

# Japan's Climate and Energy Policy

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**During the seminar, I did not mention that Japan upscaled the 2030 GHG reduction target from 26% to 46% in 2020. In order to avoid misunderstanding, in the first slide I included the 2030 target in the 2018 plan, in addition to in the 2021 plan.**

# Japan's Energy Transition (6<sup>th</sup> Energy Basic Plan in 2021)

	2021 (current)	2030 (2018: 26% GHG reduction)	2030 (2021: 46% GHG reduction)	2050
Energy Efficiency	16.55 million kl	35% reduction	62.00 million kl	
Renewables	12.8%	13.4-14.4%	25-27%	50-60%
Hydropower	7.5%	8.8-9.2%	11%	11%?
Hydrogen/Ammonia	0%	0%	1%	10%
Nuclear	5.9%	20-22%	20-22%	?
LNG	37.1%	27%	20%	?
Coal	26.5%	26%	19%	?
Oil etc	13.5%	3%	2%	?

Concerning RE and coal, the 2030 targets in the 2018 plan were almost achieved in 2021.

70-80%?

20-30% in a black box

		2020 (100GWh/y)	Potential	Potential with business feasibility
Solar	Home	791	2527 471-1373	
	Public		29689 473-5041	
Wind	Onshore	90	6859 3509-4539	
	Offshore		34607 6168-15584	
Small- and medium-scale hydro			537 174-226	
Geothermal		30	1006 630-796	
Hydropower		784		
Nuclear		388		
Natural gas		3906		
Coal		3101		
Oil etc.		636		
Total		10013	34667-104455	10954-26186

Source: METI (2021, 2023)

Rie Watanabe, November 22, 2023

Source: MoE (2022)

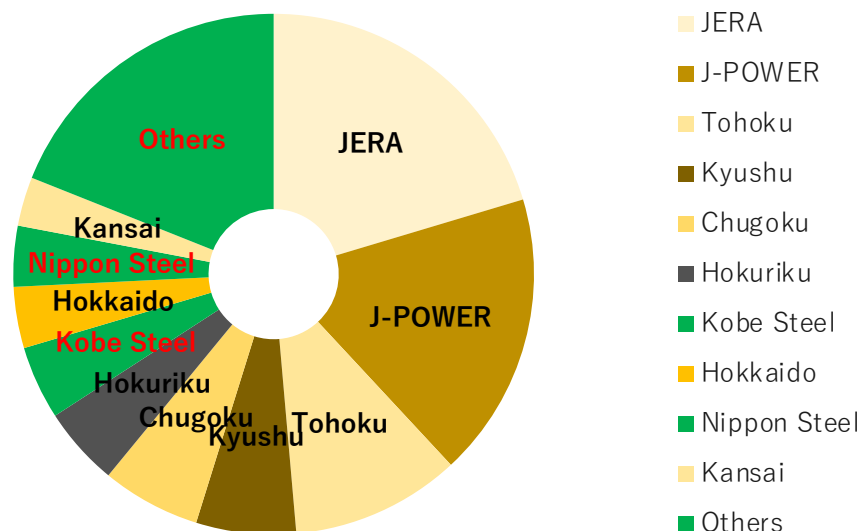
# Green Innovation Fund (2.7564 trillion JPY/year)

(cf. Global Warming Prevention Tax 0.2634 trillion JPY/year )

Promotion of Green Electricity				1195
		Fund for Energy Transition (trillionJPY/y)	GHG (Mt/y)	
	1	Cost Reductions for Offshore Wind Power Generation		1195
	2	Development of Next-Generation Solar Cells		498
	3	Realization of Carbon Neutrality in Waste and Recycling Areas		
Energy Structure Transition	4	Large-scale Hydrogen Supply Chain Establishment	US 8.4	47.4 3000
	5	Hydrogen Production through Water Electrolysis Using Power from Renewables	EU 10.2	29.9 708.3
	6	Hydrogen Utilization in Iron and Steelmaking Processes	JP 2	10.6 1935
	7	Fuel Ammonia Supply Chain Establishment		688
	8	Development of Technology for Producing Raw Materials for Plastics Using CO2 and Other Sources		1262
	9	Development of Technology for Producing Fuel Using CO <sub>2</sub> , etc.		1152.8
	10	Development of Technology for Producing Concrete and Cement Using CO <sub>2</sub>		567.8
	11	Development of Technology for CO <sub>2</sub> Separation, Capture, etc.		382.3
Industrial Structure Transition	12	Next-generation Storage Battery and Motor Development		1510
	13	Development of In-vehicle Computing and Simulation Technology for Energy Saving in Electric Vehicles		420
	14	Smart Mobility Society Construction		1130
	15	Next-generation Digital Infrastructure Construction		1410
	16	Next-generation Aircraft Development		210.8
	17	Next-generation Ship Development		350
	18	Development of Negative Emissions Technologies in Agriculture, Forestry, and Fisheries Industries		159.2
	19	Promotion of Carbon Recycling Using CO <sub>2</sub> from Biomanufacturing Technology as a Direct Raw Material		1767
	20	Decarbonization of Thermal Processes in Manufacturing		325.1

# Coal

Top 10 Coal Power Companies (By Capacity)



Source: Japan Beyond Coal (2023)

The Number of Coal Power Plants

	Power companies	Others
-2012	45 (4 will be stopped)	86
2012-	7	31
In construction	3	

Many are under 11.25 MW (capacity) (EIA threshold under the EIA act, but several local governments undertake EIA under ordinances)

Source: Rie Watanabe, based on METI (2022) and Japan Beyond Coal (2023)

Fade-out Sub-C, S-C, Construct USC, IGCC, IGFC