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Managing carbon emissions through collaboration and empowerment

Wellington Water



water
NEW ZEALAND
CONFERENCE & EXPO
17-19 OCTOBER 2023
Tākina, Te Whanganui-a-Tara Wellington

About Wellington Water

Wellington Water manages the three waters infrastructure in the Wellington Region, and delivers water services on behalf of it's client councils who own the assets.

Wellington Water manages 8 water treatment plants, 8 wastewater treatment plants, and a pipe network of approximately 7,000 kms in serving a population of around 450,000 people.



Wellington Water's Carbon Journey

Governance:

- Net-Zero 2050 Strategic Priority 5
- SOI Measures

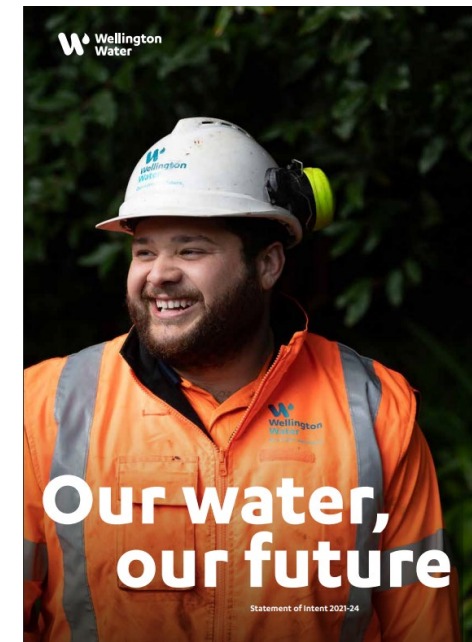
Measure	Target 2021/22	Target 2022/23	Target 2023/24
12 We will baseline our capital emissions, and set targets for reductions in future statements of intent	Baseline and targets set	To be confirmed in the coming year	

Objectives of SOI measures:

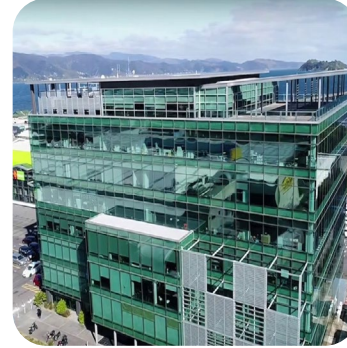
- Baseline carbon emissions from capital works, and identify potential improvements
- Update stocktake of operational emissions, and optimise performance of operations to increase energy efficiency
- Develop a roadmap for emissions reduction

How we are delivering:

- Capital Carbon Baseline programme
- Capital Carbon Integration programme
- Emissions Reduction Roadmap programme



What's our Carbon Portfolio

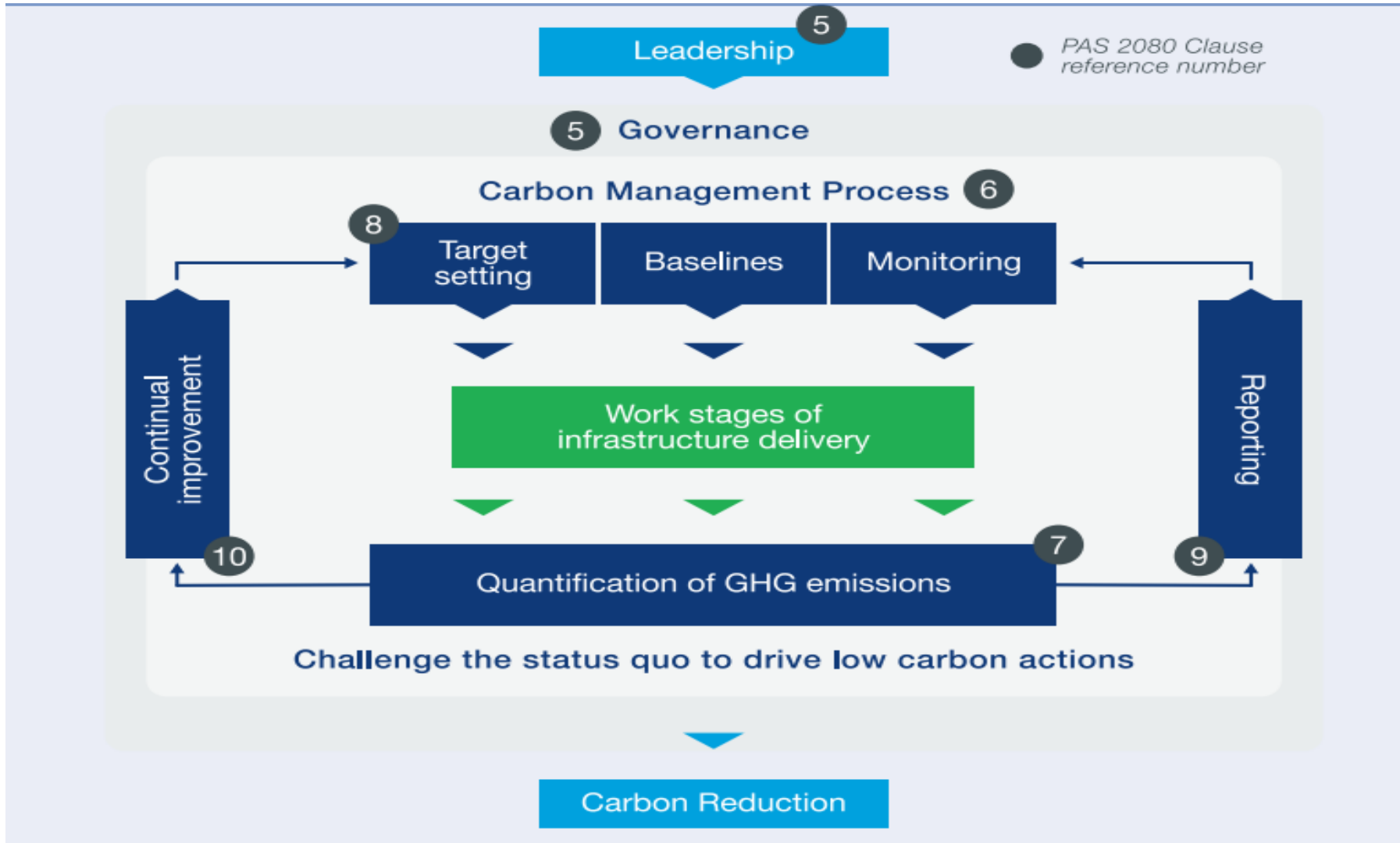


Capital
Carbon

Operational
Carbon

Company
Carbon

PAS 2080

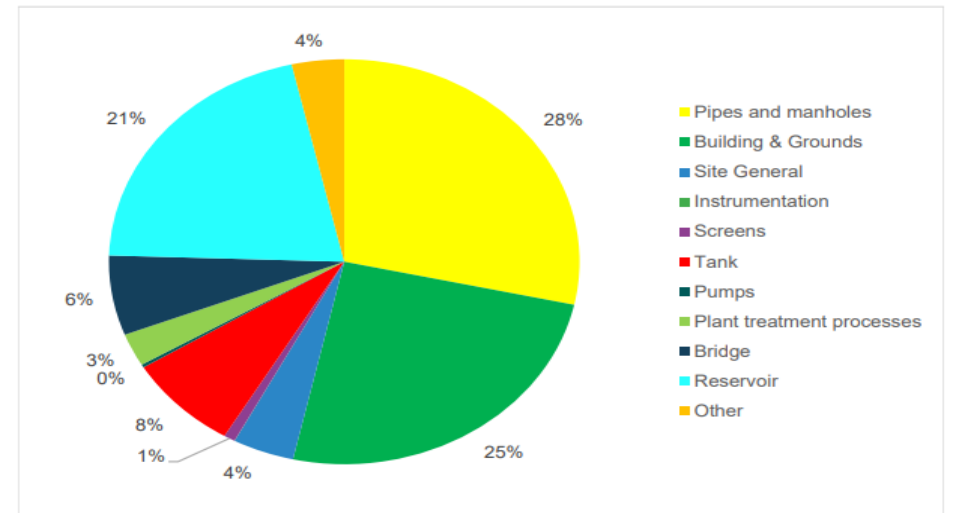
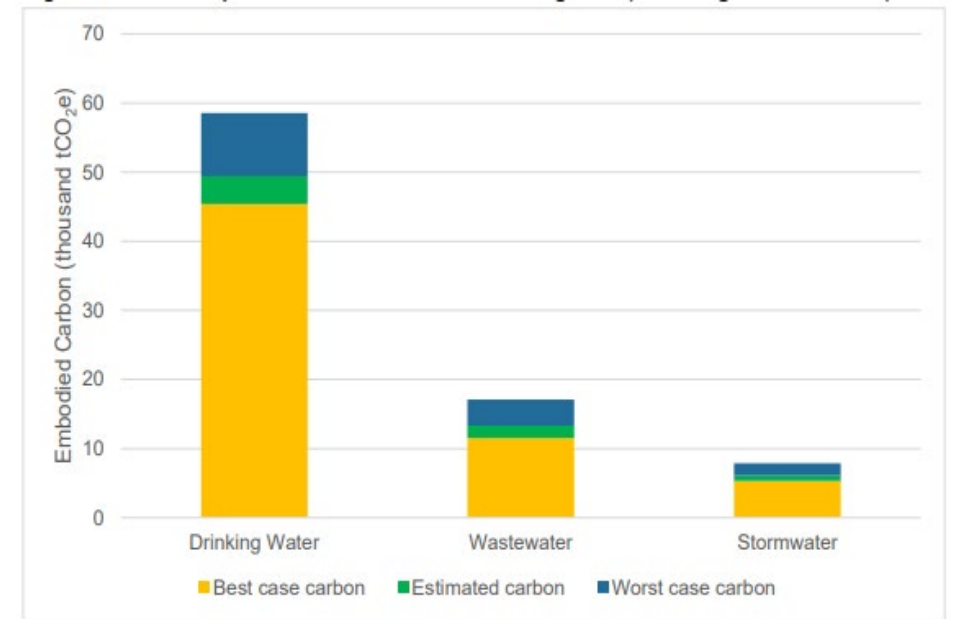


Capital Carbon Baseline

- The baseline captured around 80% of total capital value of the long-term plan, including all three water projects
- The outcome is a baseline of 83,500 tco2-eq forecasted for FY 2021 to 2024
- Drinking Water infrastructure projects contributed to a large portion of the baseline.

Key lessons learnt:

- Establish a monitoring and reporting mechanism at key stages of project delivery
- Every stakeholder involved in delivering capital projects had a role to play
- Make carbon assessments a business-as-usual (BAU) practice

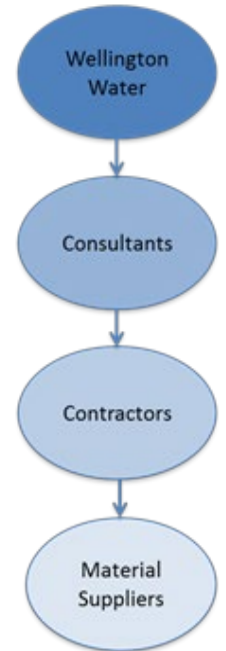


How does Wellington Water operate its Capital Delivery Model

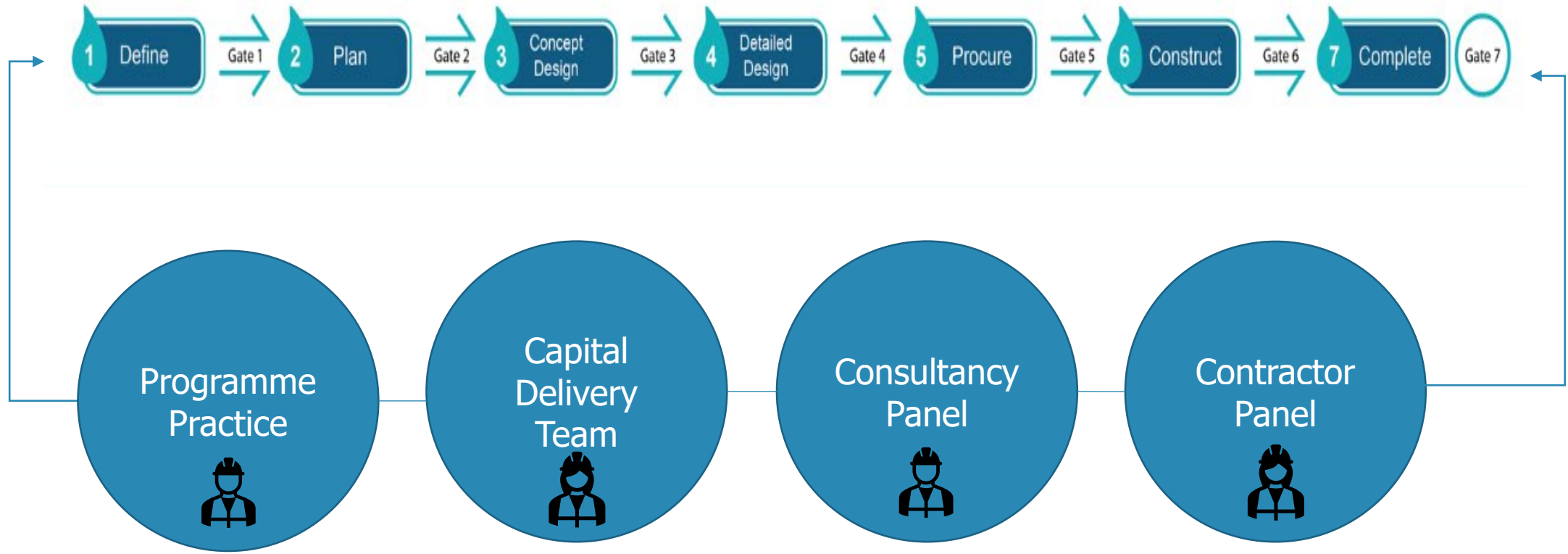
Wellington Water operates a unique collaborative, relationship-based panel model which consists of consultant and contractor organisations.

The model not only ensures alignment with Wellington Water's strategic priorities but also aims to deliver on innovation and knowledge sharing through collaborative practices

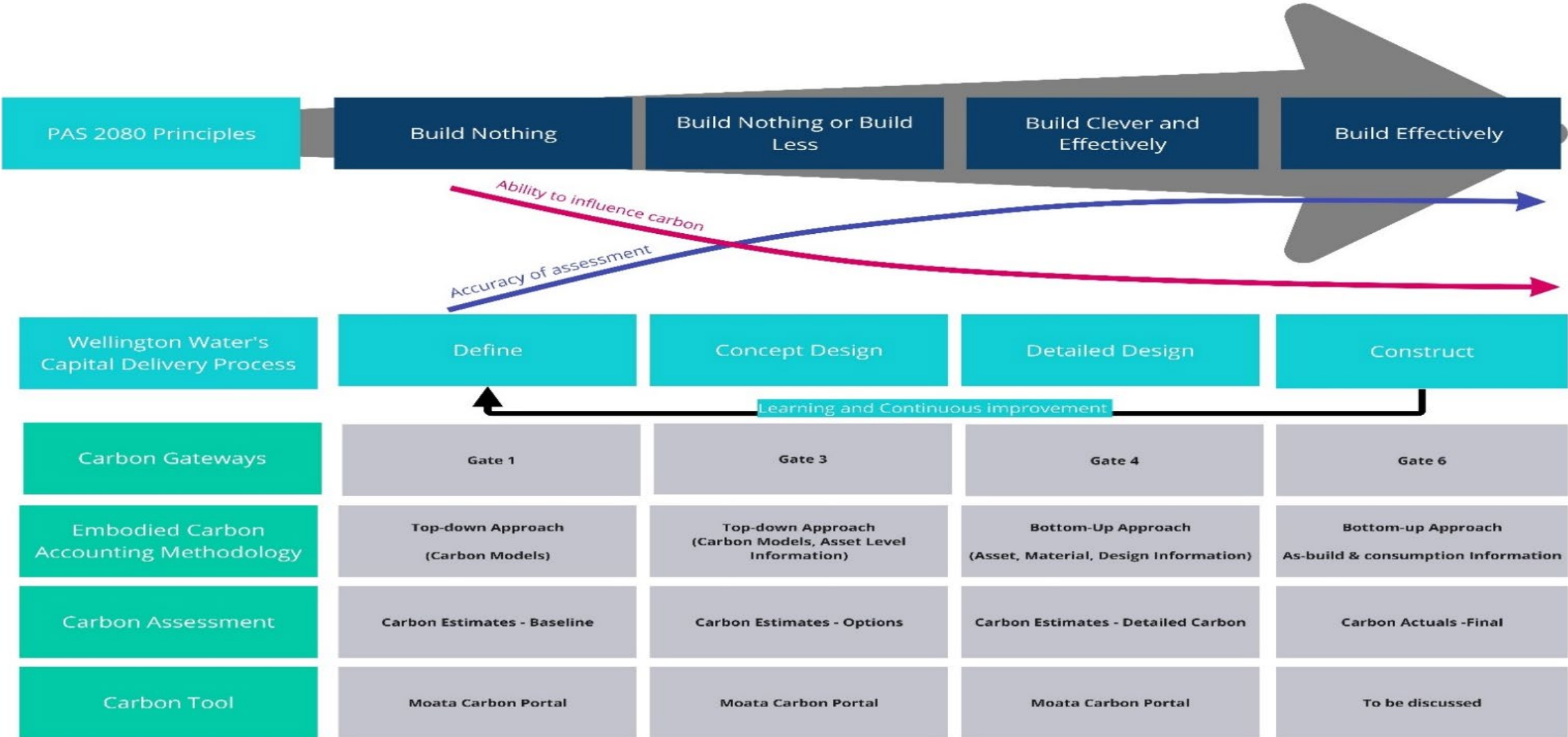
This collaborative environment provides an opportunity to collectively address and reduce carbon emission.



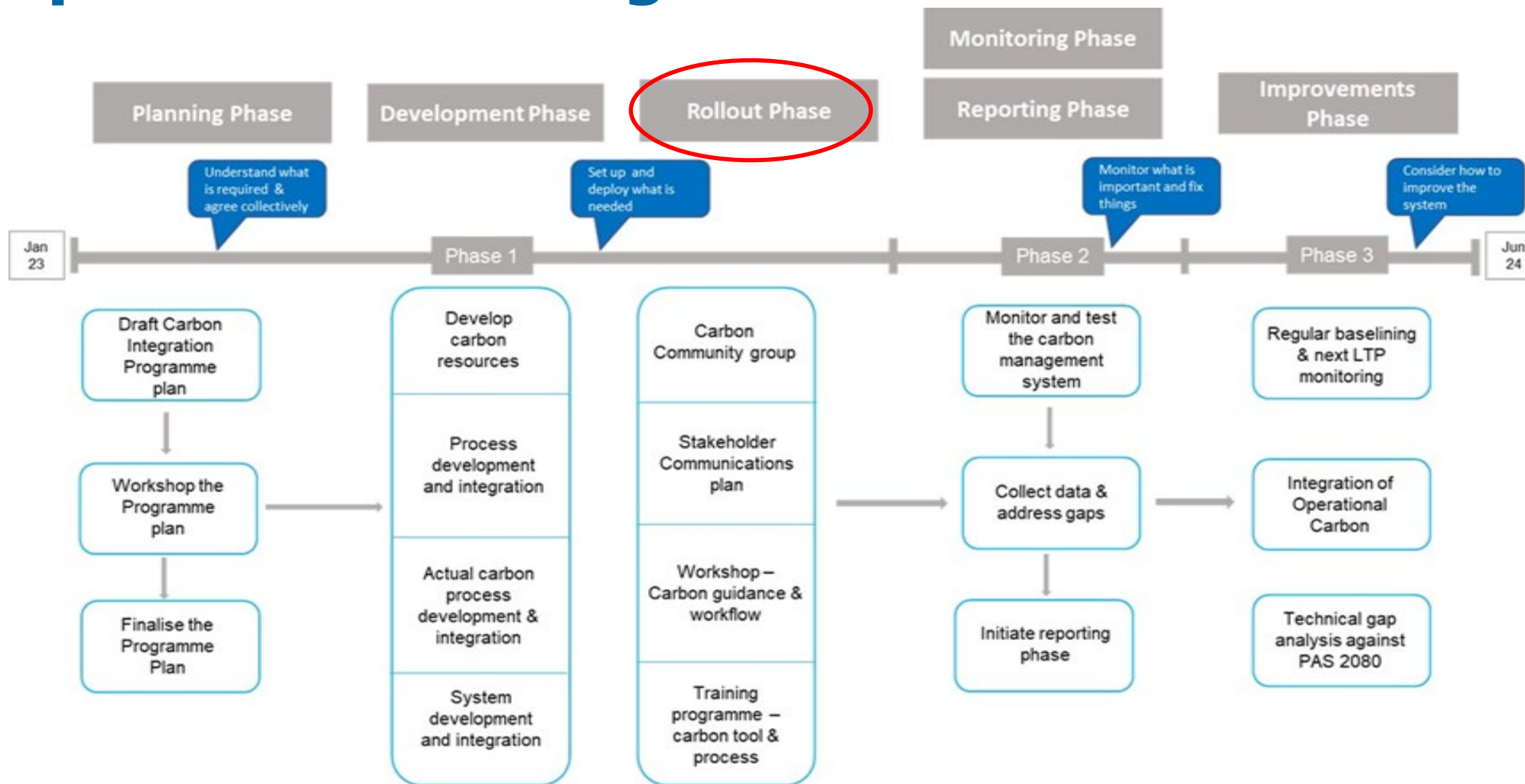
Integrating a Carbon Management System



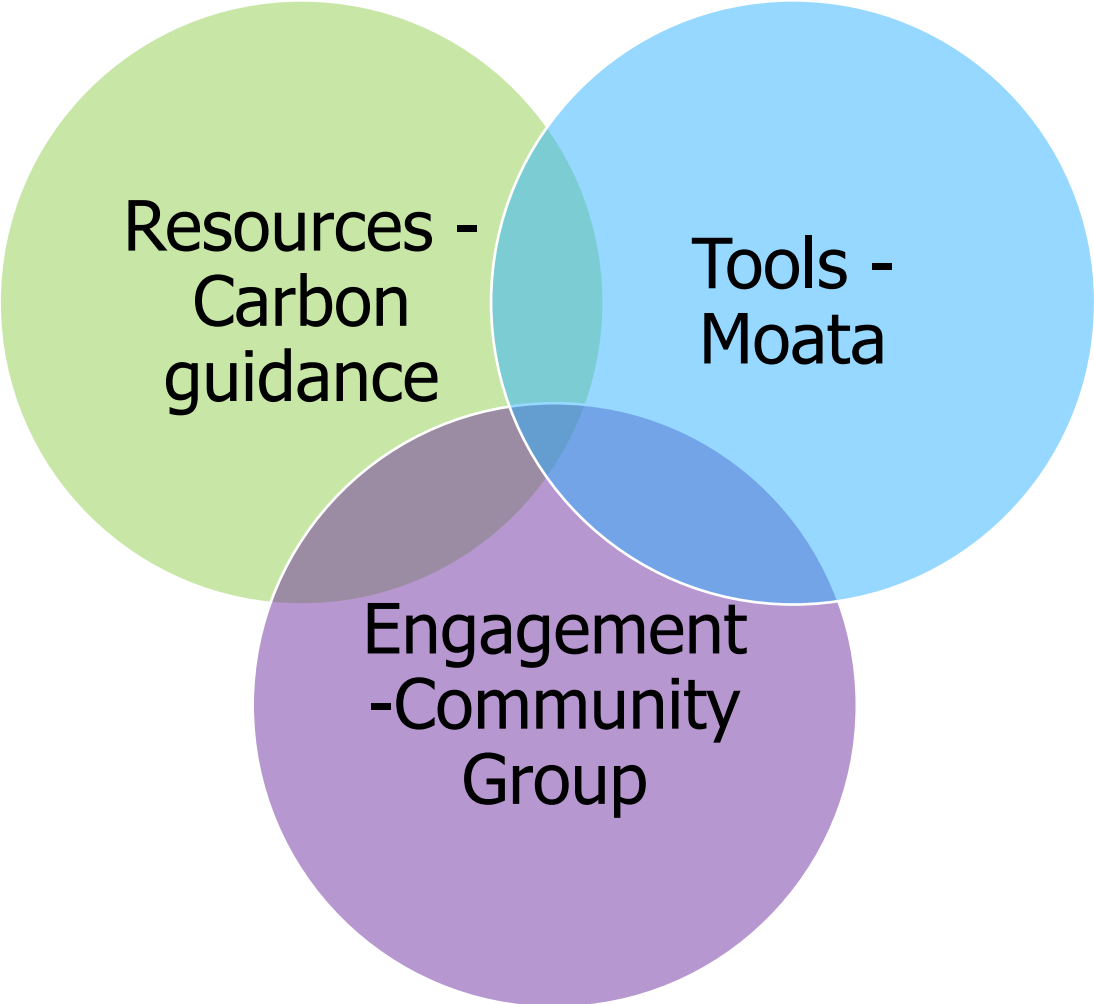
Carbon Management Framework



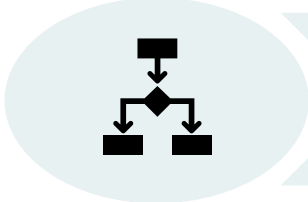



Capital Carbon Integration Plan



Delivery through Collaboration and Empowerment



Intended Outcomes:

-  Process and reporting of carbon
-  Adoption of Moata tool
-  Behaviour
-  Shared learnings & Improvements

Challenges

- Setting up a cohesive carbon reduction approach
- Establishing a standardised system with enough flexibility to suit different types and sizes of projects approach
- Active stakeholder buy-in through behavioral change in the absence of legislative requirements
- Finding a balance between funding, project outcomes, and promoting effective carbon reduction practices
- Making significant low carbon emissions investment decisions

Lessons Learnt

- **Establishing a culture of collaboration**
- Feedback learnings and continuous improvement
- **Being consistent**
- **Empower the whanau to embrace the challenge, and consider carbon in key stages**
- Develop an integrated approach alongside other environmental and project outcomes

Case Study: Seaview Wastewater Treatment Plant Dryer Replacement Project

- Net Zero Pathway: Opportunity for fuel replacement
- Sludge Dryer: End-of-Life dryer and replacement at Seaview WWTP
- **Carbon Project Gateway: Define Phase(1) Simplified carbon assessment for replacement options to be updated in Concept Design Phase(Phase 3)**
- Outcome: New dryer designed with renewable energy source and fuel source flexibility



The natural gas fired sludge dryer at the Seaview Wastewater Treatment Plant, Lower Hutt City Council is up for replacement.

Summary

- Addressing climate change demands collective action within the water sector and wider.
- PAS 2080 offers a structured approach to effectively and collaboratively manage carbon emissions of new water infrastructure assets.
- **The carbon management system fosters shared practices, shared understanding, and commitment towards continual learning.**
- **Collaboration helps to encourage adoption of new practices**
- The water industry has unique transformative opportunity in navigating towards a low-carbon future.

Acknowledgement

Fraser Clark

Uki Dele

Ushma Dahya

Marian Goodwin

Carbon Community Group

Mott MacDonald Team



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Any Questions?

Thank you



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