



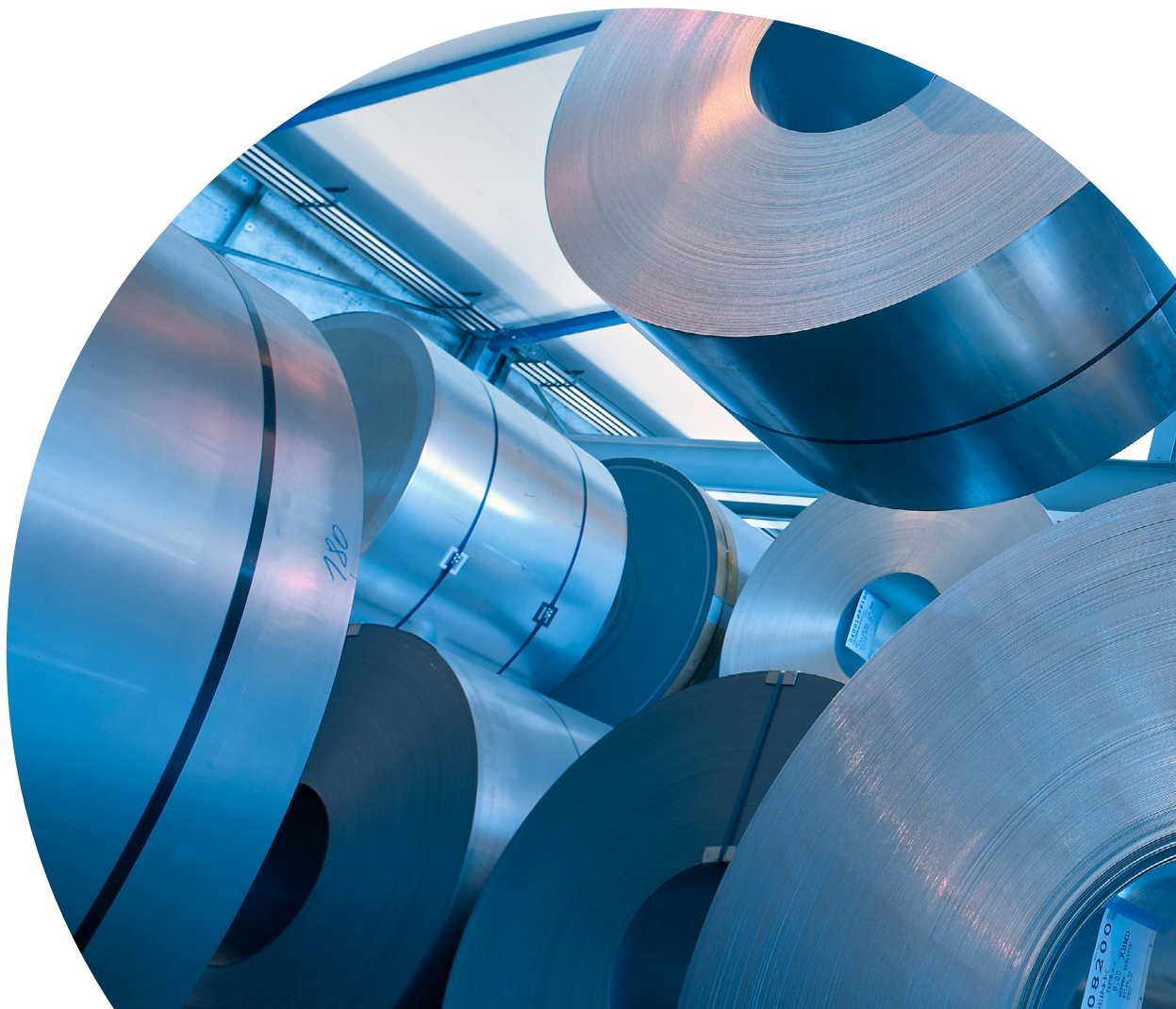
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# Compliance and Programme Evaluation for Green Public Procurement

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# 1. Compliance

While environmental targets can be a valuable signal to markets about future demand for green industrial products such as steel and cement, they cannot reduce emissions alone. The most successful green public procurement (GPP) programmes are those that reinforce targets with effective monitoring, enforcement and reporting mechanisms.

## Monitoring

Measurement and verification protocols should be clearly defined to ensure that the proposed environmental impact reductions are achieved during project construction. Examples of such protocols include the tenderer providing monitoring and tracking data to the contracting authority on a regular basis, spot checks by technical authorities and third-party certification.

Through surveying international best practices for GPP monitoring, we found that few countries have clearly defined policies for measurement and verification after bid evaluation. This is due to the technical difficulty of monitoring emissions throughout the supply chain, especially for large-scale infrastructure projects that can involve many different suppliers and subcontractors using a mix of domestic and imported products. It is very difficult to identify whether a subcontractor uses a different material with higher embodied emissions than the amount stated in the bid.

The European Commission addresses this problem by defining verification protocols for each criterion. For example, the incorporation of recycled content in concrete is verified through factory production control documentation provided by the tenderer that describes how the re-use composition is calculated. Some of the EU's GPP criteria requires the contracting authority to monitor performance as the build progresses. For instance, the criterion for buildings includes a requirement that caps the amount of site waste produced at 11 tonnes per 100m<sup>2</sup> gross internal office floor area. EU GPP criteria promote the use of contract performance clauses to address this. A monitoring process must be communicated through clauses in the invitation to tender to ensure the tenderer agrees to compliance measures. These are defined on a project-by-project basis (European Commission, 2021).

## Enforcement

If the monitoring protocol finds a contractor has not met their environmental obligations, a clearly defined enforcement protocol should be employed. Recourse may be required from the tenderer in the form of remediation through rebuilding, fines against the contractor and/or project cancellation. Introducing a legal framework for GPP may be necessary to enable the prosecution of negligent actors.

In the Netherlands, the onus is on the contractor to demonstrate that the proposed emissions reductions targets have been achieved. A performance discount rate is awarded based on the environmental impact of the proposed bid. If the reductions are not achieved, the penalty is 1.5 times the original price reduction. For example, if the contractor was awarded a 5 million EUR price reduction on its quoted price during the bid assessment but failed to achieve results, the sanction would allow the procuring agency to pay the contractor 7.5 million EUR less than the submitted quote price (OECD, 2015). This applies to the discounts granted for both the DuboCalc environmental cost indicator (ECI) value and the CO<sub>2</sub> Performance Ladder certification, which are discussed in detail in section 3 of this report.

## Reporting to a central body

Purchases made which follow GPP guidelines should be reported to a central body. Procuring agencies are typically spread across government functions and jurisdictions, making it difficult to evaluate the overall impact of GPP. Agencies should aggregate their purchases and report GPP data to a central body on a regular basis. This reporting process can be streamlined through a data tracking system or a standardized reporting form.

In South Korea, the digitized KONEPS is used to track most green procurement purchases. KONEPS is linked to the Green Product Information Platform (GPIP), which aggregates green procurement data from different agencies for reporting. In Japan, there is no digitized data tracking system. Instead, the Ministry of the Environment has prepared a standardized reporting form that each ministry must submit at the end of the fiscal year (FY). Using this data, the Ministry of the Environment compiles and aggregates the results for the central government (UNEP, 2017).

## 2. Programme evaluation

A valuable addition to GPP policy is a protocol that mandates regular evaluation of the programme and adjusting targets where necessary, making the GPP programme iterative by design. Key indicators for review should include reductions in environmental impact, quantitative targets and carbon leakage.

### Reduction of greenhouse gas emissions

The most important aspect of a GPP programme to evaluate is how effective it is at reducing the environmental impact of public purchases. One way to quantify performance is to compute the percentage of total procurement that followed GPP guidelines. Another is to sum the value of all these projects. These measures are relatively easy if agencies keep records of their procurements. It is much harder to measure the impact on GHG emissions, or in the case of cement and steel, the reduction of embodied emissions. Below we examine the approaches Japan and South Korea have taken to measure emissions reductions induced by GPP.

Japan has developed an emissions reduction estimation process that is carried out annually for purchases made by central government agencies. These agencies must track procurement of all eligible products and report the aggregated results to the Ministry of the Environment at the end of each FY. For the 260+ products covered by Japanese GPP policy, the environmental impact is calculated for 19 product categories, including building materials. For each product category, an average green product is defined using the minimum green specifications set in the GPP policy as a reference. The share of green purchases is compared to the level of GPP in 2000, the year prior to the enforcement of the Act on Promoting Green Procurement. However, as no GPP data is available from 2000, the baseline is assumed to be the share of green products in the domestic market that year. A conversion factor is estimated from product-specific reduction of emissions (UNEP, 2019).

*CO<sub>2</sub> eq reduction = total number of products purchased during the year \* (% that is green – % of market share of the green product in 2000) \* conversion factors of the green product characteristics to CO<sub>2</sub> eq emissions \* years of use of the product*

For example, in FY2016, the market share of blast furnace cement was 20.3% compared to the baseline of 24.4% in FY2000. The average green product for blast furnace cement was defined as cement containing 45% blast furnace slag. A conversion factor was estimated based on the mitigated emissions from the use of recycled content. CO<sub>2</sub> emissions reduction for blast furnace cement and concrete was estimated to be around 260 kt CO<sub>2</sub> in FY2016 (Japan Ministry of the Environment, 2017).

In South Korea, the reduction of CO<sub>2</sub> equivalent emissions is calculated by comparing eco-labelled products to conventional products using life cycle assessment data. The estimation is calculated for 19 product categories, including recycled slag products in construction materials. About 1kg of recycled slag product is estimated to have a CO<sub>2</sub> equivalent emissions reduction factor of 0.668 kg due to use of recycled content. The product of the reduction factor and the actual number of units procured gives the estimated emissions reduction. Using this method across the 19 product categories for which data is available, the total emissions reduction in 2017 is estimated to be 665 kt CO<sub>2</sub>-eq (UNEP, 2019).

## Adjusting GPP targets over time

As technological advancements are made over time and industry becomes more efficient, GPP targets should be adjusted to reflect new industry capabilities. This ensures that GPP is always promoting green development and innovation.

Maximum global warming potential (GWP) standards can be lowered at two- or three-year intervals. There are two potential models for achieving the rate of change. The first is a percentage reduction using the initial value as a baseline in order to reach nationally determined contributions, such as zero carbon by 2050. The second is to reduce the value based on the new industry average to the extent that the maximum GWP continuously reflects the 80th percentile of industry performance. Figure 1 shows how these pathways would change the GWP limit over time (Carbon Leadership Forum, 2020).

**Option 1 (% Reduction from baseline)** provides a straightforward path for aligning with 2030 and 2050 climate targets for reducing emissions. The updated values are predictable in advance, giving manufacturers and practitioners time to prepare for compliance.

**Option 2 (Re-evaluate and update)** reduces the risk of small businesses or and less advanced regions being pushed out before they can comply. This policy should be paired with other tools to drive reductions. Values are less predictable, giving manufacturers less time to prepare to meet targets.

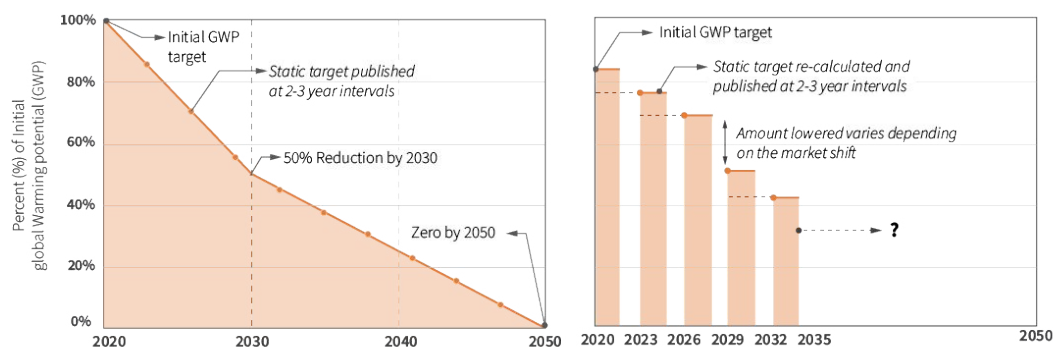


Figure 1. Two options for reducing maximum global warming potential limits over time.

Source: Carbon Leadership Forum 2020, [Steps to Develop a Buy Clean Policy](#)

The US state of California has introduced a procedure for reviewing GWP standards into its GPP legislation. The Department of General Services is responsible for setting the maximum GWP for each eligible material based on the industry average. The department must review the maximum threshold for each material every three years and may adjust the number to a more stringent threshold to reflect industry improvements (California Department of General Services, 2021).

## Prevention against carbon leakage

One concern of industry stakeholders is that GPP can lead to carbon leakage. If domestic companies are required to meet environmental regulations that suppliers in other countries can avoid, their products may come at a price premium that causes consumers to search for cheaper options abroad. This would not have the desired effect of reducing emissions as emissions would simply be shifted to another country. It would also cause job losses through offshoring manufacturing. GPP policy must apply to both domestic and imported products to mitigate this risk. GPP programmes should regularly review the impact of GPP on offshoring in both the public and private sectors to identify emissions leakage. If significant leakage is found, a carbon tariff or a similar measure may be applied.

## 3. Recommendations

Based on best practices, we make the following recommendations for the compliance and evaluation of GPP programmes to reduce embodied emissions in cement, concrete and steel products:

- Define a measurement protocol in the contract to verify that the proposed environmental impact reductions are met.
- Create a policy for enforcement that outlines legal recourse when tenderers do not perform as promised.
- Establish a central body responsible for estimating the overall impact of GPP policy on GHG emissions which can receive reports from all government agencies with aggregate purchases.
- Review, on a two- to three-year basis, targets that have been set to lower the maximum acceptable GHG limits. With the initial value as a baseline, adjust the number to a more stringent threshold to reach net-zero.

## References

- California Department of General Services (2021). Buy Clean California Act. <https://www.dgs.ca.gov/PD/Resources/Page-Content/Procurement-Division-Resources-List-Folder/Buy-Clean-California-Act>
- Carbon Leadership Forum (2020). CLF Embodied Carbon Policy Toolkit. <https://carbonleadershipforum.org/clf-policy-toolkit/>
- European Commission (2021). Green Public Procurement. [https://ec.europa.eu/environment/gpp/index\\_en.htm](https://ec.europa.eu/environment/gpp/index_en.htm)
- Japan Ministry of the Environment (2017). Achievements of green purchasing by national organizations and their environmental load reduction effect (in Japanese). [https://www.env.go.jp/policy/hozen/green/g-law/jisseki/reduce-effect\\_h28.pdf](https://www.env.go.jp/policy/hozen/green/g-law/jisseki/reduce-effect_h28.pdf)
- Organisation for Economic Co-operation and Development (OECD) (2015). Going Green: Best Practices for Sustainable Procurement. [https://www.oecd.org/gov/ethics/Going\\_Green\\_Best\\_Practices\\_for\\_Sustainable\\_Procurement.pdf](https://www.oecd.org/gov/ethics/Going_Green_Best_Practices_for_Sustainable_Procurement.pdf)
- UN Environment Programme (UNEP) (2017). Comparative Analysis of Green Public Procurement and Ecolabelling Programmes in China, Japan, Thailand and the Republic of Korea: Lessons Learned and Common Success Factors. [https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNEP\\_green\\_public\\_procurement\\_ecolabelling\\_China\\_Japan\\_Korea\\_Thailand\\_report.pdf](https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNEP_green_public_procurement_ecolabelling_China_Japan_Korea_Thailand_report.pdf)
- UN Environment Programme (UNEP) (2019). Green Public Procurement in the Republic of Korea: A Decade of Progress and Lessons Learned. <https://www.oneplanetnetwork.org/resource/green-public-procurement-republic-korea-decade-progress-and-lessons-learned-0>