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Japan Team

Modeling on Future Socio-Economic Scenarios and Nuclear

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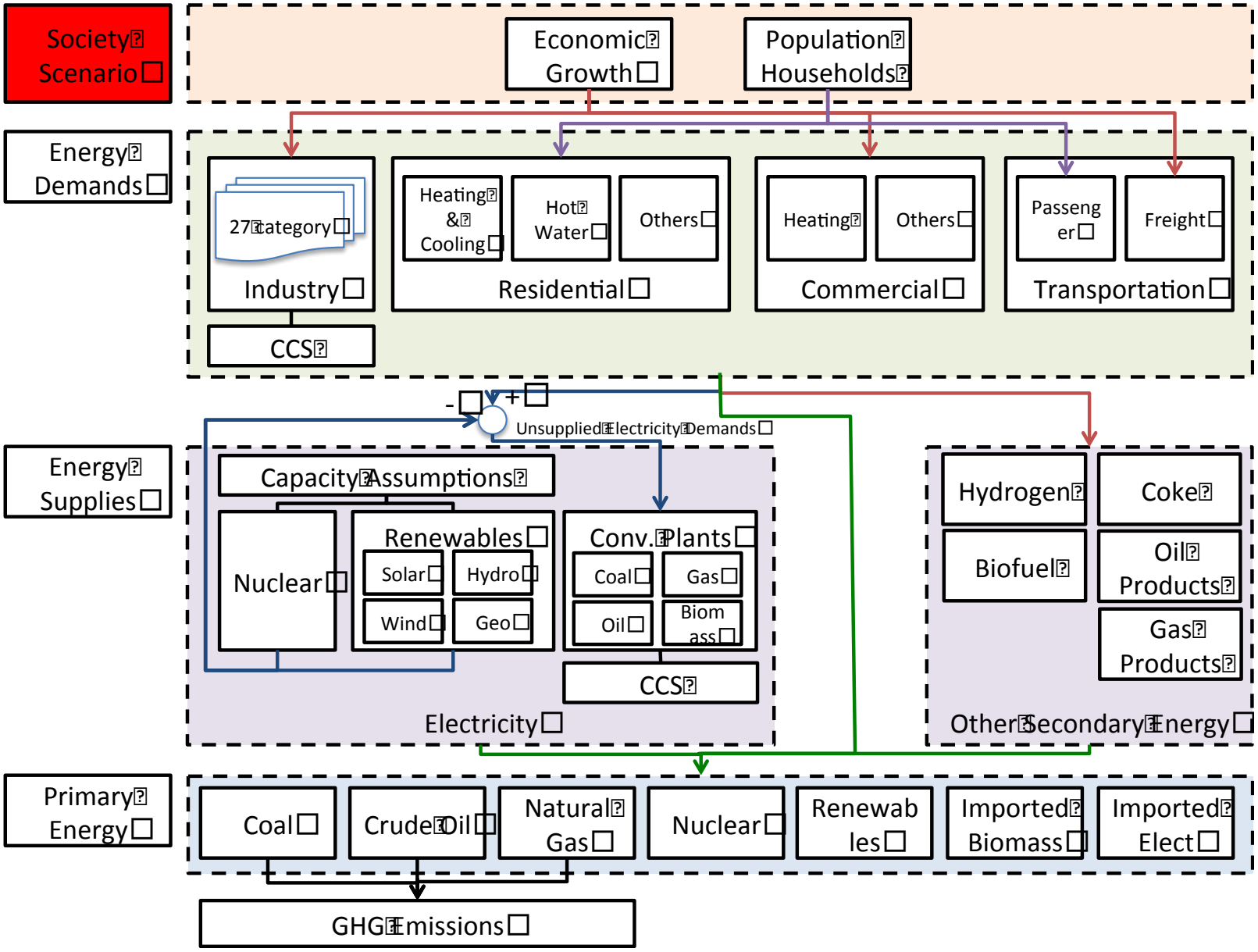
International Conference on 2050 Calculator

Taipei, Taiwan

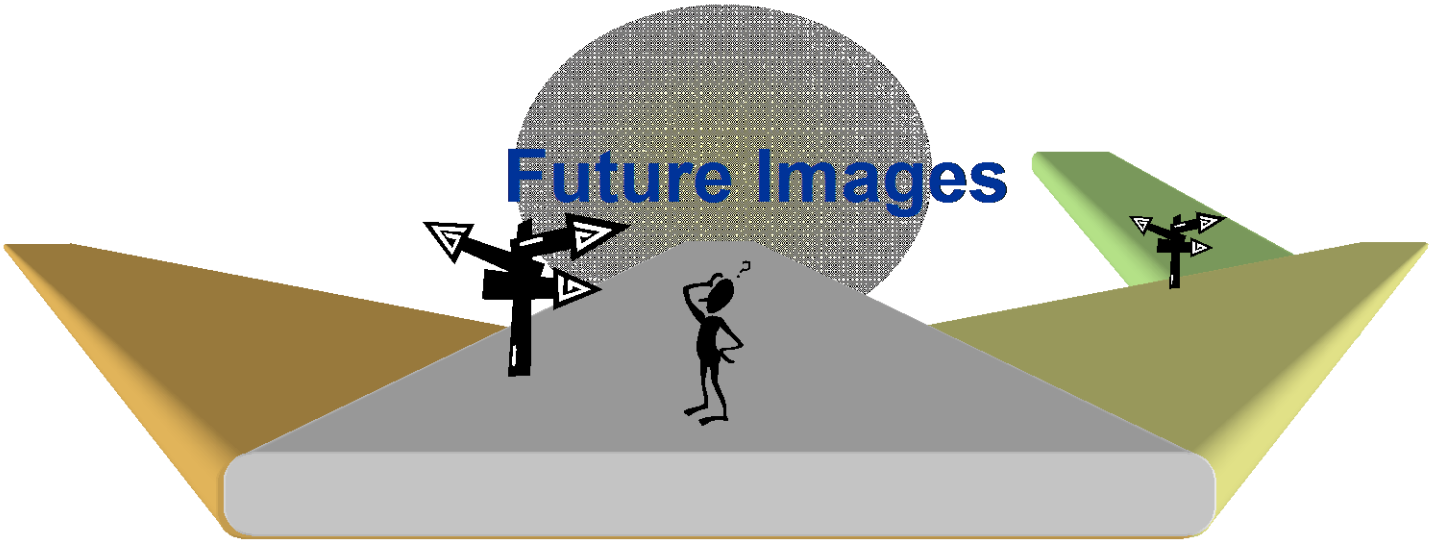
Society Scenario is a key component in Japan 2050 Calculator



How to depict Society Scenarios up to 2050?

Economic Growth | Industrial Structure | Energy Resources | Political status | Lifestyle | Innovations | Urban Structures

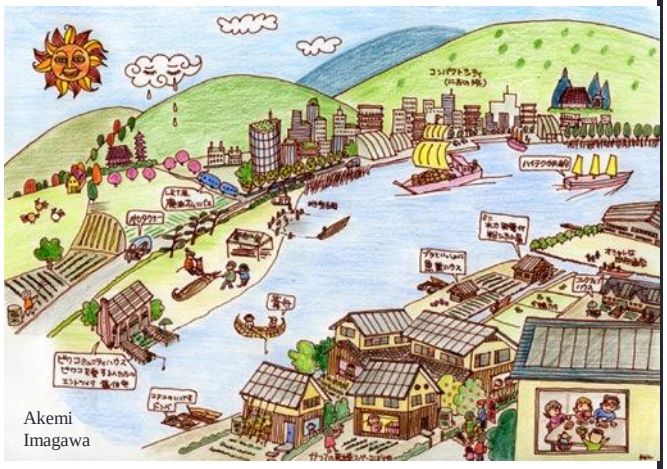
Full of Uncertainty



To characterize demographic, socioeconomic, and technological driving forces underlying anthropogenic GHG emissions that cause climate change

To characterize the sensitivity, adaptive capacity, and vulnerability of social and economic systems in relation to climate change.

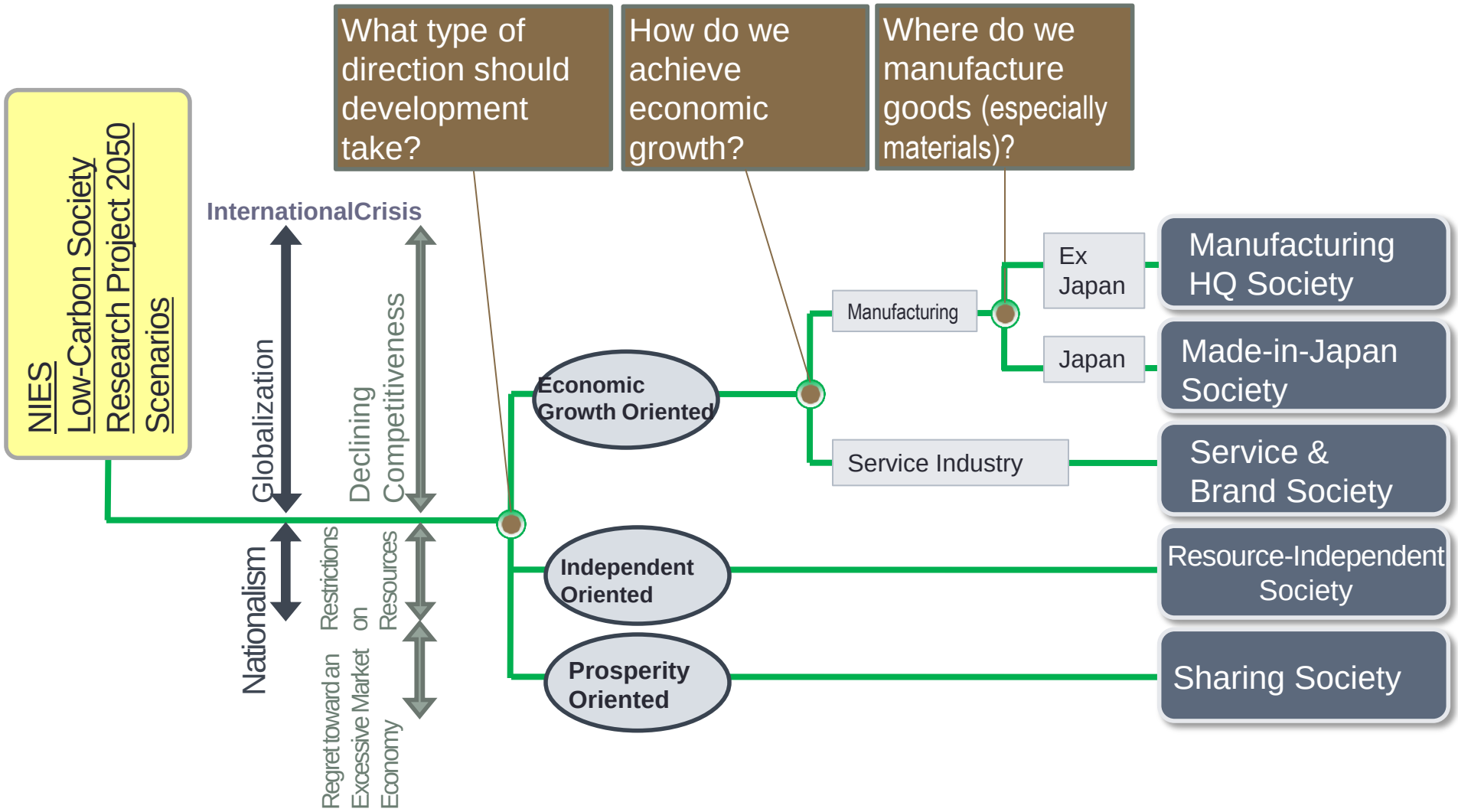
Earlier Society Visions in 2050: Optimistic on Future Risks

Vision A “Doraemon”	Vision B “Satsuki and Mei”
Vivid, Technology-driven	Slow, Natural-oriented
Urban/Personal	Decentralized/Community
Technology breakthrough Centralized production /recycle	Self-sufficient Produce locally, consume locally
Comfortable and Convenient	Social and Cultural Values
2%/yr GDP per capita growth	1%/yr GDP per capita growth
	 Akemi Imagawa

Doraemon is a Japanese comic series created by Fujiko F. Fujio. The series is about a robotic cat named Doraemon, who travels back in time from the 22nd century. He has a pocket, which connects to the fourth dimension and acts like a wormhole.

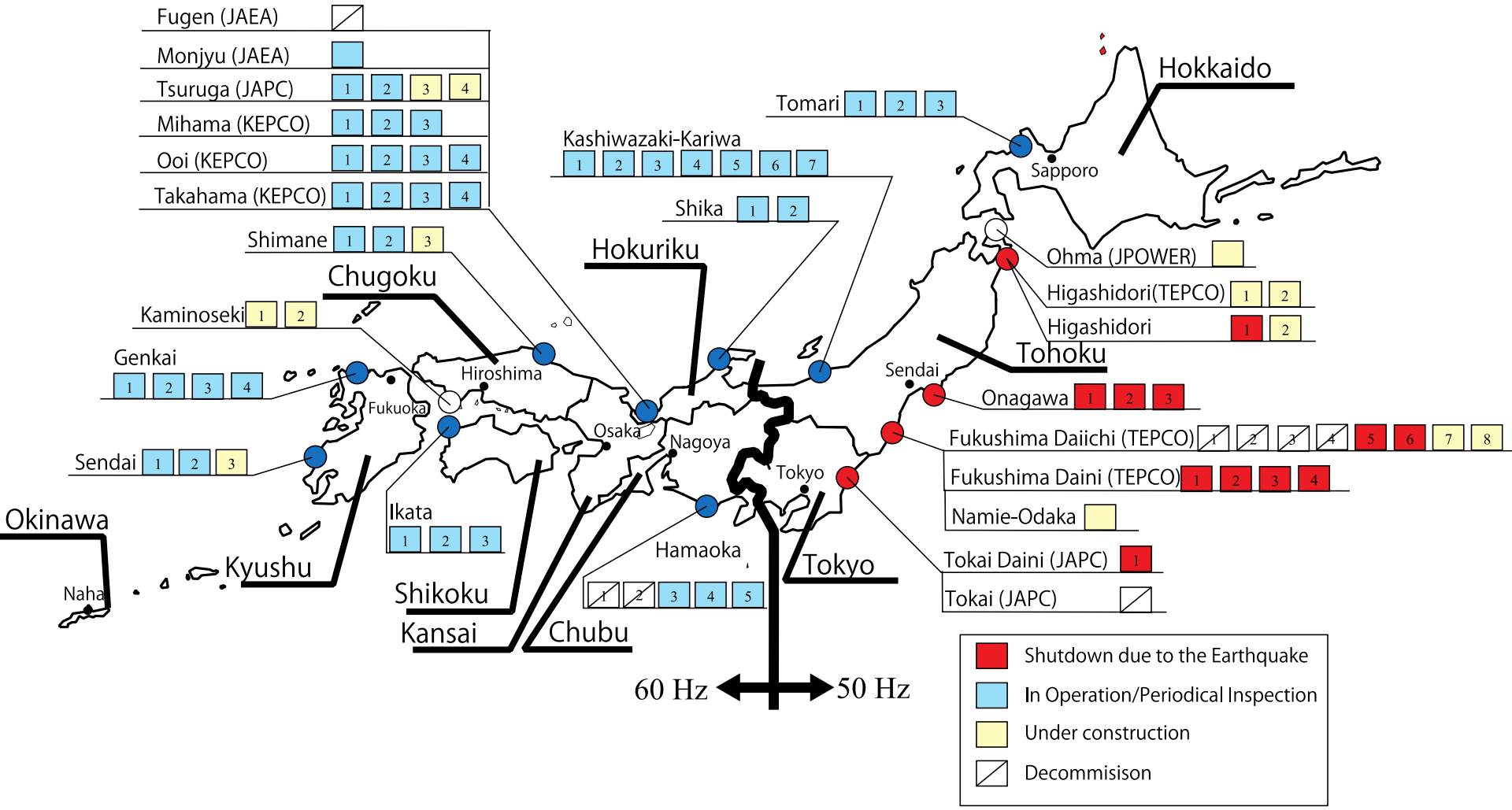
Satsuki and Mei’s House reproduced in the 2005 World Expo. Satsuki and Mei are daughters in the film "My Neighbor Totoro". They lived an old house in rural Japan, near which many curious and magical creatures inhabited.

Different but likely five future societies in 2050



Source: Compiled based on Macroframe WG materials of post-2013 subcommittee, Ministry of the Environment, Japan

Current Situation on Nuclear in Japan: No nuclear is in operation



Some Questions for Future Nuclear Situation

- For Plants in Fukushima:
  - *No Question* – the plants will be decommissioned.

For Plants hit by the Earthquake not in Fukushima:

Q1. The plants will restart? or will be decommissioned?

For Plants not hit by the Earthquake:

Q2. When the plants will be restart?

Trajectory 1

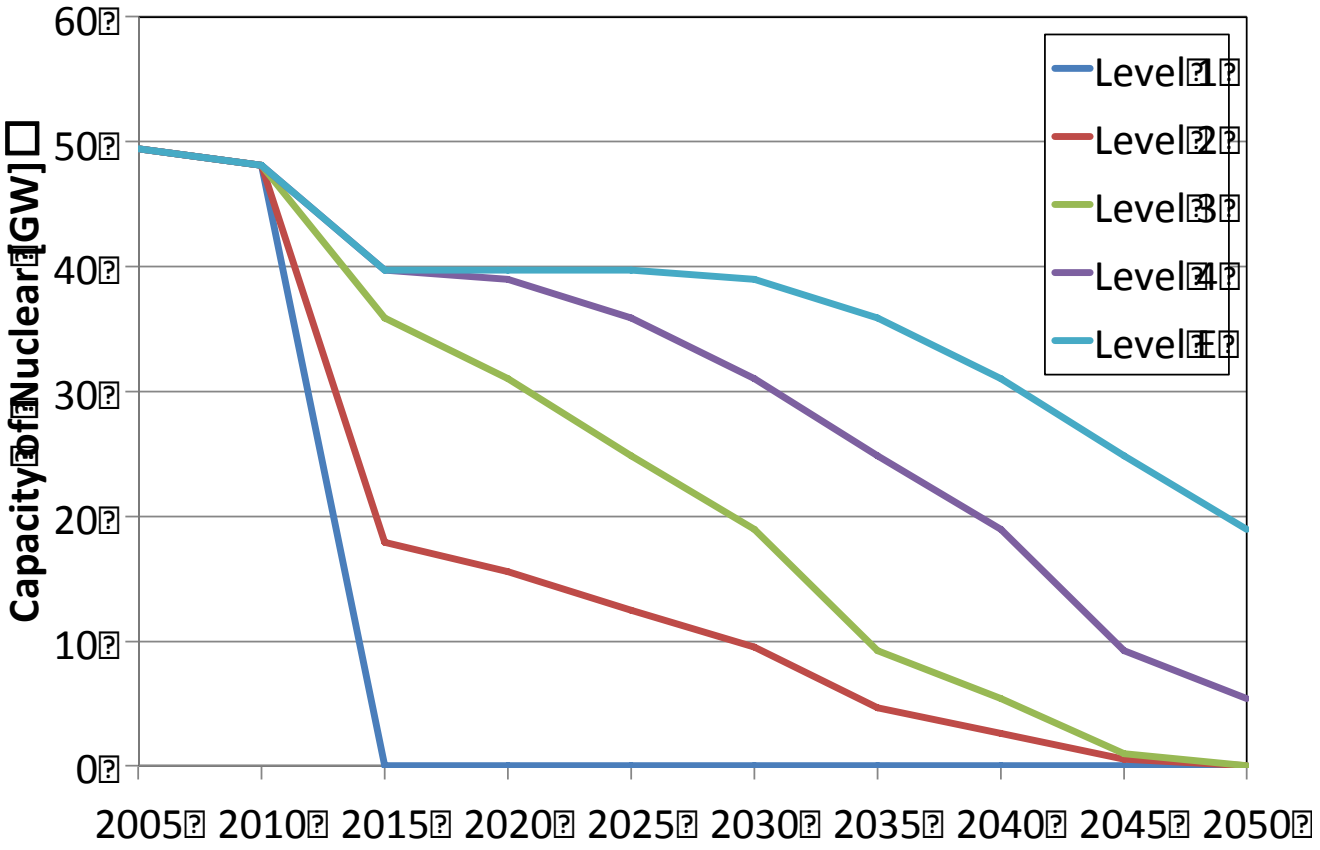
- For Plants under construction:
  - Q3. When the plants will be in operation?

Trajectory 2

- For Plants under planning:
  - Q4. Construction will be started? or Plan will be postponed or abandoned?

Trajectories for Existing Nuclear Power Plants

- Level 1: Shutdown and never restart for all plants
- Level 2: Only half of existing plants restart
- Level 3: Full restart (40 years life)
- Level 4: Full restart (50 years life)
- Level Extreme: Full restart (60 years life)



Trajectories for New Nuclear Power Plants

- Level 1 (Negative): No new builds
- Level 2 (Fair): Limited to those only currently under construction with about 5 years delay (Ohma 1, TEPCO Higashidori 1, Shimane 3)
- Level 3 (Positive): New builds after 2035, 1GW/yr after 2040
- Level 4 (Aggressive): New builds after 2035, 1.5GW/yr after 2040
- Level Extreme (Super aggressive): New builds after 2035, 2GW/yr after 2040