



# Climate Risk and Resilience in Ports and Harbours

As ports and harbours move to decarbonise, they must also consider how to build resilience and adapt to more extreme weather and the almost certain chronic impacts from climate change such as increased heat and sea level rise.



**As more and more countries declare a climate emergency, the global race to net-zero carbon emissions is essential. This is already driving increased regulatory requirements around carbon targets and reporting; but equally, corporations and businesses must prepare for new climate extremes by understanding the acute and chronic risks from a changing climate, building local resilience, and ultimately developing new adaptation pathways.**

BMT provides bespoke advisory services to the ports and harbour sector to help your organisation understand methods and approaches for greenhouse gas accounting and reducing carbon emissions as well as using sophisticated numerical modelling and mapping tools to better understand vulnerability to physical risks and inform actions that build resilience of assets, operations and workforces to climate impacts.

**We offer specialist climate risk and resilience advisory services that build on our existing deep sector knowledge and expertise across ports, harbours, marinas and shipyards.**

# Services and expertise provided

- + Climate science awareness and learning services
- + Greenhouse gas audits and accounting
- + Decarbonisation options and strategy
- + Physical climate change vulnerability and risk assessments
- + Resilience and adaptation planning, including incorporation of climate considerations into:
  - Strategic/master planning
  - Development assessment and development standards
  - Asset management
- + Blue carbon and other carbon accounting of natural or restored environments
- + Taskforce on climate-related financial disclosure (TCFD) reporting

## Our experience

### Project 1

### TasPorts – Decarbonisation and Climate Risk Assessment



BMT was engaged in 2020 by Tasmanian Ports Corporation Pty Ltd (TasPorts) to conduct a first pass climate risk screening assessment to identify activities and operations most vulnerable to the risks of climate change, outline the impacts of these risks, and provide recommendations to outline a way forward for TasPorts to manage climate related risks.

The project also involved developing strategic and operational policy around decarbonisation targets and climate change mitigation implementation pathways. This work has involved a strategic audit of GHG emissions at the ports and airport as well as analysis and provision of case studies on how other ports both within Australia and internationally are reducing their GHG emissions (and in some cases becoming energy generators).

In 2022, this work moved into its second phase with BMT undertaking a second pass (focussed) physical risk assessment. This involved a more detailed review of each site's (n14) assets, operations and workforce against relevant climate variables (flooding, heat, storm tide, etc.) using local climate change projections published by the Tasmanian Government. This work will lead into the development of a Climate Change Adaptation plan for TasPorts.

#### Services and expertise provided:

- Greenhouse gas auditing and accounting
- Decarbonisation options and strategy
- Physical climate change vulnerability and risk assessments
- Resilience and adaptation planning



### Project 2

## Ports North - Sustainability Strategy and Climate Advice

BMT was engaged by Ports North in 2022 to assist the port authority to scope and undertake initial analyses to support key actions contained in the Port's Sustainability Strategy which was released in late 2021.

In terms of decarbonisation, the project involved identification of relevant scope 1, 2 and 3 emission sources relevant to each port area and to develop systems and tools to account and track GHG emissions over time.

A high-level assessment of physical climate risks was undertaken to identify locations that have potentially greater vulnerability to future changes in climate as expressed through increased storm tide inundation, flash flooding and incidences of hot days.

This initial assessment leveraged the extensive work that has been done under the Queensland QCoast program for defining coastal hazard areas (erosion and storm tide) by the Cairns Regional Council and Torres Strait Council, as well as a range of existing hazard tools, mapping and data sets relevant to flooding, bushfire, heat and drought published by science agencies and local authorities.

The project also looked at a range of related sustainability issues including opportunities for renewable energy generation, water efficiency and implementing circular economy waste management principles.

#### Services and expertise provided:

- Greenhouse gas and carbon auditing and accounting
- Physical climate change vulnerability and risk assessments
- Resilience and adaptation planning



### Project 3

## Port of Brisbane - Blue Carbon Project

BMT is currently engaged by the Port of Brisbane to undertake an exploratory audit of blue carbon habitats that are within the boundaries of the port's lease area including mangroves, saltmarsh, seagrass and transitional vegetation communities such as melaleuca and casuarina.

The methodology of the study utilises and follows the recently released Commonwealth Government BlueCAM method for calculating carbon sequestration rates for different tidal and marine habitats, including associated vegetation and soils.

The outputs of the study will be to quantify the extent of atmospheric carbon sequestration that is occurring from these habitats, as well as identify rehabilitation and restoration priorities that could be evaluated as further measures to counterbalance the Port's anthropogenic carbon emissions.

#### Services and expertise provided:

- Blue carbon accounting and restoration
- Greenhouse gas auditing and accounting
- Decarbonisation options and strategy



For more information on our services or details of how BMT can help with climate risk and resilience - get in touch.

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