our emissions were Scope 1, 2% from Scope 2 and 63% from Scope 3. The decrease in emissions this year compared with the previous year can be attributed to decreased supply chain emissions, namely the majority completion of the Overhead Line Electrification. We currently report on supply chain emissions based on spend data which can lead to significant variations in emissions year on year. We have seen an increase in scope 2 emissions due to a full year of operational Overhead Line Equipment. These emissions have been calculated using the location-based methodology, reflecting average grid emissions. We have a 100% renewable, REGO backed electricity contract meaning we can report zero emissions associated with electricity via the market-based methodology; however, Welsh Government require us to report location-based.

This year we have begun reporting on the following activities:

- TrawsCymru bus services (Scopes 1 and 2)
- Rail Replacement Operations (Scope 3)
- Hotel stays (Scope 3).

These new reporting activities have resulted in the addition of 1,914 tCO₂e scope 1 emissions, 73 tCO₂e scope 2 emissions and 7,404 tCO₂e scope 3 emissions.

Figure 2: Summary of Carbon Emissions from 2020/21 to 2025/26



Update on carbon targets

In 2019, we published our Low Carbon Impact Strategy which includes the following targets for our carbon emissions.

We were delayed in our achievement of these targets due to the coronavirus pandemic.

This year we will publish new targets in our Carbon Management Plan.

Table 4: Carbon metrics and targets

Scope	Target	Status
Scope 1 (CVL traction)	100% reduction*	In progress: expect a 100% reduction by end of 2027.
Scope 1 (Wales and Cross-Border traction)	30% reduction*	In progress: as of December 2025, 71% of timetabled journeys are served by new trains and trains new to Wales.
Scope 2	100% reduction*	We have had a 100% renewable electricity contract in place since 2023/24. Under Welsh Government methodology, we cannot count this as zero emissions. See the Climate Report for more information.

* Targets are measured against a 2020/21 baseline year. The target date is currently under revision and will be published in our Carbon Management Plan during 2026/27.

Reporting Enhancements

To help us understand more about the emissions we produce, we have developed robust accounting and reporting processes for our carbon emissions in line with Welsh Government's reporting guidance for the public sector.

- Emissions tracked every four weeks across electricity, gas, water, waste, fuel, and renewable generation.
- Commuting and homeworking emissions estimated via annual staff travel surveys and FTE-based modelling.
- Data submitted to Welsh Government for validation and benchmarking.

Summary and Next Steps

In summary, we have initiated an assessment of the potential impacts of future climate change on our owned assets and plan to broaden this work to include transitional risks. Our Adaptive Capacity Maturity Matrix serves as a valuable tool in identifying the necessary steps to strengthen our ability to adapt to climate change and build resilience against the risks we have identified.

Although we have made meaningful progress, further efforts are needed. Over the coming years, we aim to enhance our preparedness and adaptability in the face of a changing climate by:

- Developing our Weather Resilience and Climate Change Adaptation Strategy.
- Finalising and publishing the Carbon Management Plan (2025/26) which will include our new metrics, targets and KPIs.
- Implementing the Energy and Carbon Improvement Plan to deliver low-carbon infrastructure projects.
- Continuing to collaborate with public sector partners to achieve collective net-zero goals by 2030.