



Standards and Evaluation Guidelines for Green Public Procurement

Ali Hasanbeigi and Dinah Shi

A White Paper

October, 2021



Contents

1. Environmental impact quantification methods and reporting standards.....	3
Environmental product declarations.....	3
Eco-labels	4
2. Evaluation tools and guidelines	4
3. Support structures	5
Education and capacity building	5
Investment in cleaner manufacturing	6
Small and medium-sized enterprises.....	6
Financial incentives.....	6
4. Recommendations	7
References	8

1. Environmental impact quantification methods and reporting standards

Environmental impact quantification methods and reporting standards are needed for procuring agencies to evaluate and compare the environmental impact of products. Most green public procurement (GPP) programmes use environmental product declarations (EPDs) or eco-labels as an environmental impact reporting standard.

Environmental product declarations

EPDs are documents developed to communicate the environmental impact of products in a clear and comparable format. They are a standardized way of reporting the results of a life cycle assessment (LCA) on a specific product or process. EPDs are classified as Type III environmental declarations as defined in the ISO 14025 standard, which is based on the ISO 14040 standard on LCA. ISO 14025 also introduces the concept of Product Category Rules (PCR) which are product category specific guidelines to be applied when preparing an EPD. These guidelines clarify the unit of measurement to be reported, life cycle impacts to be used, mandatory production steps to be included within the life cycle inventory, and suggestions on assumptions to be made about the calculations.

EPDs are designed to increase the transparency of a product's environmental impact by stating the environmental impacts associated with the life cycle of the product in question without comparing the product to alternative ones. Hence, a product with a connected EPD does not necessarily have a better environmental performance than a product without an EPD.

EPDs can vary in scope, which makes them difficult to compare with one another. They may be cradle-to-gate, counting environmental impacts from resource extraction to the factory gate/distribution, or cradle-to-grave, which also includes product use and disposal. The data used for LCA calculations may come from an industry-average product declaration, which makes the results reported in the EPD representative of an average product rather than a specific one.

The best practice for EPDs is to use product-, facility-, and supply chain-specific data. These EPDs are created for a single product from a single manufacturing facility using primary data for all manufacturing processes along the product supply chain. This results in very specific detailed data; however, it increases the costs of performing the LCA since it requires more data gathering. EPDs should only be compared if they follow the same PCR and the products are functionally equivalent, meaning they have the same unit and technical performance (Carbon Leadership Forum, 2020).

Eco-labels

Eco-labels are labels awarded to products upon fulfilling a set of criteria. They are classified as Type I environmental labelling as defined in ISO 14024. This ISO standard establishes the procedures for selecting product categories, assessing compliance and awarding certification. There are no unified criteria for eco-labels, leading to many different eco-labels being created in various countries.

Japan and South Korea have developed voluntary eco-labeling schemes to promote green procurement. The Japanese label is called the Eco Mark and the South Korean label is called the Korean Ecolabel. The performance criteria for both were developed using life cycle thinking methods similar to LCAs (UNEP, 2017; Hasanbeigi et al., 2019).

Database

After a standard impact measurement and reporting protocol is developed, a database of products can be compiled to increase transparency. This enables information sharing across agencies, making it easier for procurement officers at all levels of government to access environmental information on various products.

In Japan, the Green Purchasing Network publishes an online database of Eco Mark products. This is available to procurement officers and the general public. Making the database publicly accessible enables positive spillover effects because it promotes private demand for green products, which may have even larger market impacts than public procurement.

2. Evaluation tools and guidelines

GPP programmes should also specify guidelines for procuring agencies and bidders so that they have a clear understanding of what is expected of them in the process. The programme should state what certifications bidders must submit to demonstrate environmental impact reductions and when they are expected in the contracting process. It should state how procuring agencies incorporate environmental criteria into bid evaluation and publish these guidelines to give tenderers insights into how the environmental impact of their products affects their likelihood of being awarded a contract. For example, the policy could state that procurers must use the most economically advantageous tender (MEAT) approach with price discounting, which is used in the Netherlands. Another helpful guideline is a phase-in timeline approach to give procurement officers and tenderers time to acclimatize to the new process. The Buy Clean California Act, which was passed into law in 2017 is a good example of this approach. As part of the Act, the state of California requested in 2019 that bidders submit EPDs with their tenders with a 2020 deadline for EPD submissions. In 2021, maximum global warming potential limits were set, and the state did not enforce these limits until July 2021 (California Department of General Services, 2021). This phased approach gave policy makers enough time to define reasonable limits, while also giving businesses and industries advanced notice to obtain the required certifications.

Another way to establish evaluation guidelines is by developing tools that agencies can use to inform their procurement decisions. Software tools are especially helpful as they can disseminate GPP criteria information while streamlining the process. South Korea has been a frontrunner in the use of electronic procurement systems and platforms for GPP implementation. In 2002, they created a fully-integrated procurement system called the Korea Online E-Procurement System (KONEPS) which manages registration, creation of procurement requests, tendering, contracting, payments and monitoring. In 2017, KONEPS had over 52,000 public users and 373,000 supplying companies and represented 71% of the total government procurement volume (UNEP, 2019).

The Netherlands has also created an online software to aid GPP implementation with up-to-date GPP criteria specifications that can be used to create tender documents. Selections can be made from three ambitions levels: basic, significant and ambitious (PIANOo, 2021). DuboCalc is software used to calculate the environmental costs of a project and compare competing bids by converting MEAT into an easy-to-use digital interface, enabling tenderers to compute their expected price discounts ahead of submitting a bid. This allows them to make decisions about trade-offs between cost and embodied emissions during the design phase. DuboCalc is discussed in greater detail in section 3 of this report.

3. Support structures

While not essential for a GPP policy, various support structures are employed in international GPP best practices to encourage programme adoption. Of these, we discuss education about green practices and capacity building, investment in cleaner production, financial support for small and medium-sized enterprises (SMEs), and financial incentives.

Education and capacity building

According to a stakeholder survey conducted by UNEP, one of the two most cited barriers to GPP was a lack of expertise in sustainable public procurement implementation (UNEP, 2017a). In most countries, public procurement is decentralized. Agency officials from different levels of government and departments are the ones who make the final decisions on what to purchase. For GPP to be successful, these individuals must be trained to understand the value of GPP and taught how to integrate the programme into their procurement decisions. Knowledge sharing across agencies can also be a valuable practice for officials. Capacity building in procurement staff can be facilitated through one-off training programmes, guidebooks or a GPP departmental office within the government.

Some examples of GPP training can be found in Japan and the Netherlands. In Japan, the Ministry of the Environment supports an NGO called the Green Purchasing Network which publishes an online database of green products and green procurement guidelines on its website (UNEP, 2017). In the Netherlands, the public procurement expertise center PIANOo helps procurers navigate requirements in environmental reporting, build tender criteria with consideration of environmental impacts and provide advice to bidders.

Investment in cleaner manufacturing

One of the main goals of GPP is to induce innovation in green construction materials and products. Creating a public market for these products may be insufficient, as decarbonizing the industrial sector is a technically challenging goal that the private sector will not be able to achieve alone. Policies that invest in making manufacturing more efficient, cleaner and more sustainable will have positive downstream impacts on these companies.

The cement and steel industries are energy- and carbon-intensive. Public investment in clean energy supply chains, deployment of renewables, improved energy storage and grid modernization will help manufacturers reduce embodied emissions. However, energy efficiency and renewable energy alone cannot decarbonize the industrial sector. In the case of cement, over 50% of emissions produced during manufacturing are a result of calcination of limestone and would not be reduced by clean energy use (Hasanbeigi and Springer, 2019). Public funding should be directed towards research and development in carbon capture, utilization and sequestration (CCUS); transformative low-carbon technologies; the electrification of heat; and direct air capture (DAC) technologies to enable innovation. Funding should also be allocated for the commercialization of these technologies in industrial applications to ensure that innovations can be applied to manufacturing practices. These investments would support manufacturers by creating the theoretical foundations and process knowledge required for industrial decarbonization.

Small and medium-sized enterprises

Additional support should be offered to bidders that qualify as SMEs. Industrial transformation may require retrofitting industrial facilities, building new facilities and retraining workforces. These practices can all incur high costs that are difficult for capital-constrained companies to shoulder, especially SMEs. GPP should be paired with loans, grants and financial support programmes that help manufacturers obtain the necessary capital to cover these upfront costs.

Financial incentives

On top of price discounting during bid evaluation, financial incentives can be used to promote GPP programme adoption. In South Korea, local governments with high performance levels in GPP implementation are rewarded with a larger budget and public institutions receive a performance bonus. These rewards are calculated based on the values reported to the central body. This encourages agencies to make green purchases through the digitized platform, thereby improving data completeness. Private citizens can also earn economic rewards for green purchases made through a Green Credit Card introduced by the Korea Environment Industry and Technology Institute (UNEP, 2019).

4. Recommendations

Based on international best practices, we make the following recommendations for environmental impact quantification methods and reporting standards of GPP programs to reduce embodied emissions in cement, concrete and steel products:

- EPDs are the reporting format recommended by many GPP experts since they are standardized across geographies and contain very comprehensive information. However, they can be complex and costly.
- When possible, product-, facility-, and supply chain-specific data should be used, to develop precise EPDs.
- The use of eco-labels could be made more effective in some jurisdictions where an established eco-label is also being used by industry for products covered by GPP.
- Compiling an open-access database of products can help streamline product evaluation and increase transparency.
- Official guidelines for reporting and evaluation that ensures the transparency and fairness bid of evaluations should be developed.
- Software tools can help streamline the implementation of GPP programmes by automatically disseminating new GPP targets and facilitate the bid evaluation work.
- Education and capacity building are key to a successful implementation of GPP programs, and can be supported by a GPP agency responsible for providing supporting information.
- Financial incentives can be offered to procurement agencies to promote GPP program adoption.

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/>
- Dutch Public Procurement Expertise Centre (PIANOo) (2021). MVI criteria. <https://www.mvicriteria.nl/en>
- Hasanbeigi, A., and Springer, C. (2019). Deep Decarbonization Roadmap for the Cement and Concrete Industries in California. Global Efficiency Intelligence. San Francisco, CA.
- Hasanbeigi, A., Becque, R., & Springer, C. (2019). Curbing Carbon from Consumption: The Role of Green Public Procurement. Global Efficiency Intelligence, LLC.
- 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
- UN Environment Programme (UNEP) (2017a). Global Review of Sustainable Public Procurement. https://wedocs.unep.org/bitstream/handle/20.500.11822/20919/GlobalReview_Sust_Procurement.pdf
- UN Environment Programme (UNEP) (2019). Green Public Procurement in the Republic of Korea: A Decade of Progress and Lessons Learned.