RE updates-Japan

October 23rd, 2019

Takao Ikeda
The Institute of Energy Economics, Japan (IEEJ)
Current status of Renewable Energy Share in Japan

RE Share in Electricity

RE Heating/Cooling in 2017($10^{10}$kcal)

- Solar Heat: 231
- Geothermal(Direct Use): 647
- Waste to Energy: 1,760

(Source) EDMC, IEEJ

RE Capacity in Electricity

(Source) IRENA Renewable Electricity Capacity and Generation Statistics, 2019

Transport (kTOE)

(Source) IEA, World Energy Statistics and Balances 2019
Renewable Energy Target in Japan

- **5th Energy Master Plan (2018)**
  - 22-24% Renewable Energy in Electricity Mix (20-22% Nuclear) in 2030
  - Target is not changed from previous version

- **Law regarding Advanced Energy Supply Structures (2010 Nov)**
  - Law regarding promote the effective utilization of raw materials of fossil energy and use of non-fossil energy sources (Law regarding Advanced Energy Supply Structures) was passed in July 2009.
  - Related ministerial order including ethanol introduction target was in effect in November 2010
  - Mandate of biofuel usage from FY 2011 to FY 2017 and extended to FY2022
  - Mandate of 44% of electricity from non-fossil source FY 2030

(Source) METI
Main Issues for promoting Renewable Energy

- Cost Reduction
- After FIT (some rooftop PV FIT will finish the contract from 2019)
- Limitation of T&D grid
  (RE potential is different from current T&D system location)
- Output fluctuation from Variable Renewables
- Solar PV accounts for 95% in newly installed capacity under FIT
  (Need diversification to increase other renewables)
Policy for Promoting Renewable Energy

- Law regarding Advanced Energy Supply Structures (2010 Nov)
  (Mandate non-fossil fuel and non-fossil electricity)

- FIT is key policy for promoting Renewable Energy after 2012
  *Consideration of new promotion policy after FIT is started

- Auction system for large PV is started from 2017 which is expanded to Biomass from 2018. (For Cost Reduction)
  *Auction for Large PV is currently over 0.5MW (Over 2.0MW previously)

- New private RE transmission company/Japanese version of Connect & Manage (T&D limitation)

- “Act on Promotion of Utilization of Sea Areas for the Development of Marine Renewable Energy Generation Facilities” passed in November 2018 (For increase offshore wind)
Thank you for your attention!