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# Green Public Procurement of Steel in Japan



## The scale of Public Steel Procurement and the Impact of Green Public Procurement on GHG Emissions in Japan

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# The Scale of Public Procurement of Steel

Japan spends 16% of its GDP each year on public procurement. This purchasing power gives governments leverage in driving markets toward the development of low-carbon goods and services. 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. Japan aims to achieve carbon neutrality by 2050, with a short-term target to reduce its GHG emission by 46% compared to 2013 emission levels. The GPP, as a policy tool, can help Japan to achieve its carbon neutrality target and reduce air pollution while maintaining its growth and competitiveness.

Japan produced 99 million tonnes (Mt) of steel in 2019 and total steel consumption in Japan was around 63 Mt that year. From that, Government-funded construction projects accounted for around 7.5 Mt steel consumption in Japan. Figure 1 shows the estimated total steel procurement by both public and private sectors in Japan in 2019.

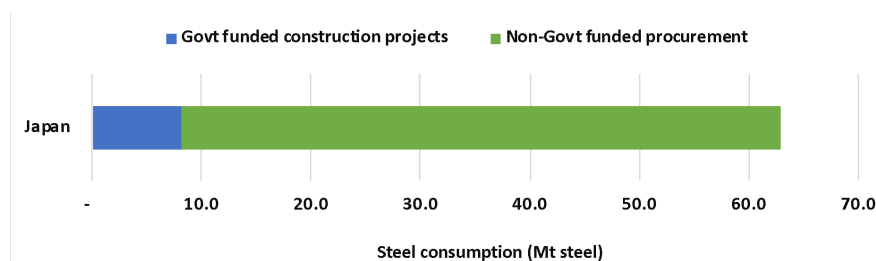


Figure 1. Public and private procurement of steel in Japan in 2019

Using the weighted average CO<sub>2</sub> intensity of steel produced in Japan (1,879 kg CO<sub>2</sub>/t steel) (both primary steel and electric arc furnace (EAF) steelmaking), we can estimate the annual CO<sub>2</sub> emissions associated with steel used in Japan in 2019 (Figure 2). Approximately 13% of the annual CO<sub>2</sub> emissions linked with steel consumption in Japan are associated with Government-funded projects, which were around 15 Mt CO<sub>2</sub> in 2019. Therefore, government procurement may not be a strong driver of demand for low-carbon steel in Japan.

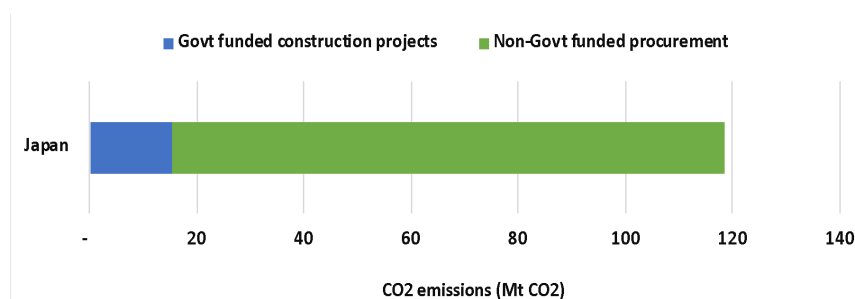


Figure 2. Annual CO<sub>2</sub> emissions associated with steel used in Japan in 2019

# Impact of GPP of Steel on GHG Emissions

To estimate the potential impact of GPP on CO<sub>2</sub> emission associated with steel consumption in Japan, we developed several scenarios with various GPP targets for the CO<sub>2</sub> intensity of steel set by a GPP policy (Table 1). Since imported steel in Japan accounts for less than 10% of total steel consumed, we used the average CO<sub>2</sub> emissions intensity of Japan's domestic steel industry as the baseline for the target setting for steel GPP in Japan.

Table 1. GPP target scenarios for the steel industry in Japan

Buy Clean Target	% reduction in steel CO <sub>2</sub> intensity from baseline	Steel CO <sub>2</sub> intensity (kgCO <sub>2</sub> /t crude steel)
Baseline	-	1879
Low	15%	1,597
Medium	30%	1,315
High	50%	940
Transformative	75%	470

Using the annual CO<sub>2</sub> emissions associated with steel used in Japan as presented on the previous page and the targets set in Table 1, we can estimate the annual CO<sub>2</sub> emissions reduction potential resulting from GPP for steel in Japan in 2019. Figure 3 below shows that under the Low scenario for the GPP target for steel, an annual emissions reduction of 2.3 Mt CO<sub>2</sub> can be achieved directly from the public procurement of steel in Japan. This direct annual CO<sub>2</sub> emissions reduction potential would increase to 8 Mt CO<sub>2</sub> and 11 Mt CO<sub>2</sub> under High and Transformative scenarios, respectively. The potential CO<sub>2</sub> emissions reduction impact of GPP for steel in Japan could increase by almost eight-fold if we consider the potential indirect impact from the steel sold to non-public funded projects if we assume the changes steel plants make for CO<sub>2</sub> emissions reduction applies to all steel they produced for the market.

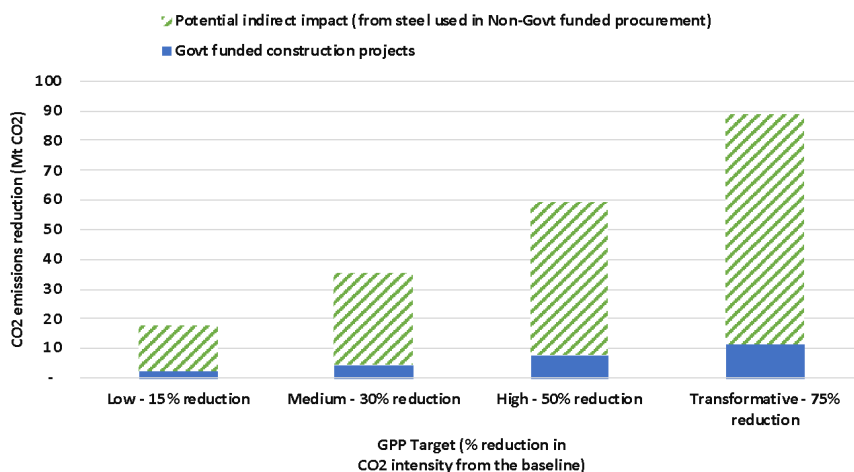


Figure 3. Annual CO<sub>2</sub> emissions reduction potential resulted from GPP for steel in Japan in 2019