
Carbon pricing approach in Japan

–Implications from the “Net Effective Carbon Rate”–

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Net effective carbon rate

Policy approaches that intend to set a price for CO2 emission are called “Carbon pricing”. There are two major approaches to pricing carbon: 1) impose a tax for the usage of energy or fossil fuels, and 2) introduce a system of trading emission credits. “Net effective carbon rate”, an international common definition of pricing carbon, was developed by the OECD to enable the global comparison of national or regional approaches. It is calculated by deducting fossil fuel subsidies that promote CO2 emission, from the total financial cost of emitting CO2 (per ton).

Composition differs by country

Net effective carbon rate enables us to understand the inclusive big picture of carbon pricing policy approaches of each country. The OECD data (as of 2021) shows that Switzerland has the highest level of net effective carbon rate, largely weighted on energy tax – a total of 133 euros, structured by 101 euros (76%) of energy tax, 28 euros (21%) of carbon tax, and 4 euros (3%) of ETS (Emission Trading System) price. Sweden also has a relatively high level with a balanced composition – a total of 103 euros, structured by 45 euros (44%) of energy tax, 38 euros (37%) of carbon tax, and 21 euros (20%) of ETS price. Furthermore, the uniqueness of Germany can be explained by a large portion of ETS price – 36 euros out of 81 euros (44%). As shown in Figure 1, the net effective carbon rate is valid when measuring or comparing different carbon pricing approaches of nations in a comprehensive manner.

The net effective carbon rate of Japan in the global context

As shown in Figure 2, the average net effective carbon rate of OECD member countries (38 developed countries), G20 countries (20 key countries mixed of developed and developing countries), and ODA (Official Development Assistance) recipient countries (developing countries) are 62 euros, 31 euros, and 8 euros, respectively. Against this backdrop, the level of Japan - 28 euros - is relatively low in the global context, not just lower than the average of OECD countries but also G20 countries. Moreover, 26 euros out of 28 euros (93%) of Japan’s net effective carbon rate has been dominated by energy tax, which in turn it is safe to say that Japan has room to seek a more efficient and effective composition balance by utilizing carbon tax and ETS price.

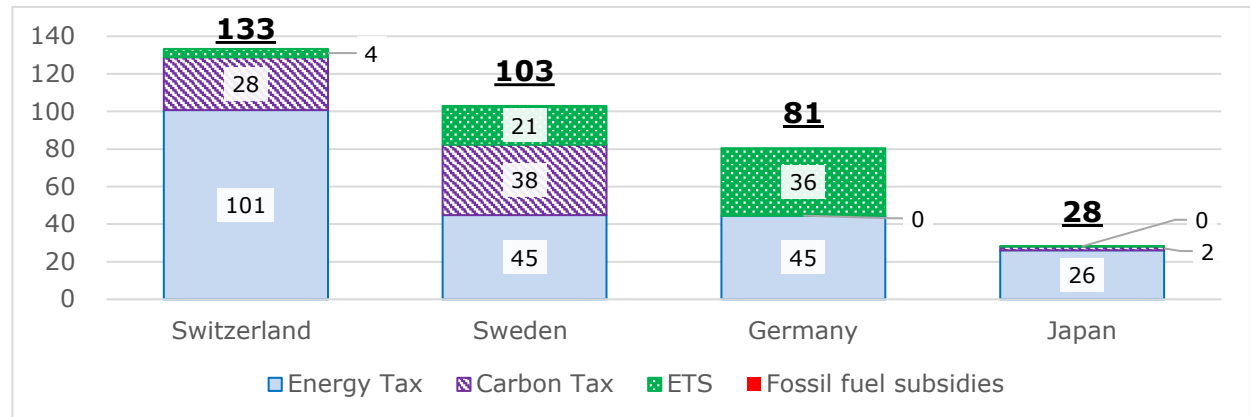
The rising importance of understanding national carbon pricing policies more inclusively

The more urgency and importance of addressing climate change rise, the more national green transformation policies including carbon pricing approaches become complicated and diversified. A higher net effective carbon rate on the one hand results negatively with an additional burden on the economy and society, but on the other hand positively driven by the creation of new investment and employment opportunities as a benefit of promoting green transformation in the economy and society. Understanding different policies and subsidies inclusively with internationally comparable indicators - the net effective carbon rate - should become more important in the future.

Figure 1

Key developed countries with high net effective carbon rate compared with Japan's

(euros)

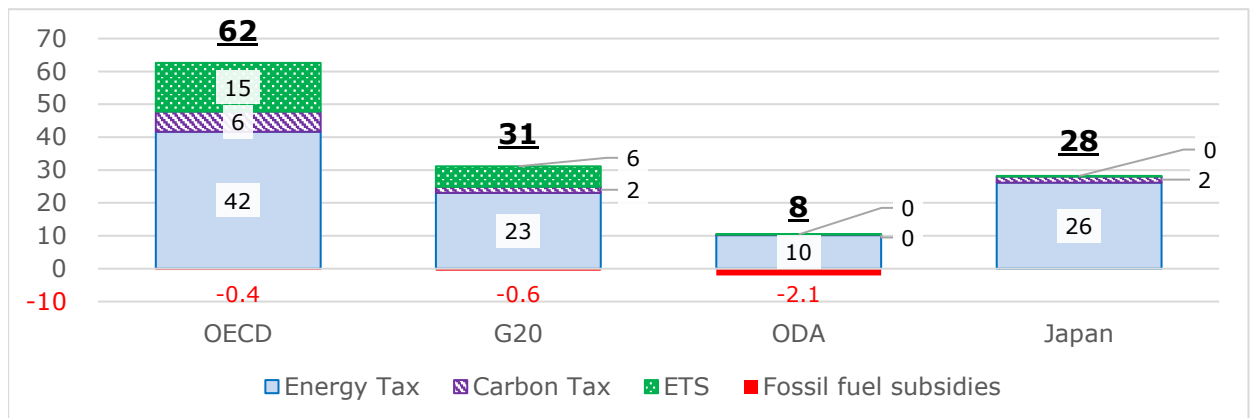


(Source) OECD.Stat

Figure 2

The average net effective carbon rate of OECD, G20, and ODA recipient countries compared with Japan's

(euros)



(Source) OECD.Stat

Original in Japanese:

<https://www.dlri.co.jp/report/dlri/315881.html>

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