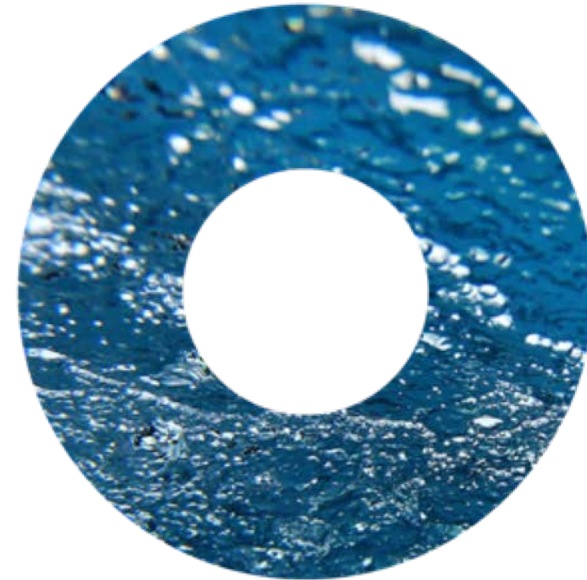


# Policy Recommendations to achieve the 2035 Japan scenario

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**March 1, 2023**



# Independent Think Tank

## Mission – To protect our climate

Research  
Engagement  
Communication  
Support

## Integration

Science + Policy + Society  
Different Issues  
Multi-sectoral actors

# About



# Contents

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## Key Takeaway from 2035 Report by Berkeley lab

- 90% decarbonization of Japan's power sector by 2035 is possible
- Benefits of decarbonizing Japan's power sector
- Shift to renewables is key
  - Nuclear and cofiring of hydrogen and fuel ammonia are costly
- Policy change is crucial for a speedy shift to renewables

## 10 Recommendations for Japan

- 3 elements for a national vision
- 7 policy measures





## Vision 1

# Grand Design

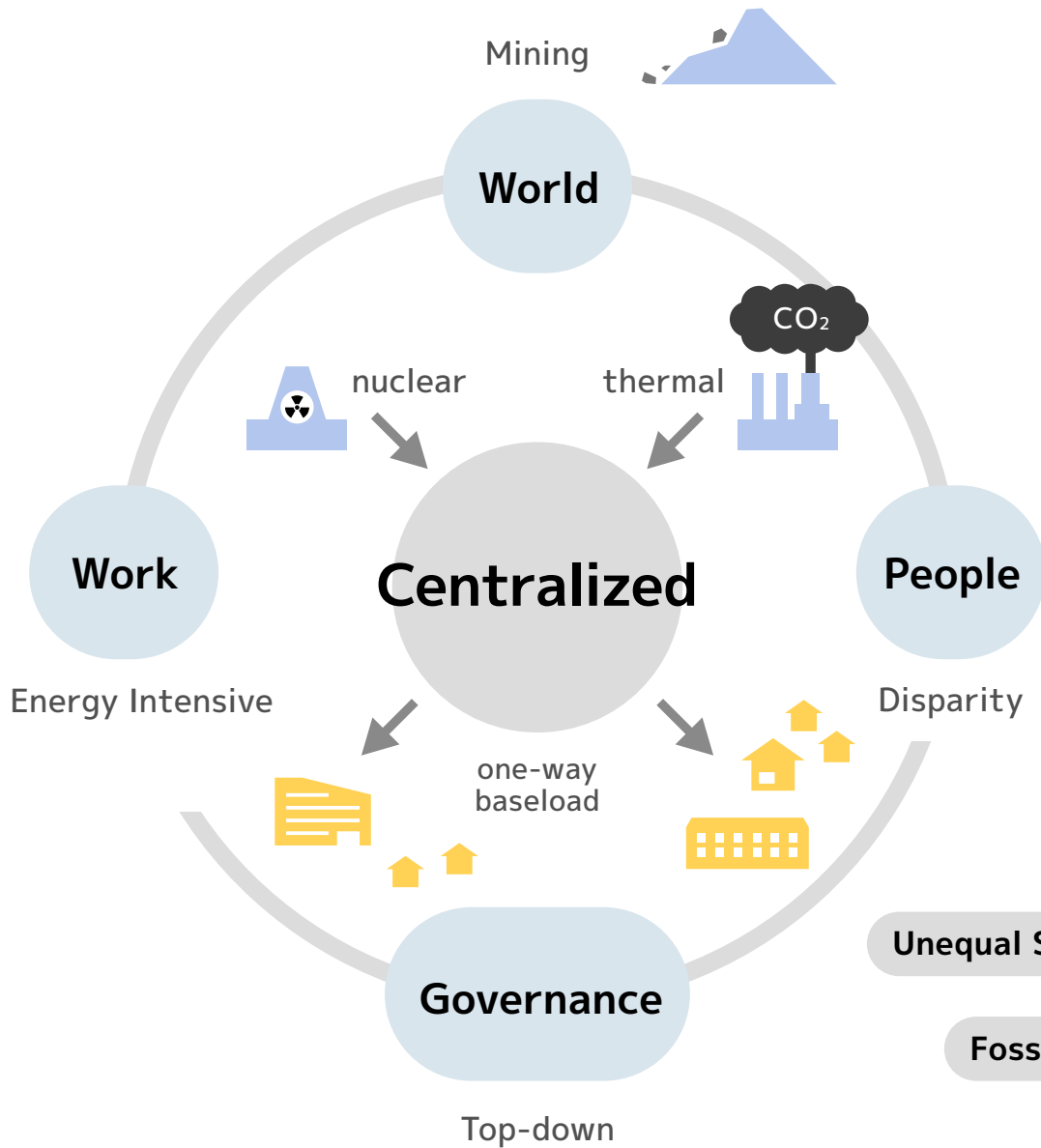
## Grand Design

- 1.5°C aligned design
- Industrial policies
- Cost-effective technologies

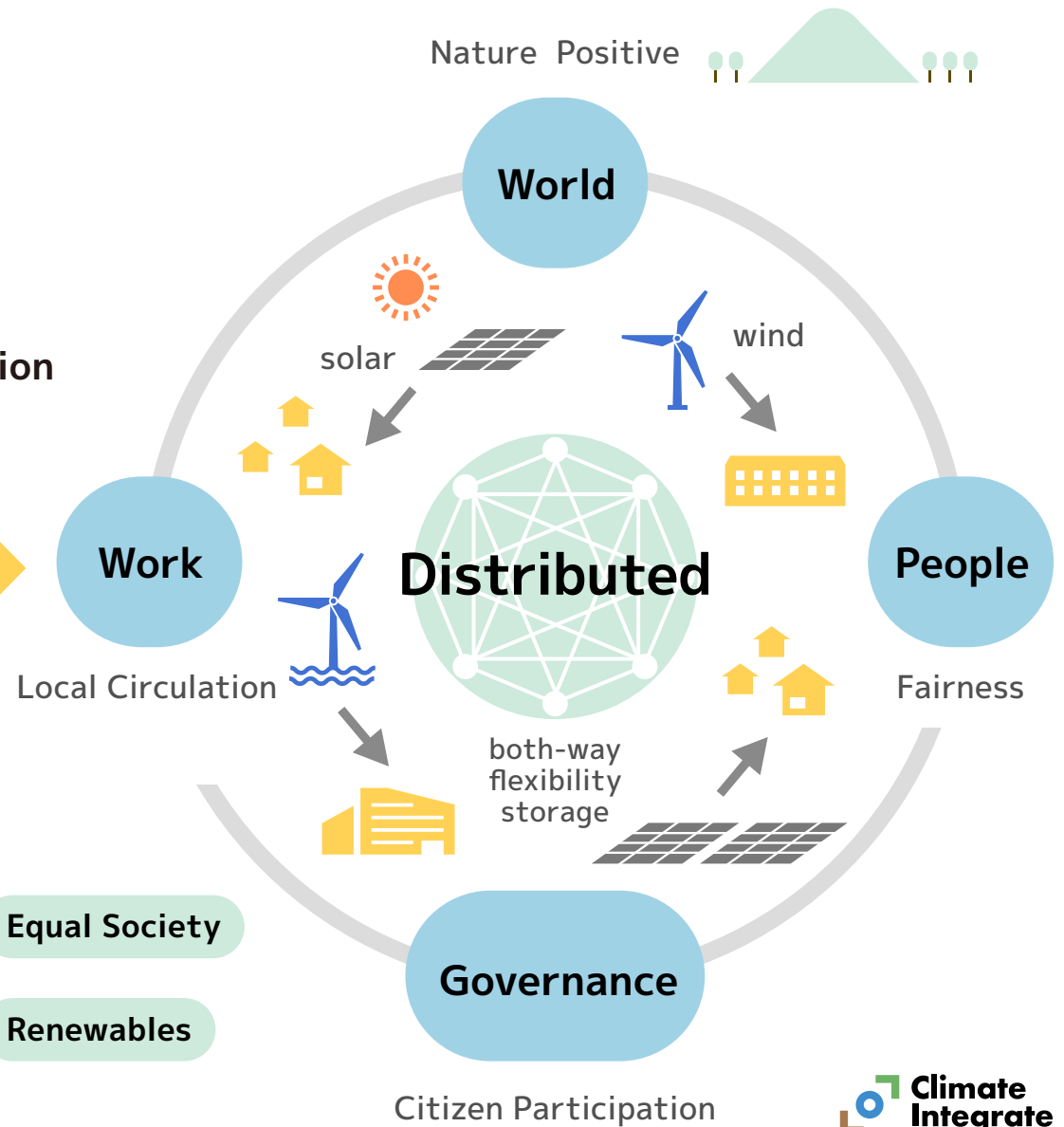


## Measures

- Intra-agency coordination
- Citizen-participation
- Clear roles for national, subnational governments
- Budget and fiscal measures



**Just Transition**



- Unequal Society → Equal Society
- Fossil Fuels → Renewables

# Ambitious Targets

## Ambitious Targets

- GHG reductions & renewables targets
- 5-year target cycle
- Sectoral targets



## Policy Review

- Coal-fired power: phaseout
- Gas-fired power: ban on new construction
- Hydrogen & ammonia: reconsideration of policies
- Nuclear: ban on new construction

## Vision 3

# Just Transition Strategies

## National Strategies

- Impact analysis
- Support for affected areas and workers
- Creation of green industries

## Dialogue

- Consensus building among stakeholders

## Financial Support

## Proposal 1

# Effective Carbon Pricing

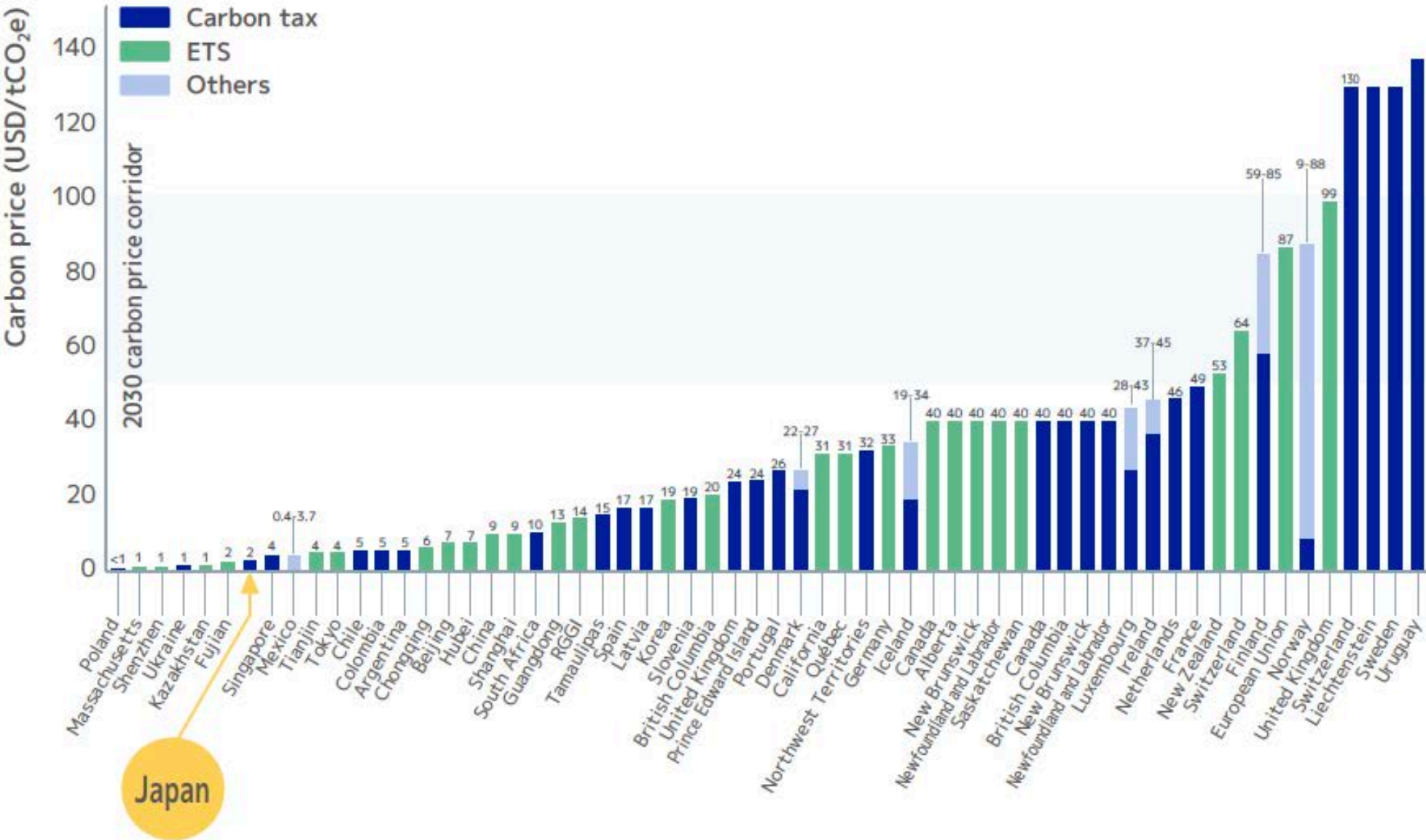
**Incentives for  
Energy Efficiency,  
Renewables**

**Implementing Carbon  
Pricing Schemes**

- Higher prices
- Fair and transparent use of revenues
- Carbon dividends, support for just transition



Chart 2. Carbon prices as of April 1, 2022



Prepared by Climate Integrate from World Bank materials<sup>31</sup>

## Proposal 2

# Renewables for Communities

Utility-scale  
Solar, Wind Power



Rooftop Solar,  
Micro Hydro

- Information disclosure, community participation
- Zoning
- Community-led power projects

**Proposal 3**

# **Flexibility in Power System**

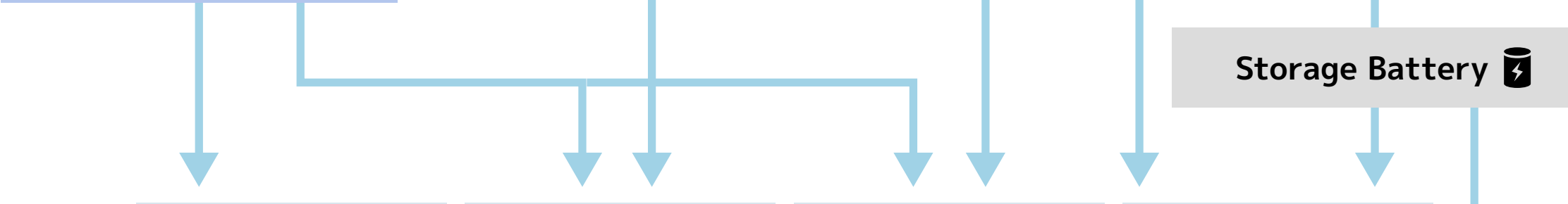
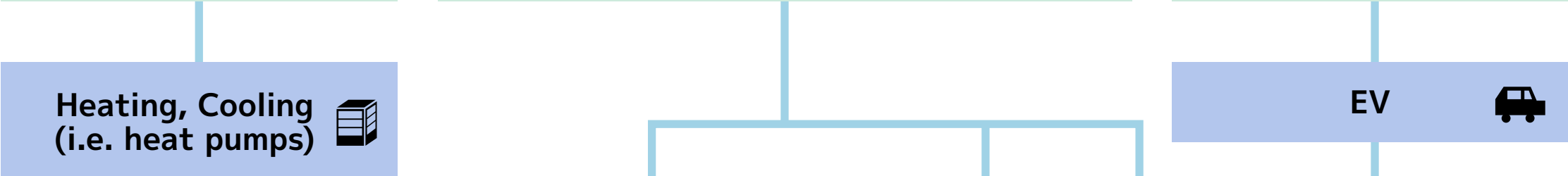
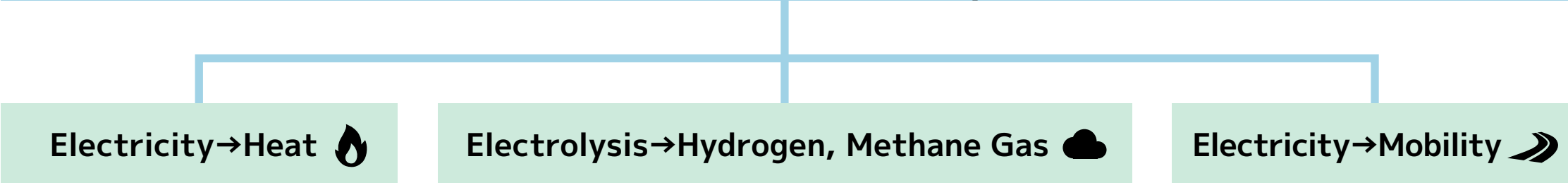
**Market Mechanism**

**Grid Management**

**Grid Flexibility**

**Sector Coupling**

Renewable Power 



Back to Electricity 

**Proposal 4**

# Redesigning Power Market

**Capacity  
Market Reform**

**Separation of  
Generation and  
Retail Units**

**Fair Burden  
Sharing**

**Trading on  
the Spot  
Market**

**Negative  
Pricing**

**Proposal 5**

# **Boosting Offshore Wind**

**Floating  
Offshore  
Wind Target**

**Transmission  
Lines**

**Centralized  
System**

**Domestic  
Procurement**

**Port  
Development**

**Local  
Electricity  
Consumption**

**Centralized  
Tasks and  
Duties**

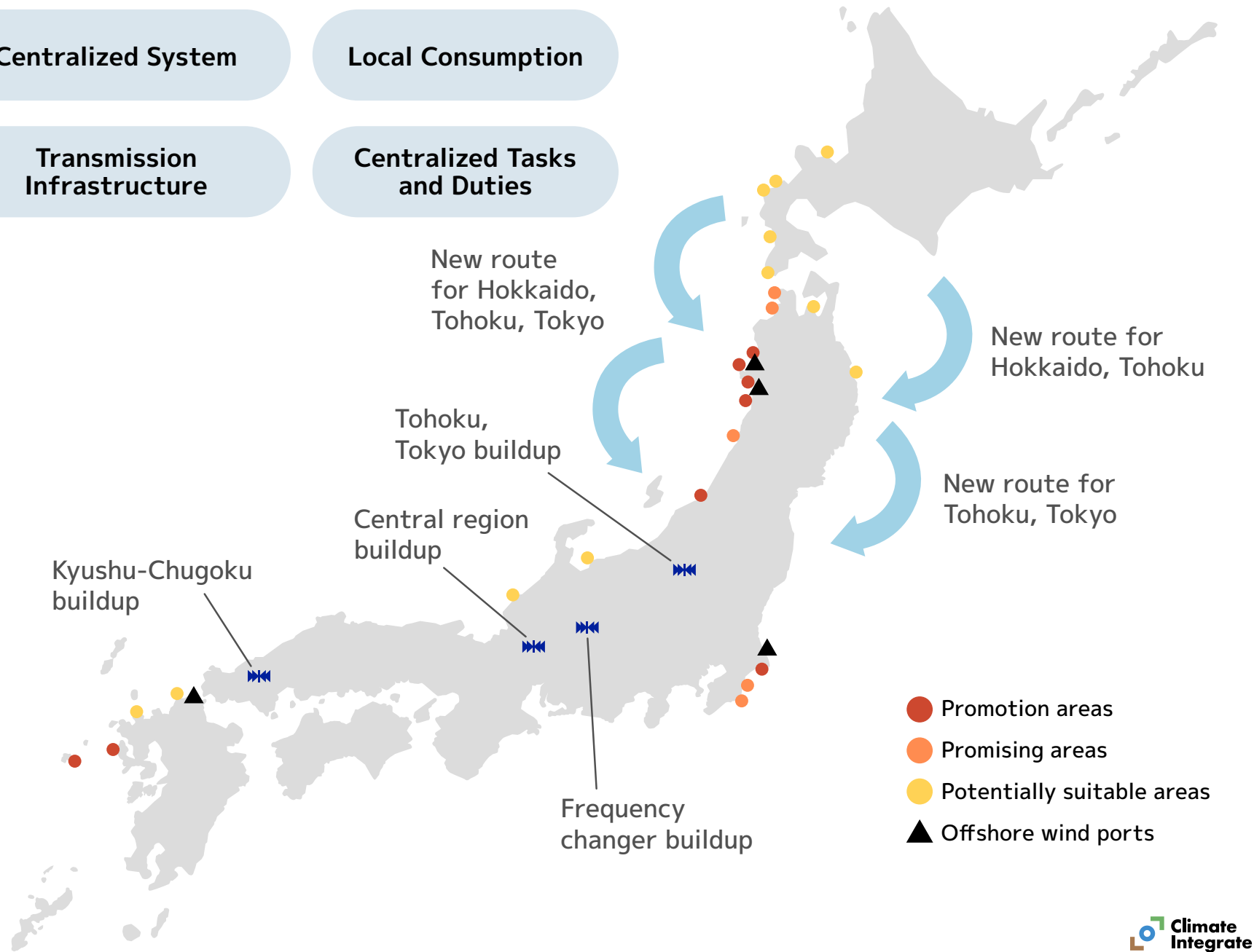


Centralized System

Local Consumption

Transmission Infrastructure

Centralized Tasks and Duties



- Promotion areas
- Promising areas
- Potentially suitable areas
- ▲ Offshore wind ports

## Proposal 6

# Energy Efficiency

## Industries

- Review of energy efficiency standards
- Emissions trading scheme and carbon tax
- Energy saving consultants

## Buildings

- Tougher standards
- Mandatory PV for new buildings
- PV, insulation for existing buildings

## Transportation

- 2035: new gasoline-powered car sales end
- Bikeable, walkable communities
- Efficient freight transport

## Buildings

Resource saving,  
low carbon materials,  
wood, long-life, insulation

[Non-residential]



Factory



Office

[Residential]



Condominium



Apartment



Stand-alone house

## Systems, Facilities

Better efficiency

[Production line, equipment]



Boiler



Heat exchanger



Piping



AC



Refrigerator



Server

## Transportation

Downsized,  
better efficiency



Plane



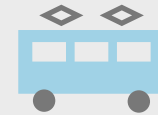
Ship



Truck



Car



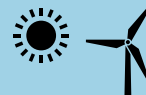
Train



Energy management



Renewables



Electrification



**Proposal 7**

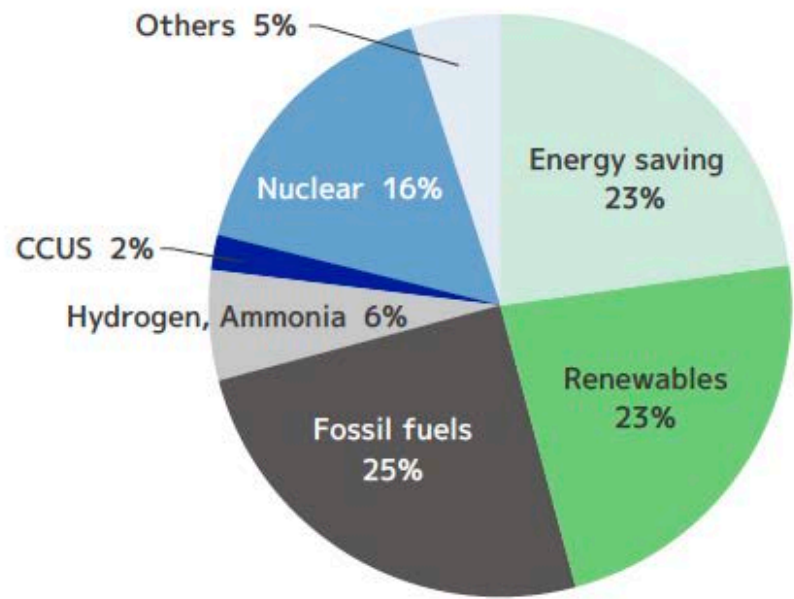
# **Fiscal Measures**

**Paris-aligned,  
Cost-benefit  
Analysis**

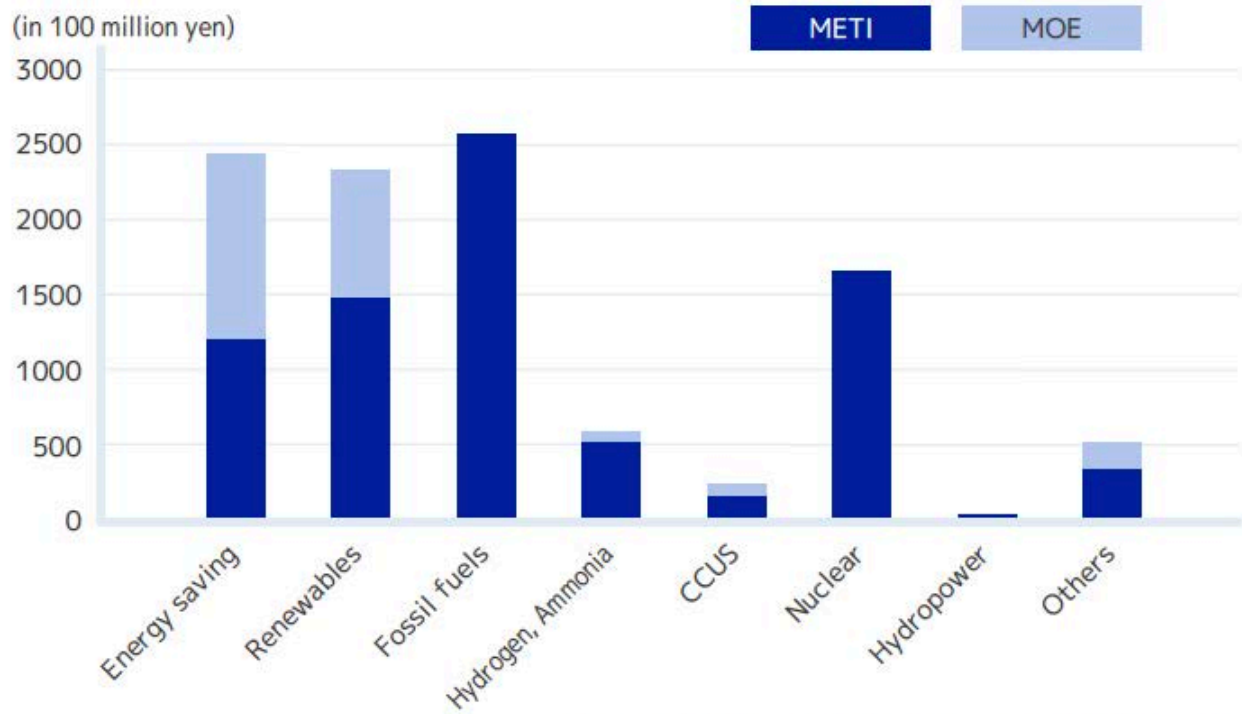
**Just Transition  
Support**

**Investment in  
Climate Tech**

**Chart 7. Budget requests for FY2023**  
 (METI's energy budget and MOE's Special Account Budget for Energy)



**Chart 8. Breakdown of MOE, METI budgets Prepared by Climate Integrate**



Prepared by Climate Integrate from METI, MOE materials

# Summary/Conclusion

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## 2035: 90% decarbonization of the power sector

### 10 Recommendations

#### National Vision

- A grand design for a renewable shift
- Ambitious targets and policy review
- National strategies for a just transition

#### Policy Measures

- Introducing carbon pricing at more appropriate levels
- Expanding renewable energy in ways that benefit communities
- Enhancing flexibility in Japan's power system
- Redesigning electricity markets to encourage fair competition
- Boosting offshore wind development
- Improving energy efficiency
- Adopting fiscal measures to support the energy shift



**Thank you!**

