

Ports North Advances Sustainability Strategy Through Comprehensive Water Efficiency Management Plan

with The Ecoefficiency Group



Ports North, one of Australia's most diverse port operators, developed actionable water efficiency strategies across three major ports, establishing baselines and implementation frameworks guided by TEG's water efficiency expertise.



STRATEGIC ACTION IMPLEMENTATION FRAMEWORK

- Water efficiency management plan (WEMP) with 32 prioritised actions categorised by investment level
- Water savings potential and benefits
- Clear 2-3 year implementation timeline

Project Overview

Ports North operates nine ports across Far North Queensland, including the multi-purpose regional Port of Cairns, which features a diverse mix of marina facilities, reef tourism, cruise shipping, commercial fishing, bulk cargo and ship building and repair services. As a government-owned corporation managing extensive port infrastructure, Ports North recognised the strategic importance of water efficiency in supporting regional water security.

Challenge

While water conservation was identified as a priority in Ports North's Sustainability Strategy, the organisation lacked detailed understanding of consumption patterns across their extensive operations. With over 100 tenants alone on port land in Cairns and a diverse range of water-using activities, a comprehensive approach was needed.

Further, water supply pressures in the region – namely Cairns' reliance on a single dam built for one-third of its current population – makes efficient water management both an operational necessity and a community responsibility.



COMPREHENSIVE 5-STAGE WATER AUDIT PROCESS

- Desktop review across three ports
- Site visits
- Detailed auditing of ~50 water meters
- Tenant and port user interviews
- Collaborative workshop with Ports North personnel to identify efficiency opportunities

Opportunity

Strategic water management presents multiple opportunities for Ports North to:

- Improve water efficiency across their operations
- Investigate alternative water sources, including rainwater harvesting
- Build industry leadership in port sustainability practices
- Create partnerships with tenants for improved resource efficiency
- Improve water billing accuracy and revenue recovery through enhanced measurement and monitoring systems

Our Water Efficiency Consulting Process

Stage 1:

Desktop review and stakeholder engagement with Port North's Sustainability and Environmental Team

Stage 2:

Comprehensive site visit to the Port of Cairns and interviews with Port of Mourilyan and Port of Thursday Island staff:

- ✓ Detailed auditing of ~50 water meters
- ✓ Industrial and commercial tenant interviews
- ✓ Identification of all water-using activities

Stage 3:

Water balance analysis comparing supply versus consumption, legislative review and audit report preparation.

Stage 4:

Strategic workshop with the management team to discuss priorities and implementation approach

Stage 5 :

Finalised Water Efficiency Management Plan (WEMP) with prioritised action framework

"This work has provided valuable insights into Ports North's water efficiency, consumption and usage. This enables us to engage more strategically with our port customers to drive improvements aligned with our long-term sustainability objectives."

Jacinta Caraballo Ports North Sustainability Manager

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Action Implementation Framework

Actions were strategically categorised across multiple criteria to help Ports North prioritise investment and sequence implementation:

INVESTMENT LEVEL	WATER SAVINGS POTENTIAL	IMPLEMENTATION CATEGORIES	BENEFITS
Low (<\$10k)	Low (<1ML/year)	Infrastructure	Environmental
Medium (\$10-50k)	Medium (1-5ML/year)	Education	Health and Safety
High (>\$50k)	High (>5ML/year)	Commercial partnerships	Aesthetic
		Process Improvements	Reputation
			Compliance
			Financial
			Data Integrity

TEG's Water Efficiency Expertise Enables Ports North to Make Progress on Their Sustainability Strategy Through Action-Focused Water Management

The audit revealed significant water consumption across commercial, industrial and domestic port activities. Analysis led to an extensive list of recommended actions for efficiency and asset management improvements to support Ports North in reaching their longer-term goals and targets.

Operational Improvements

- ✓ Establishment of comprehensive water usage baselines across major port facilities
- ✓ Identification of opportunities to improve the measurement, monitoring and billing of water use by tenants, vessels and port operators
- ✓ Improved knowledge and awareness of the water metering and reticulation system

Strategic Advantages

- ✓ Developed 32 prioritised actions categorised by cost, water savings and implementation benefits
- ✓ Established clear pathway to implement the WEMP over the next 2-3 years
- ✓ Highlighted opportunities for partnerships with port users and customers to reduce consumption and improve water efficiency

Need expert guidance to optimise water efficiency across your operations?

TEG's methodology for water management combines technical auditing with strategic planning to create actionable pathways towards measurable results.

SCHEDULE A CALL to learn how our Water Management services can help you access immediate water savings and long-term operational efficiency for your facilities.