

# Japan does not need nuclear to meet climate commitments

*Background briefing accompanying the IPCC AR5 WG2 launch. March 2014*

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***On the 15th of November, Japan announced a drastic lowering of its 2020 climate target – a move that Greenpeace strongly condemned. Independent analysis suggests that the drop cannot be explained with nuclear shutdown. Greenpeace reminds that Japan still has the means to reach 25% cuts in energy sector by 2020, without restarting its nuclear plants. What's needed most is acceleration of good trends in clean energy and energy efficiency.***

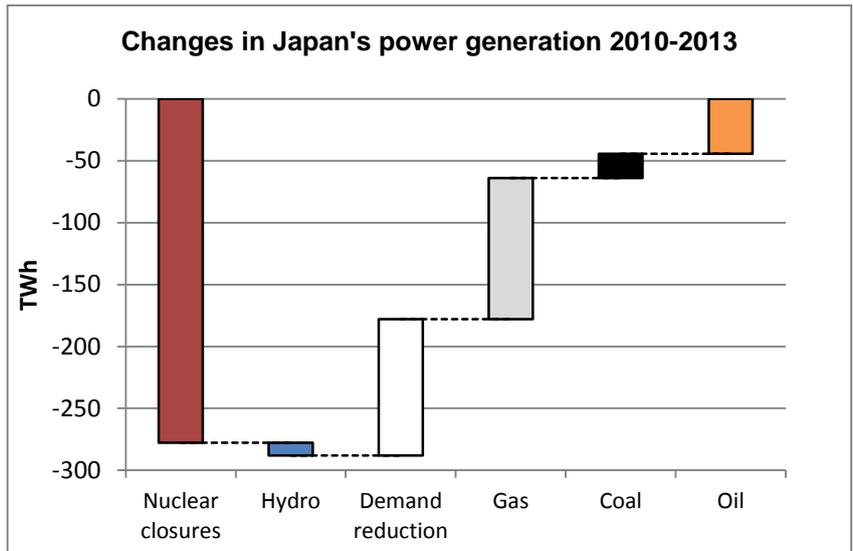
## Japan after Fukushima

Due to the heightened awareness of nuclear risks, so tragically illustrated by the catastrophic triple nuclear meltdown at the Fukushima Daiichi site in March of 2011 and ongoing nuclear crisis at the site, Japan effectively shut down nearly its entire nuclear fleet in the wake of the disaster. The 54 reactors that once supplied 30% of the nation's electricity supply have been almost completely idled for the past two years -with the exception of two reactors at the Ohi site. These two were restarted, and then shut down again for maintenance in September 2013. On 16 March 2014, Japan marked 6 months without a single kWh of nuclear energy on the grid.

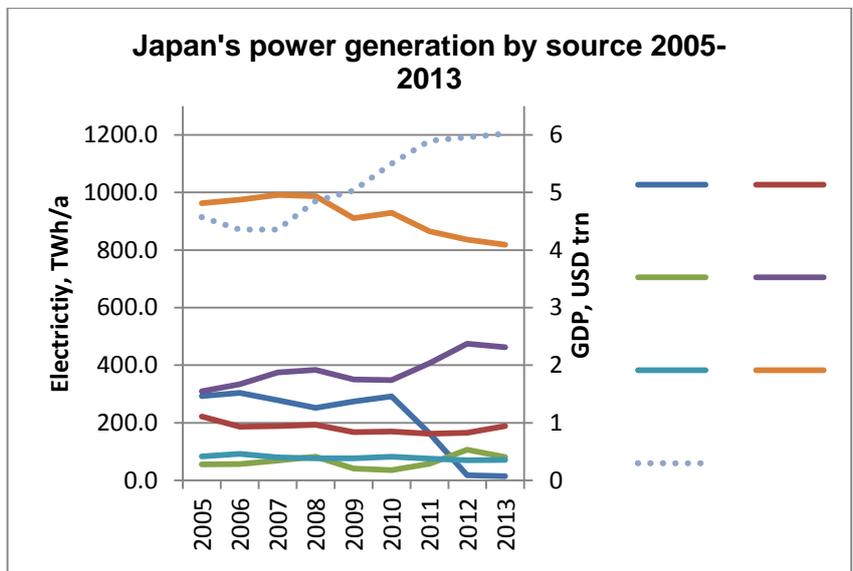
While most people have noticed that the lights are still on and the trains still running without a single nuclear reactor online,<sup>1</sup> many believe that this is due largely to an increased uptake of the dirtiest fossil fuels – coal and oil.

The reality is more encouraging: the energy 'deficit' has been filled by a combination of energy savings, through energy efficiency and conservation, and increased power generation from natural gas, followed by coal and oil.<sup>2</sup> The solar boom initiated after the accident saw more than 6 GW of new solar capacity installed in just over a year- enough to produce more than 7 TWh/a of electricity – and much more is in the pipeline. Now Japan's installed solar capacity stands at about 12 GW.<sup>3</sup> Scaling this boom up will be important for Japan's energy security.

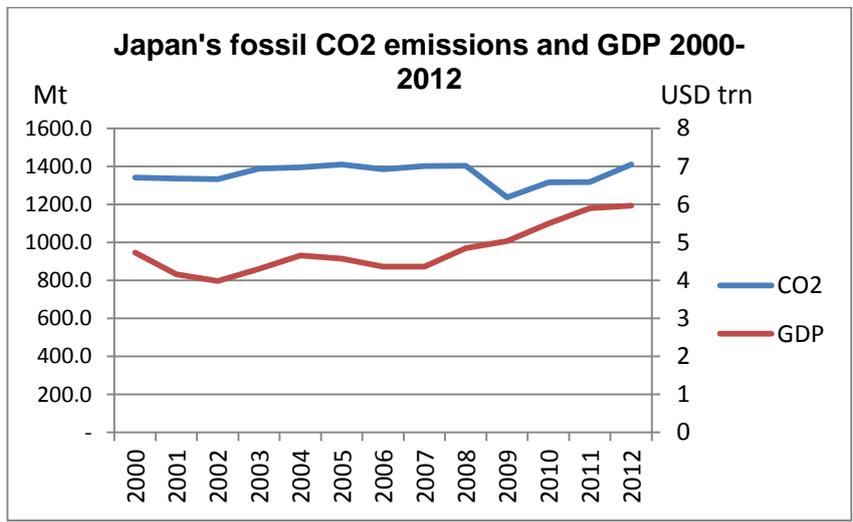
All in all, the country's rise in CO<sub>2</sub> emissions after Fukushima has been surprisingly moderate – notably smaller than what might be expected in proportion to the sudden loss of the world's third largest nuclear reactor fleet. Coal and oil consumption, while up from 2010 in 2012, were still below the levels before the financial crisis. The CO<sub>2</sub> emissions from Japan's energy sector – both pre and post-Fukushima disaster – have maintained a similar (unsustainable) growth trajectory that existed before the disaster. 2009 to 2010 saw an annual CO<sub>2</sub> increase of approximately 7%, while 2010 – 2012 saw less than an 8% rise in CO<sub>2</sub> emissions.<sup>4</sup> In short, the post-Fukushima CO<sub>2</sub> figures do not represent anything close to a sudden, drastic increase, but rather a continuation of emission trends that were already problematic (and partly reflecting a bounce-back from the 2008 economic crisis).



Source: calculated from Japan's official monthly power generation statistics<sup>2</sup>.



Source: calculated from Japan's official monthly power generation statistics<sup>2</sup>; GDP data from World Bank.



Source: BP Statistical Review of World Energy; World Bank GDP data.

## Nuclear shutdown cannot explain Japan's new non-target on climate

In November 2013, Japan [announced](#) a drastic lowering of its 2020 climate target. While its original pledge was 25% reductions from 1990 levels by 2020 (making it one of the most ambitious), its new target is an **increase** of emissions by 3.1% from 1990. Japan's new "target" is much worse than its original Kyoto target of -6% for the 2008-2012 period, and it's worse than what the IEA World Energy Outlook estimates as Japan's business-as-usual without new policy announcements (+2% above 1990 levels). The government tries to muddy the waters by using another reference year (saying it's 3.8% reduction from 2005 levels), but this doesn't change the fact that in reality, **Japan is proposing to do nothing at all in the next 6 years**, when it comes to climate and clean energy.<sup>5</sup>

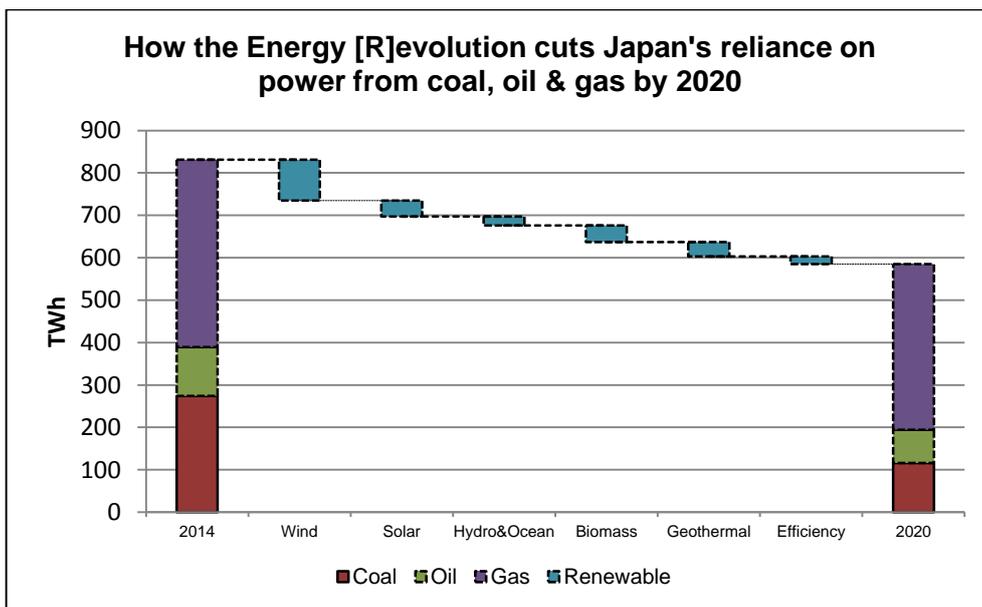
The 2011 shutdown of Japan's nuclear industry cannot account for Japan's massive degradation of climate ambition. Even if all nuclear production projected for 2020 was replaced with the present fossil fuel mix, this would still only cut down the original 25% emissions reduction target to a 17-18% reduction by 2020.<sup>6</sup> Even if all nuclear production projected for 2020 was replaced with coal – which is very unlikely – it would still result in a reduction of 9% from 1990 levels.<sup>7</sup> That's still way better than an increase of 3.1%.

In an attempt to greenwash their image, Japan also announced in November climate financing for developing countries (16bn USD finance over 2013-15). But the irony here is that in the last decade, **Japan has poured massive "development" finance into coal overseas**. They have funded or guaranteed up to 27 GW of coal power plants in Asian countries in past decade, locking in about five times their own annual emissions, assuming the power plants operate for 40 years.<sup>8</sup>

Clearly, the Abe government is failing to face the reality of climate change. At home, the administration is using climate change as an excuse to restart the nations' nuclear fleet, but at the international talks they suggest they are not going to do anything on climate anyways. That's a paradox that won't fool anyone.

## Nuclear or emissions is a false dichotomy

The nuclear vs. emissions paradigm is a false dichotomy. Furthermore, the overall share of Japan's CO2 emissions from power generation is approximately 30% - which means 70% of Japan's CO2 emissions have nothing to do with nuclear, but with transport, heating etc.



Greenpeace Energy [R]evolution scenario for Japan shows that **Japan can completely phase out nuclear power and still reach 25% emission cuts below 1990 levels by 2020** in the energy sector, with a 24% reduction coming through domestic means, and the remaining 1%-point sourced through flexible mechanisms internationally.<sup>1</sup>

## Many companies and communities are already embracing a safer future

Japanese companies, investors, and citizens are already stepping into the leadership void left by the Abe government on domestic renewable expansion.

Forward-thinking companies and investors are leading the way into the clean energy future, announcing that they are moving into the renewable energy business, including: telecommunication company, Softbank<sup>9</sup>; Goldman Sachs Group<sup>10</sup>; Equis Fund Group<sup>11</sup>; Mitsui; Kyocera, Marubeni<sup>12</sup>; Suzuki Motor Corporation<sup>13</sup>, and many others.

Further, communities and local municipalities are also taking the lead in expanding renewable energy with more than 400,000 of small-scale PV solar installations, below 10 kWp capacity, being added to the grid in the 16 months since the Feed-In-Tariff law was brought into force.<sup>14</sup>

The energy transition is already underway, and Abe's push to restart old risky nuclear reactors – as well as his support for new coal burning power plants – represents nothing short of a drastic step backward into the energy Dark Ages. With the current FIT law, and upcoming market liberalization and dissolution of existing utility monopolies, Japan could be poised to lead the way into a truly clean and sustainable energy future – if only the government allows it to.

The Abe administration can and should revise its radically irresponsible climate decision and demonstrate its leadership by seizing the opportunity to put the right policies in place<sup>15</sup> that will keep nuclear closed while allowing the country to meet its climate commitments too.

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<sup>1</sup> *The Economist*. 2014. Start 'em up. 8 March 2014. See: <http://www.economist.com/news/asia/21598714-government-and-voters-are-putting-economics-atoms-opening-way-japan-restart>

<sup>2</sup> Compiled and calculated from Japan's Ministry of Energy, Technology and Industry (METI) Agency for Natural Resources and Energy (ENECHO): Energy Survey Statistics [in Japanese]. <http://www.enecho.meti.go.jp/info/statistics/denryoku/result-2.htm>. Thermal power generation shares by fuel estimated using average thermal efficiencies for 2010 in IEA World Energy Outlook 2012.

<sup>3</sup> "Japan adds 4.58 GW of PV in eight months, FIT cuts of 10% mooted". PV-magazine.com. 4 March 2014.

<sup>4</sup> The Institute of Energy Economics Japan (IEEJ). 2013. Energy Indicators of Japan. See: <http://eneken.iej.or.jp/en/jeb/indicators.pdf>

<sup>5</sup> IEA World Energy Outlook 2013 and 2012. <http://worldenergyoutlook.org/>

<sup>6</sup> Climate Action Tracker press release. 15 Nov 2013. <http://tinyurl.com/nqldlee>

<sup>7</sup> Climate Action Tracker briefing. 15 Nov 2013. <http://tinyurl.com/nqldlee>

<sup>8</sup> <http://sekitan.jp/en/info/jbic-continues-coal-financing/>

<sup>9</sup> Thompson, J. 2014. Japan's SoftBank technology group considers push into energy market. *The Financial Times*. 31 January 2014. See: <http://www.ft.com/intl/cms/s/0/fac8246-8a5b-11e3-9c29-00144feab7de.html#axzz2wVfhOX7d>

<sup>10</sup> Torres, I. 2013. Goldman Sachs to invest \$487 million in Japan's renewable energy market. *The Japan Daily Press*. 23 May 2013 <http://japandailynews.com/goldman-sachs-to-invest-487-million-in-japans-renewable-energy-market-2329333/>

<sup>11</sup> Fujita, J. 2014. Equis Fund to invest \$500 mln in Japanese solar projects. *Reuters*. 13 February 2014. See: <http://uk.reuters.com/article/2014/02/13/equis-japan-solar-idUKL3N0LH3GB20140213>

<sup>12</sup> *Reuters*. 2012. Factbox - New investment in renewable energy projects in Japan. 12 September 2012. See: <http://www.reuters.com/article/2012/09/12/japan-energy-renewables-idAFL4E8K43W220120912>

<sup>13</sup> Watanabe, C. 2013. Suzuki to invest \$56 Million for Solar Station in Central Japan. *Bloomberg News*. 18 November 2013. See: <http://www.bloomberg.com/news/2013-11-18/suzuki-to-invest-56-million-for-solar-station-in-central-japan.html>

<sup>14</sup> Accessed in February 2014 (monthly data are from the XLS sheets downloaded from the middle this webpage <http://www.enecho.meti.go.jp/saiene/kaitori/index.html>)

<sup>15</sup> <http://energyblueprint.info/1710.0.html>