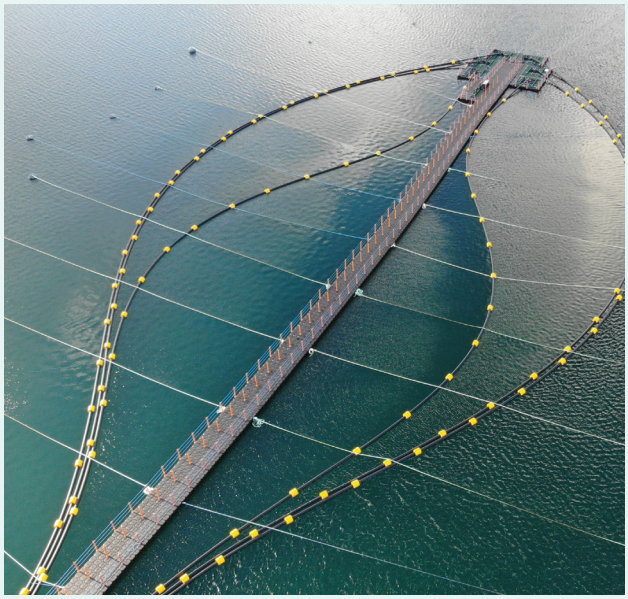
Pennon



Bringing Water to Life

Supporting the lives of people and the places they love for generations to come

Task Force on Climate-related Financial Disclosures

2024

Task Force on Climate-related Financial Disclosures (TCFD) and Task Force on Nature-related Financial Disclosures (TNFD)

We are driven by our strategic focus of leading on UK environmental infrastructure, delivering for the benefit of our customers, communities, and the environment.

We are committed to meeting the challenges arising as a result of climate change, the nature emergency, and the transition to Net Zero.

Our regulated water business is the main focus of our TCFD & TNFD disclosures, with the majority of our assets, revenues, and expenditures related to this area of our business.

TCFD recommendations

Created by the Financial Stability Board (FSB), the TCFD published its recommendations in June 2017. This is our fifth year of TCFD reporting and the below shows our progress and compliance with the recommendations including the updated TCFD guidance (2021 Annex).

In alignment with FCA listing rule 9.8.6R(8) we have taken into account available knowledge and guidance concerning the listing rule and climate-related risks to develop our compliant TCFD disclosure. Each year our disclosures have been enhanced as knowledge and guidance improves. Pennon has addressed the 11 recommended disclosures and has considered the latest best practice guidance from the TCFD.

As part of our ongoing TCFD programme, we have continued to enhance our assessment of physical risks, transition risks, and climate-related opportunities.

TNFD recommendations

The TNFD published its final framework for nature-related financial disclosures in September 2023. This is our third year of voluntarily reporting against the TNFD framework. This year we are taking the opportunity to integrate TNFD into our TCFD disclosures, recognising the substantial overlap and synergies for our business between action on climate change and the nature emergency. At the same time, we also recognise some trade-offs in meeting our goals around resilience, Net Zero, and nature.

We acknowledge there is further work to do on the recommended TNFD disclosures, and we are continuing to monitor the inclusion on nature-risks in the UK sustainability disclosure requirements.

Developments in 2023/2024

2023 was another year of record-breaking weather with higher than average rainfall rates and frequent storms bringing extreme rainfall and winds. This has presented operational challenges to overcome and although we have ensured the safe and secure supply of water and wastewater services in the region, it further highlights the need for climate change resilience and preparedness. These events have provided us with significant insight into our resilience to these kinds of events (which we may see more frequently in the future), which are factored into our update of our physical climate risk assessment and our review of adaptive strategies.

In addition to our published Water Resources Management Plan (WRMP24) and Drainage & Wastewater Management Plan (DWMP), South West Water developed its £2.8 billion business plan proposal (2025-2030) for PR24, focusing on water quality and resilience, storm overflows and pollution, net zero and environmental gains, and addressing customer affordability. Therefore, our TCFD disclosure reflects updated current and future actions to mitigate risks and realise opportunities. The updates to our climate risk assessments also consider new climate-related evidence and recent publications from the Intergovernmental Panel on Climate Change (IPCC) and Climate Change Committee (CCC), further to recent publications from Ofwat (our economic regulator) on scenario analysis, adaptive planning, PR24 methodology, and updates in regulation and legislation, the latter of which gives us greater confidence in our transition risk impact reporting in the short term.

Our Company has continued to grow over the past year, with Pennon Power acquiring four new renewable energy generation projects to accelerate our transition to Net Zero, and the acquisition of SES Water. Through Pennon Power we are realising some of the benefits described in our opportunities, whilst in our view SES Water's material climate risks and opportunities will be similar to the SWW water business risks. We are taking the opportunity to further our resilience this year as we update our Climate Adaptation Report as part of the UK government's adaptation reporting cycle to feed into the next UK Climate Change Risk Assessment.

We are focused on delivering for our stakeholders including our customers and shareholders. As a result, we are continuing to embed climate change resilience, sustainability, and nature-positive practices into decision making within our business, as well as managing the near-term inflationary pressures including power prices. We will also continue to manage changes to our investments to explore new technology, materials, and nature-based solutions, within the current global constraints on capacity and supply chains to deliver both affordability and fairness for our customers.

As a Group, we maintain consistent and strong reporting with the CDP, presenting our efforts to combat climate change and our GHG emissions since 2013. Our GHG emissions performance continues to improve, reported through our CDP Climate Change submission in which we received a B in 2023 for both climate change and water security. You can read about our GHG emissions performance on page 71.

Governance

Our governance around climate-related and nature-related risks and opportunities

2023/24 progress	2024 and beyond
• We are continuing to enhance our governance framework, including increased recognition of the role that each Board Committee and several executive committees play in managing climate-related risk and opportunities. • We continue to incorporate carbon values into our investment decision-making, and we continue to incentivise our Executives to deliver climate and environmental goals.	• We will continue to further embed climate resilience and consider enhancements to our governance around nature-related risks and opportunities. • We will continue to further embed the assessment and identification of climate-related risks and nature-related risks within our investment appraisal processes.

Strategy

The actual and potential impacts of climate-related and nature-related risks and opportunities on our business, strategy, and financial planning

2023/24 progress	2024 and beyond
• We have reviewed and enhanced our assessments of physical and transitional climate risks and opportunities. We have re-assessed the materiality of key risks with stakeholders across the Group and enhanced the actions we are taking to manage the most pressing risks. • We have considered climate change and nature recovery in South West Water's strategic planning for Water Resources (WRMP24) and our PR24 Business Plan.	• We will continue to integrate our climate risks within our existing risk management systems and risk registers across the Group. Risk owners will continue to drive and monitor action to manage risks and pursue opportunities. • We will consolidate our assessment of nature-related risks and opportunities to identify our most material risks. • We will continue to review our policies and strategic decision-making across the Group in order to enhance considerations of climate and nature risks and opportunities.

Risk management

The processes we use to identify, assess, and manage climate-related and nature-related risks and opportunities

2023/24 progress	2024 and beyond
• We have reviewed our principal risks and enhanced our recognition of how climate change, Net Zero, and the nature emergency impact and influence our principal risks.	• We will continue to review and update our management of climate and nature risks and our decision-making frameworks to ensure risks are clearly identified and assessed through the investment processes and operational decision-making.

Metrics and targets

The metrics and targets we use to assess and manage the relevant climate-related and nature-related risks and opportunities

2023/24 progress	2024 and beyond
• We have continued to monitor key metrics linked to selected climate risks and opportunities, and our investments in climate action. We are tracking progress against our ESG targets and our Net Zero commitments and renewable energy generation. • We are undertaking analysis to quantify key risks, such as major assets at risk of coastal flooding.	• We are continuing to explore options to develop quantitative metrics for our key climate risks and opportunities, and exploring our ability to report on our capital expenditure related to climate action.

Climate-related and nature-related governance

Board oversight

The Group has a strong governance structure in place to oversee the effective operation of our business and to manage all risks - including climate-related and nature-related risks and opportunities. Overall ownership and responsibility for risks, opportunities, and mitigation actions is held by the Pennon Group Board and CEO. Various Board Committees and executive sub-committees play a key role in overseeing climate-related and nature-related risks within their domain.

The Group recognises that climate change, the nature emergency, and the transition to Net Zero impacts and influences several of the Group's principal risks (see our Principal Risks report on page 55). Principal risks are reviewed as part of our audit governance processes. During the regulatory period, climate change planning is assessed to ensure the business remains resilient to changes to its capital programme.

Pennon Group and South West Water Boards

The Group and South West Water Boards provide oversight to the management of our climate-related and nature-related risks and opportunities, through the ESG Committee. The Boards have overall responsibility for the Group's risk management policies and processes, and all principal risks are reviewed by the Boards on a regular basis. The Boards consider climate-related and nature-related risks and opportunities throughout its duties - including when considering the Group's strategy and objectives, monitoring business and operational performance, business planning and annual budget setting, reviewing major capital expenditures and existing investments, and in considering acquisitions/divestments. We are continuing to enhance the awareness and capacity of our Boards and senior executives relating to climate and nature risks and opportunities. For more information see our Corporate Governance report pages 112 to 174.

Board Committees

All Board Committees play a role in managing our climate-related risks and opportunities, and several play a role in managing our nature risks and opportunities, and we are continuing to raise awareness of these issues across Board Committees. Matters are escalated to the Board as appropriate. Board Committees report their actions and decisions to the Board, ensuring robust governance - including for matters influenced by climate change, nature recovery and the transition to Net Zero. The responsibility for climate-related and nature-related risks and opportunities is cascaded through the business in order to meet our targets and objectives. Governance of nature-related risks and opportunities will be enhanced in the next AMP period when our performance commitments will include biodiversity.

Audit Committee

Attendance: Meets 4 times annually. Attended by the Chair and other Non-Executive Directors.

Role relating to climate risks and opportunities: The Committee monitors the Group's financial reporting, including how the impacts of climate risks are accounted for in financial statements. The Committee also reviews key risks and opportunities (including climate-related risks), and challenges and tests the Group's internal control processes including risk management and internal audit. Further information on page 136.

ESG Committee

Attendance: Meets 4 times annually. Attended by the Pennon Board, CEO, and other Group Executives.

Role relating to climate and nature risks and opportunities: Provides the platform for discussion of the Group's ESG agenda and related climate and nature risks and opportunities, as well as setting and reviewing key metrics relating to our '6 capitals' assessments, and reviewing performance against ESG targets and goals. The Sustainable Financing reporting and monitoring is reported to the Committee for onward submission to the Board. Further information on page 144.

Nomination Committee

Attendance: Meets 4 times annually. Attended by the Chair and other Non-Executive Directors.

Role relating to climate risks and opportunities: Considers competency related to climate risks and opportunities when reviewing the structure, size, and composition of the Board and senior executives In the Group. Further information on page 131.

Remuneration Committee

Attendance: Meets 4 times annually. Attended by the Chair and other Non-Executive Directors.

Role relating to climate risks and opportunities: Considers the Group's objectives and responsibilities, and advises the Board on the framework of executive remuneration for the Group and for the wider workforce, including mechanisms to incentivise achievement of the Group's objectives related to climate change, Net Zero, and sustainability goals. Further information on page 148.

Health and Safety Committee

Attendance: Meets 2 times annually. Attended by the Chair, CEO, and other Non-Executive Directors.

Role relating to climate risks and opportunities: Supports the Executive Board on matters of risk across all areas of health and safety, resilience, and process safety - including areas impacted by climate-related risks, particularly related to harm from extreme weather events. Also reviews the effectiveness of the Group's procedures for H&S reporting and performance. Further information on page 146.

PR24 Committee

Attendance: Meets during the Board cycle to review and monitor the PR24 Business Plan progress. Attended by the Chair, other Non-Executive Directors, CEO, CFO, and other Group Executives.

Role relating to climate and nature risks and opportunities: Considers climate change, nature recovery, and Net Zero as part of business planning and the Group's PR24 strategy.

Management's role

Executive managers play a key role in identifying, assessing, and managing climate-related risks and opportunities, and Executive managers sit on relevant Executive committees. The responsibility for climate-related and nature-related risks is owned, managed, and assessed by a number of the Group's management teams across our business including our management responsible for water resources, wastewater, regulation, procurement, engineering, natural resources/biodiversity, and finance. Risk is identified and categorised in different parts of our business prior to being formally passed onto senior management responsible for those business functions. Each business function and department maintains a risk register, and management escalate risks to the Executive Committees as appropriate. We are continuing to raise awareness and the capacity of teams and executive management to identify, assess, and manage climate and nature risks and opportunities.

The Executive Directors' remuneration policy is set to incentivise the achievement of key performance objectives. This includes ESG objectives and performance including targets relating to climate resilience, carbon reduction, water quality, environmental performance, the working environment for our employees, and diversity.

Pennon Executive Board[1]

Attendance: CEO, CFO, COO, GCCS, CPO, CCDO, Director of Regulation Strategy and Net Zero of SWW, Chief Engineering Director of SWW, Director of Drought and Resilience of SWW.

Role relating to climate and nature risks and opportunities: The Committee monitors, approves and reviews business objectives and plans, and provides challenge and feedback to investment decisions. Throughout these processes climate-related and nature-related risks and opportunities are considered and actions to manage risks are embedded in business planning and investment decision-making. There are several executive committees who report to Pennon Executive Board (PEX), and below are some of the key committees which consider climate-related risks and opportunities within their remit:

- South West Bournemouth Bristol Executive Board (SWBB) - oversees and informs Board Committees on operational performance and risks across the regulated water businesses, including the impacts of climate-related and nature-related risks to operations, and the actions being taken to manage operational risks.
- Net Zero Executive Committee - monitors, reviews, and provides support for the implementation of the Net Zero Strategy, including considering risks and opportunities relevant to delivery of the strategy, including nature-based solutions.

Strategy

We are recommended by TCFD to disclose the actual and potential impacts of climate-related and nature-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.

Climate-related risks and opportunities

Our most material physical and transitional climate-related risks and opportunities are presented on the following pages. These have been identified by considering the climate scenarios described on page 102. The risks have been assessed using the Pennon 4x4 risk assessment matrix which puts the highest risks in the red category under the RAG rating. Further information on our risk assessment methodology can be found on page 55. We have identified impacts over short (0-10 years), medium (10-30 years) and long term (30-100 years) horizons (the rationale behind these time horizons is presented on page 102).

Due to the nature of our business, the opportunities are not only assessed on their ability to increase our revenues; some are opportunities to save costs and/or carbon, which supports our ability to provide the best outcomes for our customers and stakeholders.

We then present our findings from scenario analysis, exploring the potential range of impacts and our strategic responses under plausible contrasting climate scenarios (see page 103).

1. CEO = Group Chief Executive Officer, CFO = Group Chief Financial Officer, GCCS = Group General Counsel & Company Secretary, COO = Chief Operating Officer of SWW, CPO = Group Chief People Officer, CCDO = Chief Customer and Digital Officer of SWW

Key

Risk ratings: High | Medium | Low

Risk Trend: Increasing | Stable | Decreasing

Physical climate risks

	Key impacts identified on our operations and customers
Key physical climate risks Increasing frequency and intensity of droughts - risks to water supply, wastewater networks, and services. **Relevant time horizon** Short, medium and long term, with increasing likelihood and magnitude of risk over each horizon **This year's risk rating** **Current risk rating** **Risk score in 2050 without further action**  **Last year's risk rating** Current risk rating Risk score in 2050 without further action 	• Sustained drought can lead to supply shortfalls with a heightened risk for recovering water storage if there are consecutive drought years. • Risk compounded by high temperature events that increase daily and peak demand for garden watering, crop irrigation, and tourism exceeding the capacity to redistribute water. • Drought events lead to loss of supply and de-pressurisation of pipelines, greater incidence of pipe failure and contamination. • More extreme wetting and drying cycles cause soil movement, more pipe movement/ subsidence and bursts/ increased leakage. • Lower river flows, as a result of drought events, reduce yields. Could lead to reductions in our future abstraction allowances and increased need to release more water to rivers/the environment (see also 'Climate-related regulation in the Water sector' transition risk). • Lower groundwater levels reduce borehole yields. Intake, borehole pump and reservoir draw-off levels may not match reduced levels. • Water companies are legally expected to protect, restore and enhance the environment, which includes ensuring sustainable abstraction practices to leave enough water for the environment. This becomes more challenging during droughts. • Saline intrusion due to lowering groundwater compounded by sea level rise (see 'Rising sea levels' risk). • Decreased quality of raw water (see 'gradual and significant increasing average and high temperatures - risks to water quality and water treatment'). • Impacts on wastewater networks due to low flows from surface water. • Low water levels lead to increased incidences of invasive non-native species (INNS) as they are de-stressed and seek new habitats.
Key physical climate risks Gradual and significant increasing average and high temperatures - risks to water quality and water treatment **Relevant time horizon** Short, medium and long term, with increasing likelihood and magnitude of risk over each horizon **This year's risk rating** **Current risk rating** **Risk score in 2050 without further action**  **Last year's risk rating** Current risk rating Risk score in 2050 without further action 	• Decreased water quality (odour, discolouration, dissolved organics, cryptosporidium) requiring additional resources and cost to remove pathogens from drinking water or ensure water quality meets regulatory standards at water treatment works (WTWs). • Increased microbe propagation and survivability affecting treatment processes. • Higher septicity levels in received wastewater. • Algal blooms, triggered by catchment runoff, are exacerbated by higher temperatures. • Higher peak demand for water compounded by reduced runoff yields due to higher temperatures increasing evaporation (see 'Increasing frequency and intensity of droughts' risk). • Decreased water quality compounded by overheating of equipment/assets. • Cascading impacts to interdependent networks (e.g. power supply) from overheating, leading to service disruption. • Increased prevalence of INNS.

Examples of our actions to mitigate risks and realise opportunities	Primary financial and reputational impacts to our business
Current actions: • Collaborative water resource management planning – West Country Water Resources and Water Resources South East. • Drought planning including more extreme events. Stochastic and multi-year drought analysis to test how water supply systems perform in extreme prolonged droughts. • Prioritisation of support for vulnerable customers during droughts. • Demand management and water efficiency, including increased metering, Per Capita Consumption (PCC) reductions and leakage reduction strategy. • Smart Saver tariff trial. • Cheddar 2 reservoir in Bristol and water reuse plant in Poole. • Water grid to ensure all strategic reservoirs are connected and improve resilience. • Leakbot trial to reduce leakage levels. • Smart pond trial to provide a local storage solution. • Investigation of regional water transfers. • Potential Abstraction Incentive Mechanism (AIM) schemes. • Enhancements to distribution system to remove bottlenecks/ support us to meet peak demand. • Desalination schemes in development to enhance our drought management in both Isle of Scilly and Cornwall. • Repurposing quarries to provide new storage. **Planned or future actions:** • West Country Water Resources Regional Plan 2029 and Water Resources Management Plan 2029 water treatment improvements and wastewater reuse. • Potential for additional desalination schemes. • Ability to convert Mayflower Water Treatment Works (WTWs) to water reuse plant when, and if required in the future. • Mainstream smart ponds.	**Impacts from mitigating the risk:** We could incur increased expenditure (Opex and Capex) to increase capacity for water supply infrastructure, and to manage drought conditions and water demand. Some of these costs could be recoverable through the regulatory system. Increased energy and material use could impact our operational and embodied carbon. **Impacts of the unmitigated risk:** Service disruptions could negatively impact our reputation and reduce ODI rewards/ increase ODI penalties (affecting our revenue). We could face additional expenditure (Opex and Capex) to recover from service disruptions, reduce leakage, and manage water demand. Some of our assets could deteriorate and face impairment due to physical impacts.
Current actions: • Upstream Thinking catchment management programme tackling raw water quality to increase resource availability in 80% of our drinking water catchments. • Investment in six treatment works including granular activated carbon at certain WTWs. • Robust health and safety practices and management. • Farm water efficiency and resilience project – 1,000 pond nature-based solutions. • Biodiversity management and INNS programmes. • Installation of cooling systems for equipment/assets. **Planned or future actions:** • Upgrade to granular activated carbon treatment at further WTWs.	**Impacts from mitigating the risk:** We could incur increased expenditure (Capex and Opex) for water and wastewater treatment and odour management, and to increase capacity for water supply infrastructure. Some of these costs could be recoverable through the regulatory system. Increased energy and material use could impact our operational and embodied carbon. **Impacts of the unmitigated risk:** Service disruptions and lower-quality service provision could negatively impact our reputation and reduce ODI rewards/increase ODI penalties (affecting our revenue). We could incur increased expenditure (Capex and Opex) to recover our services or use alternative water supplies. Some of our assets could deteriorate and face impairment due to physical impacts.

Key

Risk ratings: High | Medium | Low

Risk Trend: Increasing | Stable | Decreasing

Physical Climate Risks continued

	Key impacts identified on our operations and customers
Key physical climate risks Increasing frequency of heavy rainfall and floods - risks to assets and services, water quality, and the environment **Relevant time horizon** Short, medium and long term, with increasing likelihood and magnitude of risk over each horizon **This year's risk rating** **Current risk rating** **Risk score in 2050 without further action** **Last year's risk rating** Current risk rating Risk score in 2050 without further action 	• Impacts from intense rainfall overwhelming the surface water drainage system and from prolonged rainfall leading to groundwater flooding. • Flooding of assets and treatment works, loss of access to assets, and greater sediment levels in raw water which disrupt services and potentially impact the environment. • Cascading impacts to interdependent networks (e.g. power supply) from flooding, leading to service disruption. • Increased groundwater leading to increased infiltration into assets. • Increased volumes of storm-water exceed pump capacity leading to service failures. • Exceedance of storm tank design and asset flooding/damage with interruption to service. • Increased frequency and duration of storm overflows, with potential impacts to water bodies - including potential closure of beaches. • Increased river flows and risk of bank erosion exposing wastewater pipes, increasing the risk of collapse. • Catchment erosion in moorland or peatland areas, with nutrients leaching that increase algal growth in waterbodies and reservoirs. • Dilution of, and rapid variations in, influent flows – longer retention of water in storm tanks leads to increased septicity and operational problems. • Increased flood incidence impacts water quality for some boreholes, may result in temporary inaccessibility or contamination. • Increased turbidity of water sources. • Increased river flows and riverbank erosion. Risk to riverside pipework and assets.
Key physical climate risks Rising sea levels and coastal erosion - risks to assets and services **Relevant time horizon** Short, medium and long term, with increasing likelihood and magnitude of risk over each horizon **This year's risk rating** **Current risk rating** **Risk score in 2050 without further action**  **Last year's risk rating** Current risk rating Risk score in 2050 without further action 	• Direct asset damage from flooding, storm damage and/or coastal erosion. • Cascading impacts to interdependent networks (e.g. power supply) due to damage from coastal flooding, storm damage and/or coastal erosion. • Rising sea levels increase the extent of the saline intrusion zone. Tidal limits move upstream, causing increased salinity at river intakes. This can cause accelerated asset deterioration and reduced process performance efficacy. • Increased health and safety implications e.g. hydrogen sulphide gas from wastewater treatment works. • Saltwater intrusion of groundwater sources causing source to become unusable (compounded by lowering groundwater levels – see our 'Increasing frequency and intensity of droughts' risk). • Coastal estuarine storm overflow discharges become tide-locked hindering free discharge. • Increased environmental ambition by other stakeholders to replace lost coastal habitat and manage coastal erosion, impacting our assets and services (in some cases requiring us to carry out actions which may not be funded through the regulatory system).

Examples of our actions to mitigate risks and realise opportunities	Primary financial and reputational impacts to our business
Current actions: • Drainage & Wastewater Management Plan (DWMP) which includes working closely with other flood risk management organisations to develop shared solutions. • Asset flood risk assessments undertaken every five years. • Contingency planning in flood risk hotspots e.g. River Otter, including prioritisation of support for vulnerable customers. • Sites have temporary deployable flood protection. • Investment in current period to improve flood defences at four WTWs to provide resilience up to 1-in- 1,000-year events. • Catchment management through Upstream and Downstream Thinking. • Continued investment in our WaterFit Plans - reducing storm overflow releases and improving river and coastal water quality, creating and restoring habitat, and looking to inspire local champions to improve water quality through schools and communities. • Partnership flood schemes e.g. Countess Wear Wastewater Treatment Works (WWTW) (Exeter). • Catchment Systems Thinking Co-operative (CaSTCo) project with the Centre for Resilience in Environment, Water and Waste (CREWW). Considers how nature based solutions can help reduce surface water inputs to the combined sewer network. • Natural catchment management plan pilot study. **Planned or future actions:** • Continue to work closely with other flood risk management organisations on our shared responsibility for surface water flooding and drainage. • Further sewer separation schemes in areas at risk. • Surface water drainage plans and investment in key areas. • Expand our Upstream Thinking initiative. • Real-time monitoring and control e.g. at all Combined Sewer Overflows (CSO). Improved data recording has led to more transparency of this risk. • Promote improved understanding that the number of CSOs does not directly equate to environmental or human health impact. • Continue to improve incident management. • Assess storm overflow solutions using the 'Green First' principle prioritising the consideration of nature-based solutions. Pilot study to develop a natural capital plan.	**Impacts from mitigating the risk:** We could incur additional expenditure (Opex and Capex) to improve operational resilience and flood defences, and to enhance our Upstream and Downstream Thinking programmes. Some of these costs could be recoverable through the regulatory system. Increased energy and material use could impact our operational and embodied carbon. **Impacts of the unmitigated risk:** Service disruptions and combined storm overflows could negatively impact our reputation and reduce ODI rewards/ increase ODI penalties (affecting our revenue). We could incur additional expenditure (Opex and Capex) to recover our services and repair damaged assets. Some of our assets could deteriorate and face impairment due to physical impacts.
Current actions: • Asset flood risk assessments undertaken every five years. Recent risk assessment incorporates the latest UK Climate Projections. Informs the development of Shoreline Management Plans to working collaboratively with other land holders on shared solutions. • Managing risk to sites through existing Operational Response and Recovery Plans. • Drainage and Wastewater Management Plan (DWMP) • Prioritisation of support for vulnerable customers. • Improved flood resilience of all assets in the coastal floodplain. • Partnership flood schemes e.g. Countess Wear WWTW (Exeter). • Protection of sites from saline intrusion/incursion (Otter Basin). • Continuing work with stakeholders involved in managing coastal erosion. **Planned or future actions:** • Protection of further sites from saline intrusion/incursion. • Desalination programme to replace 'at risk' sources such as Isles of Scilly boreholes. • Ongoing work with other risk management authorities to inform the development of the relevant Shoreline Management Plans.	**Impacts from mitigating the risk:** We could incur additional expenditure (Opex and Capex) for protecting our sites and assets from coastal flooding and saline intrusion. Some of these costs could be recoverable through the regulatory system. Increased energy and material use could impact our operational and embodied carbon. **Impacts of the unmitigated risk:** Service disruptions could negatively impact our reputation and reduce ODI rewards/increase ODI penalties (affecting our revenue). We could face additional expenditure (Opex and Capex) for using alternative water supply if sites/sources become unusable. Some of our assets could deteriorate and face impairment due to physical impacts.

Key

Risk ratings: High | Medium | Low

Risk Trend: Increasing | Stable | Decreasing

Physical Climate Risks continued

Key impacts identified on our operations and customers

Key physical climate risks
Increasing frequency of extreme weather events, heatwaves and storms – Acute risks to assets and services

Relevant time horizon
Short, medium and long term, with increasing likelihood and magnitude of risk over each horizon

This year's risk rating

Current risk rating

Risk score in 2050 without further action

Last year's risk rating
Current risk rating

Risk score in 2050 without further action

- Power supply failure due to high winds, heavy rainfall/flooding, lightning at key network and treatment sites and resultant cascading impacts to interdependent networks, including water supply delivery and wastewater management.
- Cold snaps and freeze/thaw events leading to pipe bursts/ increased leakage.
- Reduced ability for our services and assets to recover under consecutive storms.
- Surges in customer water-use during heatwave events leads to operational challenges to treat and distribute water at pace even when there is enough water in sources (also see 'Increasing frequency and intensity of droughts' risk).
- Damage to our assets due to extreme weather and/or heatwaves e.g. overheating of electrical equipment.
- Decreased water quality during heatwaves.

Climate transition risks

Key impacts identified on our operations and customers

Type as defined by TCFD
Policy, Regulation and Legal Risks

Relevant time horizon of risk

Short and medium term
Potential for this risk to decrease over time as regulation evolves to remove contradictions and misalignment, and as leadership on climate action becomes commonplace across Government and the economy.

Current risk rating

Last year's risk rating

Risk of challenges balancing trade-offs in regulation in the Water sector between agendas of Net Zero, climate resilience, environmental enhancement, and other objectives, posing the risk of increasing costs and carbon: Potential undesired climate outcomes due to trade-offs in regulatory priorities. Challenges with balancing objectives to improve environmental outcomes while reducing carbon emissions at the same time as rapid changes in climate-related policies and regulations are occurring in the Water sector.

A holistic and balanced approach to delivering our goals for Net Zero, providing a resilient water supply and protecting and enhancing the environment, could be at risk if one agenda imposes more stringent regulation, thus presenting a misalignment in the pace with which preferably holistic actions can be delivered relative to actions that benefit a single more stringent agenda. In some cases, new/enhanced policies and regulations pose a risk due to increasing costs to Pennon or increasing Pennon's carbon footprint, in other cases the absence of policies and regulation pose a risk due to potential that costs incurred by Pennon may not be recovered through the regulatory system.

Some examples include:

- More stringent environmental regulation being imposed in response to the climate adaptation and nature positive agenda, including the pace with which requirements are being imposed.
- Reduced abstraction allowances and increased compensation flows into our rivers being imposed (see our 'drought' physical risk).
- Increased environmental ambition by other stakeholders to replace lost coastal habitat and manage coastal erosion (see our 'rising sea levels' physical risk).
- Changes to carbon accounting methodologies and scope boundaries, including switch to location-based GHG accounting methodology instead of market-based accounting (e.g. disincentivising power purchase agreements (PPAs) for renewable energy).
- Use of modular desalination to ensure drought resilience at pace, but leading to increased energy consumption.
- Enhanced requirements which increase Pennon's energy and carbon footprint e.g. phosphorus removal, UV disinfection, reducing combined sewer overflows in cases where the scale and pace required disadvantages nature-based solutions.
- Regulation in contradiction to achieve overall Net Zero goals, and regulatory system providing limited incentives for wider Net Zero action outside of the regulated water business.

Examples of our actions to mitigate risks and realise opportunities

Current actions:

- Cold weather plan, including prioritisation of support for vulnerable customers.
- Investment in centralised control room and alternative water supply teams.
- Appointment of a new incident management team.
- Improved staff incident training.
- Working with other water companies to develop a business continuity and visualisation tool that will support operational decisions and reduce customer impacts, including to the most vulnerable people.
- Backup power at plants to manage risks of energy supply interruption.
- Programme of generator roll-outs.
- Recovery plans for 100 WWTWs.
- Working with other stakeholders (e.g. energy providers) to enhance resilience.
- Mutual aid agreements to manage competing responses for aid during emergency events.
- Strategic water grid to enhance resilience of supply.
- Diversified energy supply with our own generation of renewable energy provides additional energy resilience.

Planned or future actions:

- Extend real-time monitoring and control.
- Extend recovery plans at more WWTWs.
- Invest in mobile granular activated carbon units.
- Further investment in generating renewable energy and back-up power.
- Use of drones during drought and high temperature events to identify leaks.
- Public value assessments in decision-making (balancing trade-offs of different agendas, and contradictions in the regulatory framework).
- Seeking opportunities for additional funding, making the investment case based on core water company activities.
- Future climate adaptation planning and transition planning.

Primary financial and reputational impacts to our business

Impacts from mitigating the risk:

We could incur additional expenditure (Opex and Capex) for maintenance and upgrades to assets to enhance resilience to storms. Some of these costs could be recoverable through the regulatory system. Increased energy and material use could impact our operational and embodied carbon.

Impacts of the unmitigated risk:

Service disruptions could negatively impact our reputation and reduce ODI rewards/increase ODI penalties (affecting our revenue).

We could face additional expenditure (Opex and Capex) to restore services and repair assets. Some of our assets could deteriorate and face impairment due to physical impacts.

Examples of our actions to mitigate risks and realise opportunities

Balancing trade-offs from actions to address different agendas in policy and regulation:

Current actions:

- Horizon scanning to identify emerging/changing regulation.
- Stakeholder engagement/public relations management.
- Net Zero programme.
- Engaging with regulators to explain the climate change impacts of new regulation.
- Working with others in the sector to clarify carbon accounting approaches.
- Widely engaged with around 200,000 customers and stakeholders over the past two years in developing PR24 business plan. These engagement activities will continue across the region.
- Working with our WaterShare+ Customer Advisory Panel gives us an opportunity to continuously engage our customers and share our work on sustainability and resilience.
- Adaptive planning approach within WRMP24 and DWMP23, including high, moderate, and low environmental ambition.
- Considering options which Pennon can take outside of the regulatory framework (e.g. offsite investment in renewable energy).
- Ofwat innovation fund being explored to provide additional investment to support Pennon's ambitious objectives.
- Establishment of the Centre for Resilience in Environment, Water and Waste (CREWW) to collaborate with academia and tackle challenges facing water sector.

Future actions:

- Pursuing opportunities through our Upstream Thinking programme which includes nature-recovery programmes across our region and other nature-based solutions where these are acceptable under the regulation.
- Investment in innovation/ research and development, and investment in enhancements to resilience to key climate risks.
- Considering applying an internal carbon price to consider full costs and benefits of decisions.
- Public value assessments in decision-making (balancing trade-offs of different agendas, and contradictions in the regulatory framework).
- Seeking opportunities for additional funding, making the investment case based on core water company activities.
- Future climate adaptation planning and transition planning.

Primary financial and reputational impacts to our business

Impacts from mitigating the risk:

We could incur increased expenditure (Capex and Opex) due to changes to regulation, for example costs related to installation and operation of new process equipment to meet enhanced regulations. Some of these costs could be recoverable through the regulatory system. Increased energy and material use to meet increased regulatory requirements has potential to increase our footprint through operational and embodied carbon.

Impacts of the unmitigated risk:

If we fail to balance regulatory requirements, we could face reduced ODI rewards/ increased ODI penalties (affecting our revenue). Public perception of how we balance trade-offs could result in negative impacts on our reputation (see our see our 'Negative public and stakeholder' relations risk).

Some of our assets could incur obsolescence and impairment if they are driving high carbon emissions or poor environmental outcomes.

Key

Risk ratings: High | Medium | Low

Risk Trend: Increasing | Stable | Decreasing

Climate transition risks continued

Key impacts identified on our operations and customers

Type as defined by TCFD

Policy, Regulation and Legal Risks

Relevant time horizon of risk

Short and medium term

In the short term the risk is more focused on funding to achieve Net Zero, over the medium and long term the risk will increasingly focus on funding to enable adaptation to climate change.

Current risk rating

Last year's risk rating

Regulatory funding risk for achieving Pennon's goals for operational Net Zero by 2030 and adapting to climate change : Risk that the investment required to transition to operational Net Zero by 2030, and investment to proactively adapt to climate change in the time period targeted by Pennon, is not allowed under the regulatory framework.

Examples of our actions to mitigate risks and realise opportunities

Managing regulatory funding risk:

Current actions:

- Business planning and integration of carbon and multi-capitals into decision-making frameworks.
- Engagement with regulators and customers and stakeholders.
- Public campaigns/awareness of investment need for climate action including TCFD programme.
- Exploring options to ensure a return on investment for some climate-related actions.
- Demonstrating/communicating that operational Net Zero 2030 for the water sector is a helpful milestone on the way to Government's goal for Net Zero 2050.
- Pennon Power funded by Pennon Group balance sheet outside of regulatory funding.
- Exploring options which Pennon can take outside of the regulated water businesses (e.g. offsite investment in renewable energy, enhancing revenue through water resource schemes for other companies).
- Horizon scanning for opportunities to achieve Net Zero goals under available regulatory funding mechanisms.

Future actions:

- Explore options for third-party funding or partnerships for climate action.
- Potential for Pennon to review climate change objectives if they are not supported by regulators and Government.
- Bioresources investment plan (pending funding).

Primary financial and reputational impacts to our business

Impacts from mitigating the risk:

We could incur increased expenditure (Capex and Opex) to take actions outside of the regulated water business, and to enhance engagement with regulators and stakeholders. There is potential for us to increase our revenue through some actions. See our 'Products and Services' climate opportunity.

Impacts of the unmitigated risk:

If we cannot proactively invest in carbon reduction and climate resilience we could face reduced ODI rewards/ increased ODI penalties (affecting our revenue).

Increased costs to our customers in the long-term would negatively impact our reputation (see our 'Negative public and stakeholder relations' and 'Customer affordability' reputation risks).

Some of our assets could deteriorate and face impairment due to physical impacts from climate change.

We may be limited in our ability to reduce our carbon emissions due to funding constraints.

Key

Risk ratings: High | Medium | Low

Risk Trend: Increasing | Stable | Decreasing

Climate Transition Risks continued

Type as defined by TCFD

Technology Risks

Relevant time horizon of risk

Short and medium term

In the short term the risk is primarily driven by limited supply and readiness of technology and resources (due to past underinvestment in skills development and infrastructure across the UK and beyond, particularly in the South West); over the medium term the risk will be increasingly driven by high demand for technology and resources.

Current risk rating

Last year's risk rating

Key impacts identified on our operations and customers

Capacity and readiness of technology and resources to achieve Net Zero before other sectors and the wider UK: Risks that skills, technology, resources, and infrastructure are not ready and available to enable Pennon's transition to Net Zero operational carbon by 2030, resulting in delays and in some cases resulting in Pennon paying high costs to access resources. Some examples include:

- Availability and capacity of Pennon's workforce and supply chain to procure and design low-carbon solutions (which is compounded by wider risks, such as geopolitical events and macroeconomic conditions such as high inflation).
- Availability and capacity of technology and infrastructure, particularly in the South West of England, to enable development of Pennon's renewable energy projects and other Net Zero programme activities.
- High demand for resources and technologies from others causing delays and increasing costs for Pennon (e.g. demand for expertise, batteries, electric vehicles).
- Unsuccessful investment in new technologies/approaches, or technology which is then superseded, including risks around recovering costs through the regulatory system.
- Innovation required to reduce process emissions is of larger scale than originally understood, amplifying the risk of potential unsuccessful R&D Investments, and the risk of taking investment decisions which in future turn out to be suboptimal / high-regret.
- Readiness of some nature-based solutions for implementation and some uncertainty in performance of nature-based solutions.

Examples of our actions to mitigate risks and realise opportunities

Managing capacity constraints in Pennon:

Current actions:

- Continual enhancement of capacity within Pennon (e.g. training, recruiting key skills).
- Collaboration with supply chain partners (e.g. consultants, technology providers, contractors).
- Collaboration with stakeholders (e.g. academia, environmental groups in the South West).
- Collaboration with other water companies and across the sector to develop standard approaches and enhance capacity.
- Nature-based solutions capacity enhanced through Pennon's Green First Framework and Biodiversity Strategy.

Future actions:

- Prioritising actions/solutions which are low-regret/ flexible e.g. nature-based solutions
- Piloting options/technology before scaling.

Managing supply chain and infrastructure limitations:

Current actions:

- Horizon scanning to identify emerging limitations and risks.
- Engagement with key suppliers and partners and enhancing collaboration with partners and stakeholders.
- Engaging with infrastructure providers, regulators, and Government to encourage investment to enable network capacity.
- Enhancing capacity within Pennon to reduce reliance on suppliers.
- Purchasing renewable electricity and development of Pennon Power to provide renewable energy from outside of the South West region.

Future actions:

- Procurement strategies for key technologies/expertise.
- Enhancing supply chain resilience (e.g. diversification of suppliers).
- Exploring options which are less reliant on network capacity (e.g. onsite battery storage).

Managing costs to transition:

Current actions:

- Seek to fund investment through the regulatory process (business planning and price reviews).
- Investment in innovation to reduce costs of low-carbon technology.

Future actions:

- Increasing efficiency to reduce costs (see our 'resource efficiency' transition opportunity).
- Recovering some costs from retired assets (e.g. selling used equipment).
- Explore partnership opportunities (e.g. PPAs).

Managing research and development investment:

Current action:

- R&D programme with gated investment (e.g. piloting before scaling up).
- Horizon scanning to identify emerging technology and risks.
- Procurement strategies to reduce costs (e.g. competitive tendering, joint ventures).
- Learning from others in the water sector in UK and internationally.
- Engagement with regulators and community to test acceptability of strategies and schemes and seek to build support for innovation culture and understanding across regulators and government.

Future action:

- Prioritising solutions that are low-regret, particularly nature-based solutions through piloting technology before scaling.

Primary financial and reputational impacts to our business

Impacts from mitigating the risk:

We could incur increased expenditure (Opex) to build capacity across our company and supply chain, and increased costs to access skills and technology to meet our targeted timeline. Some of these costs could be recoverable through the regulatory system.

Impacts of the unmitigated risk:

We could incur increased expenditure (Capex and Opex) due to delays with implementing solutions to reduce operational carbon emissions, and due to high demand for resources. Unsuccessful investment in new technologies could also result in increased expenditure.

We could incur penalties and/or negative impacts to our reputation if delays in technology and resources mean we do not meet our targets and/or Net Zero programme (see our 'Negative public and stakeholder relations' risk).

We may be limited in our ability to reduce our carbon emissions.

Key

Risk ratings: High | Medium | Low

Risk Trend: Increasing | Stable | Decreasing

Climate Transition Risks continued

Key impacts identified on our operations and customers

Type as defined by TCFD
Market Risks

Relevant time horizon of risk

Short and medium term
In the short term the risk is primarily driven by limited supply of renewable energy and low-carbon materials (due to past under investment in infrastructure and materials across the UK and beyond); over the medium term the risk will be increasingly driven by high demand for renewable energy and low-carbon materials.

Current risk rating

Last year's risk rating

Increased costs of energy and materials due to the transition to Net Zero, impacts of climate change, and wider factors: Increases in costs of energy sources and input materials - influenced by the Net Zero transition and/or impacts of climate change and compounded by geopolitical events and macroeconomic conditions (e.g. such as high inflation). Some examples include:

- Record high prices for electricity, particularly 100% renewable electricity/REGOs, which may remain in high demand/ limited supply.
- Price of liquid fuels and gas increasing due to transition to Net Zero and geopolitical events.
- Price of chemicals and construction materials (e.g. cement, steel) increasing as energy prices increase and in some cases as carbon reduction measures increase across supply chains (adding costs to production and transport of materials in the short/medium term).
- Price of some technologies for generating renewable electricity has increased due to high demand/limited supply.

Type as defined by TCFD
Reputational Risks

Relevant time horizon of risk

Short and medium term
In the short term customers and stakeholders are primarily concerned about impacts on water quality and aquatic environments. Over time it is likely that customers and stakeholders will have higher concern for carbon emissions and other sustainability objectives.

Current risk rating

Last year's risk rating

Negative public and stakeholder relations due to Pennon failing to be a seen as a leader in environmental sustainability: Negative perception from the public/stakeholders/regulators, possibly linked to a major climate-related incident/event/failure. Some examples include:

- Public concern about climate-induced pollution events and sewer overflows (e.g. after storms linked to climate change).
- Customers and stakeholders concerned about the environmental impact of abstraction and wastewater discharge in response to the climate adaptation agenda.
- Asymmetry of information which customers notice, for example less focus on our action to reduce carbon and more focus on activities which may be seen as high energy, such as desalination (even though desalination would be powered by renewable energy). Greater media coverage of negative impacts than positive actions compounds this risk.
- Shifts in stakeholder/customer expectations related to carbon and climate which are difficult for water companies to manage.
- Potential negative perceptions related to development of renewable energy projects, such as impacts on biodiversity.
- Stakeholder and customer dissatisfaction if Pennon fails to meet Net Zero commitments.

Examples of our actions to mitigate risks and realise opportunities	Primary financial and reputational impacts to our business
Managing cost of energy: **Current actions:** • Generation of renewable energy by Pennon, including exploring additional options and power purchase agreements (PPAs). • Championing upscaling of renewables across our regions. • Acquisition of renewable energy generation projects, supporting energy resilience and helping to stabilise Pennon's energy costs. • Increasing efficiency to reduce energy demand (e.g. enhance energy efficiency, reduce leakage - see our 'resource efficiency' opportunity). • Electricity price hedging. **Future actions:** • Fuel switching (e.g. eliminating fossil fuels for alternatives, at lower cost where possible). • Changing operational practices to reduce energy use/ energy expenditure (e.g. taking advantage of off-peak electricity pricing). • Exploring options which require less energy (e.g. nature-based solutions). • Action taken by Government and wider actors to increase energy security and supply of low-carbon energy. • Investment and development of solar PV sites and potential innovative renewable energy projects (e.g. floating solar). **Managing cost of input materials:** **Current actions:** • Procurement strategies to reduce cost (e.g. competitive pricing). • Whole life carbon tools allow more complete understanding of costs of high-carbon materials. • Enhanced supply chain resilience by diversifying and expanding suppliers, helping to increase competitiveness and to reduce cost). **Future actions:** • Increasing efficiency to reduce material use and light-weighting/reducing material consumption. • Investing in innovation to use different chemicals and materials, e.g. use of excavated materials and waste recycling.	**Impacts from mitigating the risk:** We could incur increased expenditure (Capex and Opex) due to investment in generating renewable energy or using alternative/low-carbon materials. Some of these costs could be recoverable through the regulatory system, and in some cases there will be a return on investment (see our 'energy source' and 'markets' climate opportunities). **Impacts of the unmitigated risk:** We could incur increased expenditure (Capex and Opex) due to increased cost of energy/REGOs and materials. We may be limited in our ability to reduce our carbon emissions.
Managing public and stakeholder relations: **Current actions:** • Risk management practices, ISO14001 Environmental Management System. • Investment to reduce key risks, including our WaterFit programme. • Net Zero programme. • Environmental programmes (e.g. Water Industry National Environment Programme – WINEP) and Biodiversity Strategy. • Customer and stakeholder engagement/public relations (e.g. PR24 engagement with our customers to discuss and address concerns and priorities). • Community outreach and educational programmes. • Engagement and pilots to test and build customer acceptability for schemes. • '6 capitals' considered in decision making. • Continuous engagement with research partnerships like CREWW to strengthen stakeholder involvement through our innovation programmes. • Involvement of stakeholders in our Nature Recovery Programmes (e.g. farmers and landowners). • Development of renewable energy project within a disused coal mine. **Future actions:** • Consider applying an internal carbon price to consider full costs and benefits of decisions. • Consider new ways to enhance engagement with customers and communities and increase engagement and raise profile of positive actions (e.g. tree planting). • Launching a WaterFit Advisory Panel to engage stakeholders and help with net zero and pollution issues. • Expanding the WaterShare+ Scheme to one in every 10 households and 'walk together' with our stakeholders/customers. • Continue with our 'Promise to the Planet' to become Net Zero by 2030 by decarbonising our operations and reducing emissions of nitrous oxide and repurposing methane. • Considering enhancements to Pennon's sustainability policies and practices.	**Impacts from mitigating the risk:** We could potentially incur increased expenditure (Opex) to manage stakeholder relations and public perception to mitigate reputational impacts. **Impacts of the unmitigated risk:** Public perception of our environmental actions and performance could result in negative impacts on our reputation (see also our 'Challenges balancing trade-offs' policy transition risk).

Key

Risk ratings: High | Medium | Low

Risk Trend: Increasing | Stable | Decreasing

Climate Transition Risks continued

Type as defined by TCFD

Reputational Risks

Relevant time horizon of risk

Short and medium term

The need for additional investment to meet the Net Zero and climate adaptation challenges will likely continue to impact across the medium term, particularly if global climate action is slow and the physical impacts are greater.

Current risk rating

Last year's risk rating

Key impacts identified on our operations and customers

Customer affordability and fairness concerns for achieving Net Zero and adapting to climate change: Affordability for customers and questions around fairness become very challenging, even with Government contribution to water and wastewater bills (this is compounded by cost-of-living pressures). This risk includes:

- Large investment needs related to climate change, which could result in dissatisfaction from customers and stakeholders.
- Questions relating to fairness for paying for climate adaptation, for example high costs/impacts being imposed on residents in Cornwall and Devon due to greater exposure to coastal change, whereas other water companies may not have such high costs/impacts.
- Multiple agendas and misalignment between different Government departments and regulators requiring increased investment from water companies.

Examples of our actions to mitigate risks and realise opportunities

Managing customer affordability:

Current actions:

- Secured Government contribution to customers' bills.
- Customer and stakeholder engagement/public relations (including engaging with regulators and Government about sharing costs etc.), including community outreach and educational programmes to help explain need for investment in climate action.
- Seeking return on investment for actions taken to manage climate change.
- Arrangements with/requirements on suppliers to cover some costs (e.g. building and vehicle leases).
- Procurement strategies to reduce costs (e.g. competitive tendering, joint ventures etc.)
- Support programmes and social tariffs for customers struggling to pay bills.
- Phased investment in climate adaptation and Net Zero over time to reduce pressures on bills.
- Exploring actions to reduce costs across the business.
- Becoming more efficient to reduce costs and impacts on customer bills.
- Exploring innovative tariffs to ensure fair bills.
- WaterShare+ engagement scheme to encourage customers to be involved in the company's decisions.
- A limit to our bill increases until 2025.
- On course to meet our Board's pledge of zero customers in water poverty by 2025.
- £200m of affordability support included in PR24 business plan.
- PR24 business plan puts forward one of the lowest bill increases in the water sector.
- Smart Saver tariff initiative will be trialled for two years with a selection of customers in the Barnstaple area. 90% of those taking part are expected to see a reduction in their bills.

Future actions:

- Innovation programme seeking to reduce costs.
- Recovering some costs from retired assets (e.g. selling off).
- Seeking third-party sources for investment (e.g. climate action grants/funds, partnership funding).
- Considering flexibility in climate commitments to reduce cost pressures on customers.
- Rollout of smart meters across Bristol, Bournemouth, Roadford and Colliford by 2040 and continuous support of customers through other water efficiency initiatives that help with affordability.
- Encourage and ensure that more customers have a stake in the company through WaterShare+ scheme.
- Improvements in digital and self-service options for easy interaction with our customers.

Primary financial and reputational impacts to our business

Impacts from mitigating the risk:

We could potentially incur increased expenditure (Opex) to manage public perception of our investments to mitigate reputational impacts (e.g. raising profile of our opportunities).

Impacts of the unmitigated risk:

Public perception of our investments and expenditure could result in negative impacts on our reputation if our decisions and investments do not align with customer priorities (see also our 'Challenges balancing trade-offs' policy transition risk).

We could incur penalties if we failed to support customers in need /vulnerable customers suffering from high bills.

Key		
Risk Trend		
Increasing	Stable	Decreasing

Climate-related opportunities

	Potential risks and opportunities
Type as defined by TCFD Resilience **Relevant time horizon of risk** **Short, medium, and long term** Enhancing resilience to climate change and extreme weather events is of high relevance today, with increasing likelihood and magnitude of risk over each horizon. **Current opportunity rating**  **Last year's opportunity rating** 	**Enhancing resilience across Pennon's operations, asset base, and supply chain to avoid costs and enhance value:** Opportunity to invest in enhancing resilience across Pennon's business and supply chain, in some cases saving costs (e.g. avoided damage to assets, avoided losses in revenue, avoided penalties on Outcome Delivery Incentives (ODIs), avoided penalties on Guaranteed Standards Scheme (GSS) and enhancing company reputation and value. Some examples include: • Enhancing Pennon's resilience by investing in climate change adaptation (e.g. investing in drought and flood prevention measures to avoid customer disruption/ penalties/ compensation payments and avoid asset damage). • Enhancing supply chain resilience by investing in buffers/storage for critical resources, diversifying suppliers and replacing suppliers who have high climate risks - thereby reducing potential risks and costs associated with supply chain disruption and delays.
Type as defined by TCFD Energy Source **Relevant time horizon of risk** **Short and medium term** This opportunity is of high relevance to meeting our 2030 Net Zero target, with continued relevance into the medium and long term due to increasing market risks to energy pricing and resilience of energy supply as physical risks increase in magnitude and likelihood over each horizon. **Current opportunity rating**  **Last year's opportunity rating** 	**Reducing carbon and enhancing energy resilience and revenue by using and generating renewable energy:** Opportunities to lower carbon emissions by using renewable energy and opportunities to invest in renewable energy generation which can also lower our carbon emissions, enhance our energy resilience (e.g. less reliance on energy suppliers), and enhance our revenue through sale of renewable energy. Some examples include: • South West Water's commitment to purchase 100% renewable electricity from 2022 onwards. • Pennon Group plc's commitment to reach up to 50% renewable energy self-generation by 2030. • Generating renewable energy on Pennon's sites and through partnerships (e.g. PPAs) such as through generating energy from wastewater and sludge, and generating electricity through solar and wind. • Deploying our £160m capital allocation to acquire and develop solar PV sites. • Switching fuels to lower-carbon sources, such as switching diesel to renewable electricity and Hydrotreated Vegetable Oil as a transition fuel.

Examples of our actions to mitigate risks and realise opportunities	Primary financial and reputational impacts to our business
Enhancing Pennon's resilience: **Current actions:** • Investment in diversifying water sources, including desalination and repurposing ex-quarries and mines. • Pursuing new reservoir capacity through regulatory frameworks. • Company resilience planning. • Climate risk assessments and climate adaptation planning. • Engaging stakeholders, such as regulators and customers. • Investments in response and recovery to operational disruption. • Generation of renewable energy by Pennon, including exploring additional options and power purchase agreements (PPAs) (see our 'market' transition risk). • Ongoing upgrade and modernisation of our infrastructure. (e.g. water treatment works, water reservoirs). **Future actions:** • Actions to adapt to climate change (e.g. enhancing drought resilience) and to mitigate climate risks. • Tackling storm overflows at bathing beaches across our regions. • Investing in desalination plant in Cornwall by 2025, and wastewater treatment in the Isles of Scilly. • Incorporate nature-based solutions to reduce drainage and storm overflows. • Expand sludge treatment processes to protect our rivers. • Our financial plan is solid in order to fund these capital investments to enhance resilience. **Enhancing supply chain resilience:** **Current actions:** • Enhancing capacity within Pennon to reduce reliance on suppliers (e.g. generating renewable energy - see our 'energy source' opportunity). • Existing storage and buffers for resources (e.g. chemical storage, parts storage). • New commercial framework has expanded supply chain diversity across Tier 1, 2 and 3 suppliers. **Future actions:** • Actions to enhance supply chain resilience (e.g. diversifying suppliers/ location of suppliers) - see also our actions for managing supply chain under our 'technology' risks. • Procurement strategies (e.g. requirements on suppliers to meet ESG criteria/ low climate risks). • Investments in response and recovery to supply chain disruption. • Continuous engagements and collaboration with our supply chain and discussion on priorities such as our Nature First principle.	**Impacts from mitigating the risk:** Potential to reduce and avoid costs (Opex) and enhance our reputation by preventing disruptions to our services. We could also incur reduced penalties/increased rewards for performance on ODIs (e.g. supply interruptions, leakage, and water quality), therefore increasing our revenue. However, this requires significant investment (Opex and Capex), including strengthening our infrastructure and enhancing our adaptive capacity. Some of these costs could be recoverable through the regulatory system. We will need to manage the carbon footprint associated with schemes related to climate resilience.
Using renewable energy: **Current actions:** • Procurement strategy for renewable energy to minimise the impact of increasing costs of energy. • Supply contract for 100% renewable energy by 2023 for South West Water (currently does not include Bristol Water operations). • Generation of renewable energy by Pennon, including exploring additional options and power purchase agreements (PPAs). • Net Zero programme. • Prioritising investment to deliver highest carbon reductions, and seeking return on investment (ROI) where possible. • Investment in generating renewable energy. **Future actions:** • Trialling low-carbon fuels. • Innovation programme (e.g. exploring options to generate and recover energy from sewers). • Use of energy recovered from bioresources to power our operations. • Engagement with potential partners for PPAs. • Establishing the commercial and legal arrangements to co-fund renewable energy investments.	We could incur increased expenditure (Capex and Opex) due to investment in generating renewable energy; however this has potential to reduce our carbon footprint. Some of these costs could be recoverable through the regulatory system. Investment in renewables could reduce expenditure (Opex) in the long term if electricity prices continue to rise (see our 'market' transition risk and 'market' opportunity). We could enhance our revenue through selling renewable energy. We will need to manage the carbon footprint associated with generating renewable energy.

Key		
Risk Trend		
Increasing	Stable	Decreasing

Climate-related opportunities continued

	Potential risks and opportunities
Type as defined by TCFD Markets **Relevant time horizon of risk** **Short and medium term** In the short term the opportunity is more focused on financing to achieve Net Zero and current physical risks; over the medium and long term the opportunity will increasingly focus on environmental targets and climate change resilience to long term challenges. **Current opportunity rating**  **Last year's opportunity rating** 	**Generating value and reducing our financing costs through sustainable financing:** Opportunity to reduce our cost of finance and avoid cost increases through access to sustainable financing and generation of green financial assets. Our Sustainable Finance Framework is part of our strategy for taking action on climate change, and our approach is evolving as policy and markets change and information becomes available. We are exploring the implications for our business, including regulatory developments such as the EU Taxonomy/UK Green Taxonomy.
Type as defined by TCFD Resource Efficiency **Relevant time horizon of risk** **Short and medium term** In the short and medium term, investment in resource efficiency is central to many of our options and decisions in our business plan and WRMP's best value plan. This will enhance our resilience, our ability to meet our environmental and our Net Zero targets and enhance our revenue over the medium and long term. **Current opportunity rating**  **Last year's opportunity rating** 	**Saving water, energy, materials, and carbon by enhancing efficiency, using low-carbon and nature- based solutions, and reducing emissions across Pennon's supply chain:** Opportunities to invest in enhancing efficiency and reduce waste of water, energy, and materials, opportunities to use low-carbon construction, approaches, and nature-based solutions, and opportunity to work with suppliers to reduce their carbon footprints and enhance their sustainability. Some examples include: • Pennon's leakage reduction programme, water efficiency programme, smart metering, rainwater harvesting, grey water, incentivising customers to use less hot and cold water. • Enhancing efficiency of process equipment (reducing energy use and chemical use), energy-saving measures for buildings and transport. • Substituting construction materials for low-carbon alternatives, local sourcing of materials, enhancing efficiency of material use in construction. • Using technology to avoid high-carbon interventions, such as using real-time control in sewers to increase operational capacity instead of constructing bigger sewers (see also our 'technology' risk). • Constructing wetlands for wastewater treatment and sustainable drainage systems (SuDS) to reduce capital and operational carbon. • Removing carbon from the atmosphere through investing in marine carbon opportunities, restoring peatlands, tree planting, and soil and grassland activities. • Working with suppliers to reduce their carbon footprints and enhance their sustainability, and harness opportunity to access new suppliers with high ESG credentials.

Examples of our actions to mitigate risks and realise opportunities	Primary financial and reputational impacts to our business
Sustainable finance: **Current actions:** • Sustainable financing framework. • TCFD and TNFD programme. • Investigating requirements to access sustainable finance markets. • Procurement and finance strategies. • ESG initiatives. **Future actions:** • Establishing commercial and legal arrangements for buying and selling green financial assets/credits. • Future disclosure/ESG initiatives (e.g. EU/UK Taxonomy, Taskforce on Nature-related Financial Disclosures, International Sustainability Standards Board (ISSB), Transition Plans/Transition Plan Taskforce (TPT). • Exploring opportunities to attract third-party funding. Our low gearing ratio will enhance our ability to raise funding for our business plan.	Through sustainable financing, we have potential to reduce our expenditure by avoiding cost increases related to financing/ cost of capital. We also have potential to enhance our reputation and mitigate reputational risks (see our 'reputation' transition risks).
Enhancing water efficiency: **Current actions:** • Demand management and water efficiency programme (within Pennon's own operations and across customer networks), including Per Capita Consumption (PCC) reductions, leakage reduction strategy and customer incentive schemes like Cornwall's Stop the Drop to protect reservoir levels. • Continuing installation of advanced metering infrastructure (AMI), which is smart metering that provides data on water usage directly to customers. • Customer education/outreach. • Continuing to support our community fund which supports water saving projects, like the Heathfield Allotment Trust. • Incorporation of carbon values into capital planning and decision making. • Farm water efficiency and resilience project – 1,000 pond nature-based solutions. • Continue to use data from our customers' smart meters and make sure we address water leaks. • Continuing to offer free fixing of leaks around our customers' houses if they meet set criteria. **Future actions:** • Rainwater harvesting. • Incentivising customers to use less water. • Extend real-time monitoring and control. • Help our customers' affordability levels through water efficiency schemes/devices/home visits, metered tariffs and helping with debt. **Enhancing process, building, and transport efficiency:** **Current actions:** • Actions to enhance process efficiency. • Energy efficiency programme for Pennon's buildings. • Requirements in leases for efficient buildings. • Changes to operational practices to reduce need for travel (e.g. remote monitoring and control). • Procurement/leasing of efficient vehicles. **Future actions:** • Investments in innovation to enhance efficiency. • Changes to operational practices to enhance efficiency (e.g. real time monitoring and control). • Partnerships with suppliers/outsourcing specific operations. • Employee carpooling. • Light-weighting vehicles.	Potential to reduce our carbon footprint and our Opex in some cases where there are cost savings from resource efficiency. However this requires significant investment (Opex and Capex), including additional monitoring, metering, and capital projects. Some of these costs could be recoverable through the regulatory system. We will need to manage the carbon footprint associated with actions to realise resource efficiency opportunities.

Key		
Risk Trend		
Increasing	Stable	Decreasing

Climate-related opportunities continued

	Potential risks and opportunities
Type as defined by TCFD Resource Efficiency (continued)	
Type as defined by TCFD Products and Services **Relevant time horizon of risk** **Short, medium, and long term** Opportunity in the short, medium, and long term to enhance Pennon's revenue through delivery of Strategic Water Resource and bioresources schemes. **Current opportunity rating**  **Last year's opportunity rating** Not included last year	**Enhancing revenue through providing resilient water solutions, bioresources, and expertise to other water companies:** Opportunities to invest in water resources schemes linked to climate change, bioresources opportunities which align with the transition to Net Zero, and other opportunities to enhance our revenues. Some examples include: • Delivering strategic resource options (SROs) and resilient water solutions for other water companies (e.g. modular desalination technology). • Opportunities to sell expertise and technologies for water efficiency and leakage reduction. • Opportunities to sell bioresources (e.g. biogas, nutrients, sludge etc.). • Opportunities to provide/sell expertise in bioresources to other companies.

Examples of our actions to mitigate risks and realise opportunities continued	Primary financial and reputational impacts to our business
Using low-carbon solutions: **Current actions:** • Implementing capital carbon accounting. • Implementing carbon values in capital planning and decision making. **Future actions:** • Net Zero programme - embodied carbon initiatives, • Engagement with supply chain to promote/ensure low-carbon solutions are prioritised. • Procurement strategies (e.g. requirements on suppliers). • Innovation programme (e.g. exploring alternative materials and approaches). • Collaborations with supply chain (e.g. optioneering to reduce embodied carbon). • Learning from other companies in UK and internationally. **Using nature-based solutions:** **Current actions:** • Embedding natural capital and valuing carbon in decision making. • Investing in innovation and piloting. • Practising catchment management to improve our land. **Future actions:** • Establishing partnerships with stakeholders (e.g. landowners; see our Upstream Thinking catchment management programme). • Collaborations with supply chain (e.g. optioneering, considering nature-based solutions). • Learning from other companies in UK and internationally. • Use of our Green First principle to make sure that nature-based solutions are prioritised. • Launch our Nature Recovery Fund to help support nature recovery programmes in our region. **Reducing supply chain carbon:** **Current actions:** • Engaging with suppliers. **Future actions:** • Procurement strategies (e.g. requirements on suppliers to meet ESG criteria/ low climate risks, reduce emissions). • Learning from other companies in UK and internationally. • Diversifying supply chain to lower emissions/risks. • Sourcing locally, where possible. • Life cycle assessment requirements for suppliers.	
Delivering water resource schemes and bioresources opportunities: **Current actions:** • Preparatory work on three Strategic Water Resource schemes. • Engagement with other water companies, engagement with regulators and stakeholders. • Business plan includes opportunity related to pyrolysis for bioresources. • Establishing commercial and legal arrangements for SROs and sale of bioresources. • Continued roll-out of new technology in our region. **Future actions:** • Engagement with customers to build support (e.g. social licence). • Innovation and R&D in collaboration with CREWW	Potential to increase our revenue through delivering SROs and selling bioresources and our expertise to peer companies. However, this requires significant investment (Opex and Capex) to enable these opportunities. Some of these costs could be recoverable through the regulatory system. We will need to manage the carbon footprint associated with our SRO and bioresources schemes.

Short-, medium- and long-term horizons

In determining our strategy, we have processes in place for identifying, assessing, and responding to climate-related risks and opportunities. In shaping the strategy, we consider short-, medium-, and long-term horizons.

Short-term – 1 to 10 years

Over this horizon we define key targets (operational, financial, sustainability) and we consider changing regulatory frameworks and emerging Government policies. We develop business plans every 5 years, defining our actions and investments over this period. Operational risks are planned and budgeted for over this time frame and planning begins during this period for the next regulatory period. Our operational Net Zero 2030 commitment falls within this time horizon, as well as the price review in 2029 (PR29). Transition risks and opportunities are likely to have the largest impacts to our business across this period, with physical risks projected to increase over time.

Medium-term – 10 to 30 years

Water and wastewater treatment assets have a typical life of up to 30 years and will therefore be reviewed over this horizon. Our WRMP and DWMP strategic plans consider requirements across this period. Major projects and operational plans will be renewed and managed over this time frame to ensure projects meet the correct regulatory period plans. Our 2045 total Net Zero target falls within this horizon, as well as the UK's 2050 Net Zero target, which will continue to present emerging policy and market challenges. Transition risks and physical risks will both impact our business across this period to varying levels depending on global GHG emissions and the Net Zero pathway taken by the UK and globally.

Long-term – 30 to 100 years

Typically for longer-term strategic direction, risk, and resilience planning. Investment requirements for our long-life assets are considered such as mains pipes and reservoirs. Over this time period the planet is currently projected to warm by around 3°C; however there is much uncertainty related to the effectiveness of global climate change mitigation. Physical climate risks are likely to have the largest impacts to our business over this time horizon.

Climate scenario analysis

Scenarios

In alignment with the TCFD guidance, we have assessed the risks and opportunities associated with climate change and the transition to a Net Zero climate-resilient economy. We have used plausible contrasting scenarios to explore the potential range of impacts in the future and in turn the possible range in our strategic responses required to mitigate risks and build adaptive capacity in an uncertain future. Our physical risk scenarios are informed by the IPCC's Representative Concentration Pathways (RCPs) from the IPCC's 5th assessment (2014), including a high and a low emissions scenario, which are also used as the basis for planning by Ofwat as part of the PR24 methodology. The IPCC's 6th Assessment report was released in 2023, and in it the IPCC has adopted new climate scenarios know as Shared Socioeconomic Scenarios (SSPs). However, Pennon has continued to use the RCP scenarios due to these being mandated by Ofwat's PR24 methodology. Our transition scenarios are informed by high and low levels of socio-economic drivers surrounding policy ambition, the speed at which policy is implemented, and the pace of technological advancement. This year we have updated our transition risk assessment to adopt transition scenarios developed by the Network for Greening the Financial System (NGFS). These transition scenarios have become widely adopted in the UK and supersede the previous bespoke transition scenarios we used in the previous years. The two Network for Greening the Financial System (NGFS) transition scenarios we used are: (1) Orderly transition, aligned to the NGFS Net Zero 2050 and (2) Hot house world aligned to the NGFS Current Policies. Also, important to note that the NGFS Net Zero 2050 aligns fairly closely with the IEA Net Zero 2050 scenario. We have selected these contrasting scenarios as they span a range of possible futures, and present different challenges and opportunities for our business.

The NGFS Disorderly Transition Scenario has also been considered, but our view is that negative impacts for our company are more significant under the NGFS Current Policies Scenario, so it is this one that has been the focus of our scenario analysis to provide a stress test of our resilience.

We will continue to re-visit our scenario analysis in future, including considering the merit of selecting additional scenarios.

Our scenarios can be defined as follows:

Physical climate risk scenarios

RCP2.6[1]: Lower Physical Impacts

An approximate 2°C warming scenario by the year 2100 – corresponding to a low emissions 'optimistic' scenario.

RCP8.5[1]: High Physical Impacts

An approximate 4°C warming scenario by the year 2100 – corresponding to a high emissions 'business-as-usual' scenario, which is appropriate to use when considering high risks.

Climate Transition risk scenarios

1.5 degree scenario: NGFS Net Zero 2050

A scenario which sees the UK as a global leader with strong policies and actions to mitigate climate, aligned with the Paris Agreement.

Policy ambition
1.5°C

Government policy
Immediate and smooth

Technology change
Fast change

3-degree scenario: NGFS Current Policies

A scenario which sees the UK make incremental progress to mitigate climate change, but assumes no major policy changes and results in missing the targets of the Paris Agreement.

Policy ambition
3°C+

Government policy
None – current policies

Technology change
Slow change

Key assumptions

For our scenario analysis, the following assumptions for all scenarios were made:

- Scenarios focus on the UK policy and regulatory context and are semi-independent of global action and temperature pathways.
- It is assumed that the current high energy prices remain high throughout this decade.
- The Government's ambition around environmental protection and conservation remains high, regardless of the pace of transition.
- No significant change to Pennon Group's business activities.
- Population in our region increases by 0.4 million by 2050, overall water demand remains unchanged from today (due to leakage reduction and water efficiency measures), and overall volume of wastewater treated remains unchanged from today (due to actions taken to reduce surface water flows to sewers).

1. The IPCC's Representative Concentration Pathways from the IPCC's 5th assessment (2014)

Physical climate risks – scenario analysis

Approach taken

The Group undertook qualitative scenario analysis in 2021 considering the financial implications of physical climate risks for South West Water under two climate scenarios based on the IPCC's Representative Concentration Pathway (RCP) scenarios. Potential material financial impacts were considered over the 10-year horizon to 2030, aligning with the Group's regulatory financial viability testing. Material impacts on our business and strategy were considered over the time horizon to 2050 – aligning with a medium-term view of climate change impacts before uncertainty increases beyond 2050. We have extended our analysis to cover Bristol Water (acquired June 2021) and we will look to incorporate SES Water when we update our scenario analysis in future. This year we have revised our scenario analysis based on changes over the past year, using the same physical climate scenarios as the previous years.

Impacts

This section discusses impacts under both of the physical climate risk scenarios (RCP2.6 and RCP8.5).

- **Climate resilience will require increased expenditure and investment.** The most significant financial impacts for the Group are on our expenditures (Opex and Capex), to mitigate future climate risks by: increasing capacity for water supply infrastructure; managing drought conditions and water demand; improving water and wastewater treatment and odour management; improving operational resilience to flooding, saline intrusion and storms; and enhancing our Upstream and Downstream Thinking programmes. These financial impacts would be significantly greater under the higher emissions scenario over the long-term horizon as they will require higher levels of adaptive capacity, although adaptive planning will seek to minimise this impact by identifying low-regret options under both high and low emissions scenarios to inform investment decisions. These costs could be recoverable through the regulatory system.
- **Investments in our natural capital will be central to climate adaptation.** Within the water industry, healthy and functioning ecosystems are critical for resilient operations. Therefore, the risks to Pennon's infrastructure are affected by risks to the natural environment. Accordingly, increased expenditures (Opex and Capex) include heavy investment in our natural capital schemes, catchment management, partnerships, and research and development in this area, as well as implementing our comprehensive Biodiversity Strategy and Environment Plan 2050.
- **Climate impacts will affect our ability to meet performance commitments and objectives.** The Group could also be impacted financially by Outcome Delivery Incentive (ODI) penalties and rewards due to potential failure to achieve performance commitments as part of the regulatory framework, further resulting in negative impacts to our reputation. This impact is more likely under the higher emissions scenario over the long-term horizon due to higher projected magnitude of climate impacts and frequency of extreme weather events.
- **Investment required is high, but the cost of inaction is much higher.** Our risk assessment clearly shows long-term significant risks if the impacts of climate change are not mitigated. South West Water operates over £6 billion of water assets and over £7 billion of wastewater assets all of which will be affected by climate change in some way. The unmitigated risk would also result in additional expenditure (Opex and Capex) to recover from service interruptions and repair or replace deteriorated assets. The unmitigated risk would result in more frequent and greater ODI penalties. Although some of this will be our expenditure, wider flood protection investments will be required by others to protect wide-ranging coastal assets.
- **Impacts are worse with every bit of additional warming.** We would experience these impacts for extreme events over all time horizons; however these impacts would increase over each horizon as extreme weather events increase in frequency and magnitude and are compounded by higher average temperatures and drier summer conditions. This trend is more pronounced for the higher emissions scenario, particularly over the long-term horizon, where temperature increases are projected to accelerate.

Our strategic response

Our strategy for managing physical climate risks and financial impacts is underpinned by the following principles in order to maintain and improve our Company's performance to the year 2050:

- **Adapt to climate change**
- **Enhance resilience**
- **Innovate**
- **Become more efficient**
- **Collaborate**
- **Balance investment over time**

This will require significant action and investment by our Company, as well as action by our supply chain partners and wider actors (e.g. Government agencies, local authorities, and major land owners in SW England).

Longer-term investment, as outlined in our strategic plans, will be needed to manage future risks to acceptable/tolerable levels. The long-term risk is significant and will require additional investment to mitigate its effect. To achieve this, regulatory and Government support within their policy frameworks will be needed.

The combined characteristics of low population density, high coastline to land area ratio and tourism-based seasonal flux on water demand, present a unique set of challenges. Through the years, by innovating, investing, and adapting, we have achieved industry-leading results in many areas of the business. The extensive programme of environmental improvement with Upstream and Downstream Thinking catchment management has resulted in some of the finest bathing waters in Europe. This has been instrumental for us to tackle these challenges and meet the expectations of our customers. Having seen record visitors to our region following the COVID-19 pandemic, it is expected further investment will be required to continue building on the progress made by Pennon Group to protect the environment and our bathing waters.

Our strategic responses within our WRMP24 and DWMP23 for delivering reliable, efficient, and high-quality drinking water and wastewater services are driven by best-value adaptive planning, as per Ofwat's final methodology for PR24. This means that, using the same physical scenarios analysed here (RCP2.6 and RCP8.5), our WRMP24 has developed adaptive investment programmes which: 1) fulfil immediate and most probable future needs; 2) respond to external pressures in the future with alternative investment options that are triggered under specific conditions; 3) identify low- and least-regret investments that enable future options or return benefits under the broadest range of potential futures. Subsequently, our strategies for mitigating climate risks and building adaptive capacity are similar under the high and low emissions scenario in the short and medium term; however, additional options will be required under the RCP8.5 scenario, or options may need to be implemented earlier than the RCP2.6 scenario over the long term. As part of our adaptive planning approach, we have pre-defined trigger points and decision points to implement strategies of the appropriate pathway sufficiently early, so that we can have a pro-active and more resilient response to climate change - including more opportunity to implement nature-based solutions - rather than more costly reactive approaches which may have higher operational and embodied carbon.

Impacts on financial planning

Compared to today, overall our revenue is unlikely to be impacted significantly by climate change as we operate in a regulated environment funded through Price Reviews. However, there is a higher risk of reduced regulatory rewards and increased penalties (ODIs) due to climate change. Our operating costs are likely to increase compared to today due to climate change, and additional capital investment will be required. The value of our assets and our cost of capital would remain relatively unchanged compared to today if we continue to enhance our resilience.

We continue to integrate the outcomes from climate scenario analysis to inform our business strategy and financial planning.

Climate transition risks – scenario analysis

Approach taken

The Group undertook qualitative scenario analysis in 2022 considering the financial implications of transition climate risks and opportunities for South West Water (including Bristol Water) under two transition scenarios. The assessment considered impacts to the year 2030; this time horizon was selected as it aligns with our operational Net Zero target and there is much uncertainty beyond this time with regard to changes to policy, technology, markets, and public opinion.

This year we have revised our scenario analysis based on changes over the past year, and considering the two new transition scenarios developed by the NGFS described earlier.

Impacts – NGFS Current Policies scenario

This scenario provides a challenging context for meeting our 2030 operational Net Zero target. In this scenario we have identified the following main impacts for our business:

- **The cost to our business of achieving our 2030 Net Zero target rises, with less ability to recover costs through the regulatory pricing system.** This is compounded by the low readiness and higher costs for access to low-carbon technologies and related skills (due to the UK's underinvestment in this scenario), and increased costs related to both our own renewable energy generation and the purchasing of green electricity from external suppliers (where demand is likely to outstrip supply).
- The current UK policies might not be sufficient to deliver the necessary carbon emission reductions. As such this could impact our business transition through increased higher costs from the reliance on carbon-intensive energy and internal combustion engine vehicles.
- **Meeting our 2030 target requires greater use of carbon offsets.** The enabling environment for decarbonisation is weaker and costs are higher, which leads to slower progress in emissions reductions across our business. As a result, the residual emissions that need to be offset rise, which adds to our costs.
- **Environmental targets require additional energy use.** New guidance on targets for both nutrients and storm overflows will require a significant increase in energy use and associated capital and operational carbon. While nature-based solutions will form part of the solution (our Green First Principle), there will be significant reliance on engineered solutions due to potential inflexibility in regulation and deadlines to improve outcomes. The increased energy and carbon use compounds impacts above.
- **Reputational risks are significant and require careful management.** Some of our customers and stakeholders may have differing priorities and preferences for actions to meet our 2030 target, for example regarding the increased use of carbon offsets. Some may be highly sensitive to affordability, and increasingly scrutinise our investment choices.
- **Opportunities are lower than the Net Zero 2050 Transition scenario.** Opportunities for our business remain; however, they are in general more limited, and with lower return than in the Net Zero 2050 Transition scenario. Increasing efficiency of energy and resource use, and pursuing low-carbon energy alternatives are the primary opportunities and can help to offset some of the additional energy and carbon costs. There is also an opportunity to clearly identify and communicate the synergies between environmental objectives and the transition to a Net Zero business in order to increase support from customers, stakeholders, and regulators.

Impacts on financial planning

Compared to today, overall our revenue is unlikely to be impacted significantly in this scenario, but also our non-water revenue is less able to grow. Our costs to achieve operational Net Zero may increase relative to our current plans; however, early investment in decarbonising the business to meet the 2030 target remains more cost-effective in the long term (post 2030), and reduces the risk to our Company and our customers from measures such as carbon pricing, as well safeguarding our reputation on environment and climate change. The value of our assets and our cost of capital would remain relatively unchanged compared to today.

Impacts – NGFS Net Zero 2050 Scenario

This scenario is more favourable to our business and to the UK's Net Zero goals, as it creates a more supportive enabling environment to achieve our 2030 operational Net Zero target, however this may present challenges balancing trade-offs between the agendas of Net Zero and environmental gains, water quality and climate resilience, environmental protection, addressing customer affordability, and other objectives. In this scenario we have identified the following main impacts for our business:

- **Cost to our business of achieving our 2030 Net Zero target is lower than the NGFS Current Policies Transition scenario.** There is much greater regulatory support in order to support the step change in investment required, with an increase in costs which can be recovered through customers' bills. The maturity of technology and associated business models progresses rapidly, and helps to drive down costs across many areas, including in renewables, resource efficiency, and demand-side measures. Greater R&D programmes with gated investment and piloting will minimise technology investment risks compared to the Current Policies Transition scenario, where strategies could be more reactive than proactive.
- **Access to the skills and resources needed is costly.** There is very high demand for low-carbon technologies, skills, and expertise across the economy in this scenario, which significantly outpaces supply (partly due to the UK's past underinvestment and the time required to develop supply chains). This adds to our costs associated with decarbonisation, and risks delaying key projects.
- **Environmental targets require additional energy use.** This impact is the same as the Current Policies Transition scenario; however the regulatory environment may be more favourable for nature-based solutions (NBS) which can also sequester carbon, as there may be more stringent carbon management requirements, and carbon markets would also be stronger and provide more incentives for NBS.
- **Enhanced support to low-income customers may be needed.** Fairness in the distribution of the costs of the UK's transition to Net Zero is a key concern among stakeholders. Increased support to some customers may be required, and our investments will need to be carefully planned and phased to ensure they are efficient and avoid sudden price impacts.
- **Opportunities are higher than in the Current Policies Transition scenario.** The more favourable enabling environment means that our opportunities are enhanced in this scenario, and they are easier to realise. There are particular opportunities to further invest and innovate on energy and resource efficiency, and to attract further investment through sustainable finance opportunities.

Impacts on financial planning

Compared to today, overall our revenue is unlikely to be impacted significantly in this scenario, but our non-water revenue has greater potential to grow. Our costs to achieve Net Zero may remain largely unchanged compared to today. The value of our assets may increase as we decarbonise and enhance our natural capital, and our cost of capital may decrease compared to today.

Our strategic response

Although there are important differences in the impacts between the different transition scenarios, there are a number of common elements which will require us to implement a common strategic response. The relative importance of each, and specific elements within the response, will vary across the two scenarios, but we have identified six key focus areas which will enhance resilience to transition risks, and better position the Group to take advantage of opportunities:

- **Investing in efficiency.** Under both scenarios there are major carbon savings that can be achieved by increasing efficiency, in energy use (for example more efficient pumping), reducing water losses, and through the use of smart technology to enable more efficient water supply and transmission systems. Some of these opportunities will also reduce costs. We are currently investing in programmes to further reduce energy use and carbon across our operations. This will allow us to more rapidly progress to operational Net Zero and reduce the cost of the transition.
- **Enhancing our energy resilience.** We will continue to invest in generating our own renewable energy to reduce our exposure to energy prices and to enhance our options for energy supply, which is favourable under both scenarios.
- **Enhancing our access to Green Economy resources.** Across both scenarios there will be a shortage of skills and resources across key areas of the Green Economy that we will need to support our transition. To manage this we will diversify our supply chain of low-carbon suppliers, and invest in a programme of internal capacity-building to ensure access to the skills needed. We will also work with partners across the industry and engage with peers, regulators, and Government to enable rapid investment in the skills and capacity needed to support Net Zero.
- **Engage and influence environmental targets and trade-offs.** New ambitious targets on nutrients and storm overflows will require increased energy use and new infrastructure, and subsequently higher operational and capital carbon. There is a trade-off between action to meet these targets and action on decarbonisation, with implications for the balance between nature-based and engineering solutions. We will engage in ongoing consultations on environmental targets and strategies for meeting them, and seek clear guidance on managing different trade-offs. We will advocate for policies which enable flexibility and time to scale up nature-based solutions so we can maximise co-benefits for our customers and the environment.
- **Enhance our stakeholder and customer engagement.** There are significant reputational risks associated with both scenarios, although the balance of concerns will vary. We will develop plans for enhanced programmes of engagement and communication with our customers and stakeholders, in particular focusing on explaining the costs and benefits of the investments we are making, potential trade-offs and synergies between Net Zero and other environmental targets, and affordability.
- **Pursue opportunities to deliver more value for customers and shareholders.** We will continue to pursue opportunities to reduce costs and enhance sustainability. This includes reducing our financing costs through our sustainable finance framework, investing in our environmental programme which includes restoring ecosystems to capture carbon, and working with partners and suppliers to enhance our resilience and reduce emissions across our supply chain. We will also continue to explore opportunities to enhance our revenue through water resource options, selling renewable energy, and markets for bioresources and natural capital.

We continue to integrate the outcomes from climate scenario analysis to inform our business strategy and financial planning.

Statement of resilience

There are clear impacts on our business under different climate scenarios, in particular:

- higher costs in the short term to meet our operational Net Zero target by 2030 under the Current Policies Transition scenario.
- higher costs in the short, medium, and long term under the RCP8.5 Higher Physical Impacts scenario.

Several of the strategic responses outlined above are already included in our strategic plans and business plan, and we have confidence that our Company has a range of strategic options to manage the impacts, can take advantage of opportunities, and will remain resilient under the different climate scenarios considered. Further analysis, including quantitative analysis, is planned going forward to enhance Pennon's confidence related to resilience.

There will be the requirement to invest more to improve our resilience to climate change and deliver Net Zero. Assets are likely to require additional protection, and planning for new assets will require a greater level of embedded climate resilience. Significant action and investment will be required by our Company, as well as action by our supply chain partners and wider actors (e.g. Government, local authorities, major landowners/users, other providers of infrastructure and services).

Nature-related risks and opportunities - strategy

Our business planning and financial planning are underpinned by a series of environmental strategies, plans and commitments that interlink up to 2050. Key examples include:

- Growing Nature to 2035: our strategy for nature recovery, which sets out the key activities that we will take to support nature recovery and biodiversity on our land, in our everyday operations and beyond. There are three principles in the strategy: 1) Protect the best – take action to protect the valuable biodiversity that we have on our landholdings, 2) Restore and enhance the rest – take action across our landholdings and assets to enhance biodiversity in the everyday management of our sites, and 3) Beyond our landholdings – work in partnership with others across the region, taking a catchment approach to deliver biodiversity enhancement and nature recovery. These principles align with the LEAP process advocated by the TNFD, by taking a site approach (locate), formulating plans to monitor those sites via undertaking biodiversity baselining and natural capital assessments (evaluate), and creating management plans (assess) with actions to work across the estate with own staff (e.g. Nature Safe) and external partners, to improve the biodiversity condition. The outputs of these plans will enable Pennon to prepare to respond to and report on, material nature-related issues. Our biodiversity strategy aligns fully with our PR24 Business Plan.
- Our 'Green First' Framework, published May 2023, sets out our approach to utilise NBS and natural flood management wherever possible and practicable. As such, our planning assumptions are based on achieving 50% reduction in surface water flow entering sewers, through nature-based solutions and a minimum removal of 10% of impermeable surfaces.
- The launch of WaterFit in 2022 is our plan for healthy rivers and seas as part of c.£100 million of investment to 2025 focused on the protection of our 860 miles of coastline and rivers in the South West. This includes an additional c.£45m reinvestment of out-performance.
- Our catchment management initiative, Upstream Thinking, applies natural solutions to reduce agricultural impact on biodiversity and water quality. It does so whilst supporting farmers and the rural economy in providing long-term resilience to climate change, by: installing waterside fencing, building ponds, improving farm tracks, increasing slurry storage and planting trees and buffer strips to catch and filter water.
- In early 2024, our Board approved a pilot programme of bespoke, evidence based "Natural Catchment Management Plans" (NCMPs) at selected catchments in Devon and Cornwall ready for June 2024. These are intended to create a blueprint to be rolled out for all bathing water catchments from 2025 onwards, primarily in relation to bathing water quality issues. These can be used to create a "story map" of water management issues and opportunities in each catchment for engaging local stakeholders and partners in identifying actions for local collaboration.
- In preparation for the next Asset Management Period AMP8, our Tier 1 suppliers are being tested for their ability to deliver NBS for wastewater and drinking water. Our ESG team is investigating the social aspects and carbon emissions of Pennon's supply chain and hopes to expand this to consider nature-related dependencies, risks, and opportunities in the near future.

Going forward:

- From April 2025 onwards, we are establishing an independent Environmental Advisory Panel composed of environmental experts which, amongst other functions, will advise on risks and opportunities and monitor progress on our Biodiversity Performance Commitment. We are currently developing the Terms of Reference for this Panel.
- The new Biodiversity Performance Commitment requires all water companies to set out their plans for delivering measurable biodiversity enhancement units using the Defra/Natural England biodiversity metric. These will be achieved as a result of the actions that we will deliver under our nature plans and strategies across the areas we serve.
- We are creating a 'Nature Safe Framework' to support our employees and contractors across operational sites to understand and protect nature - in alignment with our Biodiversity Strategy. We are in the scoping phase and envisage this framework to be analogous to our 'Home Safe Framework' related to employee health and safety.
- Over the next year we will continue to develop our approach to embedding nature-risk and opportunity management across our business.

Risk management

Disclose how the organisation identifies, assesses, and manages climate-related and nature-related risks.

The Group's risk management framework is explained in detail on pages 55 to 64, including the methodology for assessing risks.

The Group is continuing to integrate climate-related and nature-related risk management within the Group's overall risk management process. Climate-related and nature-related risks and opportunities are assessed using the same methodology as other business risks. In the past few years we have undertaken specific work to identify and assess climate-related risks and opportunities, and we are moving towards this risk identification and assessment being integrated within business subsidiaries/functions. We have the processes in place to enable this integration, and a key area we are continuing to work on is raising awareness and competency so that the key people across our subsidiaries/business functions can effectively identify climate-related and nature-related risks, as they do other risks (in many cases, climate and nature risks are an amplifier or additional driver to risks we have already identified, rather than presenting novel risks). This year and last year we convened workshops with senior management from across business functions to re-visit and re-assess climate-related risks and actions, and management will take forward the responsibility to integrate climate- risks into risk registers owned by each business subsidiary/function.

Furthering our progress, the Group has identified several principal risks which are impacted or influenced by physical and transitional climate and nature risks and opportunities, and as such we are increasingly cognisant that climate and nature risk management is integral to the performance and resilience of our business and strategy. The link between climate-related and nature-related risks and opportunities and our principal risks is summarised in the table over the page.

We recognise that evolving landscape of climate-related and nature-related risk is reflected in the changing regulatory frameworks, customer expectations and Government policies that are inherent to our operating context. This is particularly true for climate change, nature, and Net Zero where new policies and technologies are rapidly emerging, and markets are rapidly changing.

For the climate-related risks that have been identified, a desired 'target' net risk level is documented within the Group's risk framework. This target risk level or tolerance level reflects the acceptable level of risk by the Group and also stands as a target and equitable measure for alleviatory measures to approach the risk going forward. We seek to minimise risks on operational activities within the regulatory environment. Climate- related risks are approached with a minimal level of appetite, although this is subject to Board approval where all appetite levels are established.

Environmental compliance requirements are high so our risk appetite for environmental impacts is low. Where there is no risk to regulatory compliance, we are willing to take more risks to innovate e.g. NBS.

The appropriate action then follows from the level of difference between the net risk and the desired risk appetite. Actions to manage risks cover four response types:

- Tolerate: where decisions are taken to tolerate a risk, subject to ongoing monitoring. An example is climate-related risks where uncertainty is high and therefore we might decide to monitor risks until such time as it may be necessary to take further action.
- Treat: where actions are taken to manage and reduce risks, such as implementing operational measures in our drought plan or capital investments to enhance our resilience to droughts.
- Transfer: used where possible to transfer risks to other organisations - such as through insurance or through contracting out responsibilities. We recognise it is not possible to fully transfer risks, rather this approach helps to reduce our exposure; for example, to the impacts of flooding through flood insurance.
- Terminate: where decisions are taken to stop activities so that we are not exposed to particular risks. For example, we may decide not to undertake a capital project if risks cannot be effectively mitigated - for example due to high costs for energy, materials, and specialist resources related to Net Zero or climate adaptation.

Actions to mitigate risks are allocated to action owners and progress is monitored through the risk review process.

Climate-related and nature-related risks impact and influence our principal risks

Below we outline our principal risks which are impacted or influenced by climate- and nature-related risks and opportunities, including where our response to these principal risks needs to consider nature recovery, climate change, and Net Zero. The climate and nature emergency are amplifying our principal risks.

		Physical Risks	Transition Risks
Our Principal Risks	**Law, Regulation and Finance**		
	Changes in Government policy		•
	Changes in regulatory frameworks and requirements		•
	Non-compliance with laws and regulations	•	•
	Inability to secure sufficient finance and funding, within our debt covenants, to meet ongoing commitments	•	•
	Non-compliance or occurrence of an avoidable health and safety incident	•	•
	Failure to pay all pension obligations as they fall due and increased costs to the Group should the defined benefit pension scheme deficit increase		
	Market and Economic conditions		
	Macroeconomic near-term risks impacting on inflation, interest rates and power prices		•
	Operational performance		
	Failure to secure, treat and supply clean drinking water	•	•
	Failure to improve wastewater performance results in environmental commitments not being delivered	•	•
	Failure to provide excellent service or meet the needs and expectations of our customers and communities	•	•
	Difficulty in recruiting and retaining staff with the skills required to deliver the Group's strategy		•
	Business Systems and Capital Investment		
	Insufficient capacity and resilience of the supply chain to deliver the Group's operational and capital programme	•	•
	Inadequate technological security results in a breach of the Group's assets, systems, and data		
	Failure to receive CMA approval for the acquisition of SES Water		

We recognise how climate-related and nature-related risks are impacting our principal risks and/or how our response to these risks needs to consider climate resilience, nature, and Net Zero

Metrics and targets

Disclose the metrics and targets used to assess and manage relevant climate-related and nature-related risks and opportunities where such information is material.

We are continuing to enhance the metrics we use to quantify key climate and nature risks and to monitor progress towards managing risks and achieving our targeted objectives. We have adopted the TCFD guidance relating to metrics and targets, and our progress is shown in the table below.

We continue to disclose comprehensive data relating to our GHG emissions and energy consumption (SECR report on page 71). We report on all Scope 3 categories which are relevant and material to our business (ESG databook). SASB reporting can be found on page 74.

The Group is committed to improving its sustainability and climate change related disclosures and will continue to enhance over the coming years.

	Description of the metric	Metric for FY22/23[1]	Metric for FY23/24[1]	Related Targets
GHG emissions	Scope 1, 2, and 3 GHG emissions (in tCO_2e) (Market-based).	299,747	368,265	Operational Net Zero by 2030 (South West Water & Bristol Water), Total Net Zero by 2045 (South West Water). We have committed to near-term Science Based Targets (SBTs). Our targets have been validated and approved by the Science Based Targets Initiative in May 2024, and can be found on page 70. Reduce operational emissions by 70% by 2025 (Scope 2 market-based) (tCO_2e).
	GHG Reduction from the baseline year 2021 (Scope 2 market-based) (tCO_2e).	65.7%	71.9%	
	Carbon intensity of our water services in tonnes of CO_2e per megalitre of water supplied to customers.	59.7 SWW 358.5 BRW	38.8 SWW 358.5 BRW	
	Carbon intensity of our business in tonnes of CO_2e per £100k of our revenue based on Scope 1 and 2 GHG emissions (Market-based).	7.3	6.0	
Climate and/or nature-related Transition risks Selected metrics for some material risks	Risk of increased energy costs: Proportion of our operational expenditure on electricity (%).	c. 28%	c. 21%	Generate up to 50% of the energy we use through our own renewable energy generation by 2030. (SWW).
	Transition risks in our supply chain: proportion of our key and strategic suppliers who have evidenced they are working towards a Net Zero target.	21% SWW	51%	100% of our key and strategic suppliers will have established an ESG policy or equivalent by 2025. (SWW). We are considering setting a target to encourage our suppliers to play their part in delivering Net Zero. We are ensuring that our Tier 1 suppliers have the experience required to deliver nature-based solutions.
	Risk of customer affordability in achieving Net Zero and adapting to climate change: our customer affordability measure.	96.9% SWW 100% BRW	98.1% SWW 100% BRW	Zero water poverty by 2030 (SWW & BRW). Maintain zero customers in water poverty by 2050. Maintain 100% customer and community satisfaction with our services. (SWW) Over 100,000 customers supported via social tariffs by 2030. (SWW) We are planning to improve our WaterShare+ scheme uptake to 1 in every 10 households by 2030. (SWW).
Climate and/or nature-related Physical risks Selected metrics for some material risks[6]	Proportion (%) of customers currently at risk of severe restrictions in a 1-in-200-year drought.	62.7%	7.6%	Our 2050 target is to achieve 0% of customers at risk of severe restrictions in a 1-in-500-year drought, aligning with Government planning guidance.
	Proportion (%) of customers at risk of sewer flooding in 2050 in a 1-in-50-year storm.	7.11%	9.77%	Our long-term target is to reduce this to zero, assuming funding is provided to achieve this through the regulatory system.
	Number of major sites/assets at high risk of coastal flooding and erosion.	In progress[3]	36	Our long-term target is to achieve 0 of our key sites/ assets at high risk, assuming funding is provided to achieve this through the regulatory system
	Annual average number of spills from each storm overflow (number per year).	28	43	Reduce spills to an average of 20 per year from each storm overflow by 2025. The increased rainfall seen in 2023 and early 2024 has seen the number of spills increase in the period Zero harm to rivers and seas by 2030.
	Water withdrawal from surface water from rivers, lakes, and natural ponds (%)	92 SWW 86 BRW	92.4* SWW - * BRW	25-year plan to improve the environment by removing harmful abstractions * subject to assurance, verified calculations will be available through the ESG databook
	Bathing water quality standard compliance (measured by Environmental Agency based on harmful bacteria in our seas)	100% SWW	100% SWW	

	Description of the metric	Metric for FY22/23[1]	Metric for FY23/24[1]	Related Targets
Climate and/or nature-related opportunities Selected metric for some material opportunities	Enhancing our energy resilience and reducing our carbon emissions with renewable energy: Amount of renewable energy we've generated in 2023 (kWh).	31,084.05	34,480.00	Generate more renewable energy every year to 2030. Commitment to 50% renewable energy self-generation by 2025 (SWW).
	Proportion of our energy use which came from energy we generated ourselves (%)[4]	6.89%	7.5%	Generate up to 50% of the energy we use through our own renewable energy generation by 2025.
	Enhancing our resource efficiency to reduce GHG emissions and save water: Leakage (3-year average – Megalitres Per Day).	133.0 (SWW & BW) 37.0 (BRW)	107.0 (SWW & BW) 37.6 (BRW)	Reduce leakage by 2030 against the baseline 2024/2025.
	Enhancing our resource efficiency to reduce GHG emissions and save water: Per capita consumption (PCC) in litres per day per person	152.6 (SWW & BW) 148.7 (BRW)	147.1 (SWW & BW) 144.7 (BRW)	Commitment to an 8% reduction in per capita consumption by 2030 from the 2024/2025 baseline. (SWW and BW).
	Reducing our financing costs through sustainable finance: proportion of new finance under our sustainable finance framework during the year.	100%	82%	>75% of new finance to be through sustainable financing framework.
	Biodiversity enhancement (ha) (cumulative)	111,515	126,733	80% of the catchments we work in have been improved through activities such as peatland restoration and tree planting. We've set a target to deliver at least 10% biodiversity net gain.
	Trees planted (AMP7 Delivery)	220,187	253,134	Exceeded target to plant 250,000 trees by 2025
Capital deployment Selected metrics for material capital investments	Investment (£) earmarked for our renewable energy generation capital plans to 2030.	£160m	£160m	Accelerate our generation of up to 50% of the electricity we use through our own renewable energy generation by 2025.
	Additional investment (£) in enhancing resilience and environmental performance announced within the year on top of our ongoing business plan investment. (Investment in solar PV by Pennon Group).	£120m	£145m	Our £1.5 bn 2020-25 environmental investment programme is our largest to date. This reflects the delivery of additional and accelerated investments including Green Recovery, WaterFit, our Save Every Drop water resilience investment and Ofwat's recently announced Accelerated Infrastructure Delivery.
Remuneration	Proportion of our management incentive schemes linked to ESG outcomes, including climate change	20%	20%	
Internal carbon value	Value of carbon used in business cases and investment planning for PR24 (£/tCO_2e)[5]	£252/tCO_2e Sensitivity testing: Low: £126/tCO_2e High: £378/tCO_2e	£252/tCO_2e Sensitivity testing: Low: £126/tCO_2e High: £378/tCO_2e	

1. Some metrics relate only to South West Water (SWW), Bournemouth Water (BW), or Bristol Water (BRW). In future we will be aiming to report combined metrics for the water businesses.
2. Indicates the trend from the baseline year.
3. We are currently undertaking analysis to investigate and quantify this risk.
4. Does not include energy used in transport.
5. Investment includes repurposing ex-quarries and mines, introducing desalination units to enhance water capacity, and WaterFit and Green Recovery initiatives.

Our Climate Adaptation Report provided to DEFRA in 2021 it shows intolerable levels of physical climate risks if left unmitigated. In addition, at least 17 of the top 20 physical climate risks (>60 risks identified) would exceed this threshold by 2080 without further adaptation. This signals the need for further investment in climate resilience in future planning rounds.

Our Net Zero carbon commitments will provide a step change to how we run our business and look to manage the risks of climate change; an update on our progress during the last year is found on pages 69 and 70. The metrics and targets associated with this help to show the investment in the area and the planned future investment to meet this goal.

Further detail on our progress with nature and environmental initiatives is provided on page 78.

All projects being put forward to the planning committee have a focus on both their carbon impacts and the ESG impacts which are used to manage the decision-making process.

Pennon Group plc

Peninsula House
Rydon Lane
Exeter
Devon
England EX2 7HR

www.pennon-group.co.uk

Registered in England & Wales

Registered Number: 2366640