



# Japan Should Take a Leadership Role to Address Climate Change

*Ambitions for G-20 Action*

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## **Abstract**

*The time is right for the Abe government to assume an even greater global leadership role on climate change as it successfully has done for regional trade liberalization. Japan can lead by demonstrating how to decouple economic and emissions growth in the energy and transportation sectors both domestically and internationally while providing expanded economic opportunities and energy access. It is well positioned to play this role. Its extensive international activities related to climate issues date back to the Kyoto Protocol. Japan has developed impressive technology that could be shared with others. It also is situated in Asia, a continent that has dominated global CO<sub>2</sub> emissions since the early 2000s*

*making Asian countries participation indispensable to the success of any global climate initiative.<sup>1</sup>*

*Japan's Prime Minister Shinzo Abe called for ambitious commitments to climate change in preparation for when he hosts the G20 in June 2019. In the Financial Times on September 24, 2018, he stated "Climate change can be life-threatening to all generations, be it the elderly or the young and in developed and developing countries alike. The problem is exacerbating more quickly than we expected. We must take more robust actions. And swiftly."<sup>2</sup> He repeated this call in January 2019 at the Davos World Economic Forum stating "Spending money on a green earth and a blue ocean—once deemed costly—is now a growth generator. We must invite more disruptive innovations before it's too late."<sup>3</sup> But will Prime Minister Abe be able to follow up on his call and stimulate action that goes beyond just rhetoric?*

## The Trajectory

Extreme weather events cost the world around \$215 billion in 2018. The Global Carbon Project announced that global carbon emissions hit an all-time high in 2018, rising 2.7 percent over 2017.<sup>4</sup> The United Nations stated in the lead-up to the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24): "Current commitments expressed in the NDCs [Nationally Determined Contributions] are inadequate to bridge the emissions gap in 2030. Technically, it is still possible to bridge the gap to ensure global warming stays well below 2°C and 1.5°C, but if NDC ambitions are not increased before 2030, exceeding the 1.5°C goal can no longer be avoided. Now more than ever, unprecedented and urgent action is required by all nations. The assessment of actions by the G20 countries indicates that this is yet to happen; in fact, global CO2 emissions increased in 2017 after three years of stagnation."<sup>5</sup>

The International Energy Agency similarly found that, after remaining flat for three years from 2013-2016, global energy-related CO2 emissions increased by around 1.5 percent in 2017, reaching an all-time high. This figure is particularly important as energy accounts for over two-thirds of total greenhouse gas emissions

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<sup>1</sup> International Energy Agency, CO2 Emissions from Fuel Consumption (Paris: March 2018).

<sup>2</sup> Shinzo Abe, Join Japan and act now to save our planet, Financial Times, September 24, 2018.

<sup>3</sup> International Energy Agency, CO2 Emissions from Fuel Consumption (Paris: March 2018).

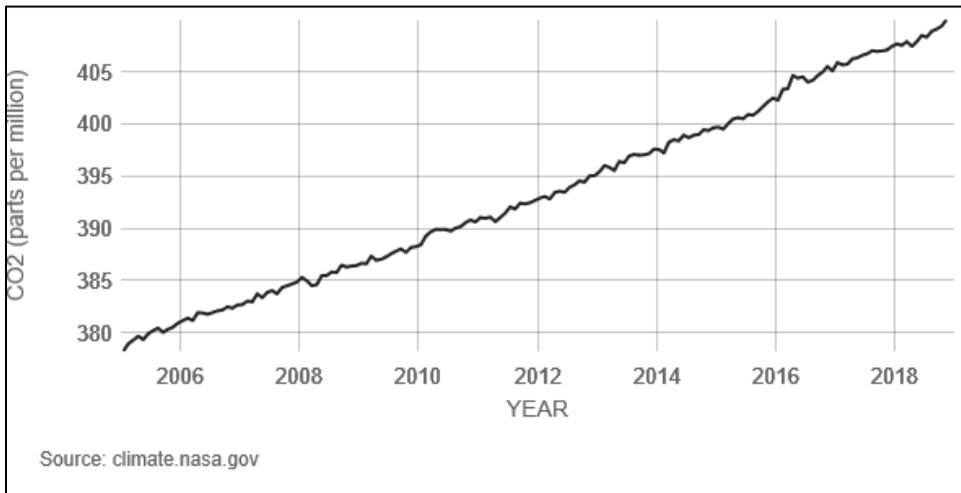
<sup>4</sup> Global Carbon Project, Global Carbon Budget 2018, December 5, 2018.

<sup>5</sup> United Nations Environment Programme, *The Emission Gap Report* (Nairobi, Kenya, UNEP, November 2018).

and more than 80 percent of CO<sub>2</sub> emissions. In January 2019, the journal *Science* published data that shows the world's oceans are warming 40 percent faster than estimated five years ago, portending even more rapid sea level rise, greater and more destructive hurricanes, and increased stress on marine food resources.<sup>6</sup> Antarctica experienced a six-fold increase in yearly ice mass loss between 1979 and 2017 from the influx of warm water, which will lead to faster sea level rise than previously forecasted according to another study<sup>7</sup> published in January 2019.

Yet, despite these and other ominous findings, COP24 made little progress beyond agreeing to rules on how to measure and report on emissions cutting measures, and a *mélange* of specific company, civil society, and country announcements. There are growing rumblings of discontent on the impact of climate measures on economic growth in France, Brazil, and elsewhere. The will to undertake aggressive actions appears to be diminishing. Why? Many countries, including Japan and the United States, have yet to sufficiently balance the needs of economic growth with those of environmental sustainability.

#### **DIRECT CARBON DIOXIDE MEASUREMENTS: 2005-PRESENT**



<sup>6</sup> New York Times, *Ocean Warming Is Accelerating Faster Than Thought, New Research Finds*, January 11, 2019.

<sup>7</sup> Eric Rignot, Jérémie Mouginot, Bernd Scheuchl, Michiel van den Broeke, Melchior J. van Wessem, and Mathieu Morlighem, *Four decades of Antarctic Ice Sheet mass balance from 1979-2017 in the Proceedings of the National Academy of Sciences*, January 14, 2019.

## Japan and the United States

Japan has been vocal on issues of climate internationally. Japan's greenhouse gas (GHG) intensity is quite low, on par with that of the European Union. It is committed to reducing its greenhouse gas (GHG) emissions by 3.8 percent below 2005 levels by 2020 and by 26 percent by 2030 from 2013 levels, but its targets have been criticized as unambitious and its current policies and progress as insufficient. CO<sub>2</sub> has continued to increase as economic growth recovered. Prime Minister Abe also has been criticized for prioritizing economic growth at the expense of stronger climate policy.

Then again, Japan is taking new actions such as The Climate Change Adaptation Act passed in June 2018 that is aimed at preventing or minimizing adverse effects of climate change, and the deregulation of its electricity and natural gas sectors that could expand the percentage of renewables in the energy mix. The Abe administration also is supporting carbon-free nuclear energy in its energy mix and investing in low carbon technologies such as hydrogen and high capacity energy storage. In order to lead globally, it will need to scale up these and other domestic actions to bolster its credibility.

Japan also has demonstrated its willingness to share its expertise and experience internationally. Over time, it has participated in the Green Climate Fund, the Asia-Pacific Partnership on Clean Development and Climate (APP) and other multilateral initiatives as well as making climate issues a significant element of its foreign assistance to developing countries. More recently, Japan has disseminated the lessons from its "energy miracle" following the Fukushima disaster after which Japan contained the increase of CO<sub>2</sub> emissions despite nuclear energy going offline through crisis management efforts.<sup>8</sup>

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<sup>8</sup> See Robert Feldman, Japan's Energy Miracles, in Phyllis Yoshida, ed. Japan's Energy Conundrum, A Discussion of Japan's Energy Circumstances and U.S.-Japan Energy Relations, Sasakawa Peace Foundation USA, 2018.

### Prime Minister Abe Visits Flood Zone in July 2018



Source: Prime Minister's Official Website,

[https://www.kantei.go.jp/jp/98\\_abe/actions/201807/13ehime.html](https://www.kantei.go.jp/jp/98_abe/actions/201807/13ehime.html)

The United States in prior administrations strongly advocated addressing climate change. U.S. CO<sub>2</sub> emissions, due in large part to the shale gas revolution, declined in 2015, 2016, and 2017. The current story in the United States, however, is mixed, especially at the federal level. U.S. CO<sub>2</sub> emissions are again rising despite the growing role of lower emission natural gas instead of coal in electricity production. The Rhodium Group released in January 2019 an estimate that U.S. carbon dioxide emissions rose by 3.4 percent in 2018, the biggest increase in eight years. Most likely, strong economic growth led to a rise in industrial emissions as well as an increase in transport emissions from additional travel and freight<sup>9</sup> that more than offset the continuing decline of emissions from coal power generation. The fourth U.S. National Climate Assessment written by 13 federal agencies released in November warned that the effects of rising temperatures, including more heat waves, coastal flooding and forest fires, could strip the United States of one-tenth

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<sup>9</sup> Brad Plumer, "U.S. Emissions Surged in 2018 Even as Coal Plants Closed," New York Times, January 8, 2019.

of its gross domestic product by the end of the century. In response, U.S. President Trump stated “I’ve seen it. I’ve read some of it, and it’s fine. I don’t believe it.”<sup>10</sup> This has created an unsettled situation and tempered the United States’ ability to lead on the climate issue.

Will the growing costs from extreme weather events energize civil society and force politicians to listen to their demands for action? According to Aon plc, increasing levels of turbulent weather such as the 2018 June-July floods in western and central Japan are estimated to have cost Japan between \$7 and \$23 billion and have increased political attention to the issue.<sup>11</sup> Extreme events cost the United States between \$92 and \$155 billion in 2018. The Aon plc study also found that the top five global economic loss events from extreme weather were all in the United States and Japan (Hurricanes Michael and Florence, Typhoon Jebi, the U.S. Camp Fire, and Japanese flooding).

Awareness and understanding of climate challenges globally is growing, especially as the world experiences more extreme weather events and those events have real economic impacts. There is some hope. Investment into new technologies that could be part of the solution—such as electromobility and advanced nuclear energy—and into systems solutions also continues to expand. Globally, renewables, especially wind and solar, are becoming affordable. Structural changes such as the deregulation of the electricity sector in Japan are occurring that could open more opportunities for renewables and creative solutions. The global portfolio of mitigation and adaptation activities is growing with regional and local governments as well as companies taking the lead in implementing activities to boost their resilience to the effects of climate change. For example, some 33 U.S. states at least temporarily delinked their growth and carbon emissions between 2000 and 2014, confirming that economic growth does not inevitably require emissions growth.<sup>12</sup> An increasing number of cities and towns in Japan are experimenting with smart city concepts.

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<sup>10</sup> Sarah Gray, “Trump says he doesn’t believe his own administration’s report on the economic impact of climate change” in the Business Insider, November 10, 2018 at <https://www.businessinsider.com/trump-responds-to-climate-change-report-multibillion-economic-impact-2018-11>.

<sup>11</sup> “The five most extreme weather events of 2018 in the United States,” Washington Post, December 31, 2018, and Aon plc, *Weather, Climate and Catastrophe Insight: 2018 Annual Report*, January 2019.

<sup>12</sup> Mark Munro and Devashree Saha, *Growth, carbon, and Trump: State progress and drift on economic growth and emissions ‘decoupling’*, Brookings Institution, December 8, 2016.

## The Road Forward

As the United Nations' report reveals, current efforts in Japan and the United States, as at the international level, are not adequate to decouple economic and emissions growth. Indeed, one of the biggest stumbling blocks to increased action is the inability to persuasively enough demonstrate the decoupling of economic growth and rising greenhouse gas emissions/air pollution to civil society and business. Prime Minister Abe's invitation to the rest of the world to come together to focus "on accelerating the virtuous cycle of environmental protection and economic growth" underscores the need to demonstrate decoupling. Japan should consider how it could lead globally by demonstrating decoupling domestically and internationally.

What does decoupling really mean and how can it be accomplished? To a large extent, it means decarbonizing the energy and transportation sectors while providing expanded economic opportunities and energy access. Japan can play a leading role in each of these areas. Decoupling would entail:

1. Special attention to mass transportation in smart-urban and -suburban environments, vehicle electrification, battery electric vehicles, hydrogen-fuel vehicles, light weighting technologies, and autonomous-drive technologies.
2. Investment in, and dissemination of the lessons of, smart city projects across a diverse cross-section of local and regional areas.
3. Breakthroughs in clean energy development and deployment including renewables as well as advanced zero carbon emission nuclear reactors with breakthrough safety features and lower costs.
4. Investment in innovative supporting technologies such as energy storage systems and digital technologies domestically and through international cooperative arrangements.
5. Partnering with the United States and other regional and global entities to synergize regional and global demonstrations and activities.
6. Investment into cost-effective technologies and practices that increase resilience to extreme weather events.

Japan should show the world how to strengthen the link between economic growth and emission reduction through policies and practices that demonstrate economic growth that comes from investing in a clean economy transition and in innovative policies and practices. Building and expanding on Japan's energy

miracle after the Fukushima crisis along with an increased emphasis at home and abroad on climate mitigation and adaptation efforts could create an opportunity for Japan to take on an even greater global leadership role. Japan must demonstrate through “robust actions” how to break the link between economic growth and increased carbon emissions to win support from business and civil society for increased action. By taking a leadership role in these efforts, Japan can spur other nations, including the United States, to follow suit.