# ASSESSMENT OF SUBNATIONAL AND NON-STATE CLIMATE ACTION

# JAPAN

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# Japan

## COUNTRY CONTEXT

Japan is the fifth largest greenhouse gas (GHG) emitting country in the world, emitting around 1,200 $MtCO_2e$/year annually including land use, land-use change and forestry (LULUCF). Since the Fukushima nuclear accident of 2011, Japan has been going through a major power sector transformation, going from a balanced mix of coal, gas and nuclear towards a decarbonisation strategy that does not rely on nuclear power. Japan's emissions have fallen since 2013, mainly due to reduced electricity demand and the deployment of renewable electricity.

Though Japan has relied on nuclear energy as an alternative to fossil fuels, renewable energy has grown over recent years, and might help accelerate the country's decarbonisation. Policies like the Renewable Energy Act of 2011, which established a feed-in tariff and funding for distribution networks, have helped grow the share of renewable energy in the total electricity generation from 10% in 2010 to 16% in 2017 (IEA, 2018).

Under its nationally determined contribution (NDC), Japan aims to reduce its GHG emissions 26% below 2013 levels by 2030. As shown in Figure 1 (top panel), the latest assessment by NewClimate Institute, PBL and IIASA indicates that Japan would fall short of achieving its NDC by a small margin under current policies (Kuramochi et al., 2018).

## INTERACTIONS BETWEEN NATIONAL GOVERNMENT AND SUBNATIONAL AND NON-STATE CLIMATE ACTORS

The interactions between the national government and subnational governments has historically been more led by the national government: the Global Warming Countermeasures Promotion Act, Japan's framework law on climate action, mandates prefectural governments as well as city and town governments to develop climate action plans consistent with national targets. As of October 2018, 18 of the 47 prefectures and 11 of the 20 ordinance-designated cities had set GHG emissions reduction targets for 2030 (Nomura Research Institute, 2019, supplemented by authors).

Climate action in the business sector has also historically been closely aligned with national climate action. The voluntary action plans of Keidanren, the most influential business association in Japan, have been monitored by the national government since the first commitment period of the Kyoto Protocol.

In recent years, city governments have become particularly active on climate action. Tokyo, the nation's capital and largest city, aims to reduce its GHG emissions by 30% from 2000 levels by 2030 (Tokyo Metropolitan Government, 2016) and has been implementing an emissions trading scheme since 2010 (ICAP, 2018). Furthermore Governor Yuriko Koike announced in May 2019 that Tokyo has committed to zero GHG emissions by 2050 (Urban 20 Group of Cities, 2019). Yokohama, the second largest city in the country and a member of both the ICLEI – Local Governments for Sustainability and C40 Cities Climate Leadership Group networks, also aims to realise carbon neutrality as early as possible during the second half of the 21st century, with 2050 in sight (Kobayashi, 2018). A large number of measures have already been implemented to materialise the necessary transitions (ibid.)

In addition, the Japan Climate Initiative (JCI) was launched in July 2018 as the country's first cross-sectoral coalition of subnational governments and businesses in support of ambitious domestic climate action (Japan Climate Initiative, 2019b). A member coalition of Alliances for Climate Action (ACA), JCI aims to expand and accelerate decarbonisation efforts in Japan through: (i) "creation of a momentum to move the whole nation toward the realization of a decarbonised society;" (ii) "support for implementation of members' activities;" (iii) "dialogue with the government to strengthen Japan's climate action;" and iv) "communication of Japanese non-state actors' efforts to the world and international collaboration" (Japan Climate Initiative, 2019b). As of July 2019 there are more than 370 member organisations from companies, local governments, research institutions and NGOs. The member companies account for 26% of electricity consumption in the industry, commercial and transport sectors and 8% of total national GHG emissions, while participating local governments account for 32% of the national population and 22% of national GHG emissions (Japan Climate Initiative, 2019a).

## COMPARING SUBNATIONAL AND NON-STATE TRAJECTORY WITH NATIONAL TRAJECTORY

As of August 2019, the commitments from individual non-state and subnational actors in Japan are not as prominent as in the US and the EU, both in terms of their target levels and emissions coverage. The assessment includes 55 cities, representing over 45 million people, and 14 regions, representing a population of over 45 million people, that have made quantifiable commitments to reduce GHG emissions.[1] Many of the Japan Climate Initiative members are covered in this assessment. It also includes over 400 companies, controlling approximately $4 trillion USD in revenue[2] – and including 61 of the world's largest companies[3] – that have made quantitative climate commitments, most frequently in the electrical and electronic equipment, financial services, and biotech and pharmaceuticals sectors.

Together, these cities, regions and companies represent 630 $MtCO_2e$/year in 2015, accounting for overlap between actors. If fully implemented and if such efforts do not decrease efforts elsewhere, they would reduce emissions in 2030 by an additional 80 to 130 $MtCO_2e$/year, beyond the projected emissions under current national policies. The resulting emission levels for 2030 are 8.2% to 12% lower than the levels projected under the current national policies scenario for the same year, and lead to emission levels up to 70 $MtCO_2e$/year lower than the NDC target emission levels (Figure 1, top panel). These findings are consistent with another study conducted in 2016 (E-konzal and Kiko Network, 2016) and suggest that Japan could further raise its NDC ambition level by fully taking the commitments of regions, cities and companies into account.

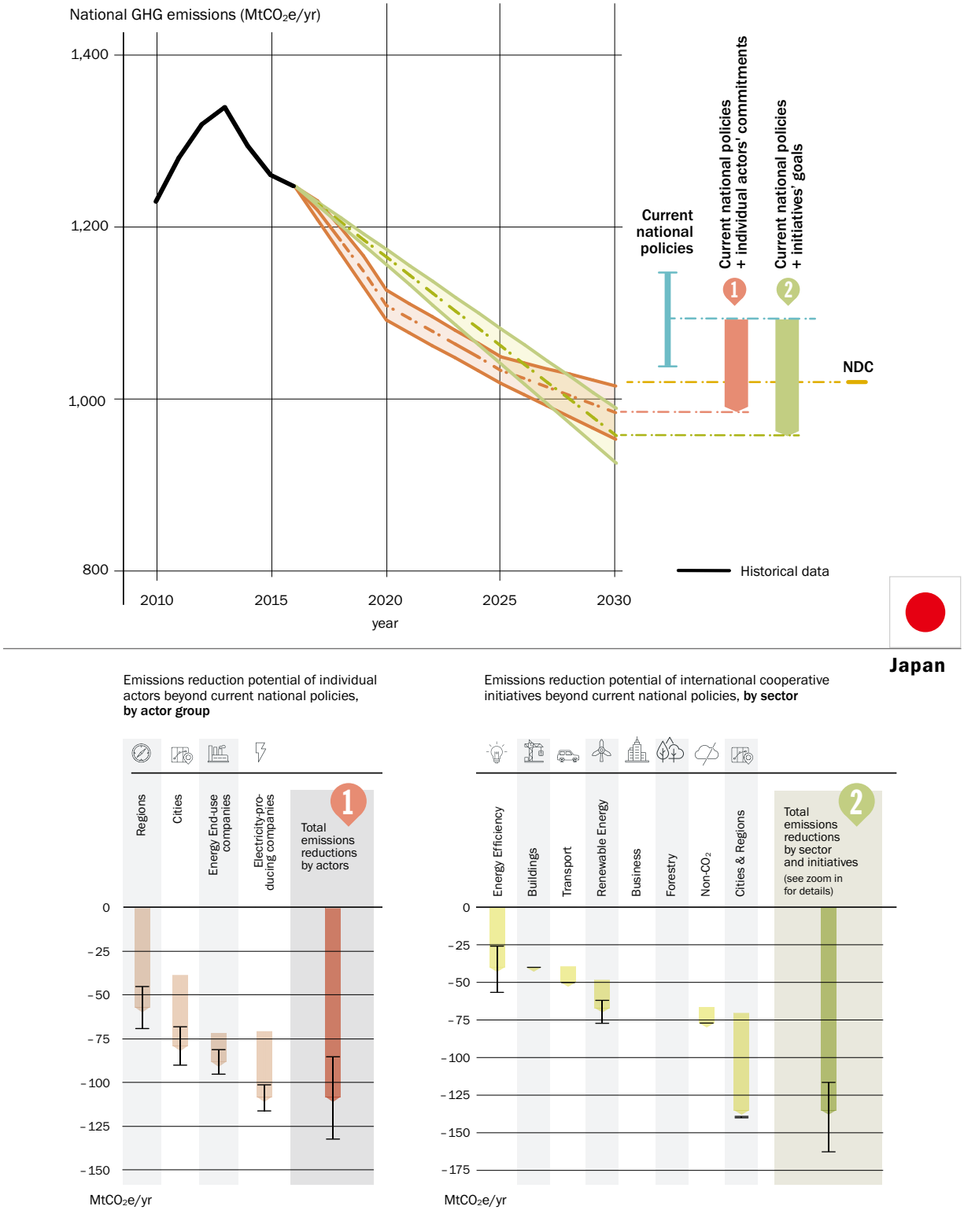
International cooperative initiatives (ICIs) – networks of cities, regions, companies, investors, civil society, and, in some cases, countries, pursuing common climate action – are projected to reduce emissions by 110 to 160 $MtCO_2e$/year, or 11% to 14% , below the current national policies scenario projections in 2030 (Figure 1, top and bottom-right panels).

1 Quantifiable commitments to reduce GHG emissions typically include a specific emissions reduction goal, target year, baseline year, and baseline year emissions. See Technical Annex I for more details.

2 Companies' combined revenue reflects companies making quantifiable commitments to reduce GHG emissions, whose headquarters are in Japan, and whose revenue data is publicly available. See Technical Annex I for more details.

3 The world's largest companies are defined in terms of their inclusion in the 2019 Forbes 2000 and Global Fortune 500 lists.

**Figure 1.** Potential greenhouse gas (GHG) emissions reductions in Japan resulting from the full implementation of individual subnational and non-state actor commitments and the full implementation of international cooperative initiatives (ICIs)' goals compared to the "current national policies" scenario




The „current national policies" scenario (Kuramochi et al., 2018) includes land use, land-use change and forestry. Top panel: historical GHG emissions up to 2016 (with authors' own estimates for years between the last inventory data year and 2016) and scenario emissions pathways up to 2030, alongside the NDC target emissions range (indicative target level for 2030). Emissions reduction target trajectories from individual actors' commitments and initiatives' goals are assumed to be achieved linearly from the latest historical data year and are presented here for illustrative purposes. Bottom-left panel: the breakdown of potential GHG emissions reductions from individual subnational and non-state actor commitments in 2030 by actor group. Bottom-right panel: the breakdown of potential GHG emissions reductions from ICIs in 2030 by sector." The results for "Current national policies plus initiatives' goals" scenario do not include the potential emissions reductions from Science Based Targets, RE100 and Collaborative Climate Action Across the Air Transport World (CAATW); they are only quantified at a global level.

## ABOUT THIS FACT SHEET

The **Global Climate Action from Cities, Regions, and Businesses** country fact sheet series takes a close look at the potential impact of subnational and non-state climate change mitigation action for ten high-emitting economies.

In each fact sheet, we: (1) provide general information on the country's greenhouse (GHG) emissions and its energy and climate policies (the country context); (2) describe the interactions between the national government and subnational and non-state actors on climate action; (3) identify and map the type of GHG emissions reduction commitments made individually by cities, regions and companies within that country, as well as the actors making them; and (4) quantify the potential GHG emissions reduction impact that city, region and company commitments, as well as those of international cooperative initiatives (ICIs), could have on that country's emissions trajectory. The analytical steps follow those described in an earlier 2018 report (Data-Driven Yale, NewClimate Institute and PBL, 2018) and adopts the methodological recommendations made in Hsu et al. (2019). Detailed descriptions of this can be found in the main report and its Technical Annexes I and II, all of which can be downloaded from the NewClimate Institute website (https://newclimate.org/publications). A full list of references can also be found in the main report (Section 5).

Regarding the emissions data presented in this section, total national GHG emissions include land use, land use change and forestry (LULUCF) unless otherwise stated. The historical GHG emissions data are plotted up to 2016; for a number of UNFCCC non-Annex I countries, the values between the last inventory year and 2016 were estimated based on current policies scenario projections by NewClimate Institute, PBL and IIASA (Kuramochi et al., 2018). All GHG emissions figures presented are aggregated with 100-year global warming potential (GWP) values of the IPCC Fourth Assessment Report. For the NDC target emission levels, we used LULUCF sector emission levels projected under the current policies scenario when a country's NDC: (i) excludes LULUCF emissions, (ii) is not clear about the LULUCF accounting or (iii) considers LULUCF credits. For these countries, the NDC target emission levels may not match the official values reported by the national governments.

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## SUGGESTED CITATION

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