

Ms Nicole Lockwood  
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Dear Nicole Lockwood and Mike Mrdak AO,

Climateworks Centre welcomes the opportunity to provide input into the independent review of Infrastructure Australia. Climateworks develops expert, independent solutions to assist the transition to net zero emissions for Australia, Southeast Asia and the Pacific. A non-profit organisation, it was co-founded in 2009 by the Myer Foundation and Monash University and works within the Monash Sustainable Development Institute.

Infrastructure influences around 70% of Australia's emissions and will be critical in achieving Australia's greenhouse gas emissions reduction targets.<sup>1</sup> As infrastructure assets built today will still be operating in 2050, decisions made today will determine whether and how Australia achieves its targets.

The largest opportunity to reduce emissions associated with infrastructure projects sits right at the start of the process when deciding if an asset should be built and what it will be. While strategic assets are needed to accelerate the transition to net zero emissions, particularly in the energy and transport sector, reducing the footprint across assets will also be critical.

In this decisive decade for limiting global temperature rise to 1.5 degrees Celsius, Infrastructure Australia (IA) can be a driving force to help Australia meet its greenhouse gas emissions reduction targets and shape Australia's net zero future:

- By providing clear guidance and prioritisation on the strategic infrastructure assets required to accelerate a whole of economy transition to net zero; and
- By embedding net zero emissions in its processes and decision-making tools to make net zero a high priority for infrastructure decisions going forward.

With the proposed legislation amendments in the Climate Change Bill, IA will need to take into account Australia's greenhouse gas emissions reduction targets in the audits, plans and advice it produces. In this submission, we provide details of what this could look like in practice.

Thank you for taking the time to consider our submission. We would welcome an opportunity to brief you and share additional research if you would like to explore our responses in further details.

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<sup>1</sup> [Reshaping Infrastructure for a net zero emissions future](#), Climateworks Centre, ISCA and ASBEC, March 2020

## A driving force to guide the infrastructure sector's contribution to achieving Australia's greenhouse gas emissions reduction targets

Infrastructure is critical to achieving Australia's greenhouse gas emissions reduction targets. Climateworks Centre's Reshaping Infrastructure Issues Paper found that infrastructure influences 70% of Australia's emissions, the majority being emissions enabled by infrastructure assets (i.e. vehicle emissions for roads, 55%), followed by operational emissions (9%) and embodied emissions (6%).<sup>2</sup>

The critical role played by infrastructure assets to achieve greenhouse gas emissions reduction targets is further emphasised by commitments made by infrastructure investors, best represented by the Glasgow Financial Alliance for Net Zero (GFANZ) guidance.<sup>3</sup> The large group of investors recently published guidelines emphasising that best practice in the financial sector should be to align portfolios and investments to the goal of limiting global temperature rise to 1.5°C above pre-industrial levels.<sup>4</sup> For Australia, Climateworks scenarios aligned with the 1.5°C goal found net zero emissions by 2035, and a 75% decrease in emissions by 2030 compared to 2005 levels<sup>5</sup>.

Given the lifespan of infrastructure assets, infrastructure built today will still be standing in 2035 and 2050. It will therefore determine whether, how and how fast Australia achieves its target of reducing carbon emissions by 43% by 2030 compared to 2005. Infrastructure decisions will also determine Australia's ability to aim for higher ambition in line with GFANZ guidance, thereby contributing to avoiding the worst impacts of climate change.

Infrastructure Australia (IA) can be the driving force behind Australia's net zero infrastructure future, by playing a leading role in determining what Australia's asset portfolio and pipeline should look like to accelerate and achieve the transition to net zero. The proposed legislation amendments to the Climate Change Bill will require IA to take into account Australia's greenhouse gas emissions reduction targets in the audits, plans and advice it produces. We outline here how IA can implement this and how IA can play its full role in helping Australia decarbonise towards a net zero global economy.

This role can be effectively played through embedding the net zero goal in IA's products, frameworks and decision-making tools. In particular, IA can play a significant role in tackling emissions from the earliest stages of the lifecycle of infrastructure assets, with a whole-of-life approach that includes enabled emissions. The more upfront emissions are addressed, the higher the potential to reduce embodied, operational and enabled emissions across the whole life cycle.

## Defining and orchestrating a national net zero infrastructure plan

Infrastructure Australia is strategically positioned to provide an updated suite of processes, plans and assessment frameworks that put the net zero goal front and centre. Through the guidance and assessments it provides, IA shapes the infrastructure future of Australia from the very start of the infrastructure lifecycle. In doing so, IA has the opportunity to ensure all projects submitted effectively contribute and do not endanger Australia's greenhouse gas emissions reduction targets.

The requirement to take into account Australia's greenhouse gas emissions reduction targets in IA's plans – as proposed by the Climate Change Bill – could be realised by releasing a net zero infrastructure plan. IA can play a critical role in identifying the type of infrastructure needed for a net zero future and releasing a list of assets critical to achieving the transition to net zero. This will not only avoid stranded assets in the future, but focus infrastructure spending on the most crucial assets to enable a decarbonised economy. To date, IA has been a reactive agency assessing incoming

<sup>2</sup> [Reshaping Infrastructure for a net zero emissions future](#), Climateworks Centre, ISCA and ASBEC, March 2020.

<sup>3</sup> The GFANZ gathers broad membership in the financial sector, including members of the Net-Zero Banking Alliance, the Net Zero Asset Managers initiative, the Net-Zero Asset Owner Alliance, the Paris Aligned Investment Initiative, the Net-Zero Insurance Alliance, the Net Zero Financial Service Providers Alliance, or the Net Zero Investment Consultants Initiative.

<sup>4</sup> [Financial Institution Net-zero Transition Plans](#), GFANZ.

<sup>5</sup> [Decarbonisation Futures](#), Climateworks Centre, March 2020.

proposals from project proponents and government agencies through its periodic Infrastructure Audit.<sup>6</sup> The audits, as well as the infrastructure plan, have focused on thematic areas for further investigation, rather than articulated specific proposals or recommended projects. Given the pace of change required by the transition to net zero and the central role that IA plays in Australia's infrastructure sector, it is well placed to step into a proactive approach and recommend that particular projects or assets be considered and planned for their potential to accelerate decarbonisation and resilience. The infrastructure audits and plans could be used to explicitly call out the future infrastructure pathway and projects needed in support of the net zero commitments, providing clear guidance to the sector and investors on assets necessary to meet Australia's greenhouse gas emissions reduction targets.

Updates to the existing Australian Infrastructure Plan,<sup>7</sup> in the form of a net zero infrastructure plan, will enable a clear direction for net zero infrastructure and will help IA to meet its requirements under the proposed legislation amendments in the Climate Change Bill. In defining the national infrastructure plan to achieve Australia's greenhouse gas emissions reduction targets, IA should continue to coordinate across government to ensure an integrated infrastructure environment that supports the economy-wide transition. Where new infrastructure is required, it should be assessed not only on its economic, social and environmental values, but on its ability to enhance the transition to a greener economy.

IA is also ideally placed to set best practices for net zero infrastructure in Australia and effectively coordinate with state and territory infrastructure bodies to ensure a nationally consistent approach for planning and evaluating infrastructure projects.

## Embed Australia's greenhouse gas emissions reduction targets into IA's products, frameworks and tools to enable climate focused decision-making

IA will be expected to reform its processes and products to reflect the role of infrastructure in unlocking new economic opportunities in a decarbonised economy. Suggestions for improvements to IA's processes and products to respond to the Climate Change Bill amendments and adequately reflect the role of net zero in infrastructure include:

- **Provide clear, net zero aligned guidance for carbon valuation in infrastructure projects nationally.** A social or target-consistent cost of carbon is most commonly used in government decision-making. As a reference, the International Energy Agency uses a cost of carbon of USD\$130 per tonne of CO<sub>2</sub>-e in 2030 and USD\$250 per tonne of CO<sub>2</sub>-e in 2050 in its Net Zero by 2050 Roadmap.<sup>8</sup> The United Kingdom uses an implicit price of over AUD\$400 per tonne of CO<sub>2</sub>-e.<sup>9</sup> For comparison, IA currently refers to the implicit carbon price in the Australian Transport Assessment and Planning Guidelines which stands at AUD\$60 per tonne of CO<sub>2</sub>-e.<sup>10</sup> A review of this metric should be aligned not only to Australia's greenhouse gas emissions reduction targets, but aligned to best practice for a 1.5°C aligned future. It would also be best practice to provide a 1.5°C aligned carbon valuation as a price trajectory to guide decision making along the pathway to net zero. A unified approach to a shadow price of carbon will have political and practical benefits for federal, and state and territory governments, and will help the private sector respond in an efficient way.
- **Strengthen IA's methods for analysing and prioritising infrastructure that supports a net zero future.** The technical guidelines should be reviewed across each of the assessment stages for opportunities to encourage net zero aligned infrastructure. Analysis of emissions

<sup>6</sup> [Australian Infrastructure Audit](#), Infrastructure Australia, 2019

<sup>7</sup> [Australian Infrastructure Plan](#), Infrastructure Australia, 2021

<sup>8</sup> CO<sub>2</sub> prices for electricity, industry and energy production in the NZE, [Net Zero by 2050 A Roadmap for the Global Energy Sector](#), International Energy Agency, 2021.

<sup>9</sup> [The Green Book](#), HM Treasury, 2022. Estimates of GBP £241, as recommended under 'central' scenario.

<sup>10</sup> [PV5 Environmental parameter values](#), *Australian Transport Assessment and Planning Guidelines*, Commonwealth of Australia (Transport & Infrastructure Council), August 2021.

relating to infrastructure should also acknowledge emissions created by end users, or enabled emissions, as well as operational and embodied emissions. Each project assessed by IA should have an estimate of the emissions profile (including scope 3 emissions) and its contribution to Australia's total emissions and net zero targets.

- **Review the Infrastructure Priority List<sup>11</sup> to ensure its alignment with a net zero future.** This is crucial to avoid future stranded assets and prioritise investment on assets critical to achieving Australia's climate targets. Infrastructure that is planned, or undergoing construction, today and in the coming years will continue to be in use in 2050 when Australia has a target for net zero. The Infrastructure Priority List should also be evaluated in light of this commitment for any gaps in infrastructure that is required to enable a net zero future and assess whether some infrastructure risks being stranded. The Infrastructure Priority List could also be assessed for the total greenhouse gas (GHG) contribution of the listed projects. Understanding the scale of the emissions will highlight the importance of emissions reduction and opportunities for abatement could be investigated.
- **Refresh the existing Australian Infrastructure Plan to include a clear list of assets required to achieve Australia's greenhouse gas emissions reduction targets,** and include quantified emissions reduction targets and interim targets for each asset. Quantifiable targets could also extend to detailed investment amounts, in line with what is required to facilitate the net zero transition.
- **IA's Sustainability Principles<sup>12</sup> could be reviewed** to be more comprehensive about infrastructure's contribution to GHG emissions (embodied, operational and enabled) and the sustainable development goals (SDGs). This will assist in guiding infrastructure decision-making to align with Australia's emission reduction targets.

## Increase focus on infrastructure needed in hard-to-abate sectors such as transport and heavy industry

While IA should continue to support enabling infrastructure for Australia's clean energy and green hydrogen economy, the energy landscape in Australia is well serviced by a rich ecosystem of stakeholders and federal agencies, including ARENA and emerging work under the National Energy Transformation Partnership. There is an opportunity for IA to increasingly focus on hard-to-abate sectors such as heavy industry, transport and cities. We therefore welcome the creation of the Cities and Suburbs Unit (see next section) and recommend that IA host two other strategic units: a Renewable Energy Industrial Precincts (REIPs)<sup>13</sup> Unit and a Net Zero Transport Unit.

- **Net Zero Transport:** Transport makes up 20% of Australia's emissions and is the fastest growing source of emissions. Decarbonising the transport sector will be achieved through measures that will reduce demand for transport (i.e. remote work), shift kilometers travelled to the more efficient and least carbon intensive modes of transport (i.e. shifting away from private vehicle trips to public transport, shifting freight to clean rail transport), and improve existing modes of transport (i.e. converting the vehicle stock to EVs). Strategic infrastructure will be required in all of those areas of the transition to net zero transport, to provide better and cleaner mass transport infrastructure and enable the roll out of EVs. A particular focus on freight and long distance transport would be relevant.
- **REIPs:** Renewable Energy Industrial Precincts (REIPs) will have a critical role to decarbonise the heavy industry sector and support the transition to net zero emissions and to a greener economy, making Australia a green export powerhouse. IA will have a role to play in ensuring

<sup>11</sup> [Infrastructure Priority List](#), Infrastructure Australia

<sup>12</sup> [Sustainability Principles](#), Infrastructure Australia

<sup>13</sup> REIPs are clusters of industrial businesses (for example, steel producers or minerals processors, along with supporting industries) powered by 100% renewable energy.

the enabling infrastructure is strategically planned via a strategic land use and infrastructure planning process to allow successful operation of these precincts. Critical infrastructure will be required to supply renewable energy, have efficient transport connections and ensure supporting ports have capacity for export. It may also extend to pipelines to supply green hydrogen to industry, or for export.

## **Mandate the Cities and Suburbs Unit to enable and accelerate 10 net zero cities by 2035**

Decarbonising cities will play an important role in achieving Australia's greenhouse gas emissions reduction targets. The 10 metropolitan areas of Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra, Hobart, Darwin, Gold Coast and Newcastle together represent more than half of Australia's emissions and host more than 70% of its population. While some local governments have committed to achieving net zero emissions on their corporate and community emissions by 2035 or later, the CSU could support a broader movement to ensure that 10 metropolitan areas reach net zero emissions by 2035 on their corporate and community emissions. Action at local government level, however, will need to be supported by state and territory and federal policy reform and investment. This would be most effective if done in collaboration between all three levels of government, to produce agreement on key policy reforms and investments in which to pool and prioritise funding.

The proposed Cities and Suburbs Unit within Infrastructure Australia could be tasked with developing and implementing a 10 net zero cities accelerator program, coordinating collaboration between local, state and federal governments. This collaboration could aim at producing refreshed versions of the city deals: 'net zero city deals' which would include an agreed list of priorities, policy reforms and investments. The net zero city deals could in turn inform IA's Priority List as well as other government processes such as budget processes and targeted policy reforms.

## **A governance that reflects its responsibility in accelerating Australia's transition to net zero emissions**

In light of the critical role that Infrastructure Australia can play to accelerate Australia's transition to net zero emissions, and that the proposed legislation amendments in the Climate Change Bill would require IA to consider Australia's greenhouse gas emissions reduction targets in achieving its mission, it is important that the governance of IA reflects this responsibility and requirement.

Climateworks therefore recommends that:

- At least one and ideally 50% of the Board members have expertise in climate change and decarbonisation pathways and how infrastructure can enable emissions reductions, to provide guidance on how IA is to achieve its critical contribution to Australia's climate targets. This expertise should cover the ability to inform infrastructure portfolio and pipeline priorities, avoiding stranded assets and helping prioritise assets critical to net zero emissions. It should also cover several critical sectors, including transport and heavy industry.
- The composition of the board includes at least a third of its members from research or academia providing independent guidance on how IA can take into account Australia's emissions reduction targets.
- Given the economic and national interest value of the projects reviewed by IA, the nomination process be extremely transparent and scrutinised to ensure utmost integrity of the IA Board and guarantee its ability and commitment to delivering on Australia's emissions reduction targets.
- That the Government's Annual Statement and the Climate Change Authority's report to the Parliament explicitly consider how IA's plans and priority list contribute to delivering Australia's emissions reduction targets.

Yours sincerely,

A handwritten signature in black ink, consisting of several loops and a long, sweeping tail that extends to the right.

Margot Delafoulhouze, Cities Lead



Climateworks Centre