



Sustainable Public Procurement of Construction and Infrastructure in Vietnam

EXECUTIVE SUMMARY

Sustainable Public Procurement (SPP) in Vietnam's construction sector holds considerable potential as a catalyst for sustainable development, economic stability, and social progress. With rapid urbanisation, the construction sector has become a significant driver of environmental stress, leading to increased carbon emissions and extensive resource consumption. By integrating sustainability into procurement practices, Vietnam can mitigate environmental damage, improve resource efficiency, and maximise the long-term benefits of infrastructure projects. This policy brief highlights the pivotal role of SPP in Vietnam's construction sector and offers strategic recommendations for moving forward. Furthermore, it proposes piloting social housing construction to showcase the potential advantages of SPP and its contribution to Vietnam's sustainable future.

INTRODUCTION

The construction industry is an important pillar of the Vietnamese economy, representing more than 6% of the country's GDP during the past five years while being one of the largest employers in Vietnam.¹ Its current market size in Vietnam is estimated at USD 69.20 billion and is expected to grow by 8.1% during the period 2024–28,² driven by rapid economic development, increasing population, and planned investment in transport, housing and power construction projects. At the same time, construction has been among the industries that have attracted the most foreign direct investment (FDI) in recent years.

Globally and in Vietnam the construction sector has contributed to environmental pollution, generation of solid waste, and consumption of high volumes of natural resources. In Vietnam, the construction industry generates 23% of air pollution and 24% of greenhouse gas emissions, uses almost 50% of natural resources,³ pollutes 40% of drinking water, and contributes 50% of landfill waste.⁴ If left unchecked, this kind of environmental deterioration will continue to grow, threatening Vietnam's and the world's commitment to achieving the Sustainable Development Goals (SDGs) and net-zero emissions by 2050.

1 <https://www.globaldata.com/store/report/vietnam-construction-market-analysis/>

2 Growth by compounded growth annual rate (CAGR) <https://www.mordorintelligence.com/industry-reports/vietnam-construction-market/market-size>

3 Vietnam Greenhouse Gas Emissions Data, Climate Action Tracker, 2021

4 Huan T L & Tho Le Pham Anh (2024), *Environmental protection laws in construction activities in Vietnam – current situation and recommendations for improvement*

Enforcing adherence to national environmental standards and regulations are the key for ensuring long-term environmental protection during construction activities. Article 64 of the 2020 Environmental Protection Law⁵ explicitly outlines environmental issues, conditions, and requirements during various stages of construction activities, with a particular emphasis on construction practices. Minimising pollution in Vietnam's construction sector would save resources by reducing costs and boosting economic efficiency. Less pollution would in turn strengthen environmental resilience to risks and thus ensure sustainable infrastructure amid climate challenges. There is an opportunity for the government to shift its approach not only by imposing penalties for violation but also by rewarding investors and contractors who adhere to regulations and prioritise sustainability, granting them preferential treatment in public tendering processes.

KEY STRATEGIES FOR IMPLEMENTING SPP IN VIETNAM'S CONSTRUCTION SECTOR

Vietnam has the opportunity to consider a combination of following strategies, based on the existing Government of Vietnam strategies for mainstreaming sustainability in the procurement of construction works depending on market conditions as well as the nature and scale of construction projects.

Life-cycle costing (LCC): Applying LCC as an award criterion enables contracting authorities to evaluate the full cost of projects, including long-term operational and maintenance expenses. This policy encourages contractors to incorporate sustainability from the design stage, selecting materials and construction methods that reduce life-cycle costs. The New Law on Bidding 2023 allows the use of LCC as award criterion in bids for procurement of works. To fully achieve this potential in public tenders, and for uptake of LCC in tendering for public works in Vietnam, the Ministry of Planning and Investment needs to issue detailed guidance for calculating the life-cycle cost of projects.

Green Building Certification: Green Building Certification plays a pivotal role in promoting environmental sustainability, energy efficiency and resource preservation during the design, construction and operation of buildings. The importance of certification increases considering that buildings in Vietnam use 17% of the country's fresh water, 25% of its wood harvest, 30%–40% of its energy production, and half of all its raw materials.⁶

The Ministry of Construction has taken steps to promote certifications like LOTUS and LEED and compulsory compliance with Vietnam Building Energy Efficiency Code (QCVN 09). Although 396 green-certified buildings had been recorded by the end of 2023,⁷ this achievement was due largely to certification of private buildings; the adoption rate among public buildings remains low. Mandating green certifications for public projects above a certain threshold (value or areas) would significantly boost sustainable construction practices.

Sustainable Materials and Technologies: Promoting recycled and sustainable materials – such as bamboo and low-carbon cement – can drastically reduce the environmental impact of construction. However, the use of such materials remains low, with most projects in Vietnam reusing less than 10% of materials like steel, metal, and brick.⁸ Through Decision No. 179/QĐ-TTg issued on February 16, 2024, the Ministry of Construction has advocated for the adoption of recycled, resource-efficient, energy-efficient, and environmentally-friendly materials to support Vietnam's long-term sustainable development and climate-change response. Vietnam has developed standards for blended cement such as TCVN 10302:2014, TCVN 12669:2019, TCVN 6882:2001, TCVN 10302:2014, etc., which have the potential to reduce greenhouse gas (GHG) emissions from 25% to 30% compared to ordinary Portland cement (TCVN 6260:2021).⁹

There are several other encouraging advancements in promoting reuse, recycling, and bio-based materials along with sustainability in Vietnam. The German-Vietnamese ReBuMat project is pioneering the development of energy-efficient, resource-conserving building materials and construction methods, specifically tailored to Vietnam's unique climatic conditions. Notably, low-cost social housing is being

5 <https://thuvienphapluat.vn/van-ban/EN/Tai-nguyen-Moi-truong/Law-72-2020-QH14-on-Environmental-Protection/463512/tieng-anh.aspx>

6 <https://www.vietnam-briefing.com/news/green-buildings-in-vietnam-how-sustainable-are-they.html/>

7 <https://vgbc.vn/en/green-building/>

8 Nguyen, Quan & Nguyen, Bao Ngoc. (2014). The current practice of construction material reuse in Vietnam. Conference: New Technologies for Urban Safety of Mega Cities in Asia. At: Yangon, Myanmar. https://www.researchgate.net/publication/271829935_The_current_practice_of_construction_material_reuse_in_Vietnam

9 https://gccassociation.org/wp-content/uploads/2022/04/Report_Blended-Cement-Green-Durable-Sustainable_13Apr2022.pdf

constructed in Soc Trang Province using rice-husk polypropylene (RHPP), a sustainable material made from rice husks and recycled plastic.¹⁰ In addition, the new Law on Bidding 2023, which includes sustainable bidding criteria, is expected to drive market expansion for eco-friendly construction materials.

Circular Economy Principles: Incorporating circular economy practices in construction can significantly reduce waste, conserve resources, and lower GHG emissions. Construction and Demolition (C&D) waste accounts for approximately 15% of Vietnam's total waste, offering significant potential for reuse in new construction projects. The national waste management strategy, Vision 2050,¹¹ sets a target to collect and treat 50% of construction solid waste in urban areas, with 30% intended for reuse or recycling. However, the reuse of C&D waste is limited at present by the absence of clear standards, guidance on waste classification, and investment in technology that minimises material degradation during demolition. Furthermore, the lack of an accreditation system to ensure that C&D waste is properly managed and legally used in construction is stifling broader adoption.

Establishing a dedicated C&D recycling industry, particularly in Hanoi, could unlock significant economic and environmental benefits leading to advancement towards Vision 2050. Research from the National Institute for Environmental Studies, Japan, has identified a promising market for recycled concrete aggregates and estimates that establishing a recycling plant could reduce GHG emissions by up to 80%.¹²

Social Considerations: Incorporating social criteria into procurement ensures that public construction projects not only deliver infrastructure but in addition actively promote fair labour practices by creating job opportunities for local communities. SPP could enforce standards that would guarantee fair wages and safer working conditions for millions of workers in the construction industry. Additionally, giving preference to local companies can bolster economic growth, while supporting small and medium-size enterprises (SMEs) in this way further spreads the social benefits, helping to build resilient local industries and promote inclusive development.

WAY FORWARD FOR VIETNAM

The Vietnamese government has recognised that sustainability in the construction sector is vital for long-term development and has actively promoted it through procurement strategies and complementary policies. In recent years, notable progress has been made in integrating sustainability into procurement, supported by frameworks for enhancing recycling and promoting sustainable construction. Meanwhile, the private sector and development agencies have been at the forefront of research and pilot projects focusing on sustainable materials, technological innovations, and green-building certification. This ongoing progress and the experience gained by the private sector in reducing resource consumption and environmental deterioration offer a strong foundation for the government to enhance sustainability efforts through procurement, driving change in Vietnam's building materials market.

Vietnam's development trajectory will necessitate large-scale projects that serve the demands of the less economically advantaged segments of society. Aligning this expansion with sustainable resource usage and strengthening it through SPP will assure socio-economic progress while also encouraging environmental stewardship and long-term resilience.

Sector-based Opportunity: One such opportunity lies in the construction of one million social housing units for low-income individuals and industrial workers as part of the National Housing Development Strategy 2030. This initiative offers a pivotal moment for advancing SPP in construction. Prioritising energy efficiency, embracing green building certification programmes and selecting sustainable building materials could be key to sustainable and affordable buildings. Provincial governments could launch pilot projects for social housing that integrate sustainable bidding criteria, as permitted by the Bidding Law 2023, in consultation with market operators. By assessing the sustainability outcomes of various pilot projects, the most successful approaches can be scaled up and replicated nationwide, maximising the sustainability benefits under the

10 <https://bredenoordhousingresearch.com/wp-content/uploads/2016/03/Low-cost-Housing-in-Vietnam.pdf>

11 <https://asemconnectvietnam.gov.vn//default.aspx?ZID1=14&ID8=14639&ID1=2>

12 <https://www.nies.go.jp/whatsnew/20220113/20220113-e.html>

National Housing Development Strategy 2030. Given the scale of the project, the construction of these housing units could transform Vietnam's construction sector, spurring market-wide innovations in sustainable practices, materials, technologies, and techniques.

POLICY RECOMMENDATIONS:

To advance sustainable procurement, the government can demonstrate its commitment by strengthening existing policies and developing new ones along with mechanisms to remove operational barriers and send clearer signals to the market. Building on successful international approaches, a time-bound work plan would help to resolve the obstacles standing in the way of sustainable procurement, while introducing meaningful incentives for contractors and suppliers. By taking proactive steps, the government can place sustainable procurement at the forefront of green infrastructure development, promoting eco-friendly construction practices and furthering Vietnam's dedication to sustainable growth.

Some of the key areas that would benefit from focused attention are as follows:

Issuing detailed guidance for **calculating the life-cycle costs** of construction projects

Mandating **green building certifications** for public buildings above a certain threshold value

Developing **standards and testing facilities** for the reuse and recycling of **construction materials**, starting with selected materials or usage groups

Supporting **public-private partnerships** for construction projects

Increasing media awareness of **bio-based construction material**

Creating **online platforms** to increase the re-use of construction material

Providing **incentive mechanisms** for the development of sustainable construction materials and technologies

Gradually implementing **mandatory provisions** for the use of C&D waste in new construction

Upskilling public procurement officials to identify sustainability opportunities during the planning phase, and incorporate sustainability criteria into procurement decisions to maximise outcomes.

CONCLUSION

Vietnam stands at a critical juncture where it can lead the way toward a resource-efficient, low-carbon future by implementing sustainable procurement practices. Achieving this goal will require coordinated efforts from the government, industry, and the private sector. While the private sector has made progress in integrating sustainability, further regulatory guidance is essential to drive the transformation of Vietnam's construction industry into a sustainable and resilient force for the future.