

Pathways Call for Evidence Submission

18 July – 14 August 2026

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This document is a submission to the Net Zero Commission’s 2026 Pathways Call for Evidence. As part of the consultation process, the commission has committed to publishing the submissions it receives. Submissions do not represent the views of the commission.



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14 August 2026

Mr Nick Rowley
Chair
NSW Net Zero Commission

Dear Mr Rowley,

Re: Submission to the NSW Net Zero Commission - Decarbonisation Pathways for NSW: Call for Evidence

Executive Summary

The Infrastructure Sustainability Council (ISC) welcomes the opportunity to respond to the NSW Net Zero Commission's 'Call for Evidence'. ISC is a member-based organisation advancing sustainability in infrastructure across Australia and Aotearoa New Zealand. Its membership spans asset owners, government, planners, designers, constructors, operators, investors, suppliers, professional services and researchers. The ISC's Infrastructure Sustainability (IS) Rating Scheme provides an independently verified framework for infrastructure sustainability across planning, design, construction and operations¹².

This submission responds directly to the Commissions' eight 'Guided Questions', focusing on infrastructure delivery and the interaction between electricity, transport, industry, resources, the built environment, waste, land and carbon management. Infrastructure decisions lock in upfront, operational and user emissions, but also enable renewable energy, electrification, circularity, modal shift and resilience. Infrastructure Australia estimates that buildings and infrastructure are directly responsible for almost one-third of Australia's emissions and are indirectly responsible for more than half³.

ISC's priority recommendations are:

- Create a cross-sector infrastructure module within each pathway, covering whole-of-life carbon and avoided emissions, project timing, utilisation and system dependencies
- Require early application of the hierarchy of 'avoid, shift and improve' before offsets or removals, beginning at needs assessment and business-case stages

¹ Infrastructure Sustainability Council, website. <https://www.iscouncil.org/>

² Infrastructure Sustainability Council, IS Rating Scheme. <https://www.iscouncil.org/is-ratings/>

³ Infrastructure Australia, Embodied Carbon Projections for Australian Infrastructure and Buildings, 15 July 2024. <https://www.infrastructureaustralia.gov.au/reports/embodied-carbon-projections-australian-infrastructure-and-buildings>



- Expand consistent carbon measurement and management across NSW's infrastructure pipeline, proportionate to project scale and emissions risk, and align with national guidance⁴⁵
- Use outcome-based procurement, carbon budgets, verified product data and aggregated demand to create dependable markets for low-carbon materials, plant, fuels and circular products
- Publish coordinated project and demand pipelines, standardise data and provide targeted co-investment or risk-sharing to crowd in private finance
- Model workforce, housing, grid connections, materials, water, biodiversity, cultural heritage outcomes as binding delivery constraints
- Embed First Nations partnership and regional benefit sharing from strategic planning through to operations
- Establish secure, reusable infrastructure carbon data arrangements and publish anonymised benchmarks
- Front-load proven abatement to 2030 and 2035 rather than relying disproportionately on uncertain future technologies or removals.

Call for Evidence

We understand the Commission has launched a public Call for Evidence to inform the development of the first NSW-specific set of decarbonisation pathways. These paths will show how the different sectors of NSW's economy can practically work together to achieve the state's legislated emissions reduction targets. Feedback is sought to understand opportunities and barriers to:

- Improving the effectiveness of NSW's transition to net zero, taking into consideration infrastructure, economic effects, investment and just transition
- Sectoral and workforce transitions, including technology development, deployment, operational and behaviour changes across sectors (electricity & energy, transport, industry, resources, built environment, land & agriculture, waste and carbon removals)
- Addressing socio-economic priorities for a just transition, including equitable outcomes for First Nations peoples and regional, rural and remote communities.

The evidence gathered will inform the different inputs and assumptions that will be used across the pathway scenarios. In addition to the questions below, the Commission is seeking evidence such as data, cost modelling, deployment experience or on-the-ground evidence relevant to the development of pathways.

⁴ Infrastructure NSW, Decarbonising Infrastructure, including the Delivery Policy and Roadmap. <https://www.infrastructure.nsw.gov.au/expert-advice/decarbonising-infrastructure/>

⁵ Infrastructure and Transport Ministers, Embodied Carbon Measurement for Infrastructure: Technical Guidance, 2024. <https://www.infrastructure.gov.au/sites/default/files/documents/embodied-carbon-measurement-for-infrastructure.pdf>



Guided Questions 1: Policy and market mechanisms

1. What opportunities or barriers could improve the effectiveness of NSW's transition to net zero?

The principal opportunity is to connect NSW's emission targets to the decisions that shape infrastructure demand, scope, design, procurement, construction and operation. The principal barrier is that carbon is often considered after the service need, project scope and reference design are substantially fixed. At that point, the largest opportunities to avoid construction, optimise networks, reduce material quantities or change mode may have been lost.

NSW already has a strong platform. The [Decarbonising Infrastructure Delivery Policy](#) applies to NSW Government building projects over \$50 million and linear infrastructure projects over \$100 million, supported by common measurement guidance and delivery roadmap⁶. The next step is consistent implementation and staged expansion to portfolios, maintenance and renewal, and smaller but collectively material projects.

Barriers include:

- late and inconsistent carbon baselines and boundaries
- prescriptive specifications that can exclude lower-carbon products despite equivalent performance
- split incentives and risk transfer across clients, designers, contractors, operators and suppliers
- insufficient tender time and poor visibility of future demand
- limited verified product-specific data and fragmented digital reporting
- grid, charging, fuel, logistics, skills and supply constraints for lower-emissions delivery
- community opposition where engagement is late or benefits are unclear or unequitable.

ISC recommendation: Require whole-of-life carbon assessment and a carbon management plan at strategic options, business case, procurement, design, construction and handover. Set project carbon budgets, verify delivery and publish portfolio-level performance.

The ISC's IS Rating scheme provides a ready-made tool to support this. The ISC would welcome discussion with the Commission and relevant parties about how it could be directly applied or adapted to support this ambition. We are currently working with Infrastructure NSW to ensure alignment between the IS Rating Scheme and the requirements of the *Decarbonising Infrastructure Delivery Policy*.

⁶ Infrastructure NSW, Decarbonising Infrastructure, including the Delivery Policy and Roadmap. <https://www.infrastructure.nsw.gov.au/expert-advice/decarbonising-infrastructure/>



1a. What policies or market mechanisms could accelerate emissions reductions? What barriers or opportunities exist for adoption?

- In keeping with ISC's broader advocacy positions and as captured within the IS Rating tools, we support application of the following hierarchy: 'build nothing, build less, build clever and build efficiently'. Require proponents to show how demand management, asset sharing, optimisation, reuse and nature-based options were tested before new construction
- Set transparent carbon baselines, budgets and minimum reduction expectations. Score bids on credible carbon performance, evidence and delivery capability.
- Move to performance-based specifications where safety, durability and service outcomes can be demonstrated. Establish rapid, transparent pathways to approve innovative materials and methods.
- Require verified Environmental Product Declarations or equivalent data for priority products, with a clear data hierarchy and alignment to nationally consistent methods.
- Aggregate public demand and publish forecasts for low-carbon concrete, steel, asphalt, aggregates, pipes, renewable fuels, electric plant and circular materials
- Use advance market commitments, offtake agreements, contracts for difference, grants or concessional finance for genuinely additional first-of-a-kind supply, tied to independently verified abatement
- Use gainshare mechanisms so savings from material efficiency, alternative design and innovation are shared. Do not transfer risks that suppliers cannot manage.
- Introduce post-completion carbon reporting and independent verification for material projects, supported by a central benchmark database.

Comparable Australian practice supports national alignment. The Infrastructure and Transport Minister's [Embodied Carbon Measurement for Infrastructure: Technical Guidance \(2024\)](#) sets a common approach to what, when and how infrastructure carbon is measured while the [2026 Embodied Carbon Databook](#) provides benchmark factors and assumptions⁷⁸. NSW should avoid bespoke rules that fragment supplier markets or duplicate reporting.

⁷ Infrastructure and Transport Ministers, Embodied Carbon Measurement for Infrastructure: Technical Guidance, 2024. <https://www.infrastructure.gov.au/sites/default/files/documents/embodied-carbon-measurement-for-infrastructure.pdf>

⁸ Infrastructure and Transport Ministers, Guidance Note: Embodied Carbon Databook, May 2026. <https://www.infrastructure.gov.au/sites/default/files/documents/infrastructure-and-transport-ministers-guidance-note-embodied-carbon-databook-may-2026.pdf>



The ISC is working closely with Infrastructure NSW to ensure ISC's Materials Calculator aligns with these support documents and guidance. The Materials Calculator is applied by infrastructure projects nationwide to understand their carbon impacts.

1b. How could the NSW Government better stimulate private finance at the scale and pace needed?

Private capital requires visible pipelines, stable policy, comparable performance Information and risks that can be priced and allocated. Where possible, the NSW Government should:

- Publish a coordinated, spatially explicit transition and enabling-infrastructure pipeline, with timing, dependencies and expected demand for low-carbon products and services
- Standardise carbon definitions, baselines, reporting and assurance across agencies so investors can compare assets and portfolios,
- Integrate carbon and physical climate risk into business cases, cost-benefit analysis, gateway reviews and asset management
- Recognise credible third-party assurance for green bonds and sustainability-linked loans while avoiding duplicative reporting. The IS Rating Scheme can support asset, portfolio and network-level assurance⁹
- Bundle smaller regional projects and revenue streams into investable portfolios
- Provide targeted co-investment, credit enhancement or first-loss support where common-user infrastructure or early market risk creates public benefits that cannot be fully captured by a private proponent
- Maintain transparent review points and avoid abrupt policy reversals that increase the cost of capital.

Again, IS Ratings are a valuable tool that can be used to underpin sustainable financing. In addition to having standalone financing for sustainability linked loans, such as NSW's Reliance Rail, tied to achieving IS ratings, NSW Treasury and others use information gathered through the ratings process as a key data set to support green financing. There is significant opportunity to more consistently apply this in pursuit of net zero outcomes across NSW.

1c. What are the drivers and risks to reaching the 2030 and 2035 interim targets, and net zero by 2050?

The consultation paper identifies legislated reductions of 50 per cent below 2005 levels by 2030, 70per cent by 2035 and net zero by 2050¹⁰. Infrastructure lead times make the next several years

⁹ Infrastructure Sustainability Council, IS Rating Scheme. <https://www.iscouncil.org/is-ratings/>

¹⁰ NSW Net Zero Commission, Decarbonisation Pathways for NSW: Call for Evidence. <https://www.netzerocommission.nsw.gov.au/our-work-projects/decarbonisation-pathways>



decisive. The pathways should assess both annual and cumulative emissions, because delaying reductions increases cumulative climate impact and places greater reliance on rapid later deployment

TABLE 1. Potential Risks and Implications for Decarbonisation Pathways

Driver or risk	Implications for pathways
Electricity delivery	Delayed generation, transmission, storage and connections constrain electrification in transport, buildings and industry
Construction surge	A large transition build-out can raise near-term embodied and construction emissions unless scope, materials and delivery are actively decarbonised.
Demand growth	Data centres, electrification and industrial expansion may outpace clean supply and network capacity unless flexible demand is built in
Long-lived lock-in	Road, land-use, gas and asset design decisions can commit NSW to high user or operational emissions for decades
Market capacity	Shortages of labour, housing, equipment, materials, approvals capability and logistics can delay projects and raise costs
Social licence	Weak engagement or inequitable impacts can delay delivery and reduce trust
Physical climate risk	Assets that are not resilient may require carbon-intensive repair, replacement and augmentation
Technology optimism	Deferring direct abatement in expectation of future removals, fuels or capture technologies increases delivery risk

1d. What are the opportunities or barriers for collaboration across sectors?

Cross-sector collaboration is essential because electricity, transport, water, waste, digital, housing and industrial infrastructure are mutually dependent. The Commission should model shared infrastructure and coordinated regional hubs, but also the competition they create for land, water, grid capacity, skills, logistics and community attention. Potential opportunities include:

- Establish place-based transition and Infrastructure plans for Renewable Energy Zones, industrial precincts and major corridors
- Coordinate agency procurement and pipeline publication to create scale and reduce peaks



- Develop common-user charging, grid, freight, material recovery and, where justified, clean-fuel Infrastructure
- Use shared data standards and interoperable reporting across planning, design, construction and operations.
- Create collaborative forums that include local government, First Nations organisations, communities, unions, finance, suppliers and research bodies, as well as project proponents

In addition to ISC's role in helping to bring together actors to collaborate across the infrastructure sector, in pursuit of net zero and broader sustainability outcomes, the IS rating system is being used to drive outcomes in the Central West Orana REZ.

IS Ratings have been shown to support better collaboration, coordination, and comparability across infrastructure projects, leading to cost savings. Importantly, they are associated with improved stakeholder engagement and faster approval times, particularly as they relate to renewable energy projects. We urge the Commission to consider how they could be more consistently applied for the benefits of NSW and its communities.

Guided Question 2: Technology development and deployment

2a. What technologies are available or emerging, and what is their state of readiness?

Many of the highest-value infrastructure measures are commercially available now. These include early options analysis, design optimisation, material efficiency, reuse, lower-carbon products, renewable electricity, efficient logistics, energy management and transparent carbon measurement. Infrastructure Australia estimates that 23 percent of forecast upfront carbon could be reduced by 2026-27 using practical like-for-like measures, with further reductions available through design optimisation and less-build strategies¹¹.

TABLE 2. Infrastructure technologies and their current state of readiness

Readiness	Infrastructure examples
Available now	Demand reduction and asset optimisation; digital quantity and carbon tools; lower-carbon concrete and asphalt, recycled aggregates, renewable electricity, efficient logistics, modular construction, reuse, verified product data.
Scaling	Electric consumption plant and temporary power, high-recycled content or renewable-energy steel, materials passports, automated design optimisation; portfolio-scale circular procurement.

¹¹ Infrastructure Australia, Embodied Carbon Projections for Australian Infrastructure and Buildings, 15 July 2024. <https://www.infrastructureaustralia.gov.au/reports/embodied-carbon-projections-australian-infrastructure-and-buildings>



**Emerging or
application-
specific**

Near-zero-emissions cement and steel, hydrogen or renewable fuels for selected heavy applications, autonomous plant, carbon capture for hard-to-abate industrial processes, engineered removals.

Emerging options should be modelled with explicit assumptions for technology readiness, delivered cost, grid or fuel infrastructure, residual emissions, sustainable feedstock, replacement cycles and plausible deployment rates. Removals and carbon capture should not substitute for feasible direct reductions.

2b. What constraints exist around technology uptake and deployment?

- A lack of coordinated long-term demand signals, reducing confidence to invest in the local supply chains, manufacturing capacity and workforce capability needed to support technology deployment at scale.
- Standards, specifications, warranties and approval pathways that lag product development
- Inconsistent baselines and limited product-specific emissions data
- Capital cost and utilisation risk, including for electric plant and charging assets
- Grid connection delays, site power limits and temporary-power constraints
- Skills gaps across procurement, design, estimating, construction, commissioning and operations
- Commercial arrangements that require contractors or suppliers to assume a level of technology risk that may be challenging to manage, particularly for newer or less mature decarbonisation technologies
- Fragmented ownership of assets, data and benefits across the lifecycle
- Insufficient space, logistics capacity, or material-recovery infrastructure.

The ISC's [*Digital Infrastructure Futures - Phase 1: Emerging Insights Report \(2026\)*](#) recommends adaptive planning, scenario-based design and flexibility or upgradeability in response to uncertainty. Staged decisions, trigger points, modular design, open standards and separation of long-lived physical components from shorter-lived digital hardware can reduce stranded-asset risk and lifecycle waste¹².

2c. What does the evidence say about current and future costs?

Costs vary materially by application, location, scale, timing, energy supply and specification. The pathways should not rely on a single technology cost point. They should use low, central and high

¹² Infrastructure Sustainability Council, *Digital Infrastructure Futures: Phase 1 – Emerging Insights Report* (June 2026) <https://www.iscouncil.org/digital-infrastructure-futures-phase-1-emerging-insights-report/>





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cases, distinguish capital from whole-of-life cost, and record whether a measure changes quantity, specification, construction method, operating cost or asset-user behaviour.

Design optimisation, avoiding unnecessary construction and material efficiency can reduce both cost and carbon. Other measures may have an early premium that falls with scale, learning and competition. Infrastructure Australia's national analysis identifies substantial immediate abatement from currently available measures and notes that further reductions can be achieved through design optimisation and less-build approaches¹³.

ISC recommendation: Collect project-level marginal abatement evidence using a common template: baseline, functional unit, absolute and percentage reduction, capital and lifecycle cost, implementation stage, dependencies, data quality and verification status.

The IS rating scheme is a ready-made framework that should be applied to achieve this. The IS rating scheme shows that cost savings are consistently achieved, as shown below, based on ISC's FY2025 Impact report and as-yet unpublished data for NSW in 2026.

FY2025 As-built certified projects and associated savings:

The below cost savings are based on the results from **26 As-built projects certified in FY25**, assessed in NSW, QLD, VIC, WA, New Zealand.

¹³ Infrastructure Australia, Embodied Carbon Projections for Australian Infrastructure and Buildings, 15 July 2024. <https://www.infrastructureaustralia.gov.au/reports/embodied-carbon-projections-australian-infrastructure-and-buildings>





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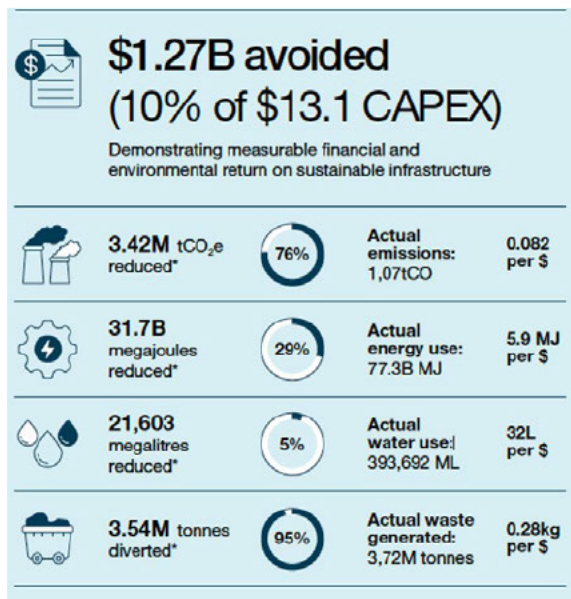
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TABLE 3. Cost and environmental savings based on 'As built' projects in FY25





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Image 1. ISC's Ratings footprint in NSW

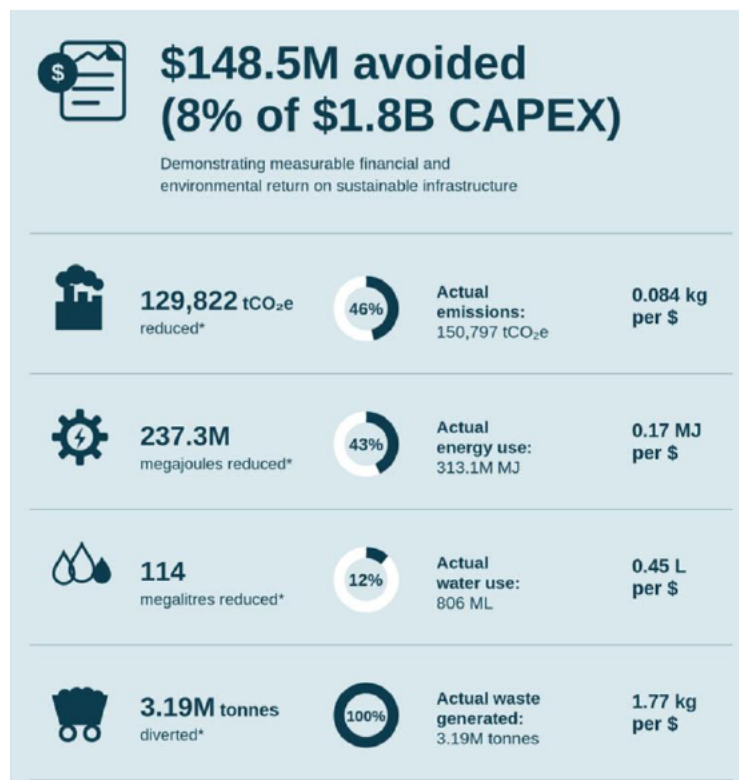
IS Ratings in New South Wales

(Planning, Design and As Built and Operations – \$240B+)

Water	Transport	Energy
Sydney Water 2 Completed 2 In Progress	Transport for NSW 81 Completed 21 In Progress	TransGrid 3 In Progress
Hunter Water 1 In Progress	Sydney Metro 13 Completed 5 In Progress	Energy Co NSW 1 In Progress
QPRC 1 Completed 1 In Progress	ARTC 2 Completed 3 In Progress	Endeavour Energy 1 In Progress
Parkes Shire Council 2 Completed	Sydney Trains 1 Completed 1 In Progress	Jemena 1 Completed
Port Macquarie Hastings Council 2 Upcoming	Aviation and Development	
	WSA Co 4 Completed 3 In Progress	
	RGDC 2 In Progress	



TABLE 4. NSW estimated cost savings for FY26 across six transport projects



(Please note, these otherwise unpublished figures for IS As Built IS rated projects in NSW have yet to be finalised but are directionally right)



2d. What role could the NSW Government play in strengthening technology development and deployment?

- Use public procurement to create credible demand and learning curves
- Fund demonstrations and first-commercial deployments where spillover benefits are material
- Coordinate common-user grid, charging, fuel, freight and material-recovery infrastructure
- Modernise standards and approvals without weakening safety, durability and environmental safeguards
- Support open, interoperable product and project carbon data
- Fund capability development for public clients, designers, estimators, procurement teams, contractors, operators and suppliers
- Public results from successful and unsuccessful trials so markets can learn rapidly.

ISC would be pleased to work with the NSW Government to use our ISupply platform to support its ambitions to strengthen technology development and deployment

Guided Question 3: Demand reduction and behaviour change

3. What are the opportunities to foster demand reduction and behaviour change?

The pathways should define the required service outcome before assuming new infrastructure is necessary. Avoiding or deferring construction can deliver immediate emissions reductions while reducing capital and operating costs. Demand reduction must be designed equitably and should not reduce essential services or shift costs to people with limited alternatives.

Opportunities include:

- Integrated land use and transport planning that reduces trip lengths and enables public and active transport
- Better utilisation of existing roads, rail, buildings, energy networks and social infrastructure before expansion
- Flexible electricity demand, storage and managed charging that reduce peak network requirements
- Water efficiency, reuse and leakage reduction that defer new supply infrastructure
- Shared mobility, shared assets and service-based models where they improve access
- Predictive maintenance, operational analytics and life extension
- Design for adaptability so assets can meet changing needs without major reconstruction



- Pricing, information and procurement settings that reward efficient use while protecting low-income and vulnerable users.

Behavioural assumptions should be evidence-based and segmented by region, income, tenure, accessibility and availability of alternatives. The modelling should distinguish voluntary uptake, uptake enabled by infrastructure, and uptake driven by standards or pricing.

Guided Question 4: Economic impacts and workforce pressures

4. What are the likely economic effects of different pathways relative to current ambition?

A fast, coordinated pathway can reduce exposure to volatile fossil-fuel costs, avoid future retrofit, improve asset productivity and resilience, and create sustained demand for NSW skills, services and manufacturing. A delayed pathway may defer some near-term exposure but can increase cumulative emissions, create a sharper later investment peak, strand high-emissions assets and Intensify competition for labour and materials.

TABLE 5. Likely infrastructure effects of different pathways

Pathway	Likely infrastructure effects
Delayed	Lower early capability and supply investment; increased lock-in; higher late-stage replacement and retrofit, sharp demand peaks, greater reliance on uncertain technologies and removals
Balanced	Progressive implementation of current policy, moderate learning and market growth, residual fragmentation and uneven capability if requirements remain limited to major projects
Fast-tracked	Higher early coordination and enabling investment; faster learning and demand aggregation, lower lock-in and cumulative emissions, requires disciplined sequencing and strong regional safeguards

4a. What economic or workforce pressures should the pathways account for?

The pathways should consider:

- Construction market escalation and simultaneous megaproject demand
- Regional housing and essential-services capacity during construction peaks
- Occupational bottlenecks and training lead times across electrical, engineering, construction, planning, environmental, procurement and digital roles
- Availability and replacement cycles for plant, vehicles and specialist equipment
- Domestic manufacturing capacity and concentration of imported inputs



- Transition pathways for workers and suppliers exposed to coal, gas or other declining activities
- Capability of local government, small suppliers and regional training providers
- Distributional impacts through bills, tolls, rents, rates and user charges.

ISC recommendation: Include housing, transport and connected service capacity, not only headcount and training considerations. Link workforce assumptions to the actual regional project pipeline by occupation, year and location.

Guided Question 5: A just transition

5. What are the opportunities and barriers to equitable outcomes for First Nations peoples and regional, rural and remote communities?

The transition will be built substantially in regional NSW. Communities will host transmission, generation, storage, mining, transport, industrial, waste and nature-based infrastructure. The pathways should assess cumulative place-based impacts rather than treating each project in isolation.

First Nations peoples

First Nations organisations and communities should be partners in pathway and project design, not only stakeholders consulted after options have been selected. Government should resource early and ongoing participation, protect cultural heritage and cultural landscapes; recognise Indigenous knowledge; support ownership, procurement, employment and enterprise, and negotiate durable benefit-sharing arrangements. Potential opportunities could include:

- Decision-making influence and evidence of free, early and informed participation
- First Nations ownership or equity and revenue-sharing opportunities
- Value and duration of contracts awarded to First Nations businesses
- Employment, retention, career progression and accredited training
- Protection and enhancement of cultural values, heritage and Country
- Long-term community benefits extending beyond construction.

Regional, rural and remote communities

- Prepare regional transition plans that align project sequencing, workforce, housing, transport, water and local services
- Assess cumulative land, biodiversity, visual, cultural, logistics and construction impacts
- Strengthen local government planning and delivery capability
- Design community benefits early, transparently and with local decision-making



- Support durable economic diversification and local supply chains rather than short construction-only benefits
- Ensure essential energy, transport and communications services remain affordable and reliable.

Key barriers include late engagement, consultation fatigue, unequal negotiation capacity, short-term benefit programs, housing pressure, inadequate local services and lack of transparency about cumulative impacts and project timelines.

Once again, the IS Rating scheme also incentivises appropriate engagement with First Nations communities. We would be pleased to explore ways to better support community objectives.

Guided Question 6: Evidence for pathway Inputs and assumptions

6. What evidence can ISC and its members provide?

ISC's ecosystem can provide project and portfolio evidence across planning, design, construction and operations. The IS Rating Scheme can support consistent, independently verified sustainability information at asset, portfolio, network and regional scales¹⁴. ISC's 2024 Impact Report records 405 registered projects valued at \$382 billion across Australia and Aotearoa New Zealand¹⁵

Guided Question 7: Outcomes beyond emissions reduction

7. Beyond emissions reduction, what outcomes should be considered?

The scenarios should be compared using a transparent multi-criteria dashboard. Outcomes should be disaggregated by region, income, tenure, industry and relevant demographic groups where data permits. Suggested outcomes for consideration include:

- Affordability and distribution of costs and benefits
- Employment quantity, quality, safety, retention and transferability
- First Nations rights, participation, ownership, enterprise and cultural outcomes
- Regional economic diversification and enduring local benefits
- Productivity, reliability, accessibility and infrastructure service quality
- Climate resilience and avoided loss, disruption and reconstruction
- Biodiversity, ecological connectivity and nature-positive outcomes
- Water demand, water quality and catchment impacts

¹⁴ Infrastructure Sustainability Council, IS Rating Scheme. <https://www.iscouncil.org/is-ratings/>

¹⁵ Infrastructure Sustainability Council, Impact Report 2024. https://www.iscouncil.org/wp-content/uploads/2024/11/ISC0028_2024-Impact-Report_FINAL-R.pdf



- Resource productivity, waste avoidance, reuse and circularity
- Air quality, noise, healthy, safety and liveability
- Land-use efficiency, housing access and community cohesion
- Supply-chain resilience, sovereign capability and innovation.

The modelling should explicitly identify trade-offs. For example, a pathway may reduce operational emissions while increasing upfront carbon, land use, water demand or regional pressure. These effects should be visible rather than embedded in aggregate economic results.

Guided Question 8: Other comments

8. Do you have any other comments or information?

Infrastructure should be represented as a cross-cutting module linked to the Commission's sector accounts. Territorial emissions should remain assigned to the relevant inventory sector, while whole-of-life infrastructure emissions and enabled or avoided emissions are reported separately to support decisions and prevent double counting.

ISC proposes the following implementation actions:

- Publish an infrastructure pathways annex setting out boundaries, assumptions, dependencies and results. The ISC would be pleased to work with the NSW Government to support such an outcome.
- Develop a staged plan to expand carbon management across agencies, portfolios and project sizes
- Create a secure data environment for confidential evidence and release anonymised benchmarks.
- Publish annual forecasts for priority low-carbon materials, plant, fuels and skills
- Align funding, planning, procurement, standards, assurance and reporting requirements.
- Require independent verification and post-completion evaluation for material projects
- Review assumptions at least every two years, or earlier after material changes in technology, project pipelines, electricity demand or forecasts.

ISC and its members would welcome further engagement on infrastructure-specific modelling assumptions, evidence templates or practical implementation, including how best to use the IS Rating scheme and associated data gathering.

Appendix A: Sector-specific infrastructure evidence

Electricity and energy

- Apply whole of life carbon budgets to transmission, generation, storage and network build-out





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- Coordinate grid, logistics, workforce, housing, biodiversity and community planning across Renewable Energy Zones
 - Model major new loads, including data centres, with demand flexibility and credible clean-energy alignment
 - Support equitable consumer energy resources, community batteries and interoperability

Transport

- Prioritise avoid and shift measures before relying solely on vehicle technology
- Coordinate charging, depots and grid capacity for light and heavy vehicles
- Set whole-of-life requirements for roads, rail, ports and airports, including user emissions
- Use renewable fuels only where direct electrification is impracticable and scalable sustainable supply is evidenced.

Industry and Resources

- Plan regional electricity, clean fuels, water, waste, transport and shared services together
- Use long-term demand signals for low-carbon construction products
- Support electrification of process heat, mining equipment and construction fleets
- Assess cumulative emissions and infrastructure impacts consistently against legislated targets.

Built Environment

- Require efficient, all-electric and climate-resilient public assets and portfolio-scale retrofit
- Measure and reduce embodied carbon in buildings and civil works
- Address refrigerants through procurement, leakage management, recovery and end-of-life controls
- Use planning and design to reduce travel, heat and infrastructure intensity.

Waste and circular economy

- Prioritise avoidance, reuse, repair, high-value recycling and design for disassembly
- Create reliable demand and specifications for quality recycled materials
- Plan material recovery infrastructure with construction pipelines
- Improve landfill methane capture while reducing organics sent to landfill.

Land, agriculture and carbon management

- Protect high-value ecosystems before restoration or offsets





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- Assess cumulative land, water, biodiversity, cultural and community impacts
 - Reserve high-integrity removals for residual emissions, with permanence and reversal risk clearly modelled.
 - Use nature-based infrastructure where it delivers robust resilience, biodiversity and carbon benefits.

The IS ratings have specific nature and biodiversity considerations within them that can be either applied to nature-based infrastructure, as well as broader carbon management requirements.

If you have any queries about this submission, please contact [REDACTED]. I would of course be pleased to support any further discussions or to be contacted directly myself.

Yours sincerely,

[REDACTED]

[REDACTED]

[REDACTED]

