

# Green goods

Strategies for decarbonising government purchasing in Australia



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## Executive summary

Greening public procurement offers a key opportunity for governments to decarbonise economies. In Australia, public sector procurement accounts for over 17% of GDP. Not only is the public sector a major purchaser of highly-carbon intensive goods (e.g. cement for infrastructure) but changing procurement practices would offer Australia a way to build the demand needed to support a green export “superpower” trajectory in coming decades.

Australian governments are beginning to make changes in this direction, with many Commonwealth and state-level processes underway – largely focussed on scope 1 and 2 decarbonisation targets and electrification of vehicle fleets. However there remains a need for more ambitious reform. The Australian Government wants to have a net zero public service by 2030, and achieving this goal will require concerted action on procurement reform. The recommendations made in this report are part of what is needed to achieve this goal.

There are steps that all Australian governments can take in the next 12-18 months to start pursuing an ambitious green procurement strategy. These include setting targets for greening procurement and measuring baseline emissions in procurement (including scope 3 emissions from carbon intensive inputs like cement and steel). As an updated *National Partnership Agreement on Land Transport Infrastructure Projects* will soon be agreed between jurisdictions, the time is ripe for promoting the use of recycled materials in infrastructure projects (which are sometimes cheaper than using newly-made goods) and addressing non-monetary barriers that currently prevent the use of materials with lower embodied carbon emissions.

Given the timeframe required to establish new green industries to supply low-carbon goods, early steps should centre on:

- ⇒ engaging with suppliers to decarbonise value chains, such as by establishing minimum requirements for environmental standards in procurement;

- ⇒ collaborating with industries to understand what can be achieved; and
- ⇒ incentivising innovation by suppliers.

In the longer term, there are opportunities for governments to change the industrial and fiscal landscape, using the size and power of the public sector to shift towards a net zero economy. Governments can create strong signals of demand for emerging industries that are not yet cost-effective – providing certainty around the ramp-up of government demand for commodities like low-emissions steel. Steel is the largest category of material resources in Australian public infrastructure, with projects in the pipeline expected to spend around \$26 billion on steel. Setting out a pathway towards procuring low-carbon steel and supporting a multi-pronged approach for the decarbonisation of the Australian steel industry could avoid millions of tonnes of CO<sub>2</sub> emissions.

Governments can also establish processes for aligning fiscal policy with net zero policy goals, such as by creating internal departmental carbon charges, or central pools of funding to defray some of the potentially higher upfront costs of green procurement (so that the cost of these decisions is not borne by the individual manager deciding between tenders). This is critical to give clarity to procuring managers – who are currently asked to balance a dozen competing goals without an explicit and quantified framework for doing so.

Finally, there is a need for an overarching supportive framework, including robust measurement and training of both procurement staff and suppliers. Aligning procurement with the goals of a net zero government requires thousands of officials to understand new goods and services, and to have the tools and incentives to do their jobs differently. Establishing a national workstream under the Heads of Treasuries or another interministerial group would be invaluable in ensuring a collaborative and effective approach to green procurement.

## Recommendations:

### *Quick wins in the next two years*

1. Set clear and increasingly ambitious targets for the greening of public procurement, which includes reduction in scope 3 emissions and use of offsets
2. Identify and report the sources of current emissions across the different categories of public procurement
3. Update the *National Partnership Agreement on Land Transport Infrastructure Projects* (s18, s20, s24, and s28) to commit to low emissions and recycled materials
4. Address barriers to uptake of recycled materials, such as by increasing understanding and confidence by public procurers in these materials, supporting supply chain development, and ensuring that regulatory frameworks are fit-for-purpose
5. Articulate minimum requirements for environmental standards in eligibility criteria
6. Add low-carbon options to supplier panels and central purchasing agreements
7. Enable industry to proactively suggest low-carbon solutions both during project design and the tender process
8. Encourage innovation that reduces embodied carbon in government purchasing

### *Towards long-term net zero government*

9. Actively stimulate demand in nascent markets including low-emissions steel through procurement processes
10. Support a multi-pronged approach to the decarbonisation of the Australian steel industry
11. Establish internal carbon pricing, consistent with government goals
12. Incorporate end-of-life-cycle planning and costs from the start
13. Establish mechanisms to defray any additional upfront costs

### *Building capacity across the system*

14. Establish robust methods to measure results of green public procurement policies
15. Build capacity of public procurement staff and raise awareness of green procurement by businesses
16. Establish a national workstream under the Heads of Treasuries or another interministerial group to promote collaboration in approaches to green procurement.
17. Seek synergies between local and green public procurement

## Public procurement is a massive economic lever

Worldwide, the goods and services that governments procure are responsible for seven times more carbon emissions than the global aviation industry.<sup>1</sup> The policies that guide public procurement therefore play an important fiscal function, but they can also be used to support other policy goals such as helping to achieve net zero targets, and supporting innovation and the development of new industries.<sup>2</sup>

There is scarce data on the emissions content of Australian government procurement of goods and services. However, worldwide, around 70% of the emissions from public procurement stem from six key industries: defence and security, transport, waste management services, construction, industrial products and utilities.<sup>3</sup> Greening public procurement would require active steps to reduce emissions across government departments and their activities.

There are many processes underway across the Commonwealth and state governments that together present a once-in-a-decade opportunity to shape how Australian governments buy and source numerous carbon-intensive inputs. Relevant developments are also occurring at a broader policy level, particularly in terms of infrastructure. Federal, state and territory governments will soon agree a re-negotiated *National Partnership Agreement (NPA) on Land Transport Infrastructure Projects*, with the potential for the Agreement to include clauses on the use of low-emissions materials. The Australian Government has broadly committed to a net zero public service by 2030. It has demonstrated this focus through the recent *Environmentally Sustainable Procurement Policy* and the *Climate Change (Consequential Amendments) Bill 2022*, which incorporates Australia's targets under the Paris Agreement into several Commonwealth entities and schemes.

However, public procurement in Australia is not currently fully aligned with the policy goal of decarbonising the Australian economy. There is a need for a coordinated approach across government authorities as well as for a greater consideration of how to use fiscal mechanisms to

decarbonise procurement. While the procurement policies of all jurisdictions have at least some reference to sustainable principles, they differ in terms of how thoroughly environmental factors are integrated. Perverse outcomes are often the result. For example, at a time when the roadbuilding pipeline is larger than ever,<sup>4</sup> governments have continued to procure large amounts of expensive, higher-emission virgin materials, despite the existence of cleaner, cheaper, recycled alternatives (discussed below).<sup>5</sup>

Aligning public procurement decisions with any policy goal is a challenging task. Sometimes the ideal product does not exist and cannot be bought. Lower-carbon alternatives that depend on not-yet-mature technologies may be prohibitively expensive and some industries will take years to develop. Moreover, procurement managers must balance decarbonisation with several other ambitious policy goals, such as supporting Indigenous businesses, small and medium enterprises and gender diversity, boosting innovation, and adhering to local content requirements. Without clear and quantified decision frameworks, balancing these trade-offs is often just a tricky judgement call. However, Australian governments are unified in their ambition to achieve ambitious decarbonisation of the Australian economy, and this can only happen with major shifts in economic activity, institutions, industries, and behaviours. This report details some of the key policies that should be implemented over time to ensure that public procurement is aligned with these ambitions.

## The state of public procurement in Australia

The opportunity for public procurement in Australia to influence demand for low-carbon goods and services is extremely large. Currently, public procurement by all levels of government accounts for over 17% of GDP. This means that a large percentage of GDP could potentially be directed to provide a demand signal to jump-start new industries, increase employment in low-carbon industries, and reduce emissions.<sup>6</sup>

Currently, infrastructure is the largest category of spending by Australian governments on

procurement;<sup>7</sup> a total of \$319.5 billion in federal and state government spending has been allocated to infrastructure over FY24-FY27.<sup>8</sup> Infrastructure investment in Australia on roads, rail and air is amongst the highest of all OECD countries.<sup>9</sup> The infrastructure sector uses a large amount of emissions-intensive inputs, including steel, cement, asphalt, and electricity. As of FY22, Australian public infrastructure projects in the pipeline were expected to require a spend of around \$26 billion on steel; this is the largest category of material resources in dollar terms.<sup>10</sup>

### Box 1. Defining “green public procurement”

The definition of “public procurement” differs across organisations at different points in the system, particularly in terms of the activities and types of spending included. To those outside government (including us), it usually means the whole process of government buying from defining standards to signing contracts; from working with suppliers, to providing funds to other agencies/governments who directly purchase goods.<sup>11</sup> This is how we consider procurement in this report.

However, most government agencies view “procurement” as the stage where they specifically go to the market with a request for tender (and eventual purchase). This is a narrower view that would exclude setting the frameworks or providing the funds that shape how other agencies or governments make purchases.

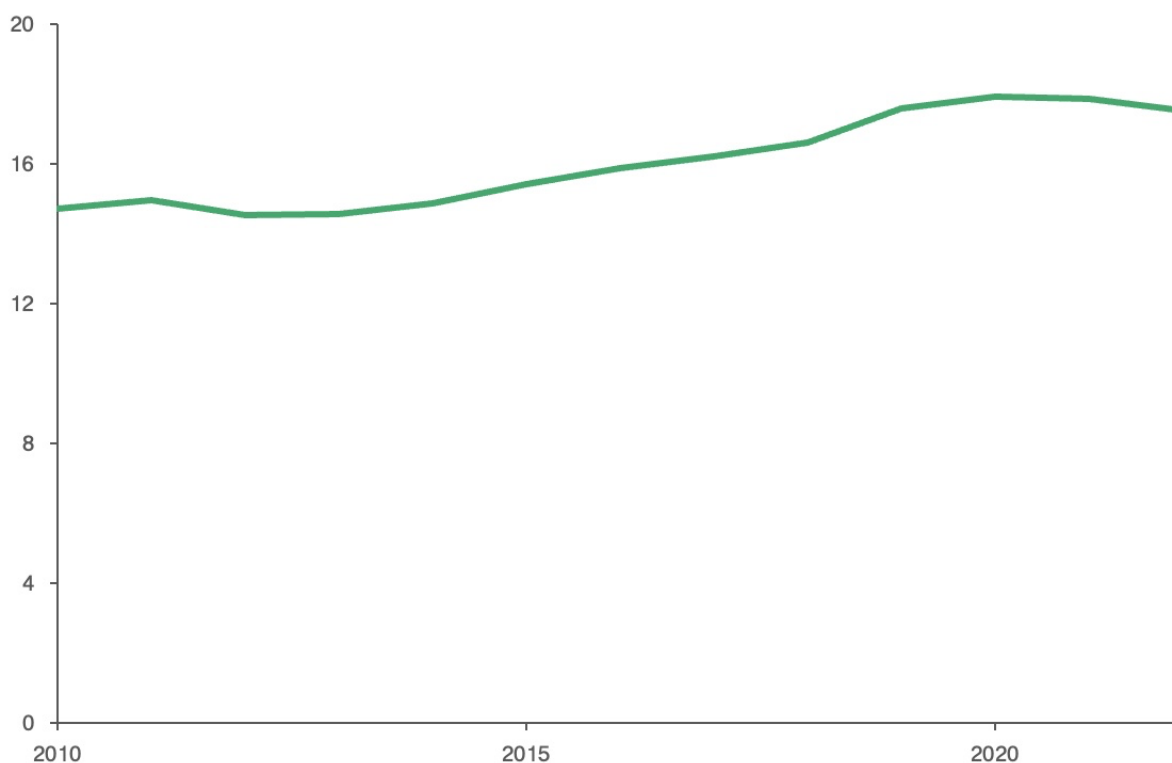
Different levels of government also pursue procurement in contrasting ways, highlighting the complexity and disaggregation associated with public procurement. For the federal government, procurement is often considered as spending by Commonwealth agencies on the goods and services they use directly. For example, any standards or decisions about federal infrastructure spending is described as part of a *grant making* process (giving grants to the states) rather than a *procurement* process. We do not use this distinction in this report – if it affects government purchasing decisions, we call it procurement.

In Australia, overall policies for public procurement are typically set by finance departments, however individual departments can also set their own additional policies, and often for large and complex projects (like infrastructure) there are many frameworks and standards-setting agencies that influence purchasing decisions.

“Green” public procurement entails using these processes and the purchasing power of different levels of government to select goods, services and activities with low environmental impacts. We have focused on emissions in this report, however other considerations could be impacts on water use and biodiversity.

**Figure 1:** Procurement as a percentage of GDP, all levels of government

*Percent of GDP*



**Source:** OECD 2024<sup>12</sup>; CPD analysis

The Australian Government typically funds state infrastructure projects, rather than spending directly on infrastructure. It does so through the Federal Financial Relations system. In 2023-24, the Australian Government expects to provide state and territory governments with around \$180 billion in total funding including \$87 billion for special purposes such as infrastructure.<sup>13</sup>

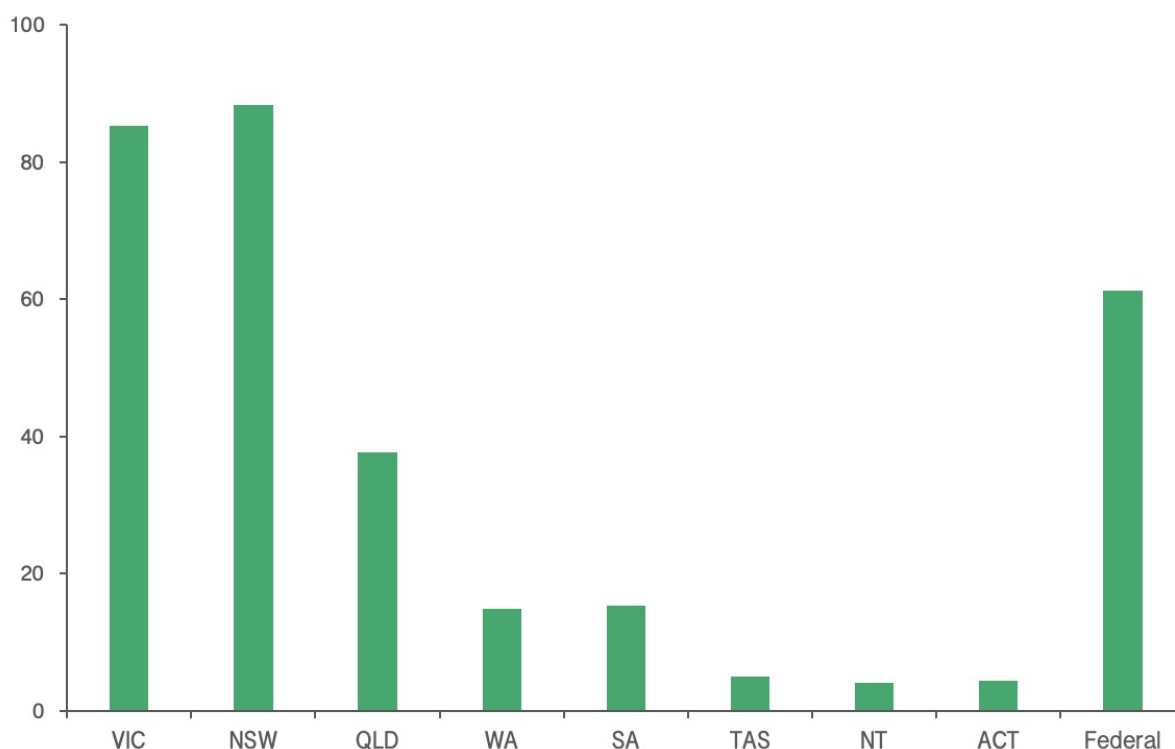
Appendix A demonstrates how each state and territory and the federal government is implementing measures to green its procurement. There are many similarities between jurisdictions:

- ⇒ no jurisdiction has set a scope 3 target for embodied emissions in the goods they procure;

- ⇒ every jurisdiction has some type of commitment to decarbonise its government vehicle fleet, typically involving purchasing more electric vehicles;
- ⇒ each jurisdiction has at least some type of (optional) guidance for procurement managers that encourages the use of low-carbon options; and
- ⇒ more than half of the jurisdictions have set scope 1 and 2 targets for their procurement and most have either implemented strict requirements for the use of recycled materials, or encourage their use.

**Figure 2:** Four-year allocation of funding to infrastructure by state and federal governments as of FY23

\$ Billions



**Source:** Infrastructure Partnerships Australia 2022; CPD analysis

There are some clear stand-out initiatives where jurisdictions have taken additional steps to decarbonise their procurement systems. The Commonwealth Government has recently introduced climate, environmental and circularity outcomes for specific types of procurement. The NSW Government has commenced development of a regulatory mechanism to require measurement and reduction of embodied emissions in public infrastructure projects. It also funds the Materials and Embodied Carbon Leaders’ Alliance (MECLA), which is driving innovation in building and construction supply chains. The Victorian Government has introduced the EcologiQ program to increase the use of recycled content across its transport infrastructure projects. Since 2020, all tenderers on Victorian major transport infrastructure projects have needed to show how they will use recycled and reused materials in their bids. And the Australian Capital Territory is implementing programs to boost the capacity of its procurement staff and suppliers and has trialled internal carbon pricing. Appendix A contains more detailed information.

## Quick wins in the next 2 years

There are a range of things governments can do in the next 12-18 months to progress work on greening public procurement. Clear targets should be set for greening public procurement, with clear milestones and increasing ambition made clear from the start. Steps should also be taken to decarbonise infrastructure, with an emphasis on amending the *National Partnership Agreement on Land Transport Infrastructure Projects* to make use of recycled materials, addressing non-monetary barriers to the uptake of these materials, and aligning infrastructure procurement with decarbonisation goals. Finally, an ambitious green public procurement policy would include engagement with suppliers, for example, through adding low-carbon options to supplier panels, establishing minimum requirements for environmental standards in the eligibility criteria of public tenders, and supporting innovation in low-carbon industries.

### Set targets that include scope 3 emissions

A framework and clear targets are necessary to enable governments to set policies and regulations that promote green procurement. Some governments – such as the Australian, Victorian, Western Australian and ACT governments – have broad net zero goals for government emissions. Other governments should adopt similar targets that align with their net zero commitments. In addition, there is a role for interim targets and for articulation of clear pathways to achieve these targets.<sup>14</sup> The goals must be endorsed by leaders across the public and private sectors.

Targets should also be set for individual categories of government procurement. For individual product groups, the Carbon Leadership Forum proposes one option is to set an initial target with steadily increasing ambition that rises at two- or three-year intervals to reach zero-carbon by 2050.<sup>15</sup> California sets limits for the maximum acceptable global warming potential of four construction materials (including structural

steel). The limits are set based on industry averages and California will review them every three years starting in 2025.<sup>16</sup> In Australia, the Queensland Government is planning to identify priority categories for emissions reductions and implement steps to reduce emissions for these categories, with a recommended target of a 5% annual decrease.<sup>17</sup>

Scope 3 emissions account for the vast majority of emissions associated with government – that is to say, it is not the emissions from the activities of government itself (such as using electricity), but emissions in the supply chain that matter most (such as the high emissions associated with producing traditional steel).<sup>18</sup> However, no Australian state or Commonwealth government has targets to reduce Scope 3 emissions. Targets should be set for all three scopes of emissions and should be embedded in all stages of the project development process, from initiation and ideation to commissioning. One way to track scope 3 emissions is to require potential suppliers to monitor and report the embodied carbon in their products – a requirement that will become much easier as the Commonwealth Treasury begins making such disclosures mandatory at the level of the firm.<sup>19</sup> MECLA recommends this strategy for infrastructure, and the South Australian Government has introduced it for infrastructure and transport projects over \$50 million.<sup>20</sup> From November 2020, certain Scottish public bodies are required to report annually on their scope 3 emissions reduction targets – alongside their scope 1 and 2 targets – if they have them.<sup>21</sup>

Governments should also set targets for the use of offsets. Alongside concerns about the validity of offsets, allowing the use of offsets may provide a false sense of progress without changes in materials and industrial processes. Ideally, governments would only rely on offsets where other options are not possible. In Western Australia, public authorities are to select actions for reducing emissions by following the emissions reduction hierarchy: (1) avoid, (2) minimise, (3) remediate, and (4) offset. If carbon offsets must be used, Western Australian public authorities are

to use high quality offsets and favour local carbon offset projects where possible.<sup>22</sup>

**Recommendation 1:** Set clear and increasingly ambitious targets for the greening of public procurement, which includes reduction in scope 3 emissions and use of offsets.

An essential component of setting targets to decarbonise public procurement is to identify and report the sources of current emissions. This step is vital both in understanding what should be the highest-impact areas of focus, as well as in establishing requirements to achieve specific reductions from the current baseline by given time periods. However, most government agencies around Australia currently have little insight into the carbon footprint of their purchasing activities.

Where steps have been taken to remedy this situation, only data on Scopes 1 and 2 emissions have been assessed. Commonwealth government entities started reporting on their emissions in their 2022-23 annual reports. By June 2024, entities are to develop emission reduction plans outlining specific actions that will contribute to the Commonwealth's goal of net zero emissions across government operations by 2030.<sup>23</sup> The Victorian Government assessed the greenhouse gas emissions of its operations in formulating its emissions reduction pledge, however these emissions are only based on Scopes 1 and 2 (rather than also including Scope 3).<sup>24</sup> Ideally, government authorities in Australia should establish a central emissions database, drawing on the expertise of countries like South Korea in tracking data on green and non-green purchases.<sup>25</sup>

**Recommendation 2:** Identify and report the sources of current emissions across the different categories of public procurement.

## Start decarbonising infrastructure

Modelling suggests that transitioning to a circular economy could reduce Australia's carbon emissions by around 165 million tonnes per year by 2040.<sup>26</sup> Circular economy strategies are necessary to ensure a lower demand for new materials, and the recovery and re-use of materials that are already in use. Coupled with new technology, circular economy models and recycling can reduce the demand for critical minerals by 58% over 2022-2050 globally.<sup>27</sup>

Australian jurisdictions are beginning to incorporate circularity requirements, such as the Recycled First Policy by the Victorian Government. The policy requires bidders on transport infrastructure projects to demonstrate how they will optimise use of reused and recycled materials. However, many Australian jurisdictions are currently only encouraging the application of circularity principles, rather than implementing strict requirements, quotas or frameworks.

Given that public infrastructure comprises the largest component of procurement for both federal and state governments, steps should be taken now by all governments to decarbonise the procurement of relevant materials, focusing on both recycled and low-emissions alternatives. For some inputs such as low-emissions steel, there are few suitable alternatives that are currently being produced at scale (this is the focus of a later section), but for others there are options that are cheap and available now.

Table 1 on page 12 demonstrates that replacing current emissions-intensive options in road infrastructure in Australia with certain recycled materials can both reduce emissions while also producing cost savings and jobs. Our estimates suggest that applying recycled alternatives in road infrastructure could reduce costs of specific components by up to 83%.<sup>28</sup>

Our analysis focuses on the recycled materials ground granulated blast-furnace slag and fly ash (to replace clinker in cement), reclaimed asphalt pavement (to replace asphalt), and crushed concrete (to replace crushed rock).<sup>29</sup> We do not consider some other materials, such as recycled crushed glass, as prospective near-term opportunities because they are both more expensive and produce more emissions than the

virgin materials they would replace.<sup>30</sup> See B.1. in Appendix B for information about methods.

A particular focus should be on decarbonising concrete. Concrete is the most used building material globally and accounts for 50-85% of the embodied carbon in all building projects.<sup>31</sup> Solutions to use supplementary cementitious materials (SCMs) in both cement and concrete are readily available and are being implemented in many commercial projects around Australia. As concrete must be sufficiently strong, it is not yet possible to completely replace clinker and cement with SCMs in most cases. MECLA has released an initial guide on specifying low-carbon concrete, which can serve as a starting point.<sup>32</sup>

In the short-term, “low-hanging fruit” policies could be pursued to replace emissions-intensive materials in road infrastructure with recycled alternatives. A clear quick win for Australian governments would be the renegotiation of the *National Partnership Agreement on Land Transport Infrastructure Projects*.<sup>33</sup> The current land transport infrastructure NPA will expire on 30 June 2024. Under the *Infrastructure Australia Amendment (Independent Review) Bill 2023*, Infrastructure Australia is now more equipped to consider greenhouse gas emissions in its advice for infrastructure projects.<sup>34</sup> The Commonwealth Government also announced its intentions to encourage states and territories to maximise the use of recycled materials in the delivery of major infrastructure projects through its November 2023 Infrastructure Policy Statement.<sup>35</sup> To further encourage decarbonisation of infrastructure procurement, policymakers could amend the current NPA in one or more of the following ways:

- *Section 18 and 24 relate to the objectives for the NPA.*
  - Add 18(e) [aims to provide a land transport network that] aligns with national and state-level climate targets by focusing on reduction of greenhouse gas emissions and waste.
  - Add 24(d) [objectives... including] supporting the development of markets for recycled construction materials aligned with Australia’s climate ambitions.

- *Section 20 relates to actions to achieve objectives of the agreement.* Add 20(f) [coordinated action, including] supporting the use of recycled construction materials.
- *Section 28 pertains to roles of states and territories in the Agreement.* Add 28(n) using recycled materials to replace virgin materials in all road projects where the materials are cost-effective and can be available within a reasonable timeframe.

**Recommendation 3:** Update the *National Partnership Agreement on Land Transport Infrastructure Projects* (s18, s20, s24, and s28) to commit to low emissions and recycled materials.

**Table 1:** Opportunities are available now to reduce costs and emissions by using recycled materials in roads

Recycled product	To replace (virgin material)	Emissions reduction potential (recycled vs virgin)	Cost difference (recycled vs virgin)	Replacement opportunity in road infrastructure pipeline (2024-2031)	Emissions reduction from full replacement (2024-2031)	Savings from full replacement (2024-2031)	Net change in jobs from full replacement (2024-2031)
Ground granulated blast-furnace slag (GGBFS)	Cement	-74% (reduction of 491 kg CO <sub>2</sub> -e per tonne)	-27% (\$60 cheaper per tonne)	1.8 million tonnes of cement	887,000 tonnes of CO <sub>2</sub> -e	\$108 million	610 new jobs
Fly ash	Cement	-98% (reduction of 650 kg CO <sub>2</sub> -e per tonne)	-23% (\$50 cheaper per tonne)	993,000 tonnes of cement	646,000 tonnes of CO <sub>2</sub> -e	\$50 million	280 new jobs
Reclaimed asphalt pavement	Asphalt	-98% (reduction of 36 kg CO <sub>2</sub> -e per tonne)	-83% (\$100 cheaper per tonne)	4.3 million tonnes of asphalt	153,000 tonnes CO <sub>2</sub> -e	\$429 million	1,470 new jobs
Crushed concrete	Crushed rock	-67% (reduction of 4 kg CO <sub>2</sub> -e per tonne)	-36% (\$9 cheaper per tonne)	3.4 million tonnes of rock	15,000 tonnes of CO <sub>2</sub> -e	\$31 million	1,080 new jobs

**Sources:** Australian Road Research Board (2023); Infrastructure Australia (2022); CPD analysis.

**Notes:** All figures are approximate. The figures for the replacement opportunity in the road infrastructure pipeline are from Infrastructure Australia’s current state, medium forecast.

Procurement of recycled materials for construction of public infrastructure would provide a source of steady demand for these materials – which Infrastructure Australia indicates is one of the key barriers to the continued development of these industries.<sup>36</sup> However, there are also other barriers impeding industry development.<sup>37</sup> These include:

*Issues with characteristics of the recycled materials:*

- Concerns around potential environmental impacts: environmental regulations are not keeping pace with industry and community expectations.
- Concerns around health and safety issues for workers and communities.
- Potentially poorer performance of recycled materials.
- Recycled materials may not be perceived as being more affordable: perceptions of some suppliers differ from the figures above in Table 1.

*Limited prior use of recycled materials:*

- Low levels of understanding regarding use of recycled materials in infrastructure.
- Risk aversion of project teams: materials, such as low-emissions concrete, are often new to engineers and project managers. The materials may have slightly different characteristics, which creates risks and pressures.
- Limited use of recycled materials means it is challenging to guarantee performance for a long time, as required in tenders. There is a lack of data on long-term experience with the materials, and it is unclear whether data from other countries is transferable to the Australian context.
- Tight timeframes that suppliers need to work to in preparing bids mean they often submit the same types of designs, rather than innovating to be more environmental.

*Supply constraints:*

- Low feedstock volumes: of the recycled products in Table 1, the most extreme risk to future supply shortages is for GGBFS, although supply shortfalls also currently exist for fly ash.
- Geographic mismatch between location of recycling facilities and demand: suppliers of less emissions-intensive construction materials may be located far away from projects, which implies higher transportation costs.

These barriers have a wide range of causes. Some – like concerns about costs – may be misconceptions, while others are caused by market dynamics, for example geographic mismatch between the location of recycling facilities and sources of demand. Other barriers relate to the capacity of officials to make meaningful changes to green their procurement decisions; and these are explained in more detail throughout the rest of the report. All of these barriers can be proactively addressed through government policy.

**Recommendation 4:** Address barriers to uptake of recycled materials, such as by increasing understanding and confidence by public procurers in these materials, supporting supply chain development, and ensuring that regulatory frameworks are fit-for-purpose.

## Engage suppliers early

For most products, 80-90% of greenhouse gas emissions are scope 3 (i.e. in the supply chain).<sup>38</sup> Therefore, the success of green public procurement policies depends on whether suppliers reduce their own emissions. There are many things governments can do to encourage suppliers to think seriously about how to meet government demand for low-carbon goods. Importantly, engaging suppliers will also enable governments to assess how industries for green goods are developing and ensure that new

procurement requirements acknowledge potential supply constraints.

Environmental criteria – which could relate to energy, water, circular economy, carbon emissions, biodiversity, and more – can be used as a screening or eligibility requirement for tenders.<sup>39</sup> No Australian government has implemented environmental criteria that apply across all purchasing decisions. Instead, where governments require standards, these apply to specific classes of procurement (see Appendix A). Strict environmental standards would mean that even the most cost-effective tender would be ignored if it does not meet the standards.

Drawing on experiences by European countries with low-carbon procurement may be particularly helpful for Australian governments. In Ireland, all public procurement must incorporate green criteria from 2023 onwards. Lithuania had a similar ambition for 2023, and, in December 2023, 94% of its public procurement spending by value used green criteria.<sup>40</sup> In the United States, 95% of new public procurement contracts (exempting weaponry) must use sustainability criteria.<sup>41</sup> Other countries include mandatory low-carbon requirements in specific aspects of their public procurement, such as for waste requirements in France and IT in Estonia.<sup>42</sup>

Alternatively, procurement practices could allocate points to reflect environmental performance beyond minimum requirements. In the Netherlands, the CO2 Performance Ladder enables public procurement agencies to favour businesses that take actions on climate change.<sup>43</sup> These points-based systems provide a framework to balance trade-offs between competing objectives (such as environmental standards and cost). Arup has investigated how the Ladder can be applied by local governments in Victoria.<sup>44</sup>

**Recommendation 5:** Articulate minimum requirements for environmental standards in eligibility criteria.

Large volumes of government procurement happen through pre-agreement: governments set up supplier panels or “common user agreements” to allow procuring officials to skip

bureaucratic tender processes and go straight to making a purchase. A regular audit of supplier panels or common user agreements – based on identifying low-carbon options and focussed initially on high-volume products such as electricity supply – could influence billions of dollars of day-to-day operational purchases. This strategy could be used in various areas of procurement including for car fleets, electricity contracts and appliances in buildings. Adding low-carbon options would reduce the cognitive load and transaction costs imposed on purchasing managers in government departments.

Some jurisdictions have already taken steps to simplify the procurement of sustainable goods and services. The NSW Government plans to publish a list of suppliers of recycled materials.<sup>45</sup> Scotland has developed a standardised questionnaire to ask potential bidders about their capability to address climate change, and the South Australian Government makes similar requests of potential suppliers for infrastructure and transport projects.<sup>46</sup> The Commonwealth Government plans to require tenderers to report against environmental sustainability outcomes for certain categories of tenders over specific monetary value thresholds – providing information for central whole-of-government reporting.<sup>47</sup> Other governments in Australia could use similar information to create a list of low-carbon options for purchasers. The US Government has a tool that enables purchasers to search for products, from construction materials to cleaning supplies, which align with federal requirements for sustainability.<sup>48</sup>

An alternative is to develop a blacklist of companies that do not satisfy environmental criteria and therefore should not be used for public purchasing. While Queensland has a system to apply demerits to contractors that fail to comply with specific objectives,<sup>49</sup> it does not include environmental considerations. Other exclusions could be drawn for highly carbon-intensive goods and services. For example, governments may decide not to buy or rent buildings that use gas for heating, hopefully prompting some property managers to retrofit their buildings and developers to factor this in from the start.

**Recommendation 6:** Add low-carbon options to supplier panels and central purchasing agreements.

Regardless of the approach taken, if the government is placing new requirements on suppliers it also creates an opportunity (and perhaps an obligation) for governments to work with suppliers, subcontractors and other industry stakeholders to change business models and practices.

One way governments could do this is by identifying priority areas of scope 3 emissions reduction across their procurement portfolio, and then working with stakeholders to develop new solutions. Several multinational corporations including Ikea and Microsoft have recognised their dependence on partners in their supply chain to reduce scope 3 emissions, and have established a 1.5°C Supply Chain Leaders group to work with their suppliers to reduce supply chain emissions.<sup>50</sup>

Engaging the supply chain in the early stages of any project is important for several reasons. First, it will enable governments to understand how ambitious they can be in terms of greening their procurement. MECLA proposes the use of a “Readiness Index” that contains information about how prepared industries are to use low-emissions materials, and such a tool can inform macro-scale government goals and timelines.<sup>51</sup> Early-stage consultation may also enable suppliers to have more time to critically assess what they can offer. Suppliers need time to experiment and find new materials and processes, otherwise they may simply copy what they did for previous (carbon-intensive) projects.

During the tender process, it is important for governments to be flexible and open to new ideas by suppliers on how things can be improved. Existing processes for large infrastructure projects are notoriously inflexible; the requests for tender will specify exact materials (and as a result, their embedded carbon content) before the process has even engaged with the market. This means that even the most proactive and engaged supplier has no opportunity to offer low-emissions options. Rather

than providing exact technical specifications, governments could instead clarify in a request for tender that they wish to achieve a certain percentage reduction in embodied emissions from a baseline and ask tenderers to propose solutions to achieve this reduction. Reductions could be achieved either by using different materials or by changing the design of the product to require the use of less materials overall.

**Recommendation 7:** Enable industry to proactively suggest low-carbon solutions both during project design and the tender process.

In developing green procurement policies, it will also be vital that governments incentivise innovation in new clean products and construction methods. In the US, the Small Business Innovation Research program enables small businesses to creatively solve issues and challenges that government departments are experiencing.<sup>52</sup> A similar program was run in NSW in 2021,<sup>53</sup> with the NSW Government now having invested in the Circular Innovation Fund initiative to support research into new technologies and uses for recycled materials in government projects.

There are other examples for how governments can use procurement to support innovation. Governments could encourage potential suppliers to work with universities and Cooperative Research Centres (CRCs) on certain issues, such as engaging the CRC Smartcrete when it comes to decarbonising cement.<sup>54</sup> Increased funding for R&D could also assist government departments to go further in decarbonising their procurement. For example, funds could be provided to infrastructure departments to enable them to work with universities to test new ideas around low-carbon projects. Alternatively, government tender processes could allow suppliers to seek additional top-up innovation funding to support new products or approaches.

**Recommendation 8:** Encourage innovation that reduces embodied carbon in government purchasing.

## Towards long-term net zero government

Implementing the recommendations in the “quick wins” section of this report can help government organisations start to decarbonise their procurement practices. However, in the longer term, more systematic reforms can ensure public procurement is fully decarbonised. These changes may need to be phased in over several years to account for markets and technologies that do not currently exist or are not yet at scale. Government commitments to procure green materials can create the needed certainty to scale up emerging industries and help turn Australia into a green “superpower”. But to get there, governments will need to adjust the mechanics of fiscal decision-making and cost analysis.

### Scale up net zero industries

Many of the technologies required to drive Australia’s economic decarbonisation, such as green hydrogen and low-carbon cement and steel, are in the nascent stages of development, and are unlikely to come down their cost curves without increases in demand.<sup>55</sup> As Australia looks to develop itself into a “renewable energy superpower”, governments can play a key role in building the demand needed to create low-carbon industries in Australia.<sup>56</sup>

Governments could use their procurement frameworks to stimulate demand in nascent markets through several mechanisms. For example, governments could commit to ensuring that specific proportions of the construction materials they buy are green by a 5, 10 and 15-year deadline. A similar approach was adopted for the Indigenous Procurement Policy, with the Australian Government setting targets for the percentage of contracts that are to be awarded to Indigenous businesses.<sup>57</sup> To avoid excessive costs, governments could base targets on consultations with suppliers that look at understanding likely cost premiums.

Governments could also commit to purchasing green materials at a specific premium (this is similar to recommendation 11 below), or, at a minimum, to aggregate information about demand for low-carbon materials to provide suppliers with an understanding of future demand levels.

Currently, there are relatively high levels of demand for low-emissions steel but limited supply both in Australia and elsewhere. Government procurement of low-emissions steel could help to build early demand for this emerging industry while reducing emissions associated with construction. Provided that costs are not prohibitive, governments could require that head contractors procure certain amounts of low-emissions steel for major projects (for example, as a proportion of all steel required for a project), with this amount increasing over time based on consultations with industry. The establishment of an internal carbon price (see recommendation 11) could guide decision-making around what costs of green steel are viewed as prohibitive.

Table 2 provides impacts on project costs and greenhouse gas emissions of replacing conventional steel with low-emissions steel in existing major public infrastructure projects (see B.2. in Appendix B for methods). Building projects similar to these major public works starting in 2025-2030 would reduce public sector emissions at a less than 1.5% increase in project cost. Provided a 100% replacement rate is possible, using low-emissions steel in these projects could have avoided around 1.2 million tonnes of CO<sub>2</sub> emissions. It is important to note that providing an early market for green steel solves only a part of the problem. Government support for a multi-pronged approach to decarbonisation of steel production is discussed below.

**Table 2:** In the medium-term, public infrastructure projects built with low-emissions steel can reduce emissions at a cost of less than 1.5% of total project cost

Project example	Cost impacts	GHG emission impacts
Optus Stadium	\$8.3 to \$22.1 million more (less than 1.5% of total project cost)	69,000 tonnes CO <sub>2</sub> e (97% reduction)
Inland Rail	\$131.7 to \$350.3 million more (less than 1.5% of total project cost)	1.1 million tonnes CO <sub>2</sub> e (97% reduction)
New Royal Adelaide Hospital	\$7.8 to \$20.6 million more (less than 1% of total project cost)	65,000 tonnes CO <sub>2</sub> e (97% reduction)
Westgate Distributor Pedestrian Bridge	\$123,000 to \$328,000 more (less than 1% of total project cost)	1,000 tonnes CO <sub>2</sub> e (97% reduction)

*Sources: McKinsey & Company (2023); Mission Possible Partnership (2022); sources for individual public infrastructure projects listed in B.3. of Appendix B; CPD analysis.*

*Notes: Estimated premiums are for the medium-term, 2025-2030 for McKinsey and 2030 for Mission Possible.*

**Recommendation 9:** Actively stimulate demand in nascent markets including low-emissions steel through procurement processes.

For there to be a thriving green steel industry in Australia, focusing on increasing certainty of demand will be insufficient. Instead, a multi-pronged approach is needed, without which it is not possible to achieve the decarbonisation of steel production infrastructure.<sup>58</sup> Technologies must be further developed to enable green steel production and material efficiency strategies must be enhanced to optimise the use of steel, including the use of alternate low-carbon materials in some applications. There must be more recycling of scrap steel and greater access to firmed, renewable energy, and to competitively

priced green hydrogen.

Governments can play a key role by creating a supportive policy environment. Governments can develop standards and certifications for green metals and continue developing and refining their support for renewable energy and green hydrogen in Australia. They can also provide funding for research and development to address innovation gaps to accelerate the development of green steel technologies. Such efforts would assist in underpinning investment by the steel industry in decarbonisation and avoid carbon leakage.

**Recommendation 10:** Support a multi-pronged approach to the decarbonisation of the Australian steel industry.

## Consider the mechanics of fiscal policy

Financial mechanisms are needed that enable procurement managers to fulfil the “value for money” principle when purchasing low-emissions options that have higher upfront costs than higher-carbon alternatives.<sup>59</sup> Effective changes would provide a framework that guides officials in how to effectively balance non-price factors, such as embodied carbon and other policy goals, with price factors. Any official or manager will try to optimise how much they can achieve within their budget – incentives need to be designed so that managers do not have to personally bear the cost of selecting slightly-more-expensive low carbon options.

Internal carbon pricing can enable public procurers to directly incorporate environmental costs in their decision-making processes by placing a monetary value on greenhouse gas emissions. Internal carbon charges involve a fiscally-neutral internal transfer: the charge comes off of the balance sheet of the agency, department or business unit procuring the service and goes back onto the balance sheet of the treasury, finance department or whatever facility is established to receive the internal transfer.

However while this is fiscally neutral overall, it is not economically neutral: it will incentivise procuring managers to purchase more expensive low-carbon goods where the “green premium” they are paying is lower than the internal carbon charge. But this is the intended policy goal; governments should be willing to pay a price in dollars for avoided emissions in their supply chains. Organisations benefit from the use of internal charges and carbon prices because they provide absolute clarity to procuring managers and help them build supply chains aligned with whole-of-organisation (or whole-of-government) decarbonisation goals.<sup>60</sup> Internal carbon pricing can support all types of public procurement processes, including tendering for the materials used in roads, or the type of energy consumed in buildings, or contracts for professional services (which often involve many flights).

One challenge that organisations face is how to set the carbon price to ensure that it adequately reflects the value of avoided emissions. A potential solution is to use the social cost of

carbon; an estimate of the dollar cost of the damage to society from an additional unit of carbon emissions. The US Government currently uses a social cost of USD\$51/tCO<sub>2</sub> for economic analysis. This does not seem to be deeply integrated into the incentives of fiscal policy – there is no “saving” that managers can bank if they avoid emissions – but the US Inflation Reduction Act did include \$4.15 billion to cover additional costs associated with the procurement of low-carbon construction materials.<sup>61</sup> A working group is looking at revising the US social cost of carbon, and in the meantime, the US EPA has calculated a much higher USD\$190/tCO<sub>2</sub> (around AUS\$285/tCO<sub>2</sub>).<sup>62</sup>

Around the world, an increasing number of businesses are integrating a dollar value of emissions into their calculations for procurement.<sup>63</sup> Many fund managers, investors and large corporations are using “shadow” (hypothetical) carbon prices to assess projects and deals, asking the question “will this business model still be viable if carbon was priced at \$X per tonne?” The Australasian Procurement and Construction Council encourages the use of a shadow carbon price to assist in decision-making processes in public construction projects.<sup>64</sup>

The next sensible step for many is to actually start applying this logic to purchasing decisions. Microsoft, for instance, charges all internal business groups an annual carbon fee based on their scope 1, 2, and 3 emissions.<sup>65</sup> The fees collected through the scheme are used to fund organisation-wide carbon removal and reduction projects. Managers’ incentives are aligned: business units can reduce the fee they pay (and thus leave more of their budget for other activities) by reducing their emissions.

**Recommendation 11:** Establish internal carbon pricing, consistent with government goals.

Compared to carbon-intensive options, low-carbon alternatives may have higher upfront costs but lower emissions and often lower life-cycle costs across their use and disposal. For example, energy-efficient buildings may cost

more to build but have lower costs overall because they use less energy.

While Australian federal and state governments typically ask managers to achieve “value for money” over the life of a purchase, these guidelines typically do not provide clear instructions on how to do this or do not require that these life cycle costs be taken into account.<sup>66</sup> While still a relatively new phenomenon, some public authorities in the European Union are beginning to implement life cycle costing (LCC) for their purchases.<sup>67</sup> Alongside this, the European Commission has developed various sector-specific tools for LCC analysis.<sup>68</sup> The Dutch Government has a tool called DuboCalc that assesses the energy use and materials of proposed construction projects and enables the results to be converted into price deductions from the initial procurement bid.<sup>69</sup> These frameworks can help make trade-offs explicit, and make it easier for procuring managers to reach a final decision. Beyond life cycle analysis of emissions, it is also possible to include considerations for a project in terms of its impacts on nature and biodiversity, including avoided land use and pollution of waterways.

An important part of a total life cycle cost analysis is the decommissioning stage. Decision-making can internalise life cycle costs to favour goods that are more amenable to reuse and recycling, or by favouring suppliers that take responsibility for end-of-life processing. Procurement standards could also require that goods are designed from the start with an eye for disassembly. A product that is easy to disassemble is also easier to repair, adapt or upgrade, and, in the end, the raw materials can be recovered more easily. In a move towards circularity, the Dutch Government has an objective to ensure that construction projects can be easily disassembled by 2050, and has signed relevant deals with different industries such as concrete.<sup>70</sup>

**Recommendation 12:** Incorporate end-of-life-cycle planning and costs from the start.

One final option to align the incentives of procuring managers is to establish a special fund to defray additional upfront costs. Instead of the upfront cost of an item appearing on a procurement manager’s budget line, the additional cost could be attributed to a shared pool of funds that multiple public authorities can access. Policymakers could decide to set a cost threshold (e.g. up to 10% above the budgeted amount) to enable procurement managers to access this shared pool of funds if the overall monetary costs of the low-carbon options are higher and the emissions savings are considerable. Alternatively, internal budget frameworks could credit line areas with any life cycle cost savings from procurement decisions.

In Australia, both the NSW Government and ACT Government have introduced mechanisms that effectively reduce the upfront costs to a line area associated with green procurement. In NSW, the Choose Circular Program provides funding for government agencies to source and use recycled materials in procurement. In the ACT, government agencies can apply for interest free loans for emissions reduction projects. The Zero Emissions Government Fund enables agencies to then repay the loans through the money they save in energy bills, replenishing the fund at zero net cost to agencies.

**Recommendation 13:** Establish mechanisms to defray any additional upfront costs

## Building capacity across the system

Broad changes are required to support procurement reform in both the immediate and longer term. This includes ensuring that methods are in place to accurately measure the results of the green procurement policies, and that public procurement staff and businesses are aware of the opportunities and understand their roles and how to implement them. Finally, for a green public procurement policy to succeed in Australia, it will require some degree of harmonisation and cooperation across jurisdictions, which could most effectively be achieved through the Heads of Treasuries.

Monitoring initiatives to address climate change through public procurement and regularly publishing the results provides clarity around the effectiveness of such initiatives. These publications should provide a record of which contracts included sustainability factors and how, and information about the environmental impacts of purchasing decisions. In some other countries, yearly reports already exist to monitor green public procurement practices. In Scotland, public authorities must publish an *Annual Procurement Strategy* that includes information about how they intend to use procurement to address climate change and discloses their progress thus far.<sup>71</sup> Government agencies in South Korea must report annually on the green products they intend to purchase that year and their related performance records from the previous year.<sup>72</sup> The Commonwealth Government will publish aggregated government performance against the Environmentally Sustainable Procurement Policy annually, however this policy does not apply to all procurement.

Adoption of clear terminology that can be used across different government departments will be necessary for consistent measurement of progress on greening public procurement. To this end, efforts by the NSW Government on measuring emissions consistently, including through funding the NABERS Embodied Emissions Initiative, are encouraging.<sup>73</sup> The NABERS embodied emissions tool will measure and benchmark emissions from buildings, including new buildings and major

refurbishments, providing a consistent way to compare the environmental footprints of different buildings. The Infrastructure Sustainability Rating Scheme by the Infrastructure Sustainability Council is also useful for evaluating and comparing the environmental performance of infrastructure across the project delivery stages.<sup>74</sup> Governments should work with industry to develop agreed reporting guidelines for calculating emissions across public procurement. Additional efforts should be taken to clearly specify definitions and functions of different types of materials, goods and services for procurement.

**Recommendation 14:** Establish robust methods to measure results of green public procurement policies.

The introduction of new environmental criteria and processes for procurement may be unfamiliar to staff members responsible for procurement on behalf of government departments as well as businesses that make tenders. Staff may also find it challenging to balance the many government objectives that must be adhered to in procurement, including local, environmental and social aspects. Any long-term reform must include significant efforts to build capacity within the system.

Governments can play an active role in ensuring all stakeholders involved understand the new requirements by providing clear and consistent tools, frameworks and training to appropriately quantify and report on the emissions and other environmental aspects of projects. Training for staff can include instructions on how to verify environmental claims made by tenderers, to integrate environmental considerations in contracting processes, and to evaluate life cycle costs, and where to find assistance if help is required. Additionally, leadership teams must be trained and made accountable for delivering on sustainability outcomes. This could be ensured,

for example, by linking KPIs with achieving sustainability goals.

In other jurisdictions, support for procurement staff typically comes in the form of training and access to a helpdesk. Training in green public procurement is offered in countries such as South Korea and the US.<sup>75</sup> In the EU, public procurement teams can access the Green Public Procurement Training Toolkit, which offers various modules that can be used by procurement staff or incorporated in training.<sup>76</sup> Some jurisdictions have also set up help desks that can provide relevant information for government agencies, such as the Dutch Public Procurement Expertise Centre (PIANOo) and the EU Green Public Procurement Helpdesk.

**Recommendation 15:** Build capacity of public procurement staff and raise awareness of green procurement by businesses.

Intergovernmental collaboration between federal and state governments and harmonisation of parts of procurement and monitoring frameworks will be important parts of the long-term agenda to decarbonise public procurement. Currently, different levels of government as well as different departments within the same government exhibit varying levels of sophistication around their approach to lowering government emissions. Suppliers must answer different questions about their environmental credentials and provide different types of evidence when governments wish to integrate sustainability in their procurement. Many of the most carbon-intensive projects in Australia are funded by multiple levels of government, and so cooperation under a common framework would make reform easier and simpler.

One way to achieve broader inter-jurisdictional collaboration and greater consistency in decision-making would be through a workstream in Heads of Treasuries (or another interministerial group) dedicated to green public procurement. This would offer opportunities for jurisdictions to learn from one another and discuss ideas while elevating the importance of green procurement across governments. The group could discuss mechanisms and decision-making frameworks of

the type discussed in this report (such as internal carbon pricing or changes to Commonwealth-state funding frameworks). Requiring complete consistency in approaches across governments could stymie innovation. However there are aspects of green procurement where consistency may be appropriate, for example the workstream could seek to streamline frameworks for engaging with suppliers.

**Recommendation 16:** Establish a national workstream under the Heads of Treasuries or another interministerial group to promote collaboration in approaches to green procurement.

There are many policy objectives that public procurement may seek to achieve, including supporting gender diversity, Indigenous businesses, and small and medium enterprises. While all of these policy goals are important, it is counterproductive to leave it up to a procuring manager's judgement call to make trade-offs between these priorities. Low-carbon alternatives may at times not be available locally or may come at a higher cost, and this should not prevent their use as governments try to decarbonise their activities.

In the ideal case, when green procurement and local procurement are given equal priority, it creates incentives for governments and communities to invest in local low-carbon industries, a win-win. Countries including Canada and China, as well as regions such as the Australian Capital Territory, have successfully created local green jobs by designing policies to persuade investors to invest in renewable energy within their jurisdictions. As discussed above, at the start of a green procurement journey it may be necessary to source at least some low-carbon goods from overseas. However, by creating certainty of demand and coupling this with other appropriate support measures, governments can send signals to local industries to incentivise and increase domestic production over time.

Governments can also take other steps to improve the viability of locally-sourced low-emissions materials. They can invest in R&D to drive down costs of low-emissions alternatives,

and in renewable energy to make energy grids less carbon-intensive (a key reason that many Australian goods have high scope 3 emissions is because they are made using fossil fuel electricity). For the federal government, funding for these initiatives could be linked to the National Reconstruction Fund and/or the Powering the Regions Fund, providing a “double win” in terms of delivering on climate and Australian jobs and manufacturing. At the same time, the federal government may consider applying a carbon border adjustment mechanism in procurement to ensure that environmentally-friendly local goods are able to compete with imported products or services that fail to meet the same environmental standards.<sup>77</sup>

**Recommendation 17:** Seek synergies between local and green public procurement.

## Conclusion

Unless governments act to reduce the emissions they are responsible for, it will be exceedingly difficult to meet climate change targets to limit global warming. Changes to public procurement processes aligned with a sustainable future will not only reduce emissions embodied in government activities, but can also kickstart new clean industries and boost innovation in these areas.

Integrating environmental factors into public procurement decisions is difficult and presents real challenges. These include the need to balance an environmental focus with other policy priorities, fiscal constraints placed on government budgets, and the importance of ramping up changes over time as new markets get to scale. This report provides a framework for an agenda to decarbonise public procurement, notably by considering emissions intensity in the costs of procuring goods and services, viewing public procurement as a key way to build a low-carbon industrial ecosystem, and ensuring that there is

an enabling environment capable of delivering change. The report also outlines next steps for policymakers: immediately by ensuring the use of recycled materials in road infrastructure where practicable, and, in the medium-term, by supporting the development of low-emissions industries in Australia. Any government in Australia could pick up this report and take these ideas forward, however we hope that the Heads of Treasuries will consider how they can collaborate on an approach.

Australian governments are becoming increasingly interested in aligning their purchasing decisions with climate change targets. Perhaps, most notably, it will not be possible to achieve decarbonisation targets unless action starts now to green government buying. Our hope is that the recommendations presented in this report will be useful for shaping what governments think is possible when designing procurement strategies that achieve policy goals.

## Appendix A: Green procurement initiatives by Australian governments

	Cth	NSW	VIC	QLD	SA	WA	TAS	ACT	NT
<b>Quick wins</b>									
Set clear scope 1 and 2 targets (rec 1)	Y	Y – for infrastructure	Y	Y – commitment	N	Y	N	Y	N
Set clear scope 3 target (rec 1)	N	N	N	N	N	N	N	N	N
Identify baseline emissions of procurement categories (rec 2)	Y – commitment	N	Y	Y – commitment	N	N	N	N – but general emission targets for projects	N
Strict requirements for recycled materials (recs 3 and 4)	N – but encourage use	Y – commitment	Y – for transport infrastructure	N – but encourage use	N – but encourage use	N	N – but encourage use	N – but encourage use	N
Setting minimum standards (rec 5)	Y – commitment for buildings	Y – commitment for transport projects	Y – for buildings and transport infrastructure	N	N	N	N	N	Y – commitment for buildings
Target for purchasing renewable electricity for government facilities (some link to rec 5)	Y	N	Y	N	Y	N	N/A <sup>(a)</sup>	Y	N
Commitment to fleet decarbonisation/EV purchasing (some link to rec 5)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Requirement for tenderers to provide sustainability information and emissions statistics (some links to recs 6 and 7)	Y – commitment for some procurement categories	N	Y – for transport infrastructure	Y – commitment for Olympic Games	Y – for some infrastructure projects	N	N	N	N
Two-way engagement with suppliers (recs 7 and 8)	Y – but not mandatory	N	Y – for transport infrastructure	N	Y – for infrastructure projects	N	N	N	N

## Green goods | Strategies for decarbonising government purchasing in Australia

	Cth	NSW	VIC	QLD	SA	WA	TAS	ACT	NT
Program to encourage innovation for low-carbon procurement (rec 8)	N	Y	N	N	N	N	N	N	N
<b>Changing systems long-term</b>									
Optional guidance to procuring managers recommending low-carbon options (general)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Internal carbon pricing (rec 11)	N	Y – in some CBA analyses; commitment for infrastructure	Y – for some investment business cases	N	N	N	N	N	N
Mechanisms to defray upfront costs or financially support agencies (rec 13)	N	Y – for recycled materials	Y – Greener Government Buildings program	N	N	N	N	Y	N
<b>Overarching framework</b>									
Requirement to report on results of green procurement initiatives (rec 14)	Y – for some procurement	Y – commitment for recycled content	N	N	N	N	N	Y – for some procurement	N
Steps to increase capability of staff (rec 15)	Y – C-SPARC team	Y – commitment to publish directory of recycled materials suppliers	Y – ecologiQ team (transport infrastructure)	N	Y – development of tools	N	N	Y – for all procuring staff and agencies	N
Steps to increase capability of suppliers (rec 15)	N	Y – commitment to publish pipeline of upcoming projects that use recycled materials	N	Y – commitment for Olympic Games and manufacturing	N	N	N	Y – Sustainable Business Program	N

**Sources:** Various government websites and feedback from government departments; CPD analysis

**Notes:** (a) Tasmania's energy production is already almost entirely from renewable sources, so therefore this would not be a priority area of focus for Tasmania.

## Appendix B: Methods for case studies

### B.1. Methods for Table 1

Emissions, costs and employment figures are based on research by the Australian Road Research Board.<sup>78</sup> The emissions reductions include savings from displaced landfill. The employment figures include both more jobs in recycling and less jobs in disposal and landfill. The expected demand for the materials are from Infrastructure Australia’s current technology medium forecast scenario (which assumes existing science, technologies and regulations).<sup>79</sup> To account for schedule slippage in the infrastructure pipeline,<sup>80</sup> projects from 2024 onward are included.

### B.2. Methods for Table 2

We calculate cost impacts using measures of green premiums from both McKinsey and Mission Possible Partnership.<sup>81</sup> McKinsey has produced high and low green premiums for steel over 2025-2030; the green premium for Mission Possible is for 2030. There are many different types of “green” steel: the McKinsey calculations appear to be based on flat steel with less than 0.6 tCO<sub>2</sub> per tonne of steel (this is not entirely clear in their work), while the Mission Possible values are for 100% green hydrogen DRI-EAF. We assume a currency conversion rate – from USD to AUD – of 1.5. We calculate greenhouse gas emission impacts using research by Mission Possible Partnership.<sup>82</sup>

### B.3. References for public infrastructure projects in Table 2

Project example	Quantity of steel	Cost of project
Optus Stadium	OneSteel Reinforcing, ‘ <a href="#">Optus Stadium built with InfraBuild steel named ‘world’s most beautiful’</a> ’, Architecture Design, 2020	J Kagi, ‘ <a href="#">The new Perth Stadium: What will WA get for \$1.6 billion?</a> ’, ABC News, 2017
Inland Rail	‘ <a href="#">What is Inland Rail</a> ’, Australian Government, 2023	K Schott AO, <i><a href="#">The delivery of Inland Rail: An independent review</a></i> , Commonwealth of Australia, 2023
New Royal Adelaide Hospital	‘ <a href="#">The New Royal Adelaide Hospital</a> ’, Form700, 2020	R Puddy, ‘ <a href="#">New women’s and children’s hospital could cost twice Royal Adelaide Hospital per bed, estimate shows</a> ’, ABC News, 2018
Westgate Distributor Pedestrian Bridge	‘ <a href="#">Westgate Distributor Pedestrian Bridge</a> ’, Thornton Engineering, 2023	J Gordon, ‘ <a href="#">Work starts on Westgate Distributor with new cycle bridge</a> ’, The Age, 2016

## Endnotes

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<sup>1</sup> [‘Transitioning to green government procurement practices could cut 15% of global greenhouse gas emissions’](#), Boston Consulting Group, 2022.

<sup>2</sup> M Bleda and J Chicot, [‘The role of public procurement in the formation of markets for innovation’](#), *Journal of Business Research*, 2020; J Grandia and J Meehan, [‘Public procurement as a policy tool: Using procurement to reach desired outcomes in society’](#), *International Journal of Public Sector Management*, 2017.

<sup>3</sup> [Green public procurement: Catalysing the net-zero economy](#), World Economic Forum, 2022.

<sup>4</sup> [Replacement materials: Understanding the market for replacement materials across major infrastructure road projects](#), Infrastructure Australia, 2023.

<sup>5</sup> [Best practice expert advice on the use of recycled materials in road and rail infrastructure: Part B sustainability impacts report](#), Australian Road Research Board, 2022.

<sup>6</sup> It is unclear from the OECD statistics how much of this is spent by each level of government.

<sup>7</sup> [‘Statistics on Australian Government procurement contracts’](#), Australian Government, 2023.

<sup>8</sup> [‘Australian infrastructure budget monitor 2023-24’](#), Infrastructure Partnerships Australia, 2023.

<sup>9</sup> [‘Infrastructure investment’](#), OECD, 2023.

<sup>10</sup> [Infrastructure market capacity 2022 report](#), Infrastructure Australia, 2023.

<sup>11</sup> See for example the reference in endnote 3.

<sup>12</sup> [‘Size of public procurement – Government at a glance quantitative indicators, yearly updates’](#), OECD, 2024.

<sup>13</sup> [Budget paper no. 3, Federal Financial Relations, Budget 2023-24](#), 2023.

<sup>14</sup> See the reference in endnote 3.

<sup>15</sup> [‘Steps to develop a buy clean policy’](#), Carbon Leadership Forum, 2020.

<sup>16</sup> [‘Buy Clean California Act’](#), California Department of General Services, 2023.

<sup>17</sup> [Queensland procurement policy 2023](#), Queensland Government, 2023.

<sup>18</sup> See the reference in endnote 3.

<sup>19</sup> [‘Climate-related financial disclosure: exposure draft legislation’](#), Treasury, 2024.

<sup>20</sup> T Koutsantonis MP, [‘Sustainable procurement an important step towards net zero emissions’](#), 2023.

<sup>21</sup> [‘The climate change \(duties of public bodies: reporting requirements\) \(Scotland\) amendment order 2020’](#), Scottish Parliament, 2020.

<sup>22</sup> [‘Government emissions interim target’](#), WA Government, 2022.

<sup>23</sup> [Net zero in government operations strategy](#), Department of Finance, Australian Government, 2023.

<sup>24</sup> [Whole of Victorian Government emissions reduction pledge](#), Department of Environment, Land, Water and Planning, Victorian Government, 2021.

<sup>25</sup> [Green public procurement in the Republic of Korea: A decade of progress and lessons learned](#), United Nations Environment Programme, 2019.

<sup>26</sup> [Building a more circular Australia: The opportunity of transitioning to a circular economy](#), PwC, 2021.

<sup>27</sup> M Simas et al., [The future is circular: Circular economy and critical minerals for the green transition](#), SINTEF, 2022.

<sup>28</sup> [2023 infrastructure market capacity report](#), Infrastructure Australia, 2023.

<sup>29</sup> Granulated blast-furnace slag and fly ash are likely to only be available in the short-term, given the decarbonisation pathways of their source industries.

<sup>30</sup> CPD analysis based on references in endnotes 4 and 5.

<sup>31</sup> [‘Spotlight on low carbon concrete’](#), MECLA, 2022.

<sup>32</sup> [A guide to low carbon concrete in Australia](#), MECLA, 2024.

<sup>33</sup> [National Partnership Agreement on Land Transport Infrastructure Projects](#), Federal Financial Relations, 2019.

<sup>34</sup> [‘Infrastructure Australia Amendment \(Independent Review\) Bill 2023’](#), Parliament of Australia, 2023.

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- <sup>35</sup> [Infrastructure policy statement](#), Australian Government, 2023.
- <sup>36</sup> See reference in endnote 4.
- <sup>37</sup> See references in endnotes 4 and 5.
- <sup>38</sup> C Chereil-Bonnemaison et. al., [‘Buying into a more sustainable value chain’](#), McKinsey & Co, 2021.
- <sup>39</sup> [Guide to best practice: Pathway to green construction procurement](#), Australasian Procurement and Construction Council, 2023.
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