

THE AMBITION CALL

The Ambition Call provides country recommendations for immediate climate action in response to the UN Secretary-General's request for countries to:

- present concrete, realistic plans that are compatible with the latest IPCC Special Report on global warming of 1.5°C
- enhance their NDCs by 2020 and
- reduce GHG emissions by 45% over the next decade, and to net zero by 2050.¹

The 2019 Summit in Osaka saw the G20 countries (with the exception of the USA) reaffirming their commitments to fully implement the Paris Agreement.² Many have already announced their willingness to increase their mitigation targets, aiming for net-zero emissions by 2050.

JAPAN

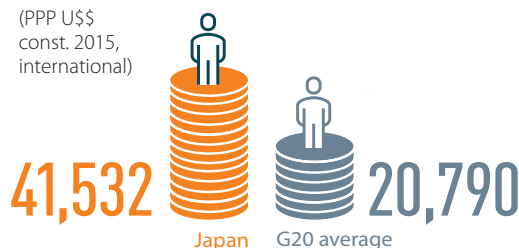


GREENHOUSE GAS (GHG) EMISSIONS
(INCL. FORESTRY) PER CAPITA
(tCO₂e/capita)



Data from 2015 | Source: PRIMAP 2018

GDP PER CAPITA
(PPP US\$
const. 2015,
international)



Source: World Bank 2017

HUMAN
DEVELOPMENT
INDEX



Data from 2017 | Source: UNDP 2018

RECOMMENDED ACTIONS

#1

Raise 2030 NDC target.

#2

Introduce higher carbon pricing.

#3

Formulate the next strategic energy plan with coal phase-out.



Climate Transparency is a global partnership with a shared mission to stimulate a 'race to the top' in G20 climate action and to shift investments towards zero carbon technologies through enhanced transparency. Climate Transparency is made possible through support from the Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU), through the International Climate Initiative, ClimateWorks Foundation and the World Bank Group.

<https://www.climate-transparency.org/>



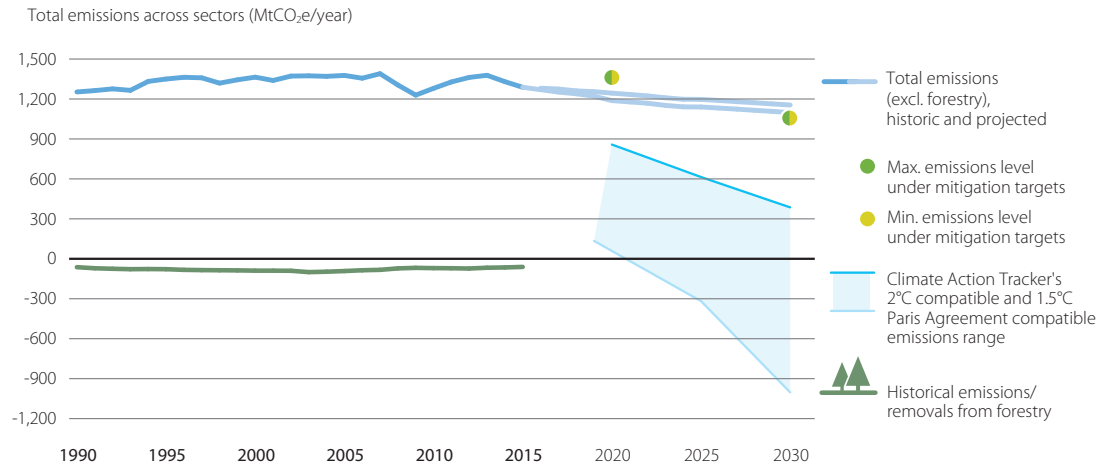
The Institute for Global Environmental Strategies (IGES) was established in March 1998 under an initiative of the Japanese government and with the support of Kanagawa Prefecture based on the "Charter for the Establishment of the Institute for Global Environmental Strategies". The aim of the Institute is to achieve a new paradigm for civilization and conduct innovative policy development and strategic research for environmental measures, reflecting the results of research into political decisions for realising sustainable development, both in the Asia-Pacific region and globally.

<https://www.iges.or.jp/en/index.html>

Raise 2030 NDC target

Japan's current NDC aims for 26% emissions reduction by 2030 compared to the 2013 level. This target includes all sectors of the economy. According to the Climate Action Tracker³ – which estimates Japan NDC to be equivalent to 15% below 1990 by 2030, excluding land use, land use change and forestry (LULUCF) sector – Japan's NDC is “highly insufficient” and not consistent with limiting warming below 2°C or the Paris Agreement's 1.5°C limit. If all countries had targets with similar ambition, the increase in global temperatures would reach between 3°C and 4°C in 2100. Japan would (almost) reach its NDC with currently implemented measures, meaning it is probably not the highest possible ambition, which is requested by the Paris Agreement. If the government

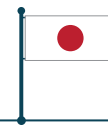
COMPATIBILITY OF CLIMATE TARGETS WITH THE PARIS AGREEMENT



Source: CAT 2018

enhances mitigation measures promoting low-carbon technologies that are politically affordable in terms of costs with realistic GDP assumptions,

then it would be possible to achieve 27-42% of GHG emissions reduction compared to the 2013 level, including the “no nuclear” scenarios.⁴



What does this mean?

Enhancing climate action is a critical step towards avoiding the most catastrophic impact of climate change. Following the principle of common but differentiated responsibilities, there is an onus on all countries to contribute towards limiting the global warming increase to well below 1.5°C, as described in the Paris Agreement. By increasing its

2030 NDC target to a level consistent with the Paris Agreement, Japan would move in the direction of contributing its fair share in avoiding the consequences of climate change.

Additional development benefits



SDG 3

Substantially decreasing emissions when moving to a low-carbon economy will reduce air pollution due to fuel use and tackle associated diseases such as respiratory problems.



SDG 8

Development of a more carbon-neutral industry would support employment opportunities through the creation of safe and decent jobs.



SDG 9

Development and integration of new clean technologies would support sustainable industrialisation and infrastructure upgrading.



SDG 11

Moving towards a carbon-neutral economy will contribute to reducing the environmental impact of cities by reducing the amount of GHG and air pollutants from cities.



SDG 12

Switching to a carbon-neutral economy requires sustainable management and efficient use of natural resources.

Good practice in other countries

In June 2019, the **UK** government placed a law in front of parliament to move the UK to net zero emissions by 2050.



In 2018, the state of **California** announced their target to be carbon neutral by 2045, based on 100% clean electricity and an increase in the share of renewables. Further, two nuclear units (generating 8.7% of the city's power) would close in 2024 and 2025.



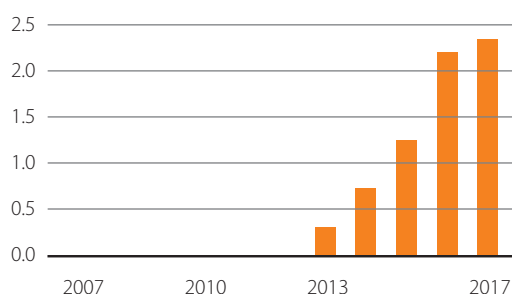
Introduce higher carbon pricing

Fossil fuels often give rise to negative externalities, including damage to the environment and health risks, which are usually not considered in their price.⁵ To reduce emissions worldwide, a variety of countries including Japan – which introduced in 2012 a tax on CO₂ from fossil fuels – have introduced carbon pricing instruments.⁶ However, the level of emission reductions directly depends on the price of carbon. If this is too low to be a burden to the emitter, the tax is unlikely to have significant impacts; if the price reflects the true cost of the negative externalities, emissions can be substantially reduced. Emission reductions from Japan's current carbon tax were estimated to be 6 – 24 MtCO₂/yr by 2020.⁷ The price of Japan's carbon tax in 2019 is 289JPY/tCO₂e (equivalent to 2.7USD/tCO₂e), which is significantly below the estimated "social cost of carbon" of 220 USD/tonCO₂.⁸ This number is also significantly lower than what the World Bank has estimated to be in line with achieving the Paris Agreement 1.5°C target (40 – 80 USD/tCO₂e).⁹



CARBON REVENUES

Carbon revenues (US\$ billions)



Estimates only available from 2013.

Source: IACE 2018

What does this mean?

Increasing the price of the carbon tax in Japan to at least 40 – 80 USD/tCO₂e would lead to further emission reductions and align Japan's carbon price to what is needed to be compatible with the Paris Agreement 1.5°C temperature limit. Furthermore, as the scheme is

designed to allocate tax revenues to promote the use of renewable energy and enhancement of energy-saving measures, a higher tax could channel more money into these measures or compensate disproportionately affected households.

Additional development benefits



SDG 3

A carbon tax on fossil fuels would contribute to the shift towards electric mobility, reduce air pollution and improve mental health and well-being by reducing noise.



SDG 7

A carbon tax on fossil fuels would lead to increased energy efficiency and make reduction in energy losses a priority, which could help increase energy security by reducing dependence on trade for energy supply.



SDG 8

A carbon tax on fossil fuels could increase resource efficiency (reducing fossil fuel use) and help decouple growth from environmental degradation. Shifting to a low-carbon economy contributes to technological and infrastructure upgrading as well as economic diversification.



SDG 11

Implementing a carbon tax would contribute to a shift to electric mobility, which would increase access to safe, sustainable transport systems for all and significantly reduce air pollution in cities.



SDG 12

A carbon tax could increase awareness of current fossil fuel use, thereby improving resource efficiency, reducing air pollution and encouraging sustainable practices such as shifts to low carbon mobility or higher efficiency standards for appliances.

Good practice in other countries

In 1991, **Sweden** established a carbon tax that has been gradually increased. The price of CO₂ in Sweden now reaches 114€/tCO₂e, making it the highest carbon tax rate in the world.



Switzerland introduced a carbon levy in 2008, which is now at the level of around 86€/tCO₂. Some revenue is paid back in an equal amount to each citizen.



Formulate the next strategic energy plan with coal phase-out

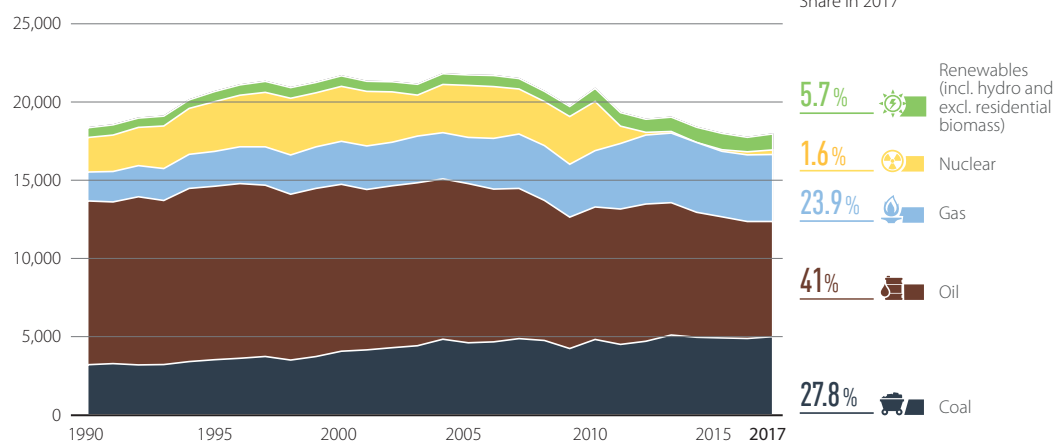
#3

Limiting the global temperature increase to 1.5°C requires immediate and radical transformation of current practices in all countries and sectors of the economy.¹⁰ In 2018, Japan had 45 GW of operating coal-fired power generation¹¹ and now plans to add 15 GW more.¹² This is not consistent with the findings of the IPCC Special Report on 1.5°C¹³, which shows that coal-fired power needs to be phased out by 2050, globally, to keep warming below 1.5°C. To achieve the Paris Agreement target, Japan will need to implement the early retirement of currently operating coal-fired power plants and cease any new coal-fired power plant construction as of now.^{14,15}



ENERGY MIX

Total primary energy supply (PJ)



Source: Enerdata 2018

What does this mean?

In order to reduce Japan's dependency on coal and avoid coal continuing to supply a third of Japan's electricity in 2030, a further push for renewables will be necessary.¹⁶ A halt on coal power generation could have important economy-wide benefits for Japan by reducing ambient air pollution that reportedly inflates the risk of premature

deaths while increasing healthcare costs. Due to the long lifetimes of coal-fired power plants, building new ones will bring high risk of stranded assets, as electricity generation from renewables is already forecast to be cheaper than coal already in 2025.¹⁷

Additional development benefits



SDG 3

Renewables reduce air pollution when displacing polluting energy sources, such as coal.



SDG 8

Development of industry related to renewable energy and its supply chain supports full employment through creation of safe and decent jobs.



SDG 9

Development and integration of new clean technologies supports sustainable industrialisation and infrastructure upgrading.



SDG 11

When displacing coal fired power plants, renewables contribute to reducing the environmental impact of cities by reducing the amount of GHG and air pollutants from power generation.



SDG 15

Renewables contribute to conservation of natural habitats through reduced air and water pollution and decreasing water consumption, especially when displacing more polluting or intensive alternatives, such as coal.

Good practice in other countries



The **UK** was the first national government to announce a commitment to phase out unabated coal use, setting a target date of 2025. Starting from 35% in 2005, the share of coal-fired power generation went down to 9% in 2016.



By 2024, **Chile** will close eight of its oldest coal-fired power plants – equivalent to 20% of its current coal electricity capacity (currently 40% coal share in their electricity mix). Chile will phase out its remaining 20 coal plants by 2040.

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REFERENCES (FOR JAPAN)

- 1 **United Nations (2019)**. Information Note on the 2019 Climate Action Summit of the Secretary-General. Retrieved from https://www.un.org/en/climatechange/assets/pdf/Information_Note_Climate%20Summit_20Mar2019.pdf
- 2 **Deutsche Welle (2019)**. G20 summit: World leaders agree on climate deal. Retrieved from <https://www.dw.com/en/g20-summit-world-leaders-agree-on-climate-deal/a-49408651>
- 3 **Climate Action Tracker (2019)**. Country assessment: Japan. Update June 2019. Retrieved from <https://climateactiontracker.org/countries/japan/>
- 4 **Kuriyama, A., Tamura, K., Kuramochi, T. (2019)**. Can Japan enhance its 2030 greenhouse gas emission reduction targets? Assessment of economic and energy-related assumptions in Japan's NDC. Retrieved from <https://doi.org/10.1016/j.enpol.2019.03.055>
- 5 **Climate Action Tracker (2016)**. The ten most important short-term steps to limit warming to 1.5°C. Retrieved from <https://climateactiontracker.org/publications/the-ten-most-important-short-term-steps-to-limit-warming-to-15c/>
- 6 **Warnecke, C., Kurdziel, M.-J. (2017)**. Potentials and Limitations of Different Requirements (Offsetting) in Bilateral and Global Carbon Pricing Systems. Retrieved from <https://newclimate.org/2017/07/20/potentials-and-limitations-of-different-requirements-offsetting-in-bilateral-and-global-carbon-pricing-systems/>
- 7 **Ministry of the Environment, Japan (2012)**. Details on the Carbon Tax. Retrieved from https://www.env.go.jp/en/policy/tax/env-tax/20121001a_dct.pdf
- 8 **Grady, B. (2015)**. The real social cost of carbon: \$220 per ton, report finds. Retrieved from <https://www.greenbiz.com/article/governments-social-cost-carbon-could-be-increased>
- 9 **World Bank Group (2019)**. State and Trends of Carbon Pricing 2019. Retrieved from <https://openknowledge.worldbank.org/handle/10986/31755>
- 10 **Climate Action Tracker (2016)**. The ten most important short-term steps to limit warming to 1.5°C. Retrieved from <https://climateactiontracker.org/publications/the-ten-most-important-short-term-steps-to-limit-warming-to-15c/>
- 11 **Climate Analytics, Renewable Energy Institute (2018)**. Science Based Coal Phase-out Timeline for Japan: Implications for policymakers and investors. Retrieved from <https://climateanalytics.org/publications/2018/science-based-coal-phase-out-timeline-for-japan/>
- 12 **Climate Action Tracker (2019)**. Country assessment: Japan. Update June 2019. Retrieved from <https://climateactiontracker.org/countries/japan/>
- 13 **IPCC (various editors) (2018)**. Global warming of 1.5°C (IPCC Special Report and Summary for Policymakers). Retrieved from https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf
- 14 **Climate Action Tracker (2019)**. Country assessment: China. Update June 2019. Retrieved from <https://climateactiontracker.org/countries/china/>
- 15 **Climate Analytics (2016)**. Implications of the Paris Agreement for Coal Use in the Power Sector. Retrieved from https://climateanalytics.org/media/climateanalytics-coalreport_nov2016_1.pdf
- 16 **Climate Action Tracker (2019)**. Country assessment: Japan. Update June 2019. Retrieved from <https://climateactiontracker.org/countries/japan/>
- 17 **Hodges, J. (2018)**. Fossil Fuels Squeezed by Plunge in Cost of Renewables, BNEF Says. Retrieved from <https://www.bloomberg.com/news/articles/2018-03-28/fossil-fuels-squeezed-by-plunge-in-cost-of-renewables-bnef-says>

