

Infrastructure NSW

Reducing carbon in infrastructure procurement

ESG Procurement Conference 2026

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NSW Decarbonising Infrastructure Program



The Decarbonising Infrastructure Program was launched in 2022 with a roadmap that is updated annually. Key components include:



Decarbonising Infrastructure Delivery Policy



Embodied Carbon Measurement Guidance

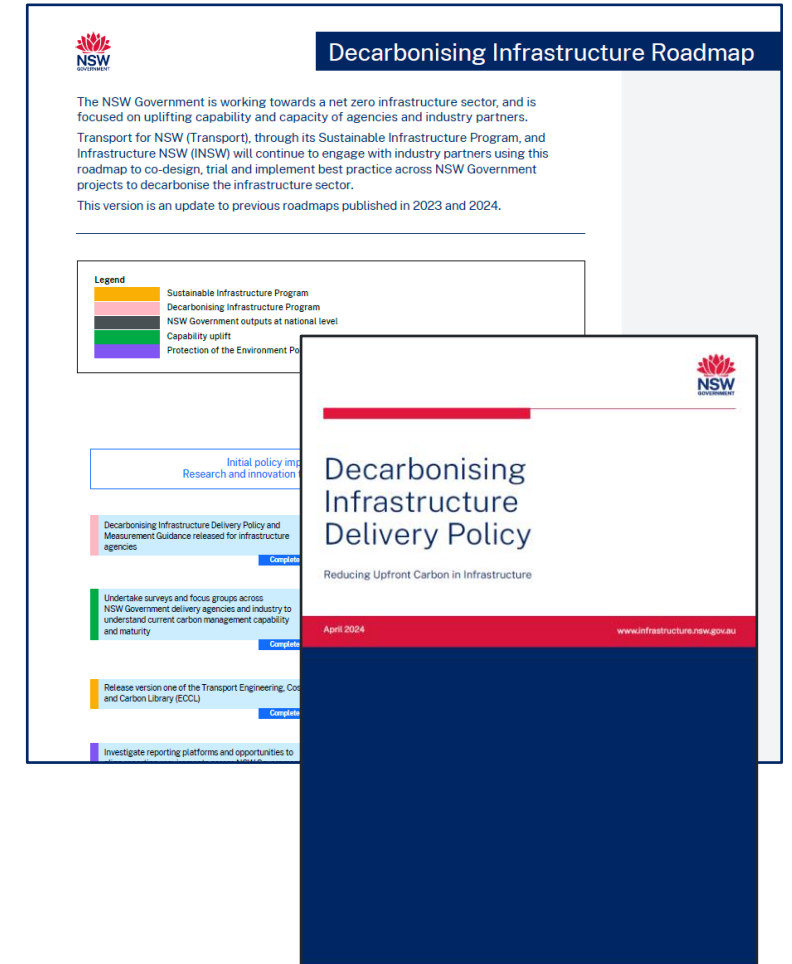


Embodied Carbon Databook

(common emission factors, assumptions)



Decarbonising Infrastructure Toolkit (templates, case studies and fact sheets)

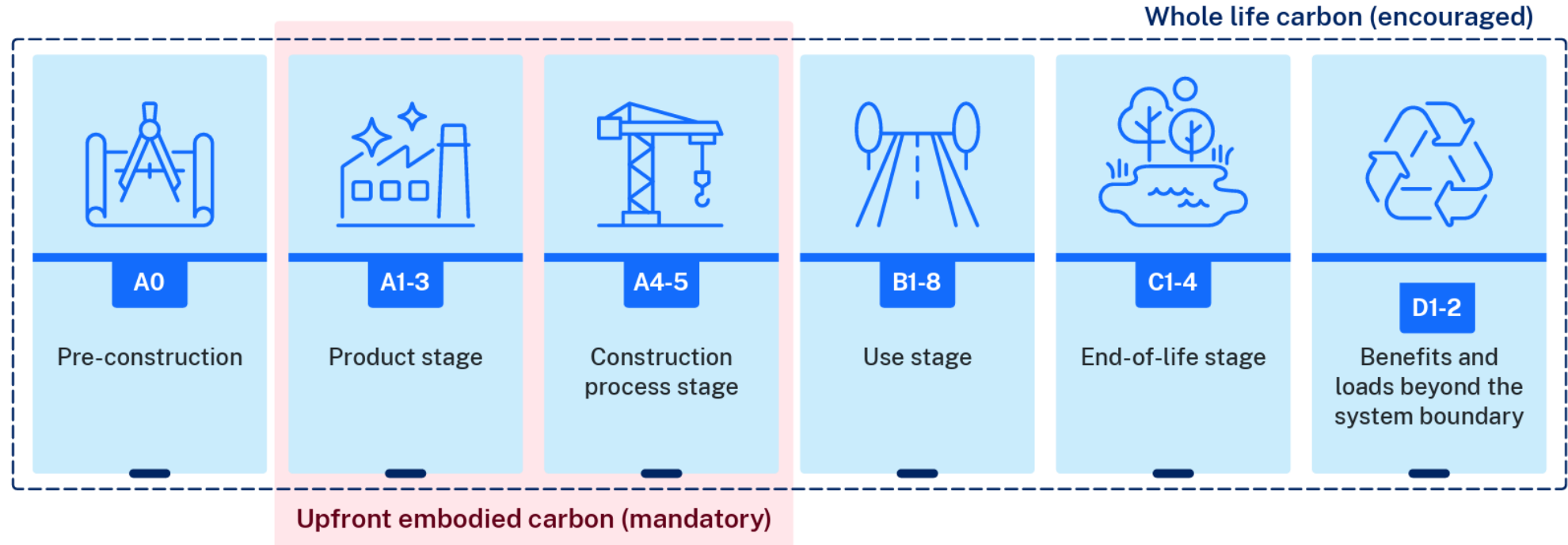


NSW Decarbonising Infrastructure Delivery Policy

- The Policy embeds consideration of carbon in infrastructure decision making in 3 stages
- The Policy applies to public infrastructure buildings >\$50M and other public infrastructure >\$100M
- Accompanying Measurement Guidance aligns inputs and outputs for a consistent measurement of embodied carbon across asset types

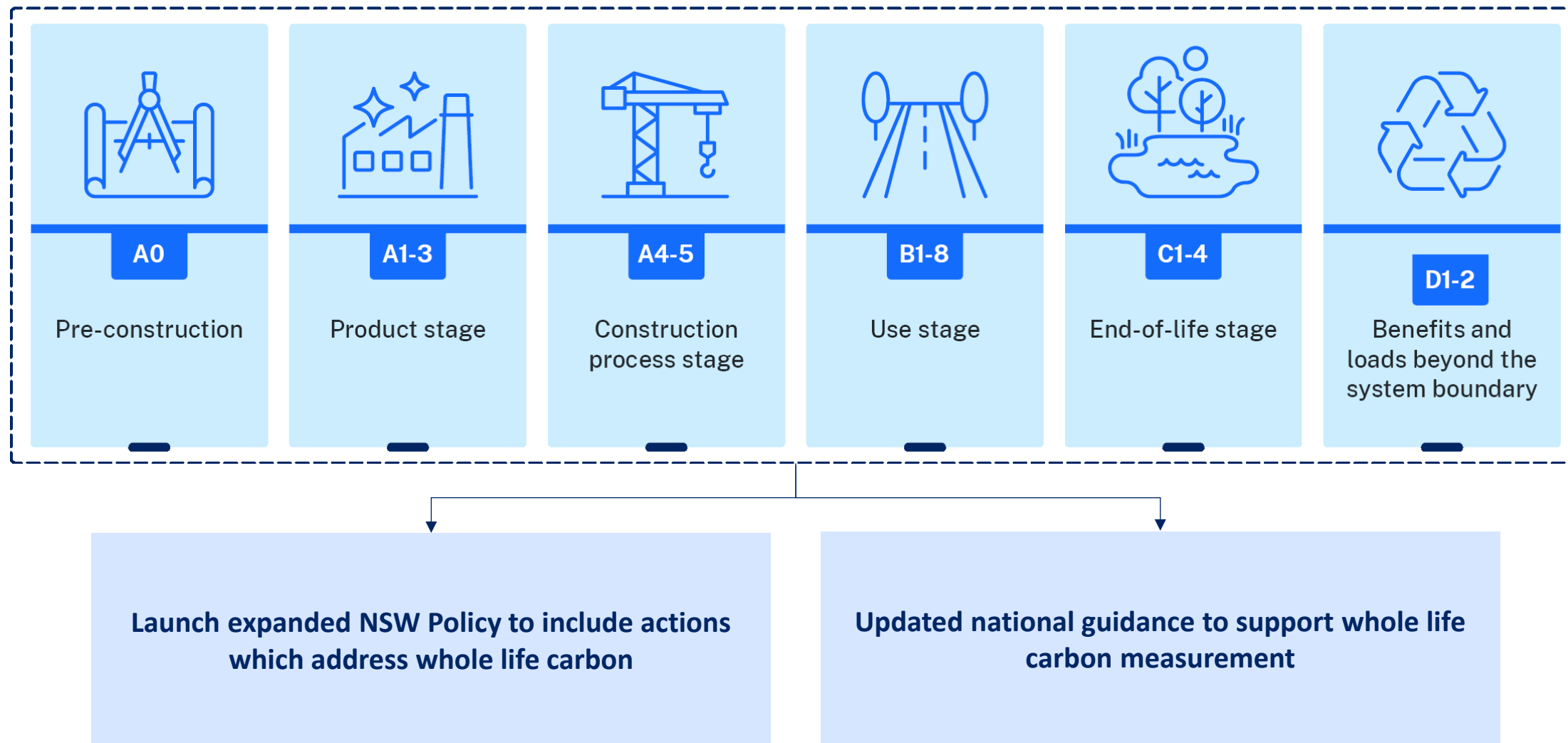


Scope of emissions under existing NSW Decarbonising Infrastructure Delivery Policy



2026 policy update: covering whole life carbon

Whole life carbon



Working towards national harmonisation

National policy

**National Decarbonising Infrastructure
Policy Framework**
2026

**Policy on the application of National
Carbon Values**
2024

Jurisdictional policies

**NSW Decarbonising Infrastructure
Policy**
2026

Other jurisdiction policies
e.g., Infrastructure WA, Department of
Infrastructure & Transport SA, Infrastructure
Australia

Supporting Guidance

**ITMM Carbon Measurement in
Infrastructure Guidance**
2026

**National Sustainable Procurement in
Infrastructure Guideline**
2025

**Infrastructure Australia Guides to
assessing and valuing GHG emissions**
2024

ITMM related projects

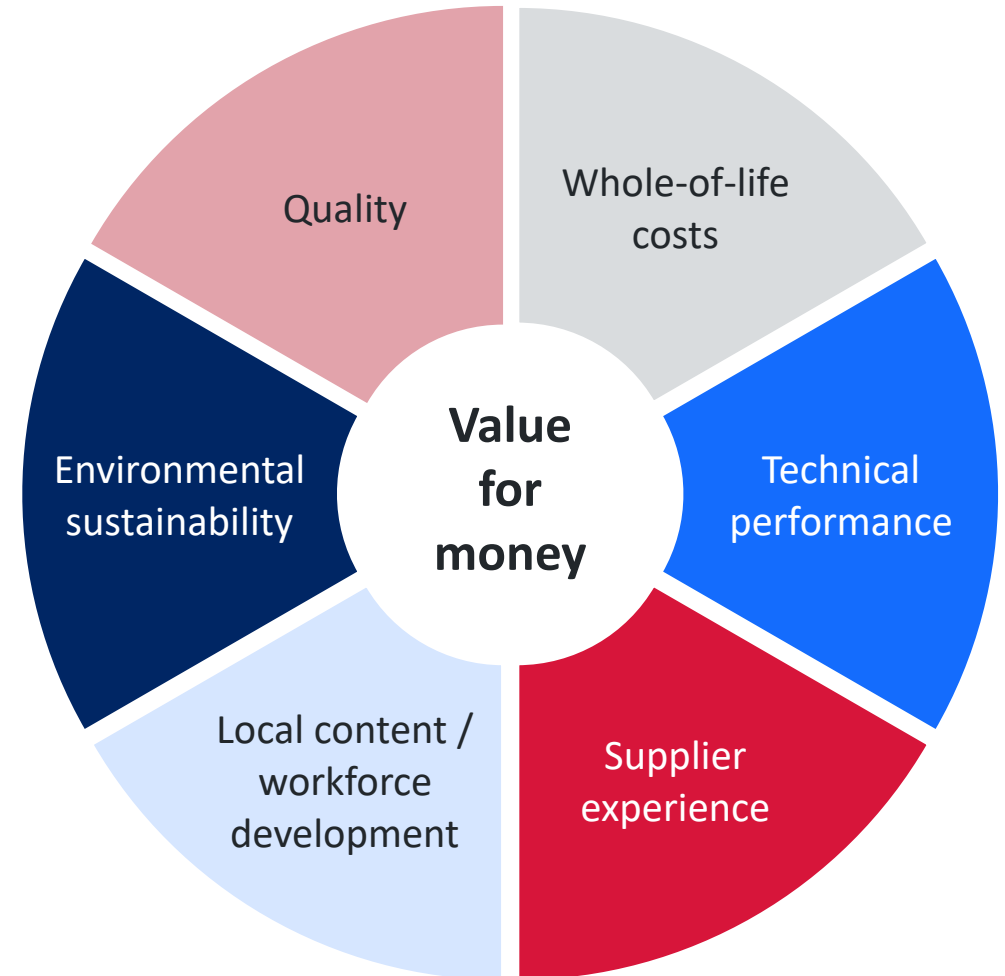
External work

*ITMM – Infrastructure & Transport Minister's Meeting
GHG – Greenhouse Gases*

Key challenges to decarbonisation in procurement

- Multiple objectives & competing priorities
- Budget constraints
- Technical specifications and performance requirements
- Capacity and capability in procurement teams and delivery partners
- How to ensure value for money?

Typical evaluation criteria



Key levers available to increase demand for low carbon products in procurement

Lever	Example
1. Minimum requirements for key low carbon products in contracts	Contractual requirement for the use of renewable diesel or low carbon concrete
2. Carbon reduction targets	15% reduction in embodied carbon compared with a project business-as-usual baseline
3. Invite tenderers to offer low carbon innovations	Returnable schedule asking tenderers to describe carbon reduction methods & initiatives offered
4. Give weighting to carbon or broader sustainability in evaluation criteria	X% tender submission weighting to sustainability as part of non-price criteria
5. Contractor incentives (e.g., KPIs, payments, penalties)	- Setting decarbonisation or sustainability KPIs on projects - Bonus payments for exceeding carbon reduction targets

Key industry feedback on proposed policy updates



Support for target setting on projects, with collaborative approach



Calls for government to set clear expectations and help increase demand for low carbon products



Need to balance the rigor in whole life carbon assessment with the burden on projects



Need for better knowledge sharing and capability uplift

Key procurement updates being considered in NSW



Agencies to set and monitor mandatory carbon reduction targets for public infrastructure projects



Early market engagement to test decarbonisation opportunities with market



Inviting tenderers to reduce carbon beyond target and offer innovative approaches



Carbon considered in tender evaluation and incorporate requirements in contract



Encourage knowledge sharing on successes, barriers and opportunities for future projects

National Sustainable Procurement in Infrastructure Guideline

Supporting jurisdictions to reduce carbon in procurement of infrastructure:

Project stage	Key guidance and example templates
Business case and concept design	• Sustainability Requirements (design) • Guidance on considering carbon in investment decision-making processes
Pre-tender	• Sustainability Requirements (design & construction) • Returnable Schedule templates • Templates for inviting Carbon and Sustainability Innovation Options
Tender	• Incentive Regime template • Guidance on non-price tender evaluation criteria & weightings • Guidance on Pre-Agreed Variations
Delivery	• Sustainability Reporting & Assurance Requirements (construction) • Guidance on Contract Admin & Performance Reporting
All stages	• Sustainability Management Plan & Carbon Management Plan Requirements

Inviting Sustainability and Carbon Innovation Options

- These invite tenderers to propose initiatives that go beyond the base requirements to improve the project's sustainability outcomes
- Tenderers to note benefits, cost effectiveness, program impacts, impacts on technical or operational performance, any other risks

No.	Carbon Reduction Initiative / Benefits	Carbon savings (t CO ₂ -e)	Cost (\$)	Constraints
1				
2				
3				

Using cost of carbon abatement to support decisions

What does a project need to spend to reduce a tonne of carbon?

- Austrroads *User Guide for the Decarbonisation Decision-Making MCA Tool* (2024) provides guidance on assessing cost-effectiveness

- Cost effectiveness (\$/tCO₂-e) =
$$\frac{\text{NPV of intervention cost (\$NPC)}}{\text{Carbon reduction (t CO}_2\text{-e)}}$$

Levelised cost of abatement (\$NPC/t CO ₂ -e)	MCA rating
Significant cost saving and carbon reduction [> -\$0/ tCO₂-e saved]	5 – very high
Low cost of carbon abatement [\$0 to \$150/ tCO₂-e saved]	4 – high
Moderate cost of carbon abatement [\$150-\$300 / tCO₂-e saved]	3 – moderate
High cost of carbon abatement [\$300-\$450 / tCO₂-e saved]	2 – low
Very high cost of carbon abatement [>\$450 / tCO₂-e saved]	1 – very low

Case study: Sydney Metro City & Southwest – Embedding carbon reduction in procurement



Sydney Metro embedded carbon reduction into their procurement processes by:

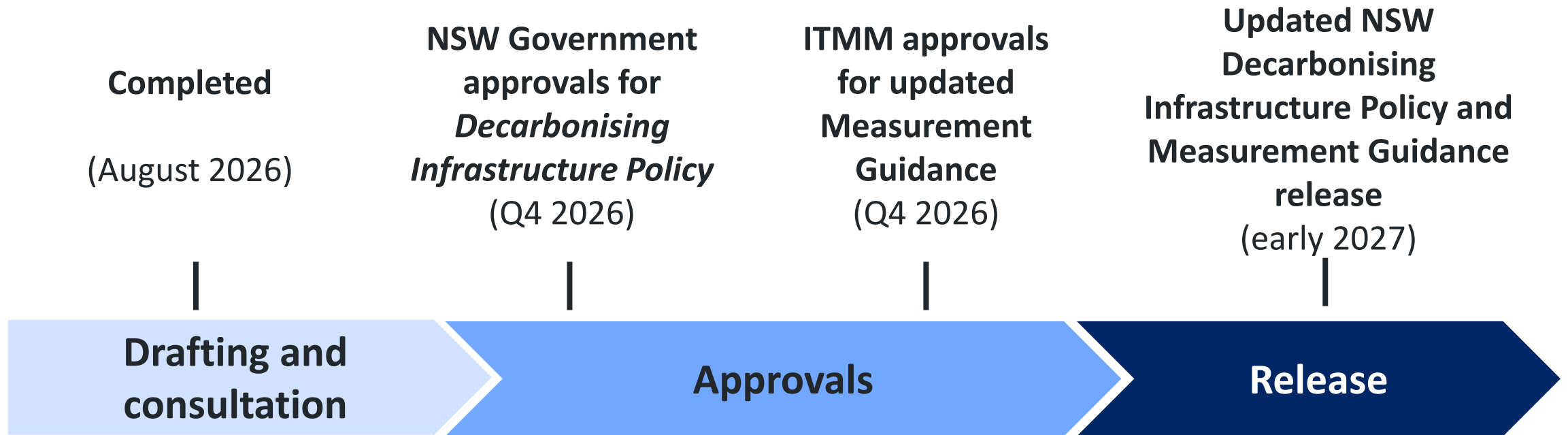
- Including the use of low carbon solutions as a requirement (e.g., pioneering concrete specifications and use of recycled concrete and low carbon geopolymer concrete)
- Inviting tenderers to bid back on carbon targets and initiatives in the contract

Contract extract:

m) The cement content in all concrete used in the Project Works and the Temporary Works must contain fly ash or ground granulated blast furnace slag, in compliance with the following requirements:

(i) for concrete elements that are nominally thicker than 600 mm, excluding local discrete thickening, and where the design water/cementitious ratio is less than 0.40, the cementitious content must contain at least 50% fly ash or 70% slag;

Next steps



Decarbonising Infrastructure

