



E3G

REPORT APRIL 2015

RISING SUN, SINKING INFLUENCE?
JAPAN'S SELF-MARGINALISATION
FROM GLOBAL CLIMATE POLITICS

TAYLOR DIMSDALE, LIZ GALLAGHER & CAMILLA BORN

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About E3G

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EXECUTIVE SUMMARY

- > As other countries including the US, China, UK, Germany and Mexico lead on climate action, the lack of effort from the world's third largest economy and fifth largest emitter has left Japan isolated in a debate that is increasingly central to trade, investment, security and foreign policy.
- > The Japanese government is reportedly considering an emission reduction target in the range of 24-26% below either 2005 or 2013 levels by 2030. This is less ambitious than the pledges from either the US or EU and is not consistent with Japan's long term decarbonisation goals. The EU has a rising population and lower per capita emissions than Japan, but has committed to deeper and faster emission reductions. Unless Japan puts a stronger offer on the table it also risks self-marginalisation at the international climate conference in Paris.
- > Japan's growing use of fossil fuels puts it at odds with most other G7 and OECD economies, which have recognised the urgent need to phase coal out of the energy mix. The US, much of Europe and many of the largest multilateral development banks have signaled that coal is no longer a sound investment and have decided to stop supporting coal projects abroad, while Japan has scaled up its international financing. Most of Japan's financing has gone to coal plants that do not use the most efficient technology available. Meanwhile China has placed a limit on its coal consumption, which fell in 2014 and looks set to continue its decline.
- > Domestically Japan has more than forty coal plants in the pipeline with a lifespan of forty or more years. These would account for roughly half of what Japan could emit under the government's target emissions budget in 2050. These plants are likely to become stranded assets under any credible climate scenario and will struggle to attract private investment without government guarantees and subsidies – which Japan, as a member of the G20, has agreed to phase out.
- > The Fukushima nuclear disaster has presented Japan with an immense challenge. But it is also an opportunity for Japan to make better energy choices. Despite facing similar energy security challenges as Japan, Germany has stuck to an ambitious decarbonisation agenda and has successfully decoupled greenhouse gas (GHG) emissions from economic growth. Germany plans to cut its emissions by more than half by 2030 while also phasing out the use of nuclear energy.
- > Japan's weak target undermines decades of leadership in clean technology innovation and would reverse many of Japan's considerable competitive advantages in the low carbon economy which now stands at US\$4-5tr. Japan holds more patents in wind and solar PV than any country outside of the US. As China, Europe and the US all invest heavily in clean energy Japan's major export markets will look vastly different in the years to come, leaving Japanese industries at a disadvantage.
- > As climate has vanished from the Japanese debate, it has become a domestic and foreign policy priority for its most important strategic ally. Bolder US climate policy and diplomacy over the past several years has already paid dividends, including securing a

groundbreaking commitment from China to peak its emissions by no later than 2030, with efforts to peak earlier.

- > Japan's position seems at odds with an objective analysis of its national interests. Japan has been rated as a "high risk" country and is exposed to climate impacts due to its dependence on resource supply chains. In 2010 Japan was the fourth largest resource importer in the world. Japanese imports of US cereals for example constitute one of the world's largest bilateral trade relationships; but analysis shows that by 2030 the price of maize and wheat could rise by 177% and 120% respectively – in large part as a result of climate change.
- > Asia is extremely vulnerable to climate impacts, and has more fatalities and economic losses from natural catastrophes than any other region. Total global reported losses are valued at almost US\$4tr since 1980, with three-quarters the result of extreme weather. Asia accounts for half of this total cost – about US\$53bn per year. Extreme weather events will increase in both number and severity, especially with regards to second and third order impacts, putting Japan's ability to sustain its substantial investments in international humanitarian response in jeopardy.
- > It is not too late for a change in course. Studies show Japan could match or even exceed the emissions reductions targets of the US and EU. A Japan that is more proactive in its climate diplomacy could tip the scales in favor of an international agreement that successfully reduces climate risk, while at the same time helping to ensure Japan's industries are competitive in the green markets of the future.

INTRODUCTION

With just months remaining before the next international climate agreement in Paris, countries have begun stepping forward with their pledges for action.

The contributions that have been announced by the world's largest economies illustrate the emerging consensus betting on a low carbon future. They also show a growing understanding of the reinforcing self-destructive dynamic whereby fossil fuelled growth eats the climate, and climate change then further eats into growth. The latest announcements by the EU, US, and China are more ambitious than previous commitments, and taken together they will significantly lower the global GHG emissions trajectory and reduce the projected level of warming.¹ Achieving these targets will bring other benefits, creating 470,000 additional jobs in the US, saving the EU US\$33bn in avoided fossil fuel imports annually, and reducing China's reliance on domestically produced coal by 21%.²

As other OECD member countries including the US, UK, Germany and Mexico have made climate action a pillar of their economic policy and diplomacy, the lack of effort from the world's third largest economy and fifth largest emitter means that Japan increasingly finds itself isolated. The ambitious greenhouse gas reduction target Japan announced in 2010 has been severely weakened. The emission reduction target Japan is considering is reported to be in the range of 24-26% below either 2005 or 2013 levels by 2030.³ This target is less ambitious than the pledges from either the US or the EU, and is also not consistent with Japan's own long term objective to reduce emissions by 80% by 2050. Japan's population will decrease by 30m by 2050 which should make greater emissions reductions easily achievable.⁴ While the US and EU targets could be strengthened, they are both broadly consistent with their long term goals.⁵

An objective analysis suggests that Japan's international position seems to be at odds with its national interest, and has left it marginalised in a debate that is central to trade, investment, security and foreign policy. The issue is particularly relevant for Asia, which is highly vulnerable to climate change and will be one of the largest sources of emissions in the coming decades. Japan's allies are calling on the government to improve on its target, including the British Secretary of State for energy and climate change.⁶ Unless Japan raises its level of ambition it risks finding itself irrelevant in negotiations around the emerging global climate regime, which is likely to have far greater economic implications than any other existing multilateral process.

¹ Climate Action Tracker. China, US and EU post-2020 plans reduce projected warming. 8 December 2014.

² New Climate Institute. Assessing the missed benefits of countries' national contributions. 2015.

³ <http://mainichi.jp/english/english/newsselect/news/20150424p2g00m0dm070000c.html>

⁴ <http://www.japantimes.co.jp/news/2014/06/27/national/in-much-of-japan-population-will-halve-by-2050/>

⁵ Climate Action Tracker 2014

⁶ http://ajw.asahi.com/article/behind_news/politics/AJ201503310036

POLITICAL CONTEXT

Japan played an integral role as host of the world's first international climate change agreement in Kyoto in 1997. And despite the US deciding not to ratify the agreement in 2001 under President Bush, Japan ultimately agreed to a 6% emission reduction target under the Kyoto Protocol which officially came into force in 2005.

Japan's membership in the Kyoto Protocol was strongly opposed by the country's most influential business and industry associations, and at the climate conference in Cancun in 2010 Japan decided not to sign up to a second commitment period.⁷ The Ministry of Foreign Affairs reasoned that it was unfair and ineffective as many of the world's major emitters were not subject to legally binding commitments.⁸ The decision took many by surprise and set the tone for what became a difficult, but eventually successful, negotiating session.⁹

Prior to its decision not to sign up to the second commitment period of Kyoto, in 2009 Japan announced a target to reduce its emissions by 25% below 1990 levels by 2020 – a serious pledge that would have required effort above and beyond existing policies. Importantly, the target was based in part on a government energy plan to increase the share of nuclear energy from roughly 30% to around 50% by 2030.¹⁰

The meltdown of the Fukushima Daiichi reactors following an earthquake and tsunami in March 2011 was the second largest nuclear disaster in history and led to Japan losing almost one-third of its electricity supply virtually overnight. This event had a major impact on Japanese energy policy which persists today. At the same time, nuclear power provided around one-third of electricity supply which in turn accounted for around one-third of Japan's emissions. So in terms of emissions, nuclear was important but, at 2010 levels, it delivered only around 10% of Japan's total emissions abatement.¹¹

In 2012 Shinzo Abe was re-elected as the seventh Prime Minister in six years, and the Liberal Democratic Party (LDP) took over power from the Democratic Party of Japan (DPJ). Abe won stressing the need to restore the country's economic growth, strengthen its international diplomacy, and counter growing national security threats by revising parts of the country's war-renouncing constitution.¹²

Since Abe's return to power, most of the Government's resources have been devoted to Abe's economic reform program. Often called "Abenomics", this has aimed at boosting domestic demand and jump-starting Japan's faltering economic growth.¹³ Climate change has fallen off the political agenda, and in 2013 the government significantly weakened its emissions

⁷ http://www.japantimes.co.jp/opinion/2012/12/03/editorials/extending-the-kyoto-protocol/#.VTKfEvnF_9s

⁸ http://www.mofa.go.jp/policy/environment/warm/cop/kp_pos_1012.html

⁹ <http://www.theguardian.com/environment/2010/dec/01/cancun-climate-change-summit-japan-kyoto>

¹⁰ <http://www.reuters.com/article/2015/01/30/us-japan-nuclear-idUSKBN0L314M20150130>

¹¹ <http://www.greenpeace.org/international/Global/international/briefings/climate/2014/IPCC-WGII-Japan.pdf>

¹² <http://www.economist.com/blogs/banyan/2012/12/japans-election>

¹³ The economic plan consists of three parallel efforts to boost growth through a monetary stimulus from the Bank of Japan, increase spending on infrastructure, and broader structural reforms to increase longer term investment.

reduction commitment to allow a 3% increase in emissions above 1990 levels. It has been reported that Japan will announce a 2030 target ahead of the G7 Summit in June, of around 25% below 2005 or 2013 levels by 2030 – roughly equivalent to an 18% decrease below 1990 levels.¹⁴

The Keidanren (Japan Business Federation) lobbied strongly against the DPJ's target of a 25% reduction below 1990 levels by 2020, claiming it would be impossible to meet and would threaten economic recovery.¹⁵ But the 25% target was based on the most ambitious of three possible pathways put forward by the Ministry of Economy, Trade and Industry (METI) and, though ambitious, was realistic. In general, industry and business associations have long enjoyed close ties to the LDP and strong influence with METI.¹⁶ Preferential treatment for business combined with the instability caused by frequent government turnover has contributed to the lack of longer term strategic planning that would favor a more ambitious low carbon agenda.

Japan's turn to coal puts it at odds with most other G7 and OECD countries and greatly limits its climate ambition

The energy shortfall caused by the Fukushima disaster has been addressed primarily through an increase in fossil fuel imports. Japan has always had very low energy self-sufficiency, but is now the world's largest liquefied natural gas importer, second largest coal importer, and third largest net importer of crude oil and oil products.¹⁷ It is reliant on supply from areas of growing instability; almost all of its crude oil and over a quarter of its gas come from the Middle East.¹⁸ Japan's GHG emissions rose to the second-highest level on record in FY2013, while its CO2 emissions intensity has increased by 17% from 1990 levels.¹⁹

Japan currently has over forty coal plants in the development pipeline which would account for half of what the country could emit under the government's target emissions budget in 2050.²⁰ These are likely to become stranded assets that will struggle to attract private investment without government guarantees and subsidies – which Japan, as a member of the G20, has agreed to phase out.²¹

While the use of solar and other clean energy resources also initially increased thanks to the availability of feed-in tariffs, this trend has stalled. Japan's powerful utilities, which have a monopoly on the market, have blocked renewables' access to the grid, claiming this would present a risk to grid stability. METI claims renewable energy is too costly and has repeatedly cut the incentives in place for solar power, most recently by 16% in March 2015.²² The

¹⁴ <http://mainichi.jp/english/english/newsselect/news/20150424p2g00m0dm070000c.html>

¹⁵ <http://www.greenpeace.org/international/Global/international/publications/climate/2011/391%20-%20WhosHoldingUsBack.pdf>

¹⁶ http://www.japantimes.co.jp/news/2014/08/16/business/power-play-debate-renewable-energy/#.VTY_JkfF85k

¹⁷ <http://www.eia.gov/countries/analysisbriefs/Japan/japan.pdf>

¹⁸ <http://www.eia.gov/countries/analysisbriefs/Japan/japan.pdf>

¹⁹ <http://www.theguardian.com/environment/2015/apr/17/can-japans-climate-policy-get-back-on-track-after-fukushima>

²⁰ <http://www.bloomberg.com/news/articles/2015-04-09/japan-s-new-coal-plants-threaten-emission-cuts-group-says>

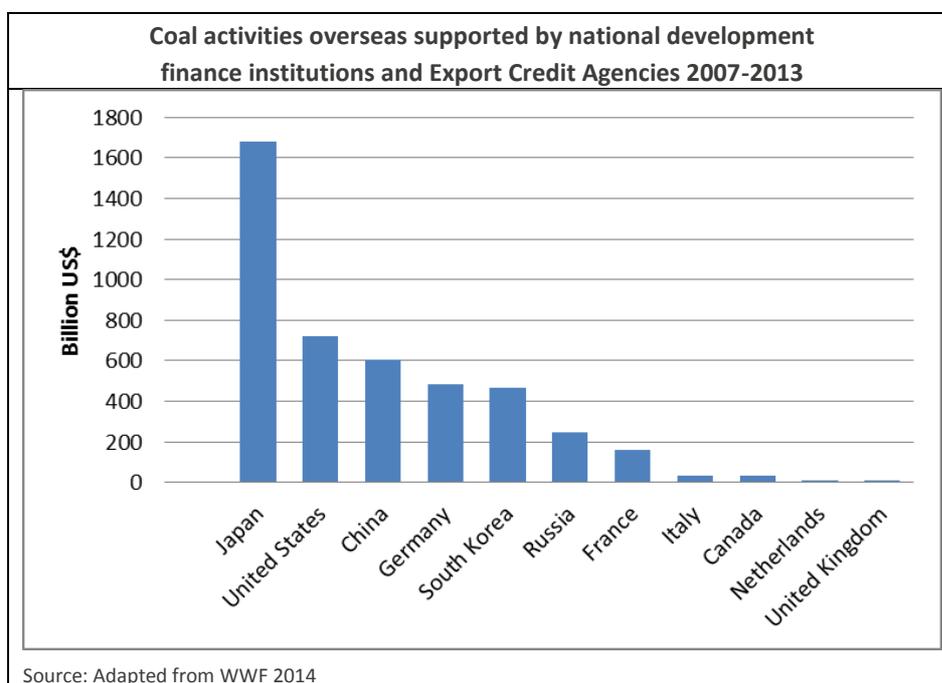
²¹ <http://www.reuters.com/article/2009/09/26/us-g20-energy-idUSTRE58O18U20090926>

²² http://www.meti.go.jp/english/press/2015/0319_01.html

government had approved 71 GW of renewable energy through November of 2014, with solar energy accounting for more than 90% of the total. But only 14% of those projects are actually connected to the grid.²³ Instead, the government's Strategic Energy Plan from 2014 prioritises coal and nuclear as important sources of base-load power and energy security.

Japan's turn to coal is also driven by its export policy strategy and objectives. Several of the world's largest manufacturers of coal technology including Toshiba, JGC, Mitsubishi Heavy Industries (MHI), and Hitachi are Japanese companies. The government has provided generous support to the coal technology manufacturing industry through export credits and other development finance via the Japan Bank for International Cooperation (JBIC) and Nippon Export and Investment Insurance (NEXI).

Between 2007 and 2013, Japan provided US\$16.8bn in financing for overseas coal projects – more than double that of any other OECD country. Some of the funds Japan has designated for climate finance have gone to coal projects.²⁴ Despite claims that this benefits the environment by offsetting the use of inefficient coal, the vast majority of Japanese financing has gone to coal plants that are less efficient than the global average.²⁵ Between 2003 and 2015, over 40% of coal plants financed by the JBIC used subcritical combustion technology, with 52% using supercritical and only 6% using ultra-supercritical. As recently as March 2015 Japan has proposed continuation of funding for coal plants by Export Credit Agencies, including incentives for slightly higher-efficiency plants.²⁶ Meanwhile, the share of subcritical plants in Chinese capacity exports has been falling rapidly.



²³ <http://www.reuters.com/article/2014/10/17/us-japan-solar-restrictions-idUSKCN0I602B20141017>

²⁴ http://www.wri.org/sites/default/files/mobilising_international_climate_finance.pdf

²⁵ <http://sekitan.jp/jbic/wp-content/uploads/2015/04/Dirty-Coal-JBIC.pdf>

²⁶ <http://sekitan.jp/jbic/wp-content/uploads/2015/04/Dirty-Coal-JBIC.pdf>

As Japan's international support for coal has increased, the US, UK, France, Netherlands, Sweden, Germany and other OECD countries have committed to stop financing coal plants, except under very special circumstances. And despite its growing power needs, China has acknowledged that there is a need to move beyond the use of coal.²⁷ China's latest Energy Development Strategy Action Plan includes limits on the growth of coal consumption, which fell in 2014.²⁸ China has also implemented policies to ensure that most of new coal build uses best available technology.²⁹

In Japan however, electricity market reform is leading to further expansion of coal generation domestically. New entrants to the market are finding coal easiest and cheapest to build and a lack of low carbon generation policy support could push coal generation levels dangerously high. Japan's Environmental Impact Assessment process for small coal (below 112MW) is less onerous than for wind farms.

Despite facing similar energy security challenges as Japan, Germany has stuck to one of the most ambitious decarbonisation plans in the world

Since Fukushima there has been strong public opposition to nuclear power in Japan. The Japanese government, which has a majority ownership of Japan's largest utility, favors re-commissioning nuclear power plants, arguing that it is the best option for reducing the country's dependence on energy imports while contributing to the decarbonisation of the power sector.

Fukushima created an immense challenge for Japan. But it also serves as an opportunity for the country to make better energy choices, rather than making risky investments in fossil fuels that will quickly become stranded assets. It is worth comparing the political and energy dynamics of Japan with that of Germany. Like Japan, the German economy is driven by manufacturing, with exports accounting for two-thirds of economic growth over the past decade.³⁰ Germany was also one of the first countries to actively pursue the development of a low carbon economy. The German Energy Concept in 2010 contained some of the most ambitious climate targets in the world:

- > 40% GHG emissions reduction below 1990 levels by 2020
- > 55% by 2030
- > 70% by 2040
- > 80-95% by 2050

²⁷ <http://www.treasury.gov/press-center/press-releases/Pages/jl2561.aspx>

²⁸ <http://peakoil.com/consumption/chinas-coal-consumption-fell-in-2014>

²⁹ <http://energy.globaldata.com/media-center/press-releases/power-and-resources/china-adopts-clean-coal-technologies-while-its-installed-coal-capacity-exceeds-800-gigawatts-in-2014-says-globaldata>

³⁰ <http://www.foreignaffairs.com/articles/67899/steven-rattner/the-secrets-of-germanys-success>

The first pillar of Germany's energy strategy was a significant increase of renewables in the energy mix, to 50% by 2030 and 80% by 2050. This has been supported by the second pillar, improvements in energy efficiency.

Germany first passed legislation that aimed for an eventual nuclear phase out in 2000. That policy was briefly overturned in 2010 by the conservative CDU/FPD government, a move that sparked public protests and left the future of nuclear power uncertain. Following Fukushima however, the government, and all political parties, made the decision to close seven of the country's oldest nuclear plants, and phase out nuclear entirely by 2022.³¹

Circumstances in Germany and Japan are not exactly the same – it is true that some nuclear remains in the German electricity mix and Germany benefits from grid interconnections to its neighbors. Nevertheless, despite the concerns voiced by some stakeholders in the nuclear industry, the reduction in nuclear power has not led to any significant disruptions in the German power sector. Germany's grid remains among the most reliable in Europe. Renewable energy accounted for almost a third of Germany's electricity generation in the first half of 2014 – a larger portion than lignite (brown) coal.³² Throughout 2014 the share of renewables in the country's energy mix increased from 25% to 28%, while energy from fossil fuels dropped by 7%.³³ One day in May 2014, renewable energy sources combined accounted for 75% of power demand for part of the day.

Germany's low carbon transition has not been without challenges, including a rise in household power bills which are currently the second-highest in the EU. It is worth noting however that this is partly due to the fact that German consumers subsidise energy intensive industries, which receive exemptions. On balance, Germany has socialised the costs of renewable energy more than most other countries, and recently energy has been getting cheaper: in 2014, prices for energy on the European Energy Exchange (EEX) dropped 13% compared to 2013.³⁴ Despite facing challenges, Germany has not rolled back any of its targets and has proven that it is possible to decouple economic growth from GHG emissions. Jobs in the German renewable energy sector have more than doubled, from 160,500 in 2004 to 371,400 in 2013.³⁵

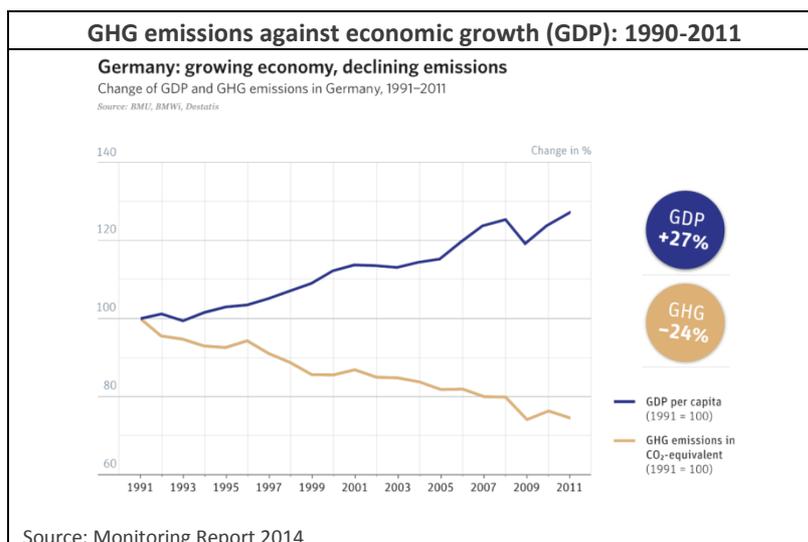
³¹ <http://www.bloomberg.com/news/2012-11-16/germany-abandons-nuclear-power-and-lives-to-talk-about-it.html>

³² <http://thinkprogress.org/climate/2014/07/08/3456934/renewable-one-third-germany/>

³³ <http://www.dw.de/renewables-help-cut-german-co2-emissions/a-18176835>

³⁴ Ibid 2015

³⁵ <http://www.bmwi.de/BMWi/Redaktion/PDF/B/bericht-zur-bruttobeschaeftigung-durch-erneuerbare-energien-jahr-2013,property=pdf,bereich=bmwi2012,sprache=de,rwb=true.pdf>



Japan's weak emissions target undermines decades of leadership in clean technology innovation and could leave Japan unprepared for the emerging low carbon economy

As one of the world's largest international investors and exporters Japan has a great deal to gain from growth in global low carbon markets, which now stands at a value of US\$4-5 trillion. Along with the US and Germany, Japan is one of the leaders in innovation of energy technologies, including wind, solar photovoltaic (PV), concentrated solar power (CSP), and biomass.³⁶ Japan holds more patents in wind and solar PV than any country outside of the US.³⁷ Solar power is set to become profitable in Japan before the end of this year, at which point it will be commercially viable in every G7 country.³⁸

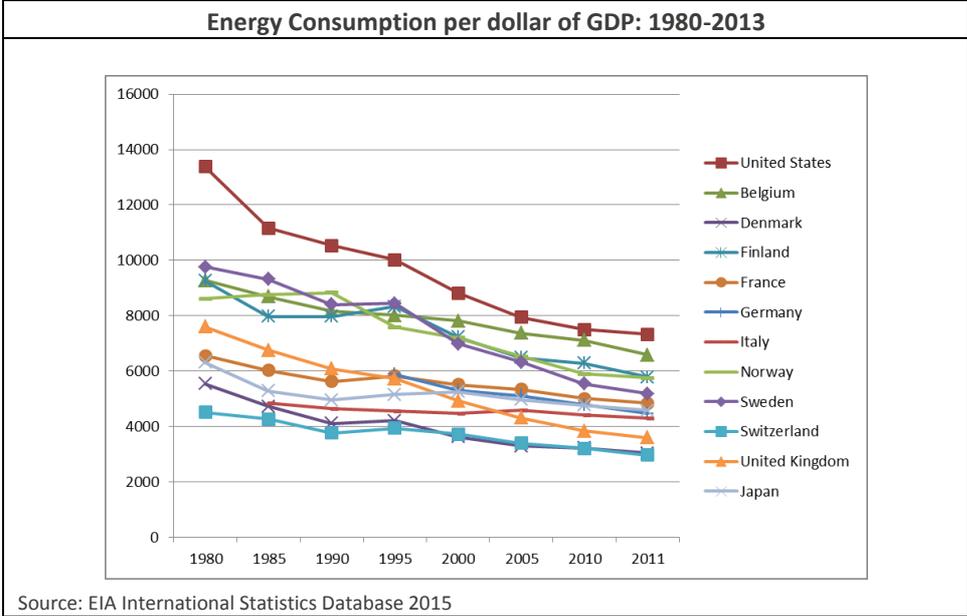
The policies and targets being put in place in both developed and developing countries will significantly alter the shape of Japan's major export markets. Europe's climate and energy policies over the past two decades for example have helped the EU reduce its energy intensity by 28% since 1990.³⁹ Over the same period Japan's energy intensity has flat-lined, and several European countries now consume more energy per dollar of GDP than Japan. The EU has a rising population and lower per capita emissions than Japan, but has committed to deeper and faster emission reductions. It is also worth noting that there are increasing trade tensions over low carbon markets and pressures will grow for countries to have comparable commitments to carbon reduction.

³⁶ Chatham House (2009) Who owns our low carbon future? Bernice Lee, Ilian Iliev and Felix Preston. https://www.chathamhouse.org/sites/files/chathamhouse/public/Research/Energy,%20Environment%20and%20Development/r0909_lowcarbonfuture.pdf

³⁷ Chatham house (2009)

³⁸ <http://uk.reuters.com/article/2015/04/26/energy-solar-power-idUKL5N0X510120150426>

³⁹ https://www.iea.org/newsroomandevents/speeches/141008_EEMR_slides.pdf

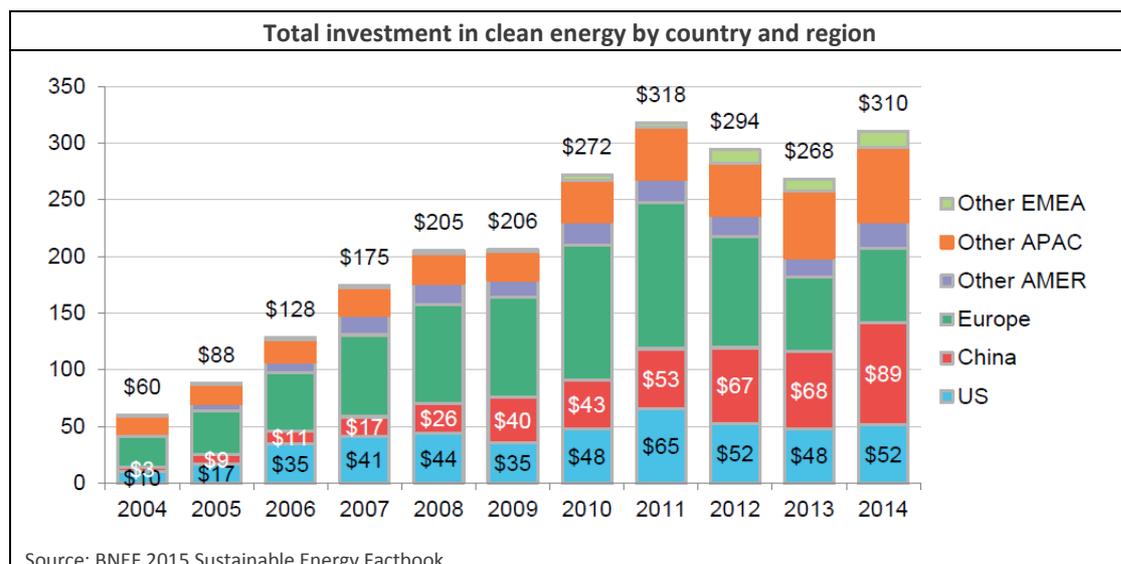


Outside Europe, China is also in the process of restructuring its economy to make future growth more sustainable. Since 2012 it has been the world's largest investor in clean energy by a wide margin⁴⁰ and is on track to meet its pledge to reduce the carbon intensity of its economy by 40-45% by 2020. As part of its agreement with the US last year, China has pledged to increase the share of non-fossil energy in its total primary energy supply to about 20% by 2030. That would require an additional 800-1,000 gigawatts of zero emissions generation capacity, roughly the total capacity of the current US electricity system. If it can improve on this target modestly, it could become the largest renewable energy market in the world.⁴¹ China is planning to implement a national carbon market by 2016, and has also placed a cap on coal consumption, which fell in 2014.⁴²

⁴⁰ BNEF 2015 Sustainable Energy Factbook

⁴¹ IRENA 2014

⁴² <http://peakoil.com/consumption/chinas-coal-consumption-fell-in-2014>



As climate has vanished from the Japanese debate, it has become a domestic and foreign policy priority for its most important strategic ally

Upon returning to office in 2012, Prime Minister Abe promised a proactive approach and new era of Japanese diplomacy, with the objective of securing a more prominent place in shaping global affairs.⁴³ But Japan's position is increasingly drawing criticism from its international partners.⁴⁴

Following years of disengagement by the US, climate diplomacy is now key pillar of President Obama's foreign policy. John Kerry's first policy guidance as US Secretary of State was to "make climate change a priority for all relevant personnel and to promote concerted action at posts and in host countries to address this problem."⁴⁵

The substantial investment in climate diplomacy made by the US paid dividends in 2014, when China agreed for the first time to a peak year for its emissions. This development has significantly altered international dynamics around the UN climate negotiations and improved the chances that a deal can be reached in Paris. Credibly positioning climate as a core part of US diplomacy would not have been possible without stronger domestic efforts. Since President Obama took office in 2009 there has been a steady stream of climate initiatives as part of the US Climate Action Plan. The most significant effort is a mandate to reduce emissions from the power sector by 30% by 2030. But the White House has also scaled up the approval of using

⁴³ http://www.mofa.go.jp/announce/pm/abe/us_20130222en.html

⁴⁴ <https://www.gov.uk/government/news/reduction-in-japanese-carbon-emissions-target-for-2020-statement-by-edward-davey>

⁴⁵ <http://blogs.state.gov/stories/2014/03/07/we-need-elevate-environment-everything-we-do>

renewables on public lands, increased fuel economy standards, and committed to reduce GHG emissions from federal agencies by 40% by 2030.⁴⁶

In addition to policies that focus on GHG mitigation, the US has also moved to address its vulnerability to climate change. The Executive Order on Climate Preparedness includes measures to remove barriers to investments in resilience and develop new climate preparedness tools and information for local communities. It also provides directions to federal agencies to develop and implement strategies to evaluate and address their most significant climate change related risks.⁴⁷ The fact that the US Department of Defense has recognised climate change as a threat to national security has been a critical factor in driving forward an agenda to improve climate risk management practices. These efforts have also led to change in perception of climate as a threat: a survey earlier this year found that 40% of International Relations professionals believe that global climate change is the number one foreign policy issue for the United States.⁴⁸ Almost three-quarters of American voters support the US signing an international climate agreement.⁴⁹

Over the past decade or so, Japan has generally aligned itself with the US in pushing for lower ambition outcomes in climate negotiations. In the wake of the developments outlined above, Japan finds itself most closely aligned with Australia and Canada – countries which, unlike Japan, have economies that are heavily dependent on energy exports.

Japan has not come to terms with its climate vulnerability, which is putting its export investments and international humanitarian response in jeopardy

While weather-related or other natural disasters have long been a fact of life for Japan, climate models suggest that the past will not look like the future. Japan has been rated as a “high-risk” country in a global climate atlas and is among the four nations with the greatest number of cities vulnerable to natural disasters.⁵⁰

The high dependence of Japan’s major industries on imports of raw materials also leaves it exposed through disruptions to its supply chain. In the face of increasing supply shortages exporting countries are already moving to protect their domestic industries. Japan’s food supply chain is particularly fragile. In 2010 Japan was the fourth largest resource importer in the world, and one of the largest importers of cereals, meat, fish and seafood, fruit, vegetables and nuts, beef and dairy, iron ore, board and plywood, wood pulp, chips and particles, and copper.⁵¹ Japanese imports of US cereals constitute one of the world’s largest bilateral trade relationships, but analysis shows that by 2030 the price of maize and wheat could rise by 177% and 120% respectively. These price rises will be driven in large part by climate change.⁵²

⁴⁶ <https://www.whitehouse.gov/share/climate-action-plan>

⁴⁷ <https://www.whitehouse.gov/the-press-office/2013/11/01/fact-sheet-executive-order-climate-preparedness>

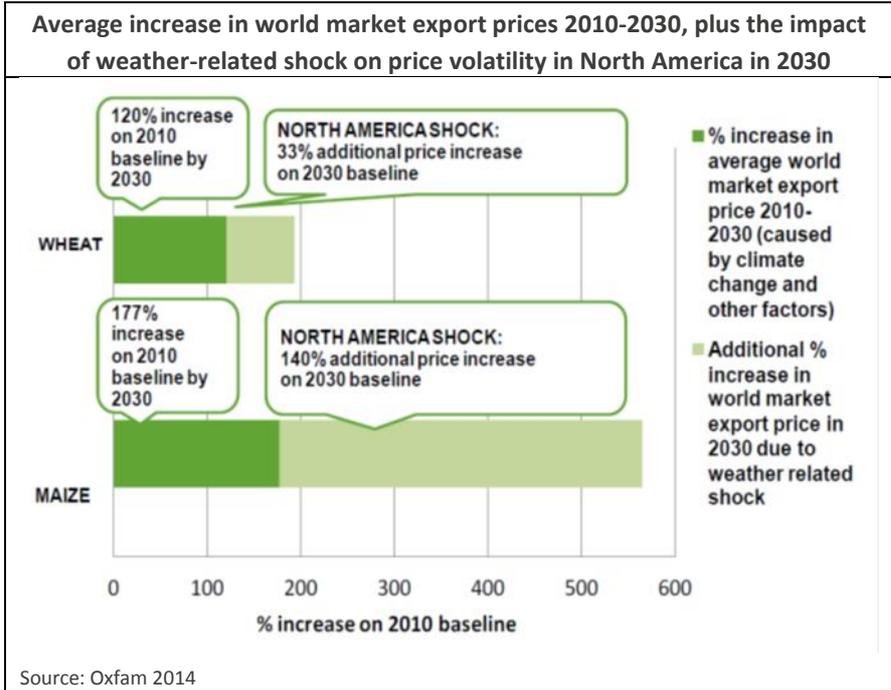
⁴⁸ <http://www.eesi.org/newsletters/view/climate-change-news-february-9-2015#5>

⁴⁹ http://www.huffingtonpost.com/2015/03/30/us-climate-agreement_n_6972434.html

⁵⁰ Maplecroft Climate Risk Atlas 2014 <http://maplecroft.com/about/news/ccvi.html>

⁵¹ http://www.resourcesfutures.org/downloads/CHJ204_Resources_Futures_WEB_28.01.13.pdf

⁵² Oxfam 2012: Extreme weather, extreme prices: the costs of feeding a warming world.



Even if Japan is able to successfully respond to extreme weather events, it will still be affected by regional impacts as climate change does not recognise national borders. Asia is the most vulnerable region in the world to natural catastrophes, having the most fatalities and overall economic losses between 1980 and 2012.⁵³ Total global reported losses are valued at almost US\$4tr since 1980, with three-quarters of these losses the result of extreme weather. Asia accounts for half of this total – about US\$53bn per year.⁵⁴

Japan is a significant donor of international development aid, including disaster response efforts. But if extreme weather events continue their upwards trend it will test Japan’s ability to provide humanitarian relief and finance intended to bolster the resilience of its neighbors. Climate change will also increasingly pose a risk to regional stability. According to the head of the US Navy’s Pacific fleet, climate change is the greatest threat to peace in the region and more likely than any other factor to cripple the security environment.⁵⁵

⁵³ Munich RE

⁵⁴ <http://asiafoundation.org/in-asia/2014/09/17/financing-the-costs-of-climate-change-in-disaster-prone-asian-nations/>

⁵⁵ <http://www.wired.com/2013/03/climate-change/>

CONCLUSION

Japan faces critical decisions about its energy and economic future that will also have implications for its role in the world and how it is perceived by its international partners. Upon returning to office in 2012, Prime Minister Abe promised a proactive approach and new era of Japanese diplomacy. But abandoning its responsibilities on climate change as others step forward is likely to leave Japan isolated, and will create challenges for Japanese diplomats, not just in the United Nations Framework Convention on Climate Change (UNFCCC) but in other multilateral fora as well.

Japan can avoid this outcome. It has experience as a leader in climate diplomacy via its role in driving the international negotiations towards agreement of the Kyoto Protocol. And according to the Japan Center for Economic Research a 30% reduction below 2005 levels by 2030 is achievable. The Climate Action Network of Japan has recommended an even stronger reduction target of 40-50% compared with 1990 levels by 2030.⁵⁶

Abe's popularity could be used to reduce the outsized influence of incumbent industries and focus on reforms that will benefit all Japanese citizens, aligning Japan's interests with those of its international peers. While transitioning to a low carbon economy does not come without its challenges, Japan has the advantage of decades of leadership in technological innovation and its strength in the fields of engineering and scientific research.

A Japan that is more proactive in its climate diplomacy could tip the scales in favor of an international agreement that successfully reduces climate risk, and help to ensure Japan's industries are competitive in the green markets of the future.

⁵⁶ <http://www.kiconet.org/eng/press-release-en/2015-04-10/Japan-2030-climate-target/>