

# S+3Eを実現するエネルギーミックスへの挑戦

## Challenges of Energy Mix to Achieve S+3Es

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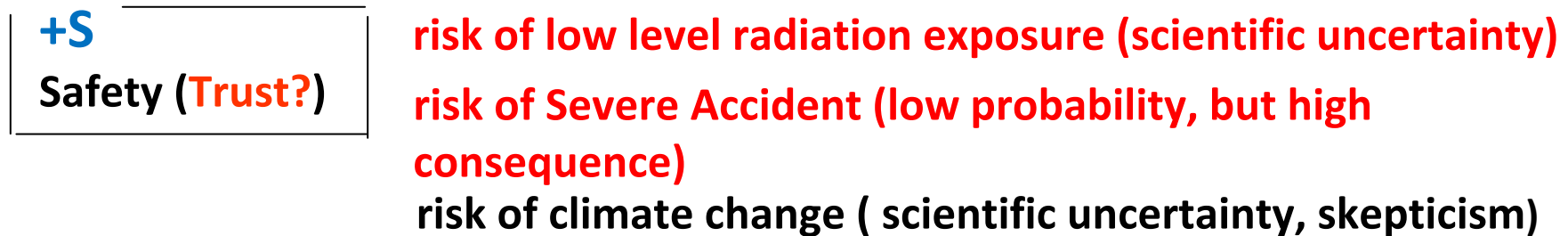
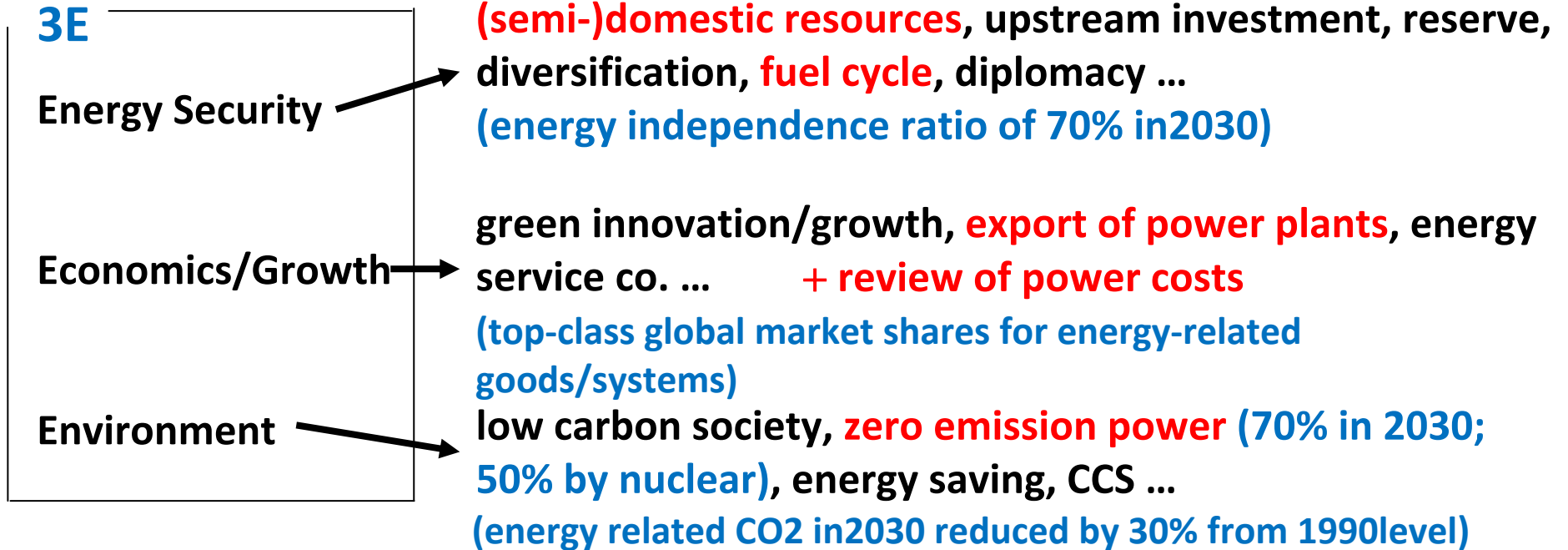
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# Fundamental Objectives of Energy Policy in Japan

**Damaged Items by Fukushima Disaster; (Targets in 2010 Strategic Energy Plan)**



# Power Generation Mix in 2030

## Targets in current strategic energy plan

Renewables: 20%

**Nuclear: 50%** —————> Impossible after Fukushima

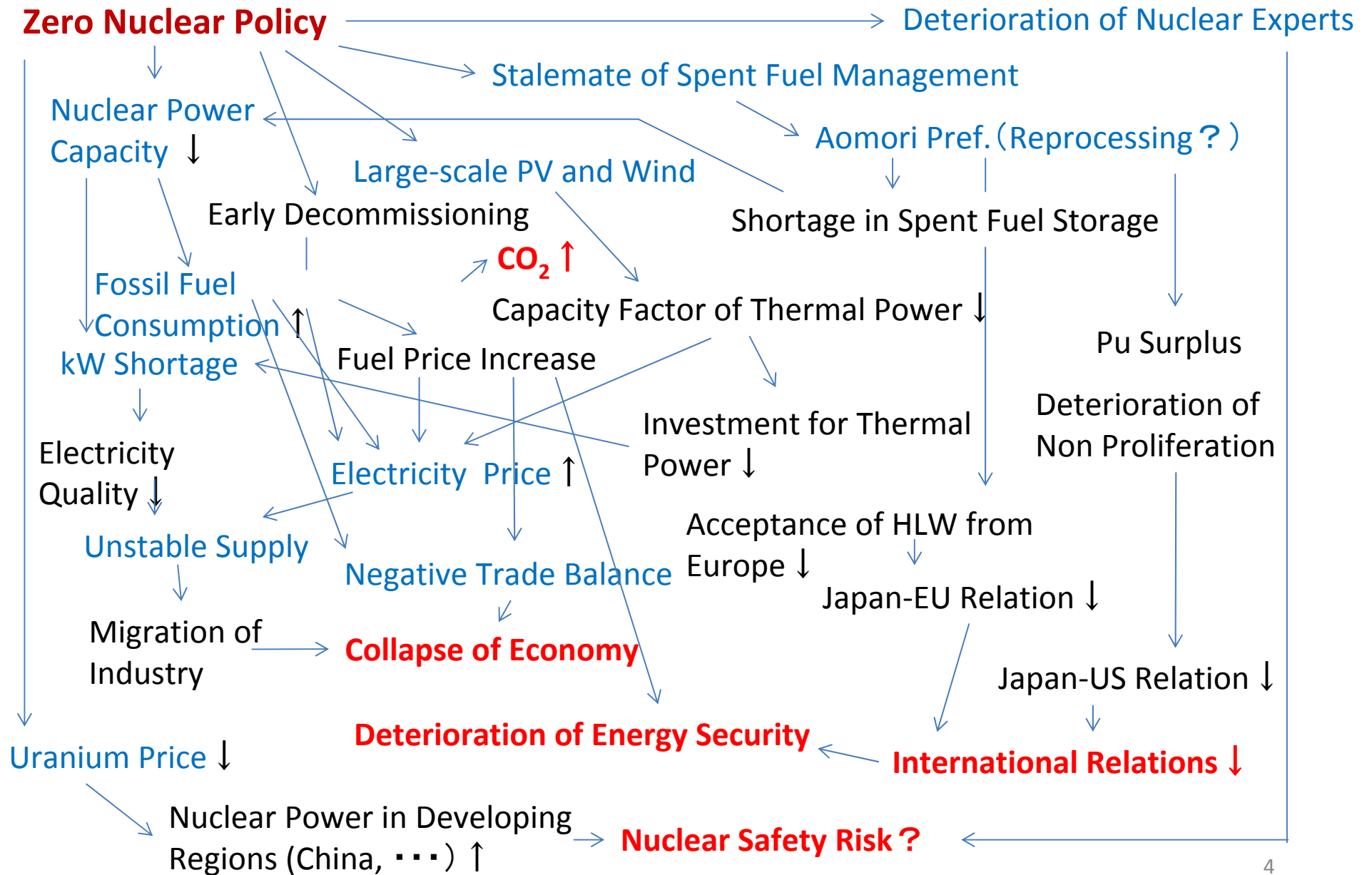
Fossil-fired: 30%                      0, 15, 20-25%? depending on the recovery of public trust on nuclear safety



## How to fill the gap of reduced nuclear power? (Both in kW and kWh balance)

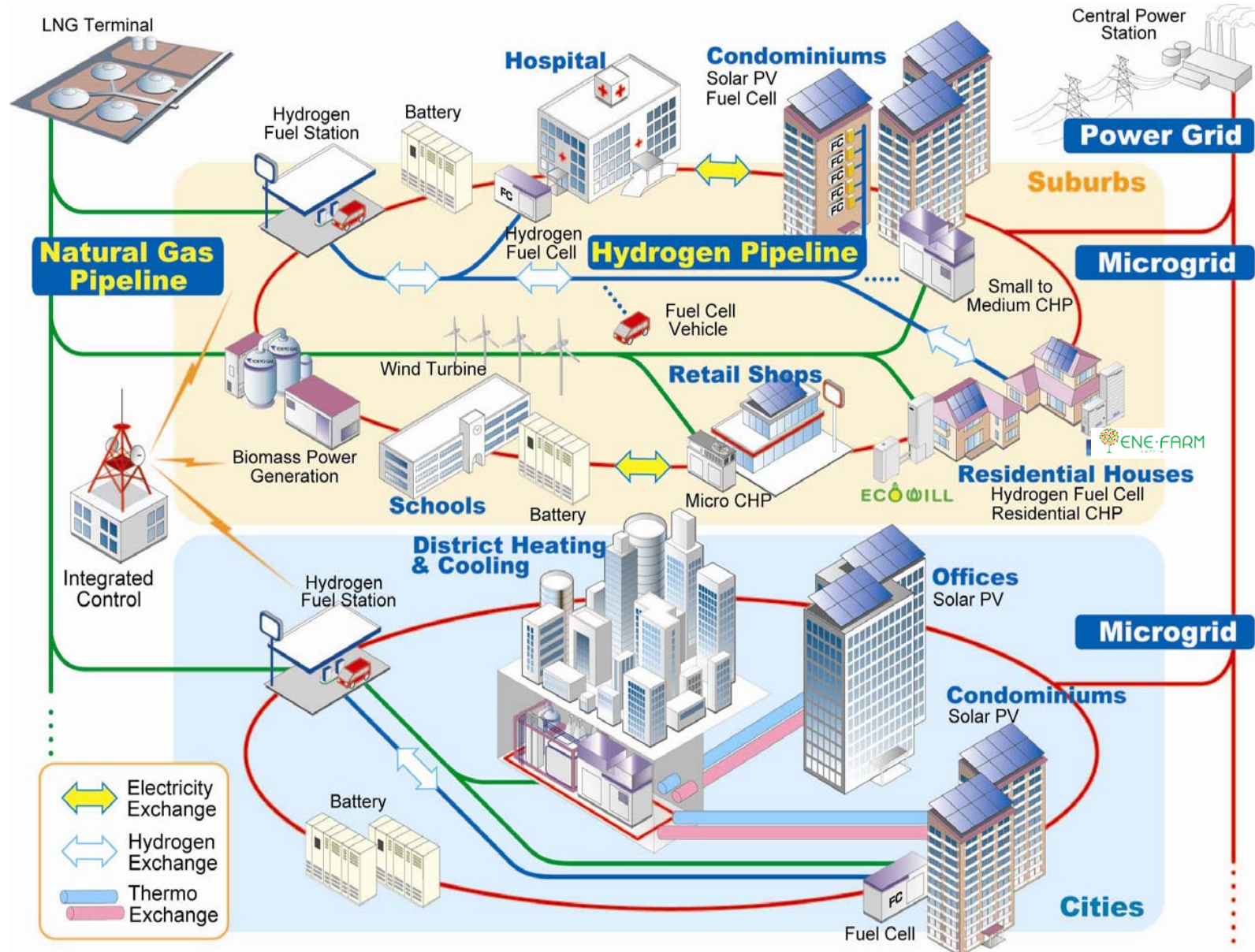
- 1. Further energy savings:** ambitious targets are incorporated in current strategic energy plan → behavioral change using **ICT** as well as efficiency improvements
- 2. More renewables:** PV 53GW and wind power 10GW in current strategic energy plan → power system stability issue → **smart grid**?; more geothermal, more small hydro, more biomass by FIT policy
- 3. Clean use of fossil fuels:** notably natural gas, clean coal incl. **CCS**, international deployments of Japanese efficient technologies
- 4. Power System Restructuring:** trans-boundary power plants mobilization → **wide area grid management**; mobilization of demand-side resources: cogeneration, **distributed resources**, ...

# Impact Scenario of Zero Nuclear Policy



# Integration of Energy Network across Energy Carriers

+ Mobilization of Demand-side



**Low Carbon Society**  
(renewable energies . . .)



**Stability of Power System**  
(smart grid, smart meter,  
smart energy network . . .)



**Integrating Supply Side with Demand Side**  
(power grid and automobile integration . . .)



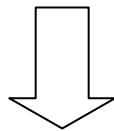
**Reform of Energy Systems**



**Energy Saving** by  
behavioral change



**Resilient Energy System**

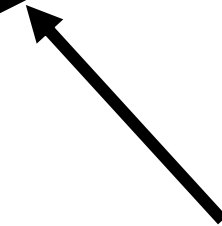
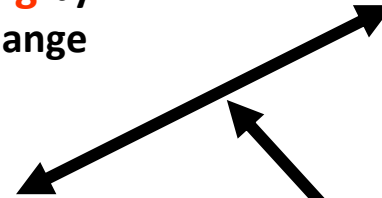


**New Economic Growth** (global standards, systems competitiveness . . .)

**Smart Community**  
(ICT, internet, sensor network . . .)



**Smart Home, Smart City**  
(HEMS, BEMS . . .)



**ICT Security**

(cyber-terrorism, privacy protection . . .)

# Energy-Information Integration + Smart Community

## Reconstruction of Energy Policy as well as Climate Response Strategy

- **Keep Nuclear Option:** enhanced safety measures, **risk communication** of low level radiation exposure and severe accident . . .
- **Further Energy Saving:** **behavior change using ICT** as well as further energy efficiency improvements . . .
- **Maximum Introduction of New Renewables:** FIT, using the opportunities of restoration (biomass in debris, damaged land . . .), **smart grid to maintain power stability** . . .
- **Clean Use of Fossil Fuels:** **natural gas, clean coal** (A-USC、IGCC、**CCS**)、carbon free H<sub>2</sub>(brown coal + CCS), bilateral offset credits . . .
- **Resilience of Energy System:** strengthened power grid, gas pipeline, and liquid fuel supply chain, **decentralized energy system with ICT to secure local energy supply in emergency** . . .

**Common Key Direction: Mobilization of Demand-side Resources** 7

**ご清聴ありがとうございました**  
***Thank you for your attention***



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