INFRASTRUCTURE VICTORIA

TERMS OF REFERENCE

ADVICE ON OPPORTUNITIES TO REDUCE GREENHOUSE GAS EMISSIONS OF VICTORIAN GOVERNMENT INFRASTRUCTURE

Background

The Victorian Government has committed to net zero greenhouse gas emissions in Victoria by 2045, with emission reductions from 2005 levels by 75 to 80 per cent by 2035.

It is estimated that around 70 per cent of Australia's total annual greenhouse gas (GHG) emissions are associated with whole-of-life (WOL) infrastructure emissions.[1] Infrastructure's carbon emissions are made up of:

- embodied (or embedded) emissions from building and construction processes (e.g. production of concrete, transportation of construction materials to build a new road)
- operational emissions from the operation of the infrastructure over its lifetime (e.g. emissions by road maintenance vehicles)
- enabled emissions associated with the downstream activities that the infrastructure enables once it is built (e.g. emissions by vehicles using the road).

Currently, infrastructure-related embodied and operational emissions account for 15 per cent, and enabled emissions account for up to 55 per cent, of total annual emissions.[2] However, embodied carbon is predicted to replace operational carbon as the dominant source of emissions as Australia's electricity grid is decarbonised.[3]

The need and opportunities for reducing emissions of Victorian Government infrastructure

In June 2022, the Victorian Government had $184 billion invested in new and existing public sector capital works across transport, health and human services, justice and emergency, water, education and community sectors.[4] The Victorian Government's ongoing investment in infrastructure presents a significant opportunity to reduce emissions through investment decision making, procurement processes, delivery methods and operational practices.

Nationally, Australia is less progressed than European countries in developing clear and actionable pathways to reduce emissions of infrastructure. While both industry and individual projects are independently seeking to identify opportunities for emissions reduction, there are no system-wide guidelines at the Victorian Government level, or at the national level, on how to avoid, reduce, account for and manage WOL infrastructure carbon emissions. Many of the current tools and

[1] ISCA et.al., (2020) *Re-shaping infrastructure for a net zero emissions future*, pg17, published by the Infrastructure Sustainability Council of Australia (ISCA), ClimateWorks Australia, and the Australian Sustainable Built Environment Council (ASBEC).
[2] ISCA et.al., As above
[3] GBCA and thinkstep-anz. (2021). *Embodied carbon and embodied energy in Australia's buildings*.
[4] Victorian Government (2022), *State Budget 2022/23, Budget Paper No. 4,* pg 24.

frameworks available are voluntary,[5] with significant scope for interpretation by individual agencies, companies and projects.

Managing WOL infrastructure emissions is gaining increasing attention from business and infrastructure leaders, particularly relating to embedded emissions. Several organisations, including Infrastructure Partnerships Australia (IPA), the Infrastructure Sustainability Council of Australia (ISCA) and Business Council Australia (BCA) have called on Australian governments at all levels to address embodied carbon emissions in infrastructure development.

Purpose of this advice

The Victorian Government seeks advice on options to assist in the reduction of greenhouse gas emissions through future infrastructure investment business case assessment and procurement processes.

In developing the advice, Infrastructure Victoria is to consider:

- the Victorian Government's options to reduce the emissions of the public infrastructure it plans, commissions and/or operates
- opportunities to reduce the costs and/or increase the productivity of infrastructure while also reducing emissions
- the Victorian Government's ability to influence emissions reduction by private firms that design, construct and operate public infrastructure — such as designers, suppliers, manufacturers, construction companies and capital markets.

Scope of advice

The Victorian Government seeks advice from Infrastructure Victoria on:

1 Opportunities to identify, prioritise, quantify, incentivise, and track reductions in embodied, operational and enabled infrastructure emissions at early strategic planning and investment decision making stages including business case assessment.

2 Options to update the Victorian Government's existing investment guidelines, procurement policies, regulatory tools, standards, frameworks and/or guidelines to reduce emissions.

3 Innovative approaches that the Victorian Government can use to incentivise private industry to increase production and adoption of low-carbon materials and/or methods in procurement.

4 Enablers and barriers to implementation of any recommendations and their ramifications for reducing the emissions of infrastructure delivery, increasing productivity and reducing costs. This could include any impacts on costs and benefits, and how these could be equitably distributed across stakeholders and over the life of infrastructure.

[5] For example, Infrastructure Australia (IA) and Infrastructure NSW have developed a guideline for infrastructure planning to consider 'infrastructure for resilience'. The Victorian Department of Treasury and Finance (DTF) has Sustainable Investment Guidelines as part of business case assessment under its *Investment and Lifecycle for High-Value and High-Risk Guidelines*. The Australian Life Cycle Assessment Society (ALCAS) is a non-for-profit peak body which has developed Life Cycle Assessment (LCA) of materials, processes and services. It launched the Australasian Environmental Product Declaration (EPD) in 2014. Together with international EPDs, these tools aim to account for greenhouse emissions in construction materials.

5 Timing and stages to implement options for the best long-term outcomes which minimise transitional costs for the government, the industry and the community.

Process

In developing the advice, Infrastructure Victoria should consider, complement, and build upon existing State, Commonwealth, international and industry strategy, planning, policy, and regulatory documents relating to infrastructure assessment and infrastructure decarbonisation.

Infrastructure Victoria should also coordinate and align with work underway in other jurisdictions across Australia to ensure consistency of advice and approaches across governments and with industry.

The Victorian Government expects Infrastructure Victoria will engage with industry, regulators, government agencies, peak bodies, the research community and other stakeholders in developing the advice.

Infrastructure Victoria's initial advice is to be provided to me, as Treasurer, within 6 months of this request. The advice should set out any findings and evidence, including significant risks or opportunities, and identify priority actions.

It should also provide specific options for any additional research or actions that could be undertaken to further develop or implement the advice.