

# Implications of the Paris Agreement on Japan's climate policy

---

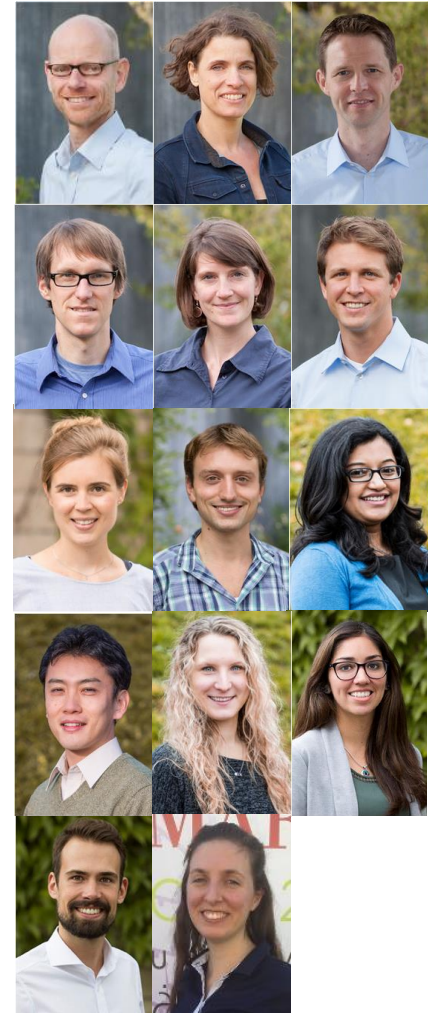
Brookings event: “Ensuring the success of the post-Paris climate agenda: U.S.-Japan relations on the global stage”

Takeshi Kuramochi

Washington DC, 20 December 2016

# About NewClimate Institute

- » Non-profit research institute, founded Nov. 2014
- » Offices: Cologne and Berlin, Germany
- » Areas of expertise
  - Climate negotiations
  - Tracking climate action
  - Climate and development
  - Climate finance
  - Carbon market mechanisms
  - Sustainable energy
- » Funders
  - Governments: German, Dutch, Swedish, Finnish
  - Foundations: CIFF, ClimateWorks, ECF, Mercator
  - NGOs: Greenpeace, Climate Action Network, CDP
  - Business: We Mean Business, Allianz



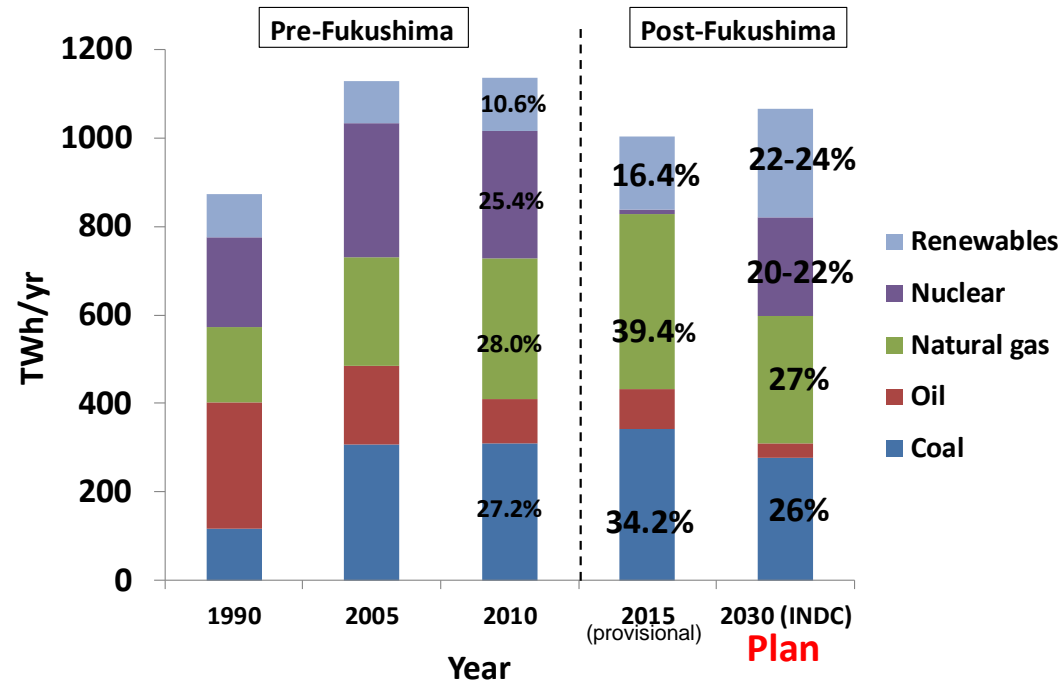
# Overview of Japan's current climate mitigation policies

- » 2030 target (NDC): -26% vs. 2013 level
  - Plan for Global Warming Countermeasures (2016)
  
- » Recent energy and climate policy developments
  - 2014 Basic Energy Plan (+ 2015 long-term demand and supply outlook)
  - Act on Rational Use and Proper Management of Fluorocarbons (2015)
  - Feed-in tariff (FIT) scheme for renewables
  - Global Warming Countermeasures Tax
  - Low-Carbon City Promotion Act
  
- » Long-term decarbonization strategy under the Paris Agreement currently in preparation
  - Advisory councils set up under both METI and MOE
  - (Current target: 80% reduction by 2050)

# Japan's power sector: before and after Fukushima

Since Fukushima:

- » Demand continues to decrease
- » “Nuclear gap” mostly filled by fossils
  - 18 GW of coal power construction plans\*
  - 32% share in 2030 if all built\*
- » 25 nuclear reactors applied for restart\*\*
  - 3 in operation
  - 16-17% share in 2030 if all 25 restarted\*\*\*
- » Strong RE growth due to FIT



Source: Historical values based on IEA (2016)

\*: As of November 2015 (Kuriyama and Kuramochi, 2015)

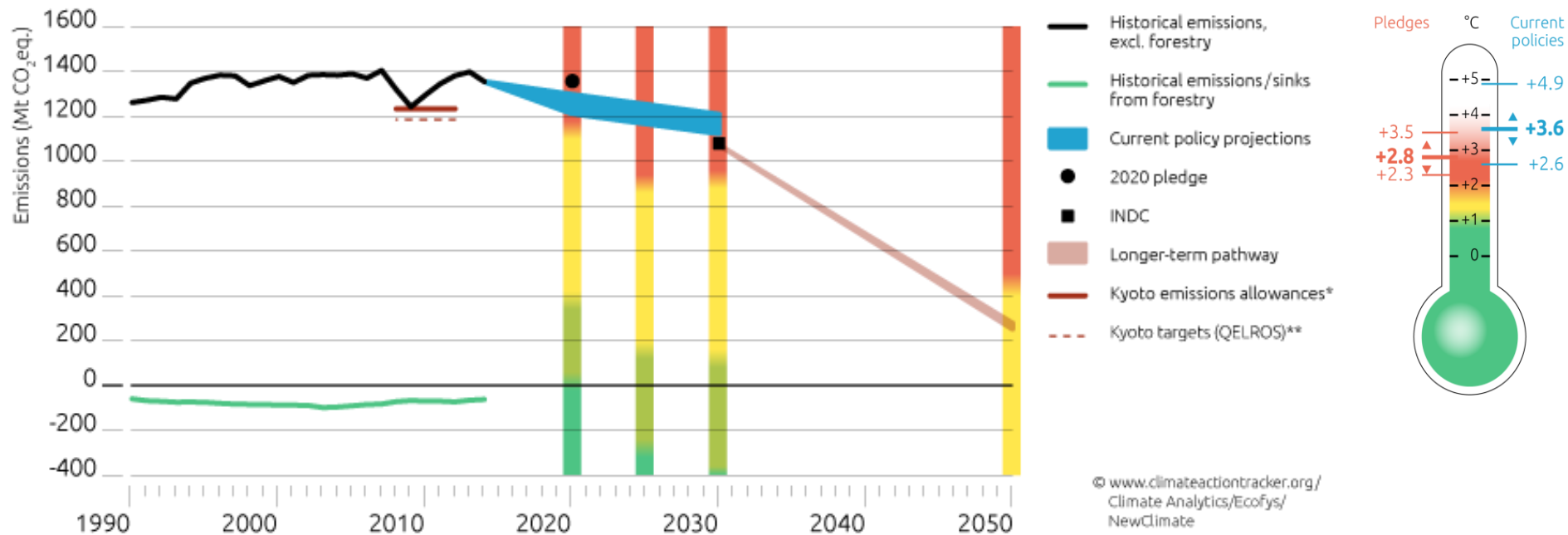
\*\* : As of December 2016, incl. those under periodical examination (JAIF, 2016)

\*\*\*: Extended 60-year lifetime assumed

# Assessment of Japan's climate policy ambition and effort

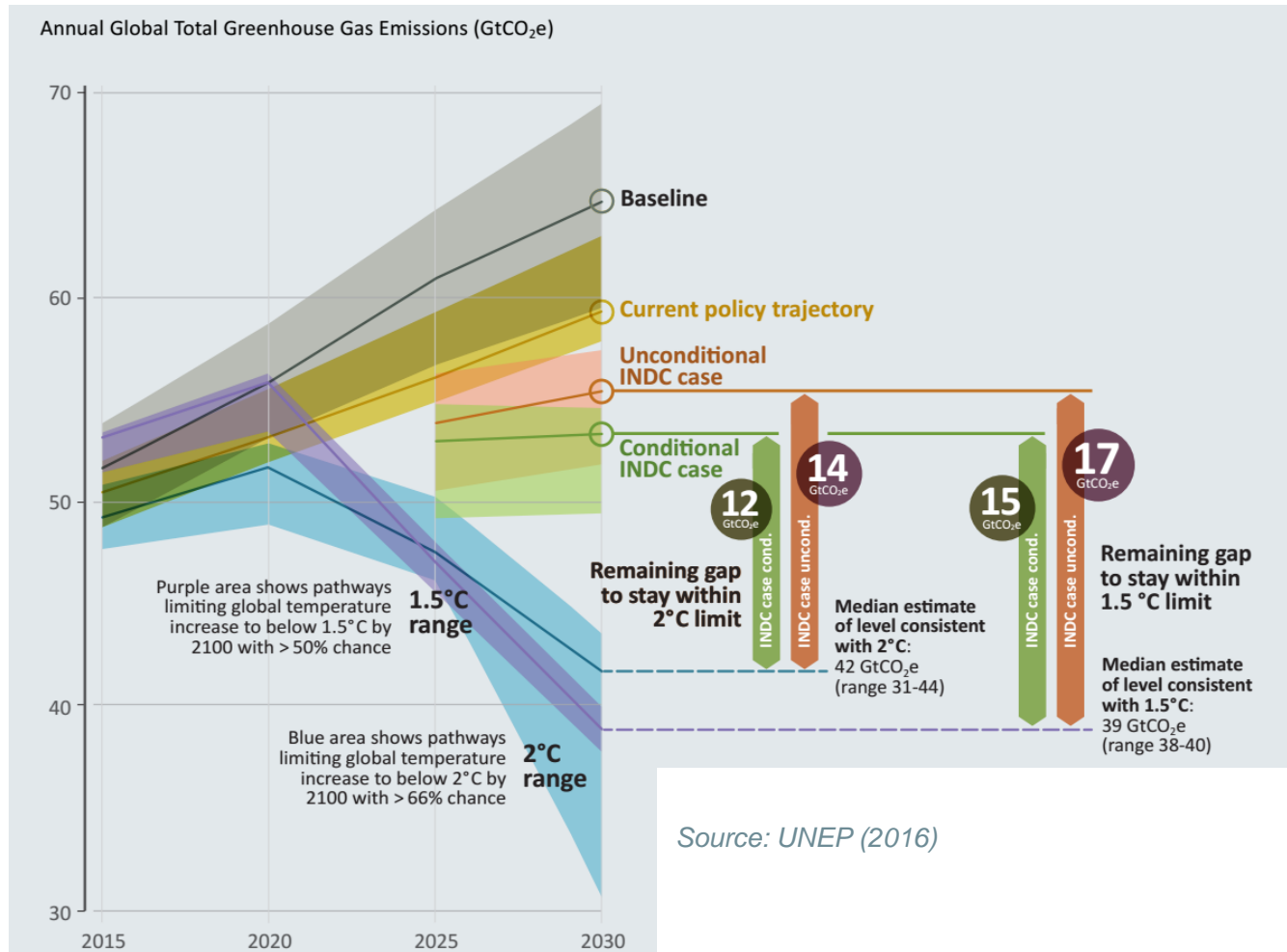
## » Climate Action Tracker:

- NDC target sufficiently ambitious (vs. 2 °C)? → No
- Current policies enough to meet the target? → No



Source: Climate Action Tracker (2016)

# NDCs are not enough for 2 °C, let alone 1.5 °C...



# Implications of “well below 2 °C” on developed countries

## » For OECD countries:

- Net-zero energy- & industry- CO<sub>2</sub> emissions by 2050
- Decarbonized electricity even earlier
- Large-scale deployment of negative emission technologies

## » Need for strong policies beyond energy efficiency and “low-hanging fruit”

- Resource efficiency
- Energy service demand reduction

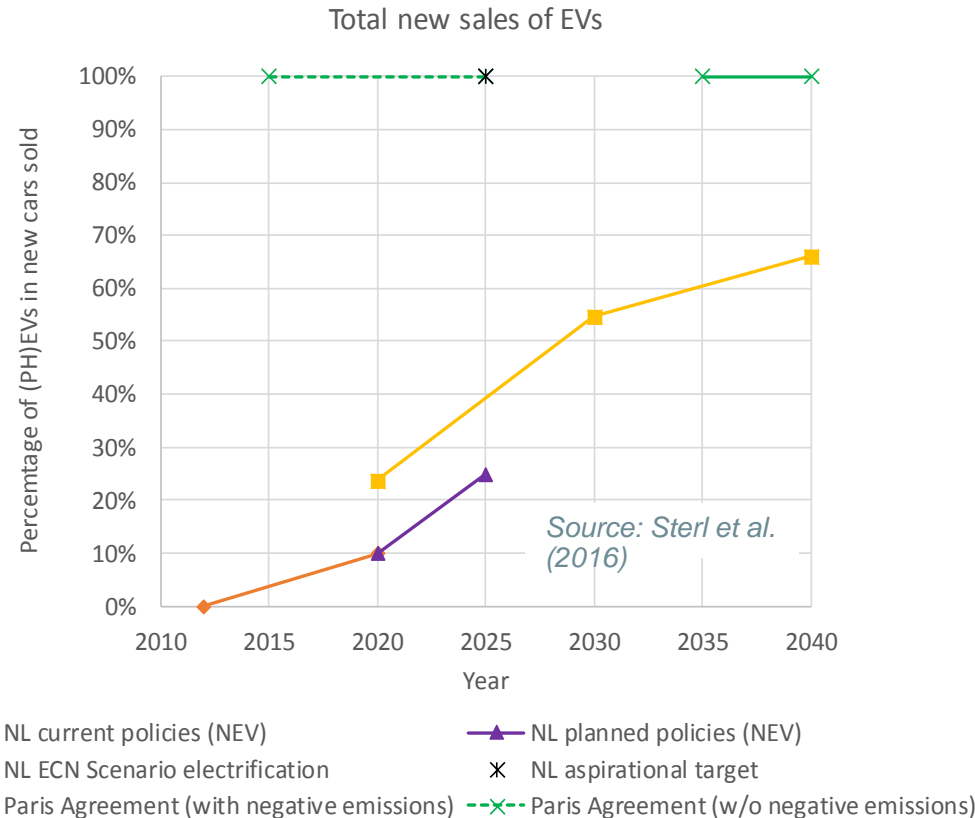
## Years (median) for reaching zero

Region	Emissions type	With negative emission technologies <sup>1</sup>		
		< 1.5°C (50% chance)	“well below 2°C”	< 2°C (66% chance)
		Compatible with the Paris Agreement		
Worldwide	Energy- and industry-related CO <sub>2</sub> emissions	<b>2055</b>	<b>2060</b>	2065
OECD average	Energy- and industry-related CO <sub>2</sub> emissions	<b>2045</b>	<b>2050</b>	2055
	Electricity-related CO <sub>2</sub> emissions	<b>2035</b>	<b>2040</b>	2045
	CO <sub>2</sub> emissions from coal	<b>2030</b>	<b>2035</b>	2040

Source: Adapted from Sterl et al. (2016).

# Example of sector transformation: Adoption of electric vehicles

- » All new passenger vehicle sales to be (PH)EVs before 2040
- » Requires diffusion at unprecedented speed
  - Current shares <1% in Japan & US\*
  - Japan's current target: 50-70% "next-generation vehicles"\*\*\* by 2030



\*: *EVObsession* (2016)

\*\**: Government of Japan* (2015). Also includes hybrids, clean diesel and natural gas vehicles)



# Example of sector transformation: Adoption of electric vehicles

## Changes already happening?

- » Norway: 28% (PH)EV share in new car registrations for Jan-Jul 2016\*
- » The Netherlands “Energy Agenda” (Dec. 2016): only “zero-emission” cars sold from 2035\*\*
- » Germany (Oct. 2016): Federal Council (Bundesrat) passed a non-binding resolution calling for a ban on combustion engine cars by 2030\*\*\*
- » Japan: Toyota to mass-produce EVs (Nov. 2016)\*\*\*\*

\*: The Government of the Netherlands (2016); \*\*: EVObsession (2016); \*\*\*: The Independent (2016); \*\*\*\*: Nikkei (2016).

- » Developed countries may need to achieve net zero energy- and industry CO<sub>2</sub> emissions by 2050 to achieve the Paris Agreement goals;
- » All sectors need to develop long-term strategies toward net-zero emissions and implement them, regardless of current efficiency and emission levels;
- » In some sectors, changes are already happening. As a high-tech powerhouse, Japan can potentially lead the change.



**Thank you for your attention!**

**Contact details:**

Takeshi Kuramochi

[t.kuramochi@newclimate.org](mailto:t.kuramochi@newclimate.org)

[www.newclimate.org](http://www.newclimate.org)

# References

- » Climate Action Tracker, 2016. *Country assessment: Japan*. Climate Action Tracker (Climate Analytics, Ecofys, NewClimate Institute). [www.climateactiontracker.org/countries/japan.html](http://www.climateactiontracker.org/countries/japan.html) [accessed 18 December, 2016]
- » EVObsession, 2016. *Electric vehicle sales estimates: July 2016*. <http://evobsession.com/norwegian-electric-vehicle-sales-estimates-july-2016/> [accessed 18 December, 2016]
- » Government of Japan, 2015. *Japan's Second Biennial Report under the United Nations Framework Convention on Climate Change*, Government of Japan.
- » Government of the Netherlands, 2016. *Energieagenda. Rapport*. <https://www.rijksoverheid.nl/documenten/rapporten/2016/12/07/ea> [accessed 18 December, 2016]
- » IEA, 2016. *Energy Balances of OECD Countries: 2016 Edition*. Paris, France. International Energy Agency.
- » Kuriyama, A. & Kuramochi, T., 2015. *Impact Of The Increasing Number Of Coal-Fired Power Plants On Japan's Mid- And Long-Term Reduction Targets – Towards Developing A Framework For Global Warming Mitigation Measures For The Entire Power Sector*. IGES Working Paper No.WP1503. Hayama, Japan: Institute for Global Environmental Strategies (IGES).
- » Nikkei, 2016. *Toyota to mass-produce electric vehicles*. 7 November. <http://asia.nikkei.com/Business/Companies/Toyota-to-mass-produce-electric-vehicles> [accessed 18 December, 2016]
- » Sterl, S., Höhne, N. & Kuramochi, T., 2016. *What does the Paris Agreement mean for climate policy in the Netherlands?* NewClimate Institute.
- » The Independent, 2016. *Germany pushes to ban petrol-fuelled cars within next 20 years*. 10 October. [www.independent.co.uk/news/world/europe/germany-petrol-car-ban-no-combustion-diesel-vehicles-2030-a7354281.html](http://www.independent.co.uk/news/world/europe/germany-petrol-car-ban-no-combustion-diesel-vehicles-2030-a7354281.html) [accessed 18 December, 2016]
- » UNEP, 2016. *UNEP Emissions Gap Report 2016*. UN Environment Programme. Nairobi.