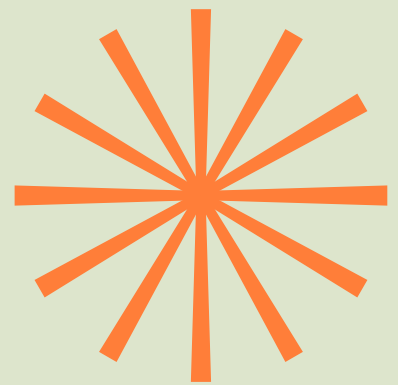
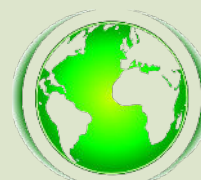


# Summary for Policymakers

Green Public Procurement of  
Steel in India, Japan and  
South Korea



**Climate  
Catalyst**

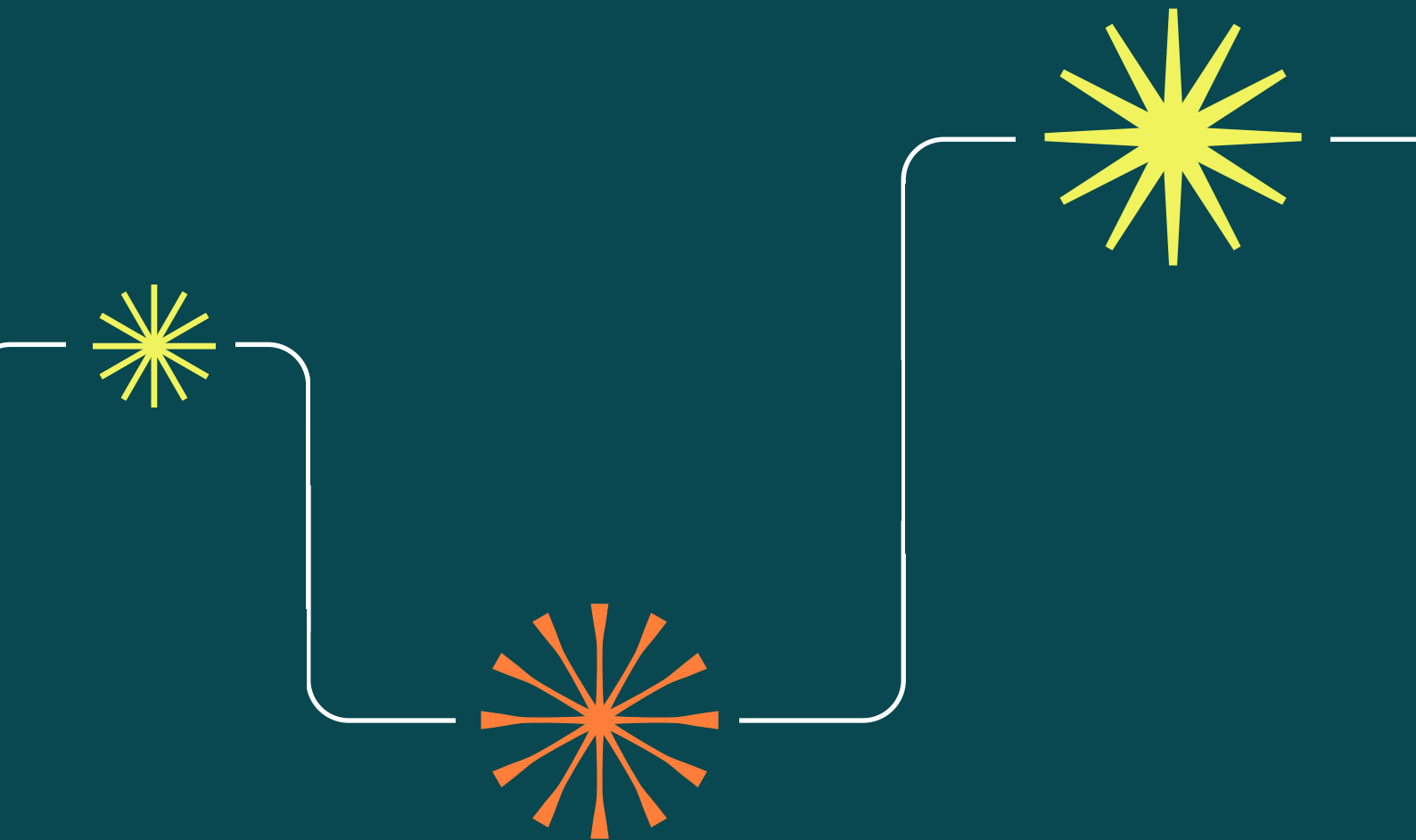


**Global  
Efficiency  
Intelligence**

# About Climate Catalyst

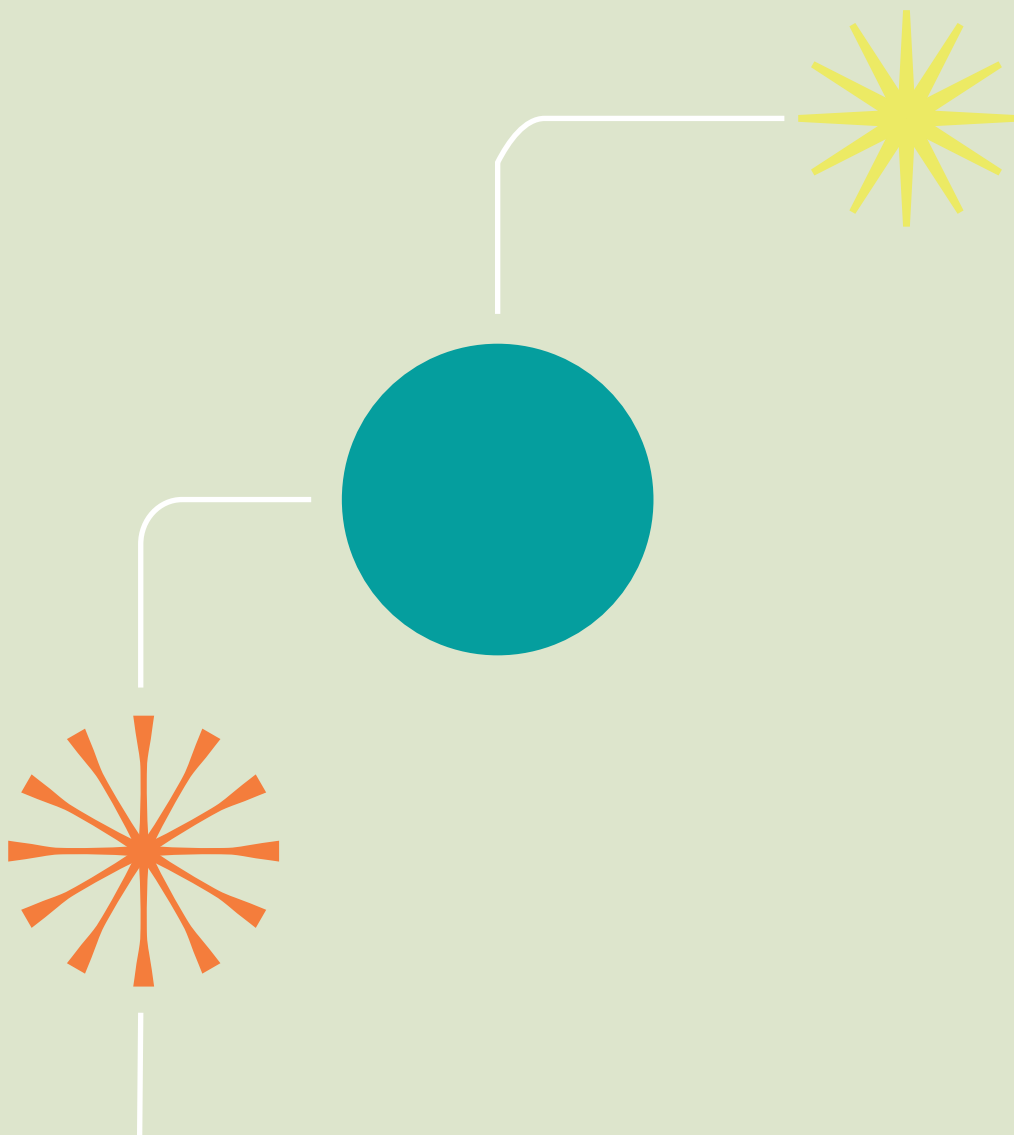
Climate Catalyst works to compel our political leaders to take action at speed and scale. We do this by galvanising the collective power of businesses, investors and civil society to influence and accelerate policy change. Working behind the scenes we bring together new and diverse stakeholders to identify opportunities with the greatest potential for collaboration, share ideas and learnings and deliver creative campaigns that build power and secure decisive action by governments that reduce greenhouse gas emissions. Our vision is for a just, prosperous world in which global temperature rise is limited to 1.5°C.

Find out more at [www.climatecatalyst.org](http://www.climatecatalyst.org), on Twitter [@climacatalyst](https://twitter.com/climacatalyst) or email [info@climatecatalyst.org](mailto:info@climatecatalyst.org).



# Executive Summary

The following executive summary has been taken from Global Efficiency Intelligence's report: "[Green Public Procurement of Steel in India, Japan and South Korea.](#)"



The global steel industry accounts for around seven per cent of global greenhouse gas (GHG) emissions and 11 per cent of global CO<sub>2</sub> emissions. Substantial cuts in energy demand and CO<sub>2</sub> emissions of the global steel industry will be needed by 2030 and thereafter for the world to reach the target of the Paris Climate Agreement: to limit global warming to “well below” 2°C.

Governments in India, Japan, and South Korea spend billions of dollars each year on public procurement: the purchase of goods and services by public authorities such as government departments. This large-scale purchasing power gives governments leverage in driving markets toward the development of low-carbon products such as steel used in construction projects.

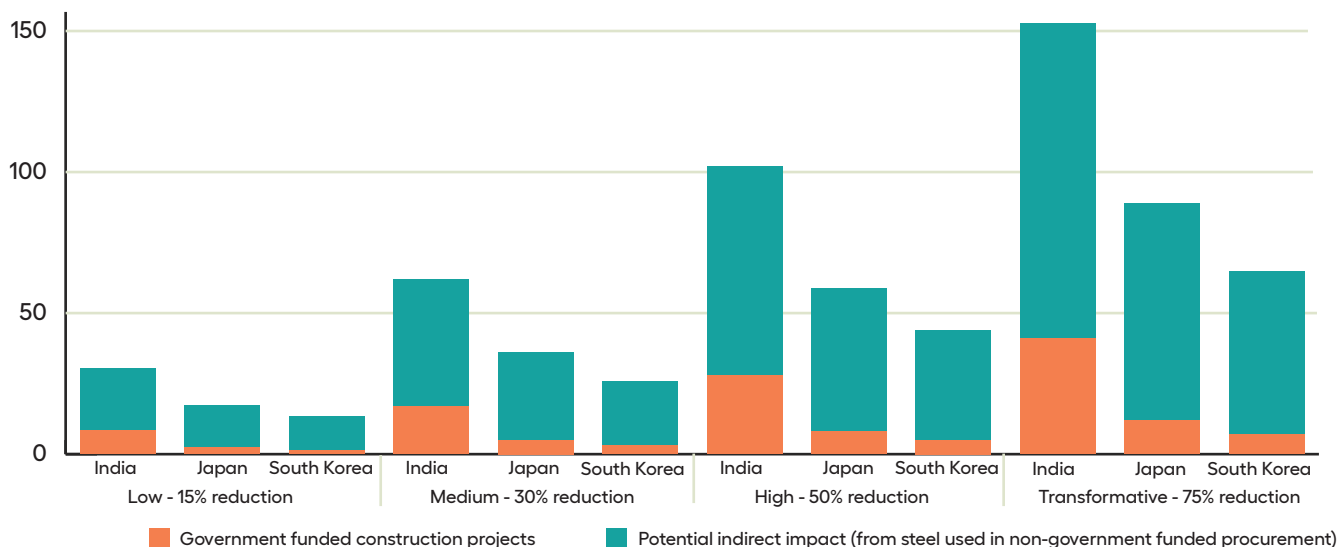
Green public procurement (GPP) is a policy instrument where public entities seek to procure goods with a reduced environmental impact throughout their lifecycle relative to similar goods that provide the same function. GPP adoption is increasing around the world as national governments, sub-national governments, and multilateral entities develop policies to reduce their carbon footprints and create new low-carbon markets.

This report focuses on three case studies of green public procurement of steel in India, Japan, and South Korea. India, Japan, and South Korea are the 2nd, 3rd, and 6th largest steel-producing countries, respectively. These three countries are among the nations with some of the highest CO<sub>2</sub> emissions intensity for their steel industry. This is mainly driven by low share of scrap-based electric arc furnace (EAF) steel production in these countries.

Total steel consumption in Japan and South Korea has remained almost flat in the past decade, while the total steel consumption in India has increased by 63 per cent between 2010 and 2021. It is estimated that steel consumption in India could increase by over four times to around 500 million tonnes (Mt) by 2050. Government-funded construction and infrastructure projects accounted for around 27 per cent, 13 per cent, and 11 per cent of total steel demand in India, Japan, and South Korea in 2019, respectively. The government in these countries can use this purchasing power to stimulate demand for green steel products, especially in India where the share of public procurement of steel is higher.

We estimated the CO<sub>2</sub> emissions associated with steel used in public construction projects and the potential impact of a GPP policy to reduce those emissions. Public procurement of steel in India, Japan, and South Korea accounted for approximately 55 Mt CO<sub>2</sub>, 15 Mt CO<sub>2</sub>, and 10 Mt CO<sub>2</sub> emissions in 2019, respectively. The below shows the annual CO<sub>2</sub> emissions reduction potential resulting from GPP of steel in these three countries.

Annual CO<sub>2</sub> emissions reduction potential resulted from GPP of steel in India, Japan, and South Korea



Note: Potential indirect impact assumes that changes in steel plants to reduce CO<sub>2</sub> emissions would impact the CO<sub>2</sub> intensity of all steel products produced and sold, even to non-government-funded projects.

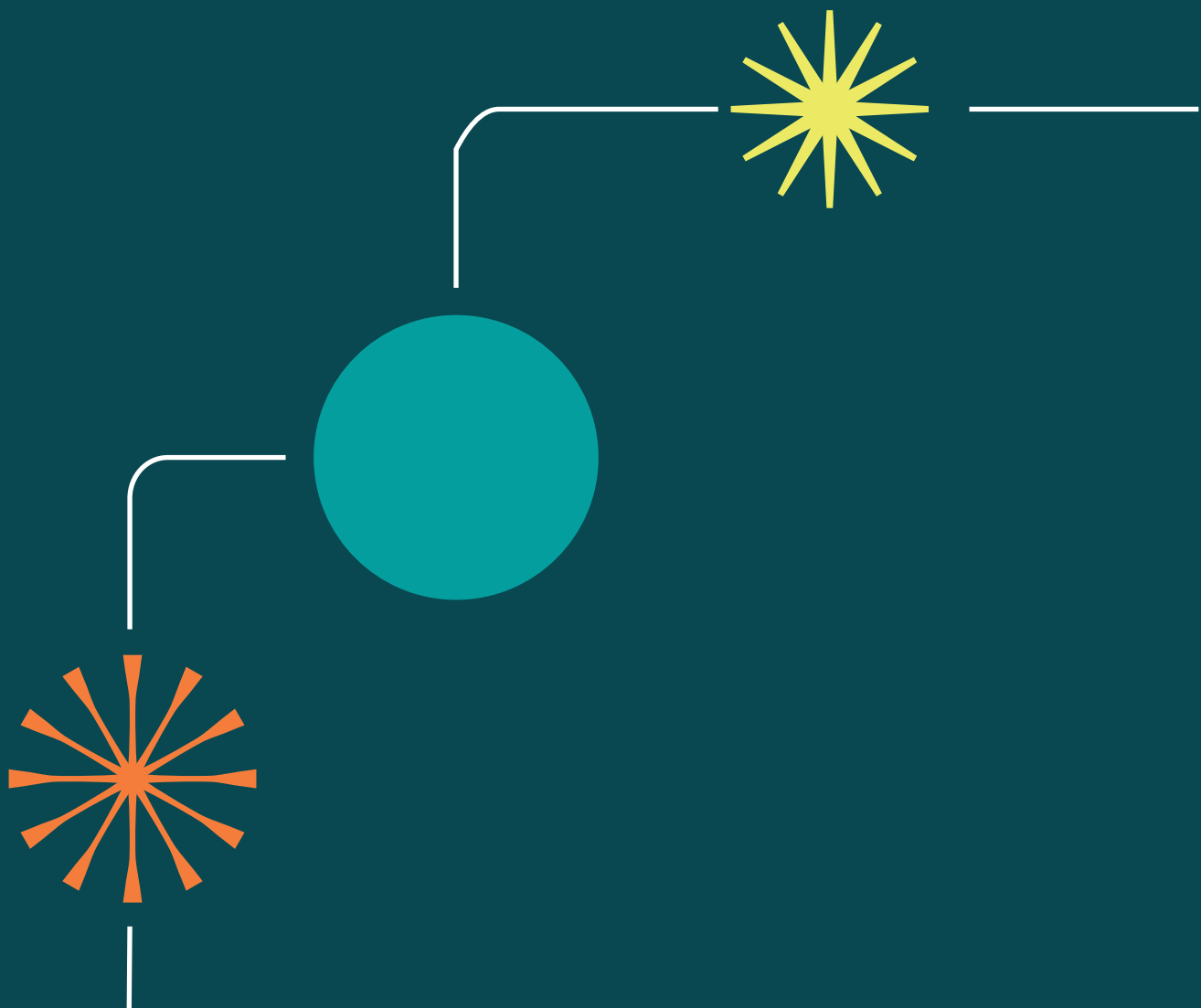
While GPP has political support in these three countries, the pace of implementation could be improved. Japan and South Korea already have well-established GPP programmes, but they do not include carbon criteria for steel products. India, however, is further behind and needs to further develop and deploy a coherent national GPP policy which also includes carbon criteria for steel products. Some of the challenges include consistent emissions reporting standards, establishing feasible quantitative limits on embodied carbon, decentralised procurement, carbon leakage.

Applying learnings from international best practices, we make the following recommendations for a GPP policy for steel in India, Japan, and South Korea:

- Accelerate the creation of the life cycle emissions inventory. This is a crucial step to enable reliable reporting of emissions data and the use of environmental impact in bid evaluation.
- The central government should examine international best practices and evaluate different models to promote or ensure the uptake of GPP at the sub-national level, including creating a mandatory federal backstop programme similar to carbon pricing; developing robust national GPP programme; and encouraging states/provinces and municipalities to adopt GPP through funds or incentives aimed to top-up spending on infrastructure investments that use green steel products.
- National GPP policy should move quickly to prevent fragmented GPP policies across provinces/states and municipalities. It is easier to build a harmonised framework now than in a few years when more sub-national governments will have their own GPP programmes.
- Targets should use a two-tiered approach to promote innovation while maintaining feasibility. Targets should be performance-based, preferring whole-project over product-level analysis where possible. Standards should be adjusted at regular intervals to reflect changes in technology to incentivise innovation continually.
- Build a national team to help national and sub-national agencies implement green steel procurement. This team should build expertise on embodied carbon, lifecycle analysis, and tender creation, publish online resources, and act as consultants to public agencies.
- Invest in tools and capacity-building programmes that can be used by sub-national governments and private entities that have low administrative capacity. Many provinces/states and cities with smaller bureaucracies do not have the time and resources to invest in training for GPP procurement. This, paired with the significant amount of procurement that happens at the sub-national level, underscores the importance of the national GPP programme investing in tools that automate and simplify the implementation of the GPP policy.
- Build out a portfolio of policies that support industrial decarbonation. A carbon border adjustment mechanism (CBAM) can protect green steel manufacturers from competitors whose prices do not reflect negative environmental externalities. Carbon contracts-for-differences (CCfD) can remove uncertainty over future carbon prices. With GPP creating a demand signal for green steel products, loans and grants for manufacturers can close the loop by helping the supply side pay upfront costs for retrofitting and retraining.

GPP can catalyse significant carbon emissions reductions in the steel industry by acting as a signal of durable demand. This complements ongoing industrial decarbonisation policies in India, Japan, and South Korea by demonstrating demand for the growing supply of green steel. Together, these policies can make the steel industry in these countries more globally competitive in the growing market of green steel products. This is especially important and timely as other jurisdictions such as the European Union and U.S. adopt and strengthen their green public procurement policies.

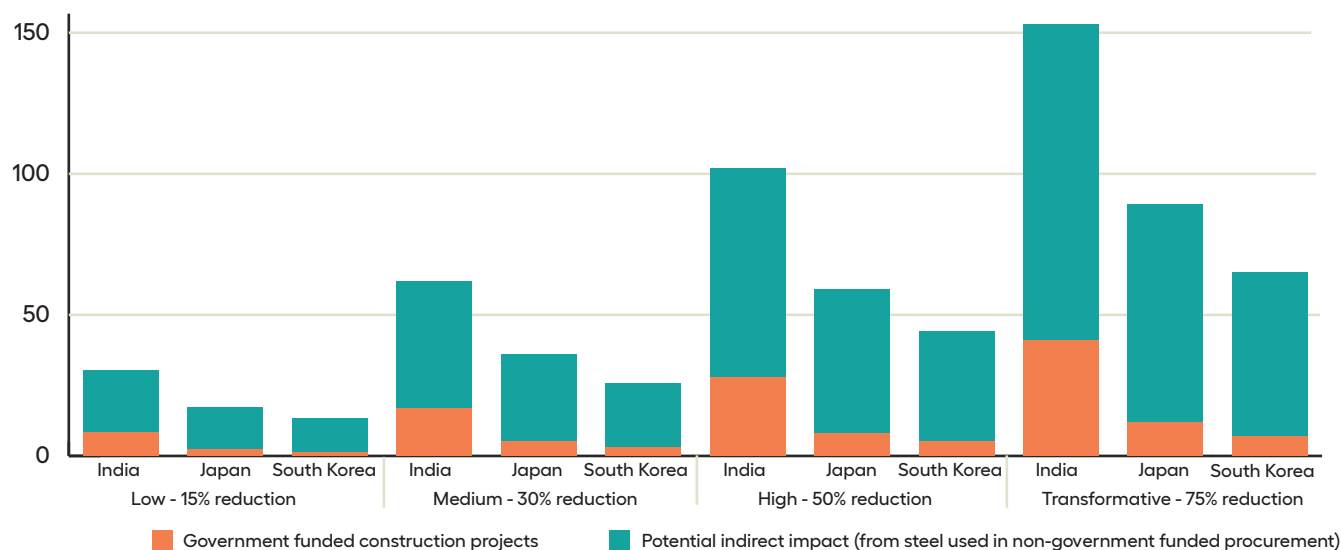
# Summary for Policymakers



The International Energy Agency recently advised that to limit temperature rise to 1.5°C, the steel and iron industries must reduce emissions 90 per cent by 2050 as compared to 2021 levels. To enable this transformation, leaders must embrace a suite of policy and technological shifts. As the above Executive Summary and Global Efficiency Intelligence’s full report: “Green Public Procurement of Steel in India, Japan, and South Korea” show, GPP can play an important role in stimulating demand for green steel products.

Moreover, GPP can result in overall industrial emissions reductions where policies include industry-level targets, as well as product-specific targets. The scenario assessments in the report estimate that GPP for steel could deliver emissions reductions at four times higher in India, eight times higher in Japan, and nine times higher in South Korea, where potential indirect impacts from private steel procurement are also taken into account.

### Annual CO2 emissions reduction potential resulted from GPP of steel in India, Japan, and South Korea



Note: Potential indirect impact assumes that changes in steel plants to reduce CO2 emissions would impact the CO2 intensity of all steel products produced and sold, even to non-government-funded projects.

The report advocates a number of intersecting and standalone GPP policies. It also recommends the conditions that must be in place that enable successful GPP implementation for steel. They include:

**Build out a portfolio of policies that support industrial decarbonisation.** Carbon Border Adjustment Mechanisms (CBAMs) can protect low-carbon steel manufacturers from losing market share to competitors whose prices do not take into account climate consequences. Carbon Contracts for Difference (CCfDs) can remove uncertainty over future carbon prices.

**Continue to invest in industrial transformation and in manufacturing dependencies.** With GPP creating a demand signal for low-carbon steel products, financial support for manufacturers can help the supply side afford the necessary upfront costs for the transformation. Furthermore, public investment in clean energy supply chains, deployment of renewables, green hydrogen, improved energy storage, and grid modernisation will help steel manufacturers reduce emissions and lower costs in the long term.

Among the suite of GPP policies the report recommends, it is crucial to:

**Harmonise federal level policy to prevent inconsistency in sub-national policies.**

National/Federal GPP should move quickly to establish common reporting standards to ensure harmonisation across regions and subnational policies. This will significantly simplify the bidding process for suppliers and avoid repeated work; it will be unnecessary for subnational entities to conduct their own analyses.



**Design GPP with subnational governments in mind; provide support for sub-national governments and the private sector.**

National GPP should include investment in creating training materials and programmes to build capacity at all government levels, and for the private sectors. National experts familiar with GPP should assist sub-national governments and private entities in implementing green procurement, and this could be scaled into online resourcing and consulting to other public agencies.

Additionally, governments should engage private sector stakeholders in the process of GPP programme design to ensure it incorporates the specifics of each sector in mind. The steel industry may already have voluntary standards that can be fractured into evaluation criteria, and existing industry experience in measurement and reporting is an important resource.



**Promote innovation while maintaining feasibility by using a tiered approach.**

Setting initial environmental criteria at the industry average ensures GPP is realistic, while a second tier can be set at a higher percentile to reward innovative low-carbon materials. In practice, procurers can apply this more ambitious tier to a percentage of purchases, and each procuring agency chooses which projects are subject to the higher standards. Alternatively, the first tier can be a required minimum standard while the ambitious tier is rewarded through a discount applied to the project price, giving these projects a competitive advantage.







### **Develop and utilise tools offering capacity building programmes to automate and simplify GPP process and implementation.**

Creating a suite of tools for subnational actors simplifies GPP implementation, making it easier for procurement officials at all levels of government to prioritise environmental objectives. National government should invest in software tools that simplify creating GPP tender documents, evaluating bids that reward emissions reductions, and monitoring during construction. The private sector can also adopt these tools if they are open-sourced.



### **Quickly develop emissions reporting standards and industry-wide environmental product declarations (EPDs).**

This is central to successful GPP implementation. Standard, accurate data is necessary to compare products and embodied emissions against one another.



### **Use performance-based standards over prescriptive standards where possible.**

Focusing on the outcome, rather than the pathway to the outcome gives the bidder the flexibility to consider trade-offs between cost, embodied emissions, and durability of materials. It allows for comparison across materials rather than prescribing technical details.



### **Ratchet up standards over time.**

Governments should adjust GPP targets to reflect new industry capabilities as technology advances. This ensures that GPP continues to promote green development and innovation, and continues to reward first movers.

Global momentum on industrial decarbonisation has set in motion technological innovations, trade shifts, and opened up a raft of policy programmes. Governments can implement GPP now to set their national and subnational trajectories in order to stimulate demand, signal markets, spur innovation, and put the steel industry on a transformative, sustainable pathway.

