

# **Nuclear: An Arrow in Our Quiver in Tackling Climate Change**



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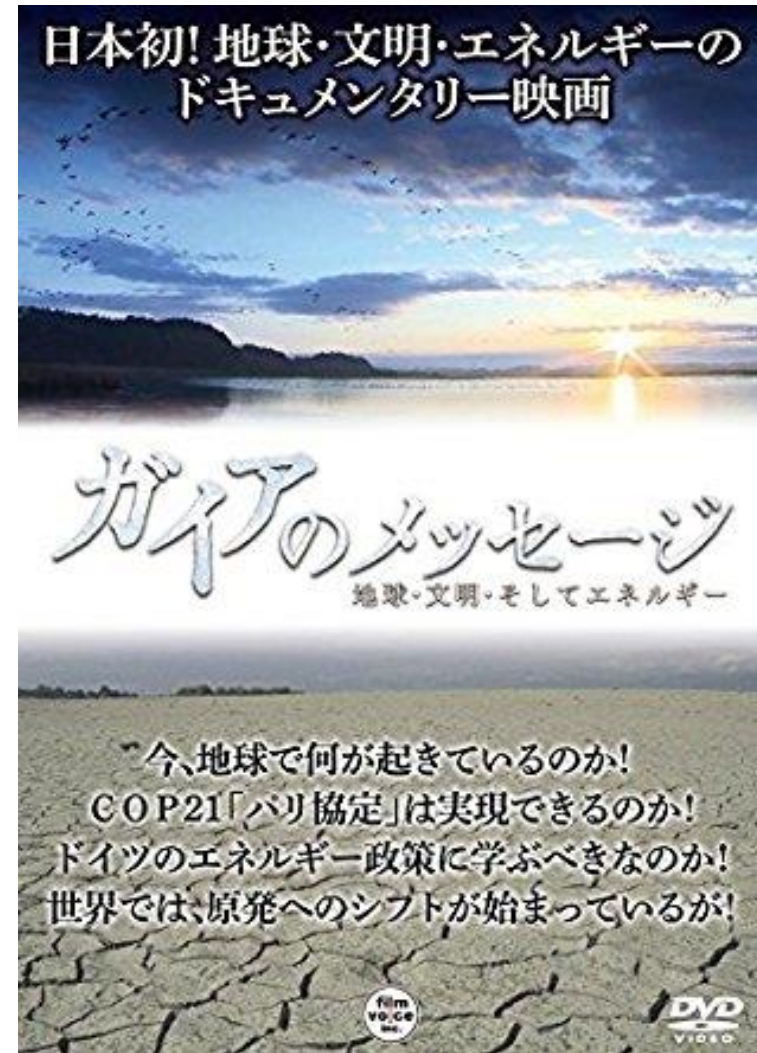
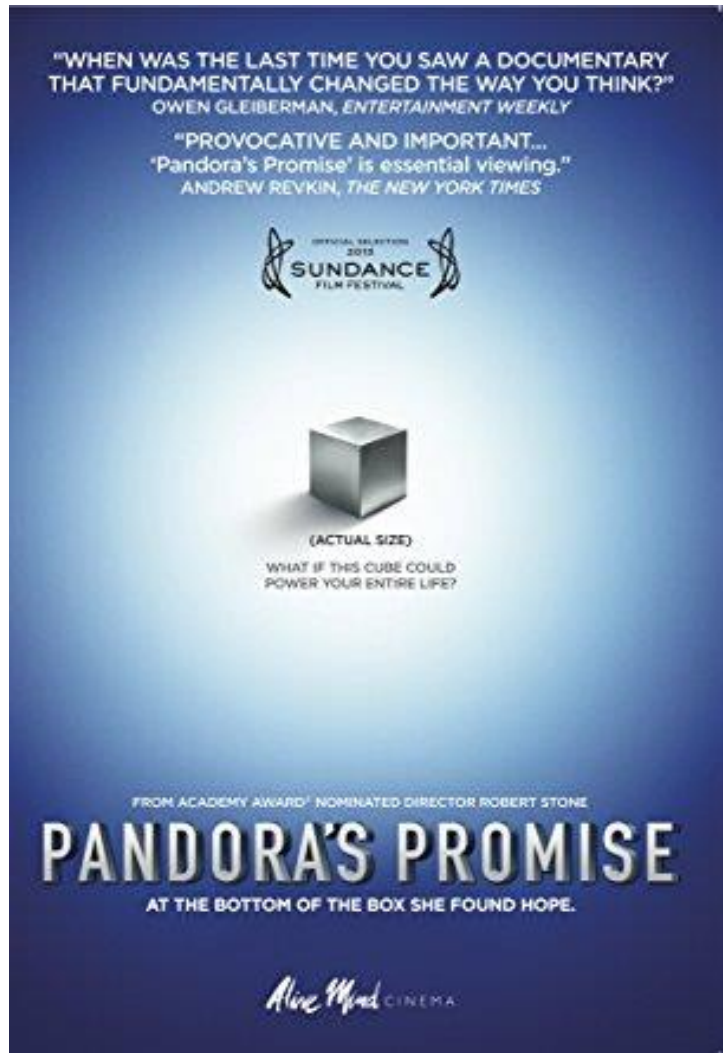
# Climate Negotiation and Nuclear

- Despite evident role of nuclear as non-fossil fuel, it is not reflected in climate negotiation
  - ◆ Environmental NGO and Anti-Nuclear Group
  - ◆ Anti-Nuclear Countries
- CDM “refraining from” the use of credit from nuclear project (Marrakesh Accord 2001) ← French and German environment ministers from Green Party
- Continuous deadlock between countries insisting on elimination of nuclear and those against it → Impossible to send a positive signal on nuclear in the consensus-based UN system
- Under the Paris Agreement, it is up to each country how to reduce its GHG emissions. Nuclear is not the issue for international negotiation but domestic issue.



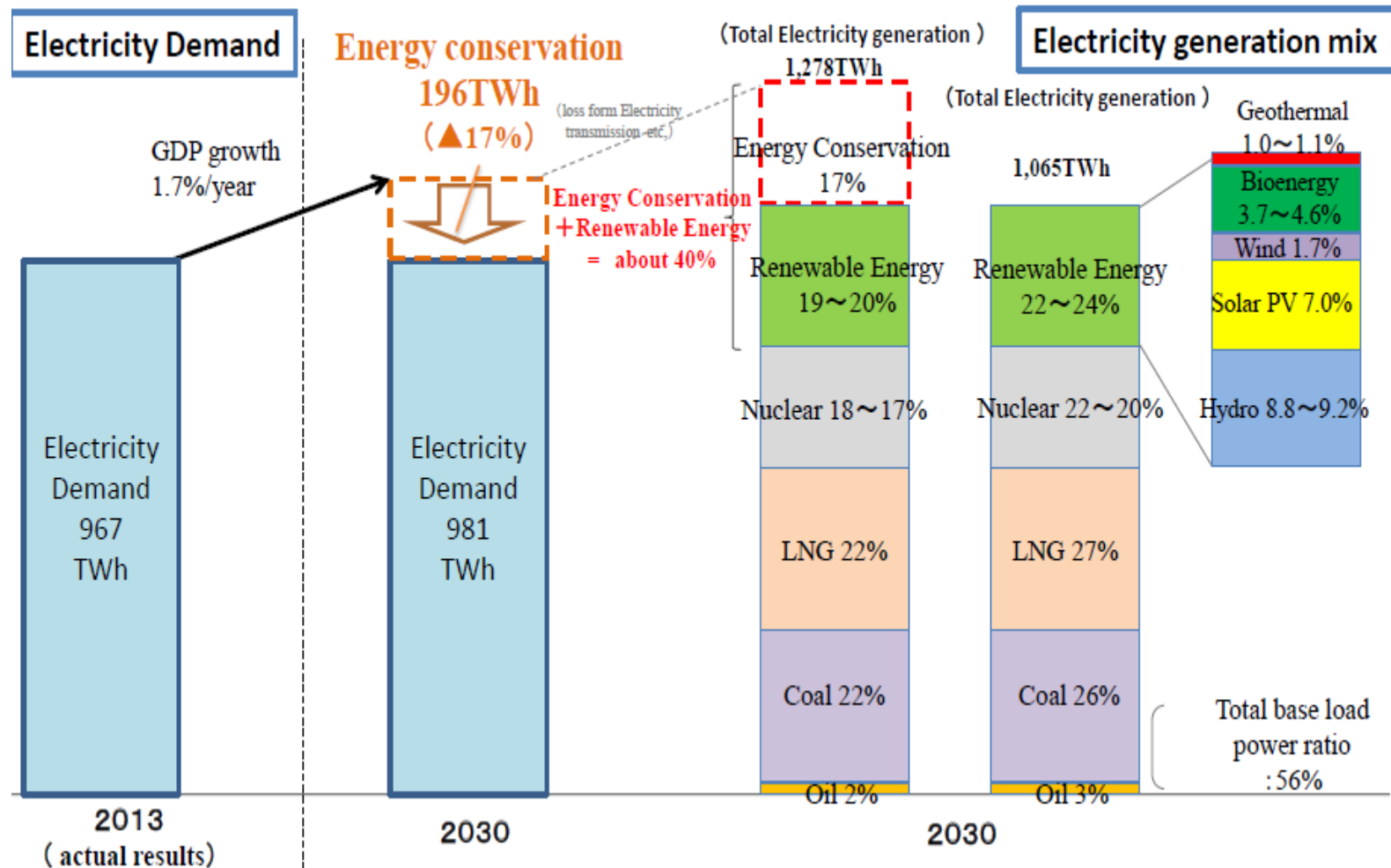
# Climate Change Mitigation and Nuclear

- Some environmentalists acknowledge the role of nuclear in tackling climate change, but they are still minority.



# Japan's Power Generation Mix in 2030

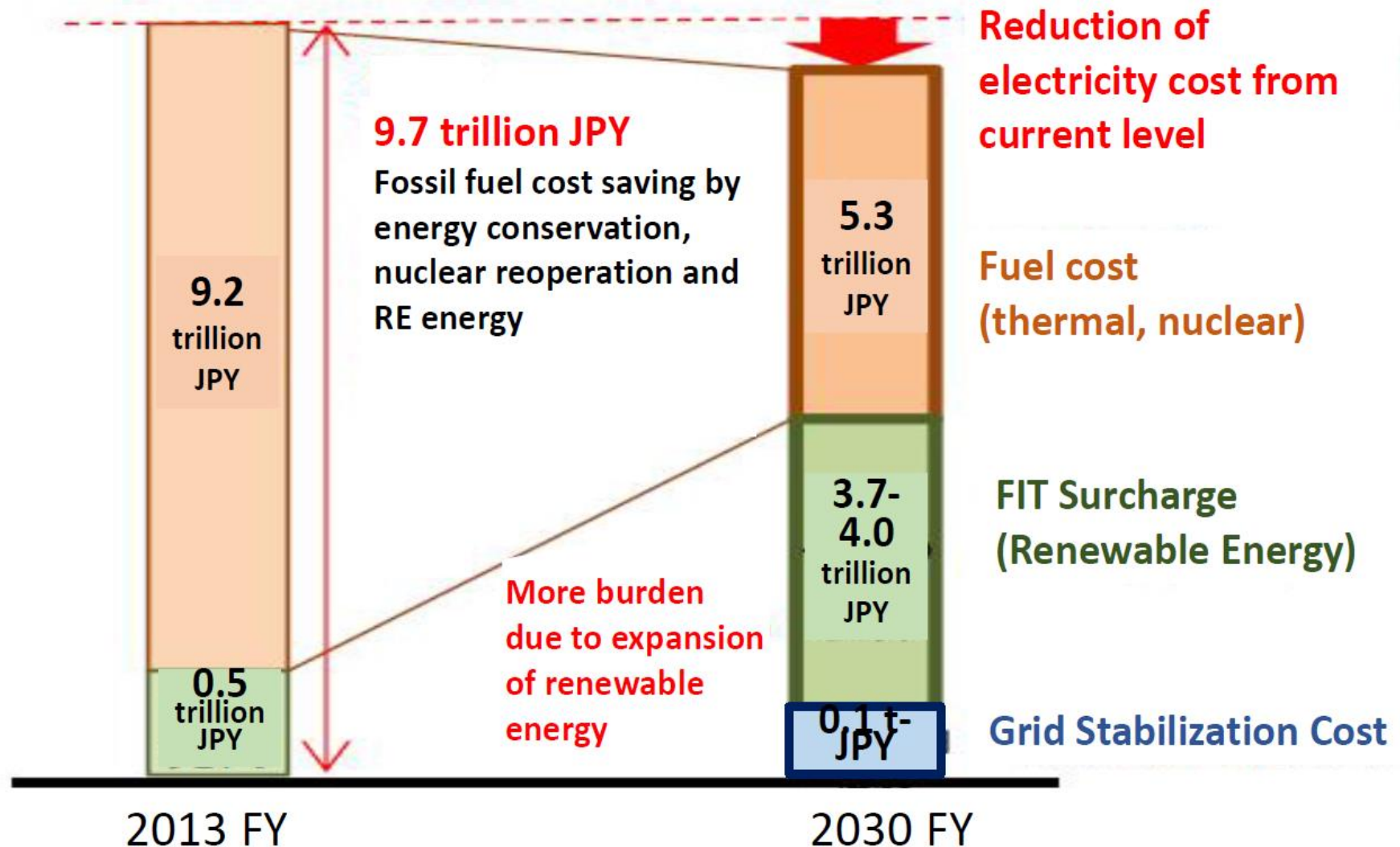
- ◆ Restore the energy self-sufficiency to around 25% surpassing the pre-Earthquake level
- ◆ Reduce the electricity costs lower than today
- ◆ Comparable GHG reduction goal with other developed countries





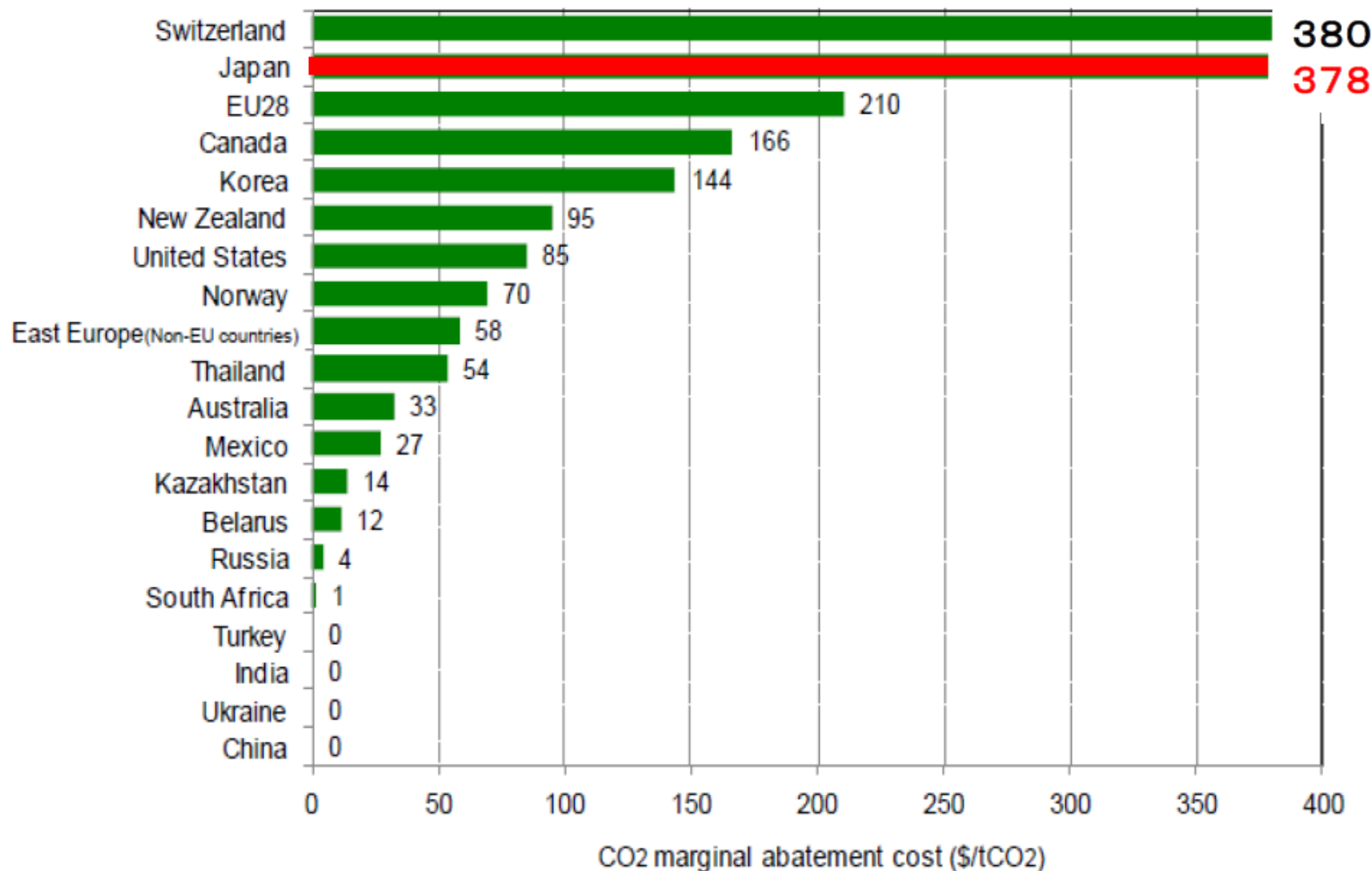
# Cost Reduction while Expansion of Renewable

- ◆ Restarting nuclear is necessary for absorbing soaring cost for increasing RE



# Marginal Abatement Cost of Japan's NDC

- ◆ MAC of Japan's NDC is among the highest. Barring nuclear restart, it would further surge



# Adverse Circumstances on Nuclear

## ■ Public Opinion

- ◆ Still strong “nuclearphobia”
- ◆ “No blackout → No need of nuclear” ← Lack of energy security and climate mitigation perspective

## ■ Political Environment

- ◆ Political sensitivity → Inclination to postpone difficult debate

## ■ Regulatory Environment

- ◆ Excessive reaction to “zero-risk” demand → deviation from regulator’s mission to ensure safe operation
- ◆ Lack of communication with power industry
- ◆ Insufficient staffing → long-queue for safety check

## ■ Lawsuit Risk

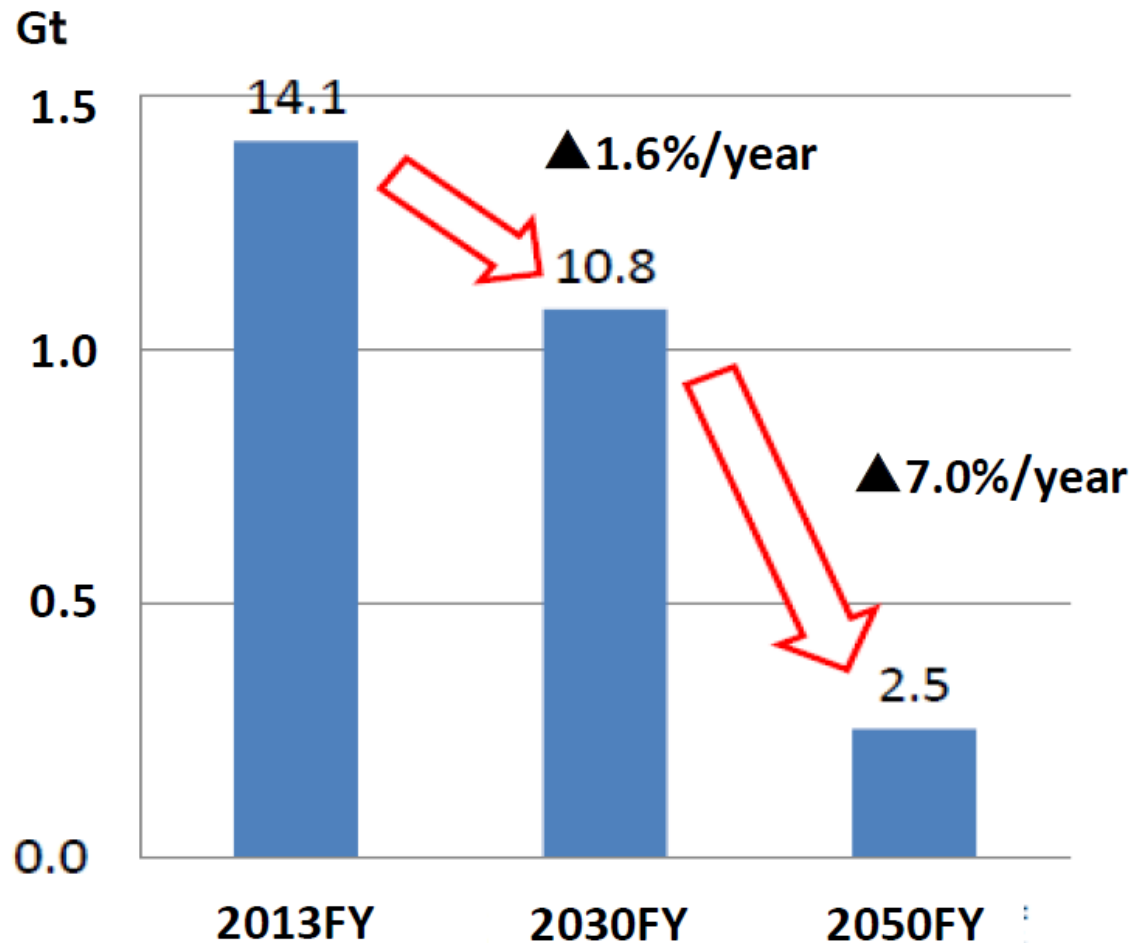
- ◆ Rampant “Forum Shopping” (e.g. injunction on operation of Takahama)

## ■ Business Environment

- ◆ Unpredictable business environment for nuclear under electricity market liberalization

# Mitigation Path for Achieving 80% Reduction in 2050

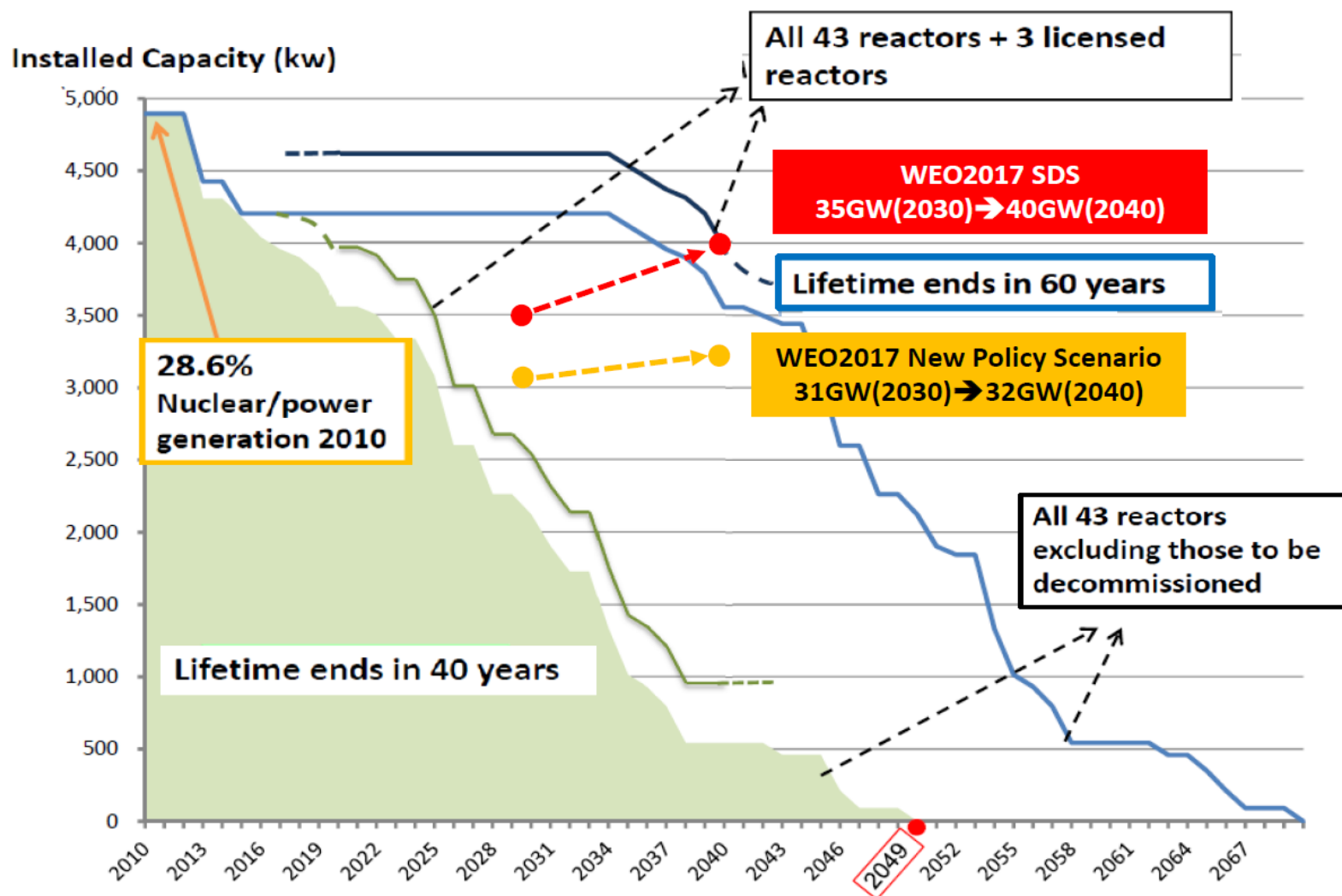
- ◆ To achieve 80% reduction by 2050, GHG needs to be reduced by 7% annually between 2030 and 2050.
- ◆ This is four times more rapid reduction compared with 2013-2030 for achieving 2030 target





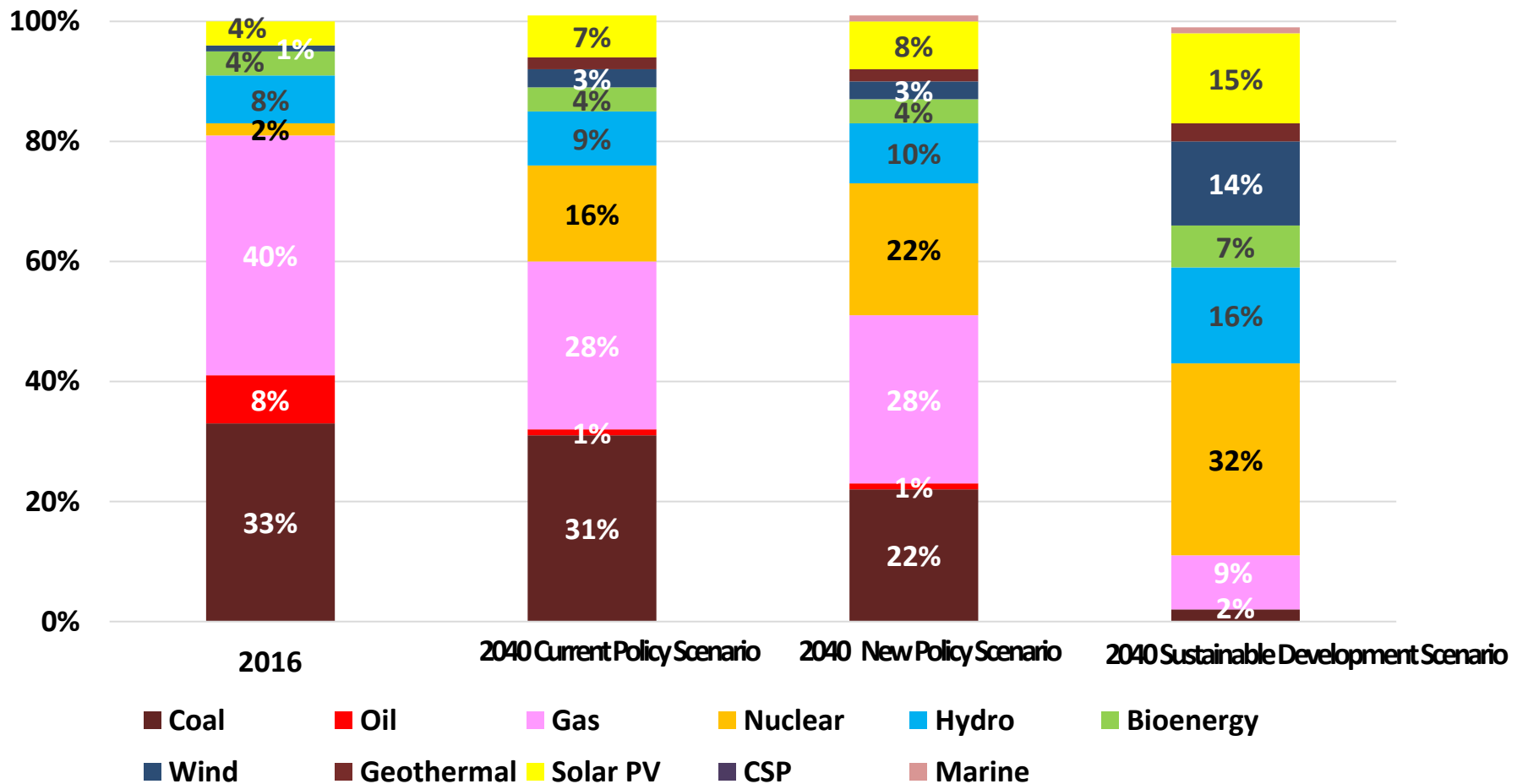
# Nuclear Installed Capacity Beyond 2030

- ◆ If Japan is serious about long term GHG emissions reduction beyond 2030, declining capacity of nuclear can not be left as it is.



# Long-term Decarbonization and Nuclear

- ◆ Sustainable Development Scenario of WEO2017, which is compatible with Paris target, suggests expansion of RE and nuclear in Japan towards 2040.



# Conclusion

- Nuclear has been, is, and will be an arrow in our quiver in tackling energy security, economic efficiency and environment protection
- Nuclear restart is indispensable factor for achieving Japan's NDC in 2030.
- If Japan is serious about long-term GHG emissions reduction towards 2050, it should consider replacement of existing nuclear reactors
- Japan should pursue “Nuclear AND Renewable. “Nuclear OR Renewable” or “Nuclear VS Renewable” is fallacious agenda setting.
- In order to retain nuclear option, enabling policy/regulatory/business environment is essential
  - ◆ Clear policy direction on nuclear (restart, replacement, nuclear fuel cycle)
  - ◆ Enabling business environment with policy incentive facilitating nuclear investment under liberalized market
  - ◆ Rational nuclear safety regulation
  - ◆ Revision of nuclear damage compensation law
- All the above require strong political will and political capital
- Informed dialogue with general public is MUST, but energy policy should not be a slave of the opinion poll.

**Thank you very much**