

Port of Milford Haven

Adaptation Reporting Power – Round 4



Port of
Milford Haven

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Introduction

The effects of climate change are becoming ever prevalent, particularly for coastal communities.

Milford Haven Port Authority (trading as the Port of Milford Haven, and here on in referred to as “The Port”) was established by an Act of Parliament in 1958. There have been a number of subsequent Acts and Harbour Revision Orders since then including: the Milford Haven Conservancy Act 1983; the Milford Haven Port Authority Act 1986; Milford Haven Port Authority Harbour Revision Order 2000; Milford Haven Port Authority Act 2002; and Milford Haven Port Authority Harbour Revision Order 2012. Together, these Acts define what the Port may or may not do, how it must govern itself, and what powers and obligations it has.

In accordance with the Milford Haven Conservancy Act 1983, the Port has a duty to maintain, improve, protect, and regulate the navigation within, the Milford Haven Waterway (‘the Haven¹’), and to provide, maintain, operate and improve port and harbour services and facilities in, or in the vicinity of, the Haven.

The Port of Milford Haven is a trust port; an independent statutory body operating on a commercial basis charging fees for its services, facilities and spaces. It has no shareholders or owners, nor does it receive ongoing public sector financial support. Any surplus profit is reinvested back into the Port to support the continuing and long-term success of the Port for the benefit of its stakeholders. The Port is accountable to these stakeholders, who include customers, harbour users, local communities and government. In its guidance to statutory harbour authorities operating ports in England and Wales – ‘Ports Good Governance Guidance’ - the Department for Transport defines a Trust Port as a “valuable asset presently safeguarded by the existing board whose duty it is to hand it on in the same or better condition to succeeding generations. This remains the ultimate responsibility of the board and future generations remain the ultimate stakeholder (Department for Transport, UK Government, 2018)”.

The entire Waterway and surrounding coast was designated a Special Area of Conservation in 2004, known as the Pembrokeshire Marine Special Area of Conservation. This area contains marine habitats and species of European importance, which are required by law to be protected and maintained for the future. Special Areas of Conservation are the highest designation in Europe. Additionally, the Haven is a wetland of international importance and many of the foreshores are designated sites of special scientific interest. Conserving these areas is

Given the importance of our environment, we have established sustainability as a core value at the heart of our operations and we will continually seek out ways to manage our impacts

¹ ‘The Haven’ is the area bounded by a straight line drawn from the south-western extremity of St Anne’s Head to the southern extremity of Studdock Point; and high water mark on the shores of Milford Haven and the approaches to it within the straight line mentioned above, including all bays, creeks, pools, inlets, rivers, as far as the tide flows.



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crucial for climate adaptation, as they provide natural buffers against extreme weather events and support biodiversity.

The Port of Milford Haven is the UK's leading energy port and Wales' busiest port, handling around 20% of Britain's seaborne trade in oil and gas. It is a key UK shipping gateway capable of handling liquid bulk, dry bulk, break bulk and heavy lift cargoes and operates on a 24/7 basis offering a diverse range of marine services, including pilotage, conservancy and vessel traffic services. In addition, the Port owns and operates Pembroke Port - from where a twice-daily ferry service runs to Rosslare; Milford Marina – offering over 300 berths for leisure craft; and Milford Fish Docks – Wales' largest fishing port. The Port of Milford Haven also manages an extensive commercial property portfolio in the Milford Haven and Pembroke Dock areas, is a key driver of economic activity in Pembrokeshire, and a champion of the marine energy sector, providing fabrication and deployment space for the development of marine energy devices.

Sustainability - creating opportunities today without compromising the needs of our future generations - is at the core of what the Port does, and managing climate change is naturally a critical part of that. This report sets out how the Port has identified climate change risks and how it is continually reducing and adapting.

This report contains:

- Details of how the Port is governed and managed and how climate change is considered.
- An assessment of the identified risks and opportunities to the Port from climate change, when assessing the risks we have considered different climate scenarios however for conciseness we have summarised the identified critical risks within this report.
- Measures taken since publication of the previous MHPA Adaptation Report (ARP2) and a summary of our proposed actions.
- An initial summary of our interdependencies and how we collaborate with local communities, customers, government agencies and the ports and maritime sector.



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Governance, management and strategy

Our Purpose

Our purpose is to operate the UK's leading energy port safely, responsibly and effectively. We have an unwavering focus on safety; it is at the heart of everything we do. We strive for excellence through collaboration with a sustainable conscience, working to minimise our environmental footprint to safeguard the extraordinary natural wealth of our region.

Governance & Risk management

The Port is managed by a Board of Directors who are responsible for the strategic direction of the Port's operations. Our Board of Directors are supported by our Senior Management Team. Further details of our Board and SMT members can be located on our website ([Environment, Society & Governance at the Port of Milford Haven](#)).

Alongside our management structure, we have an ISO accredited 'Port Integrated Management System' (PIMS) covering ISO 9001, 14001 and 45001, which sets the framework for our values of Safety, Excellence, Collaboration and Sustainability. Within this management system is our Environmental Policy ([Publications, Policies, Forms, Regulations & Guidance](#)), which details how The Port will minimise its impact on the environment, details our environmental aspects and impacts (including climate change) and outlines our process for monitoring and evaluation of our performance through our Environmental Plan. This management system ensures appropriate governance, monitoring and evaluation is provided on an annual basis. Climate risks are also considered regularly as part of our risk management and emergency response processes.

In addition to our PIMS, we also align ourselves with a number of external frameworks such as Ports Good Governance Guidance, European Sea Ports Environmental Code of Conduct, UN Sustainability Goals and UN Paris Agreement, and Wellbeing for the Future Generations (Wales) Act. By aligning with these frameworks, we ensure robust corporate governance, effective stakeholder engagement, and comprehensive provision of information. As such, we are well-prepared to demonstrate our commitment to sustainable and resilient port operations, addressing climate risks, and implementing adaptive measures to safeguard our infrastructure and services against future environmental challenges.

Operational delivery of the PIMS is achieved through the proactive role of operational departments supported by a number of working groups and committees that monitor, and influence decision making, manage risks and drive our operational strategies. Climate change has the potential to impact all aspects of our operations and risks are therefore proactively shared and managed across a number of different groups as detailed in Table 1.



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Table 1: Governance Working Groups

Group	Function
Customer Focus Working Group	To develop, monitor and measure customer focused strategy & objectives performance to meet overall Port strategy.
Health Safety Welfare Committee	To discuss and deliver health and safety information across the Port including lessons learned, performance and objectives.
Environmental Management Committee	To manage the Port's environmental performance. This is the core committee for climate related strategy (agreement & monitoring)
Risk & Compliance Working Group	To ensure an effective and fully integrated risk management framework that facilitates the identification, control, and review of risks, supporting compliance with regulatory and good governance requirements. Providing assurance that risks are consistently and proportionately managed. The RAC is an advisory body with no executive powers which remain with the Board.
PIMS Quarterly Review Meeting	Management review of the performance of the Risk, H&S, Quality & Environment management systems. High level overviews of performance including legislation and key blockers presented by system owners to senior management.

Climate Change specific Risk Management

We have Adverse Weather Procedures which provides instructions for the management of any adverse weather event and also cover impacts on operations from external factors such as UK Energy supply interruptions. Adverse weather is defined as any dangerous meteorological phenomena (such as heavy rainfall, flooding, high winds, snow and ice) with the potential to cause damage, serious social disruption or loss of human life.

The associated risk assessments within this procedure assess the hazards posed by extreme weather conditions and what control measures need to be in place to prevent harm. This process details the control measures that would be implemented to prevent consequences caused by adverse weather, such as:

- Injuries to Port staff, member of public or contractor.
- Infrastructure damage to Port assets and surrounding areas, stakeholder premises.
- Staff being unable to attend work due to adverse weather conditions leading to a reduction in operating staff.



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Understanding Risk and Challenges

Methodology and climate change projections

In preparing this risk assessment, we used the latest climate change projections produced by the UK Meteorological office: UK Climate Projections 2018 (UKCP18) alongside consulting the Climate Report for Pembrokeshire² which provides high level climate change projections for our local authority area.

As we did not report during ARP3, we have refreshed our risk assessments using the new risk assessment template provided by Department for Environment, Food and Rural Affairs (Defra).

To update our risk assessment for ARP4, we hosted a workshop facilitated by an experienced, external consultant, who specialises in climate change risk in the maritime and ports sector, with key departmental stakeholders during which we reviewed the main climate change projections and how these might impact the Port in the short, medium and long term.

Climate risks identified in ARP1 and 2

Critical risks identified during ARP1 (2011) and ARP2 (2015) are still considered key for the Port; namely.

- Increased flood risk within the Port of Milford Haven's jurisdiction.
- High winds and sea states disrupting pilotage and vessel operations.
- Extreme weather events, particularly compounded during large tides.

Several additional risks have also been identified that were not considered during ARP1 and 2. These include the potential increase in summer haze, extreme heat, increasing water temperatures, fluctuating air quality, sea level rise and increasing frequency of extreme weather events. These risks have been incorporated into the revised risk assessment only where they were considered to pose a "critical" risk to the port's operations.

Additional risks considered since ARP2

Since ARP1 and 2, we have also considered the following additional risks and whether these could pose a critical risk to our operations in the future; namely:

Extreme heat

Much of our built environment (road surfaces, building structures, electrical infrastructure etc) is susceptible to the impacts from extreme heat. Extreme heat can also pose an increased risk of wildfires to the areas surrounding the Port.

² Climate Report for Pembrokeshire, Department for Environment Food and Rural Affairs, Met Office, December 2024



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Sea level rise

Whilst sea level rise was considered previously, fluctuations in tidal range had not been comprehensively considered: which would not only have implications for biodiversity but also for vessel draft/available water depth at berth and dredging activities.

Waves & Storms

Whilst these have always been considered, any potential increase in wave and storm intensity and frequency threatens to damage port infrastructure and can result in operational delays. Of particular concern are the increased risks from a combination of simultaneous events such as extreme rainfall, large swell, and a low-pressure system coinciding with spring tides. Changing weather patterns and prevailing winds are a key consideration that impact our operational planning, and if climate change brings more frequent high wind / sea state events this planning capability may need to be enhanced. The direction of wind, frequency of surges, changes in the Gulf Stream are all particularly important considerations for our Port as recent events observed globally have already shown the potential to cause operational delays, infrastructure damage or worse.



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Adaptation Action Plan and Implementation

Implemented Measures

Since the first and second round of ARP, we have implemented a series of measures to adapt our operations and facilities in the face of climate change. **Table 2** provides an overview of actions that have been undertaken with further details provided in the “ARP4 Risk Assessment and Action Plan registry”.

Table 2: Previously Implemented ARP Climate Change Adaptation Measures

Risk	Measure	Status	Completed
Flooding	Install water level sensors	Installation completed Monitoring ongoing	2015
Process	Consider environmental impacts in Marine Works & Dredging Licensing process	Completed & ongoing	2011
Data	Meteorological Stations - Data Analysis and Monitoring	Completed Monitoring ongoing	2014
Extreme Weather	Extreme Weather Events Monitoring	Monitoring ongoing	2015
	Refurbishment of Mid Channel Rock Lighthouse Beacon.	Completed	2024
Opportunity	Photo Voltaic renewable energy business opportunities and initiatives	PV Solar Park & roof-mounted solar installed and operational Marine Renewables logistic support ongoing	2014

In addition to the actions documented in the APR1 and ARP2 reports, we have undertaken a number of additional projects which aim to mitigate the impact of climate risk on our operations.

Milford Haven Dock Headwall

In 2020, we upgraded the head wall at Milford Haven Dock as part of a wider scheme to improve our flood defences. This project aims to improve water flow management.

Sea Wall Heightening at Pembroke Dock

In 2021, we raised the sea wall at Pembroke Dock as part of a broader coastal defence scheme to protect the Port from the risks associated with rising sea levels and extreme weather events.



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Floating frontier in offshore wind development

We are actively contributing to climate change mitigation through our proactive involvement in the facilitation of marine renewable energy deployment such as floating offshore wind development (FLOW) in the Celtic Sea. These efforts should not only help reduce national greenhouse gas emissions but also promote sustainable development and economic growth in our region, positioning Wales as a leader in the renewable energy sector.

Marine renewable energy projects

We have completed a significant phase of our marine renewable energy projects at Pembroke Port, marking a major step towards supporting the UK's transition to a net-zero future. This development includes the construction of a new 68m wide slipway and workboat pontoons, which will enhance our capability to launch and recover marine renewable energy devices and vessels. These upgrades are crucial for the marine renewables sector including FLOW, as they provide essential infrastructure to support construction and deployment as well as operations and maintenance.

Mitigation measures

In addition to adaptation measures, we also undertake a number of climate mitigation measures to reduce the impact of our operations on climate change, the wider environment and society. We are currently in the process of finalising our greenhouse gas emissions inventory which included a full applicability screening of Scope 3 emissions, and we are currently assessing the viability of introducing a science - based target for emissions reduction.

Strategy & Environmental Management System

In 2020, sustainability was integrated into our business strategy as one of our four core values. 'Response to climate change' is also incorporated

Adaptation Case Study

Storm Ophelia

In 2017, Storm Ophelia caused high-speed winds and high waves which damaged the Lock Gates at Milford Marina.

As a result, we have now adopted the procedure to restrain the outer lock gates during high winds and tidal surges. The outer gates, most susceptible to damage, are tied back during the free flow period (over high tide) when they must remain open. Once the freeflow period is over the gates are closed and remain closed. Locking operations are cancelled to protect the gates from damage during opening and closing due to the wind and wave conditions.

This shows a proactive approach toward adaptation to the uncertainties that the climate change is bringing to port authorities.

Best Practice Case Study

The Mid Channel Rock lighthouse

The Mid Channel Rock lighthouse, known as 'the Pole', has guided over a billion metric tons of shipping into the Port for nearly 60 years. Recently, it underwent a major refit led by engineers at the Port.

The project involved reinforcing the structure with a 35-tonne steel sleeve and upgrading its electrical systems and weather monitoring equipment. Despite challenging conditions, the work was completed swiftly. The lighthouse continues to be a crucial navigational aid and weather station, ensuring safe passage for ships and welcoming sailors to port.

The upgrade work to the Mid Channel Rock lighthouse considered climate change impact on weather and sea conditions to inform the design and will see it operational for decades to come.



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as a key theme within our Sustainability Strategy. This ensures that sustainability receives appropriate governance and leadership for the benefit of The Port, our stakeholders and future generations. In 2023, we reviewed and updated our environmental policy to align with the UN Sustainability Goals, UN Paris Agreement, and the Wellbeing of Future Generations Act. We have ISO14001, ISO9001 and ISO45001 accreditation of our integrated management system and climate change is included in it and identified within our impacts and aspects register. Our integrated management system ensures we maintain our operational excellence whilst enabling us to identify our risks and opportunities through our impacts and aspects register and ensure appropriate management of these issues.

Proposed ARP4 Adaptation Measures

In addition to the actions taken during and since ARP1 and ARP2, we are continually undertaking initiatives that are enabling our adaption to climate change. Many of these are operational actions and involve us further assessing the risks and opportunities to ensure future adaptation measures are fit for purpose.

We have included a detailed summary of past, ongoing and planned actions within our **Risk Assessment & Action Plan**, provided separately, which should be referred for further information.

We believe our adaptation to climate change is continual and as such should be embedded within our daily operations, which is why we will continually strive to improve our management systems and embed climate change risks, opportunities, adaptation and mitigation requirements into our business and future project plans, risk assessments, facilities and asset management and general operating procedures, both at the Port and in conjunction with our stakeholders.



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Interdependencies

As we assess the risks posed by climate change, it's crucial for us to understand how our operations are intricately linked to both upstream and downstream activities. Ports serve as vital nodes in global supply chains, and their functionality is deeply interconnected with various stakeholders and environmental factors.

The resilience and sustainability of the Port is partly dependent on our ability to adapt to climate change, which is why we have contingency plans to mitigate extreme weather and are continually investing in the Port's infrastructure to withstand risks such as sea level rise, flooding and other climate related risks. Updates to our Marine Works License application process are a notable improvement since ARP2, where we now require any capital projects undertaken to consider the impacts of climate-related risk and extreme weather from project conception through to delivery.

We recognise that effective climate change adaptation will require effective collaboration between our customers, communities, government agencies and across the ports and maritime sector. To address this, our employees and leadership actively participate in a number of local community and national sectoral working groups, such as: European Sea Ports Organisation (ESPO), UK Major Ports Group (UKMPG), British Ports Association (BPA). An example of this is our involvement in the Coastal Communities Adapting Together (CCAT) project, where we were an active participant in this funded programme, supporting local people to observe, interpret and record data about their community and coastal environment, and to take an active role in adapting their communities and businesses to future conditions.



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Summary

Since we last reported in ARP1 and 2, we have referred to the guidance for new reporting organisations in completion of this report and prepared a new risk assessment and action plan register. Using our integrated management system cross-functional key representatives reviewed our climate change risks based on the latest climate change projections in UKCP18.

Based on the findings and outcomes of the workshop, we have prepared a **Risk Assessment and Action Plan register** (available separately) which should be consulted alongside this summary report.

Since our last reporting period, we have embedded sustainability, which includes climate change considerations, into our core values, we have updated and will continue to update our management systems, policies, procedures, risk assessments and operational plans to ensure climate change management and adaptation is embedded throughout our organisation and day to day activities.

We recognise that adaptation to climate change requires collaboration, both at the local, national and international levels, which is why we actively participate in working groups British Ports Association (BPA) and European Sea Ports Organisation (ESPO) amongst others. We realise the importance of interdependencies when it comes to adaptation, and whilst we are already liaising with key stakeholders, we aim to further assess and document our interdependencies in the future.

With regards to longer term adaptation and capital projects, these are being continually assessed by management. We have embedded climate change considerations into our marine works license and project management processes, which allows us to ensure that any ongoing or planned capital projects consider climate change to further strengthen our resilience to climate events.

In summary, adapting to climate change will remain a continual part of our drive for operational excellence, striving to deliver on our values and responsibly deliver resilience, supporting coastal communities for the prosperity of future generations.



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