

# Policy Mix in South Korea and Implications from Foreign Countries

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2013.11.18

# Joint Research

## Research Institutions



**CS**

**IMPACTS of Emissions Trading on Energy Intensive Industries (EII) and Industrial Restructuring – Lessons Learned from the EU ETS for South Korea**

*Sponsored contract*



**IGES**

**Bottom-up Impact Assessment of the Latest and Planned Climate Change and Energy Policy in Japan toward 2020**

*Executive Agency*



**KEI**

**Policy Roadmap and Strategy to Achieve mid- and long-term GHG Target**

## Contents

- **Carbon Leakage and Competitiveness under EU-ETS**
- **Lessons Learned from EU-ETS**
- **Assessment of Carbon Leakage in Korea**

- **Qualitative/quantitative assessment of climate and energy policies in Japan**
- **Forecast of emissions by 2020 according to policy adjustment after Fukushima nuclear accident**

- **Understand how major developed countries are mixing GHG and energy policies and draw policy implications**
- **Examine Korean GHG policies and assess any existing redundancy(double regulation), inefficiency(double burden), and unfairness(blind spot), then provide suggestions on the best policy mix**

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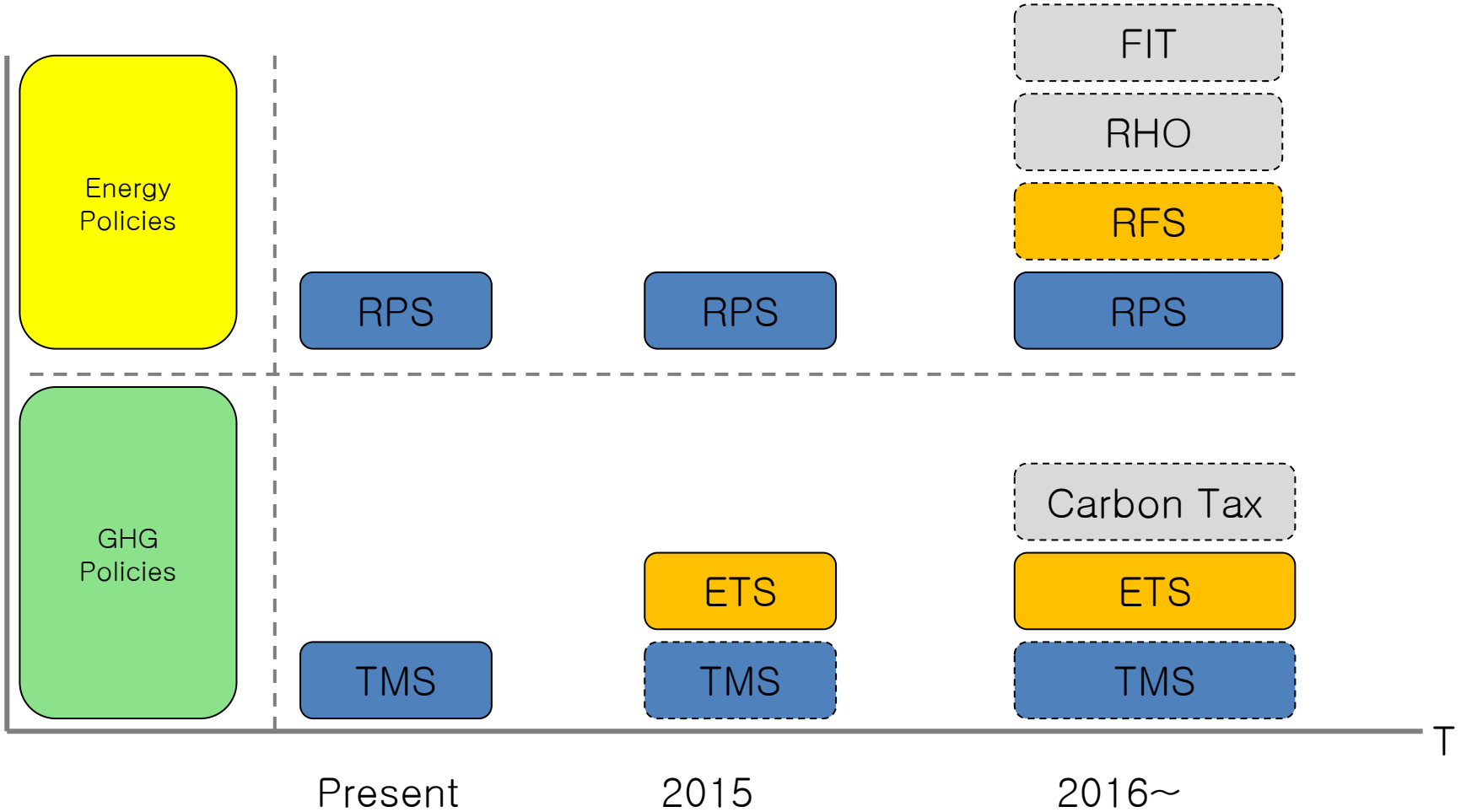
## I. Policy Mix in South Korea

## II. Implications from other Countries

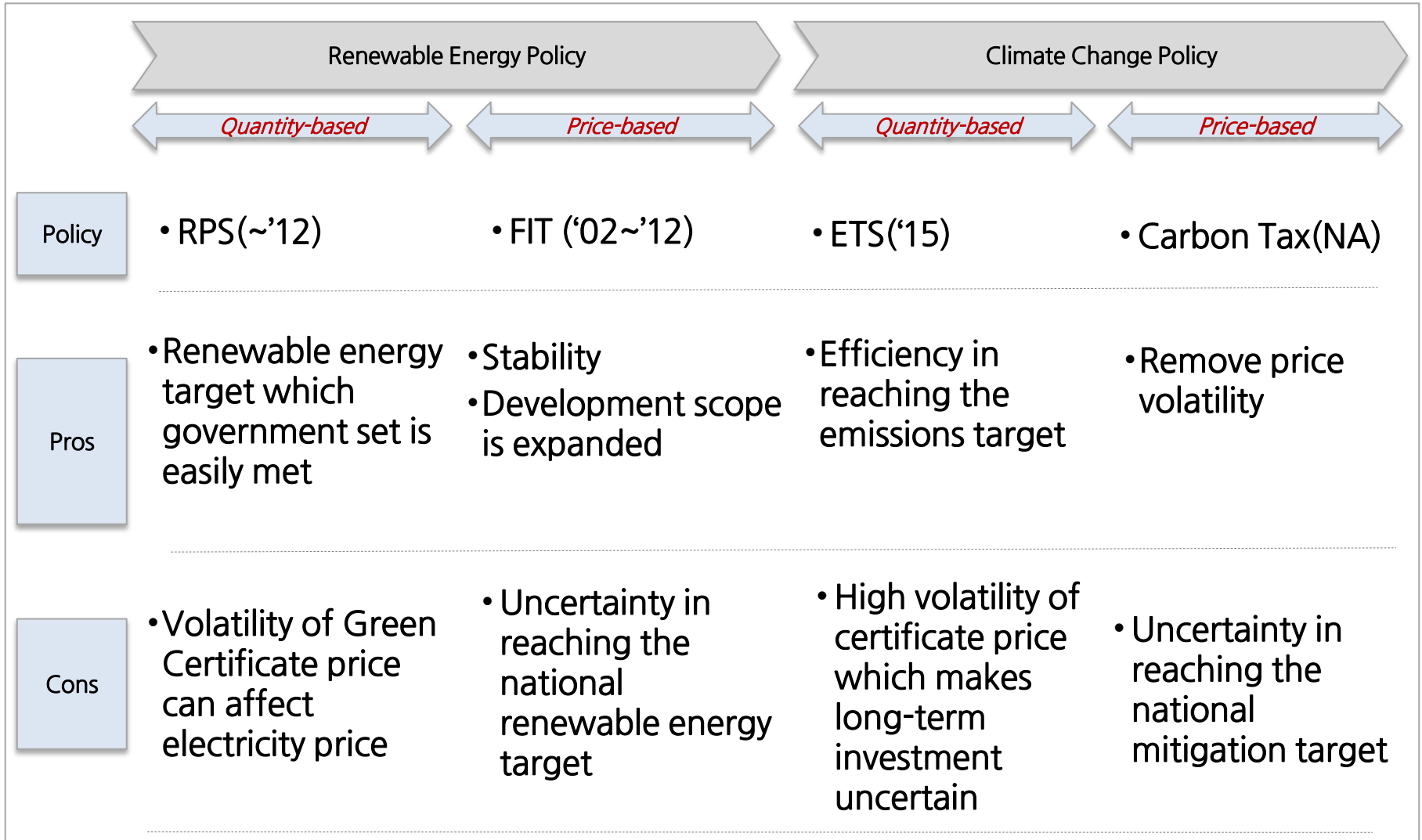
- 1) UK
- 2) Germany
- 3) Australia
- 4) U.S.
- 5) Japan

## III. Insights for Korea

# Current and future climate change polices in Korea



# Overview of Policies in Korea



# Climate Change Policy Principles in Korea

## Principles

- the least-cost installation principle
- the most mitigation
- the least double regulation

# Policy Mix Background



## **Impacts of GHG policies should be reviewed comprehensively , otherwise**

- National target may not be reached due to negative impacts of policy mix
- Or, externalities occurs and social costs increase

## **When GHG policies and Energy policies are implemented separately,**

- The effect may not be maximized and this induces cost increases
- Environmental integrity aspect of GHG policy can harm the goal of energy security and cost-effectiveness of energy policies

## **Domestic policies will also cover the global negotiation**

- If GHG policies are prioritized, energy sector may lose competitiveness
- If energy security is prioritized, many GHG policies may be neglected and this weakens Korea's voice on global climate change negotiations

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# Policy Mix in UK

## RO+ETS

Double Burden on Energy Supplying Industry

→ No Resolution yet

Double counting

→ No Fungibility between EU-ETS and ROs

ROC surplus → ROC price ↓

→ Adoption of FIT Cfd

## CCL+ETS

Double Burden on Energy intensive Industry

→ CCA+levy relief

Linkage CCL+ETS

→ Carbon price floor

# Policy Mix in Germany

ETS+Carbon\_Tax+FIT

**Energy Price Increase**

**→ Tax Relief for Energy Intensive Industry**

ETS+Carbon\_Tax+FIT

**Carbon Leakage**

**→ Not yet resolved**

Carbon Tax+ETS

**Tax neutral: the revenue is reimbursed as relief for companies up to 95%**

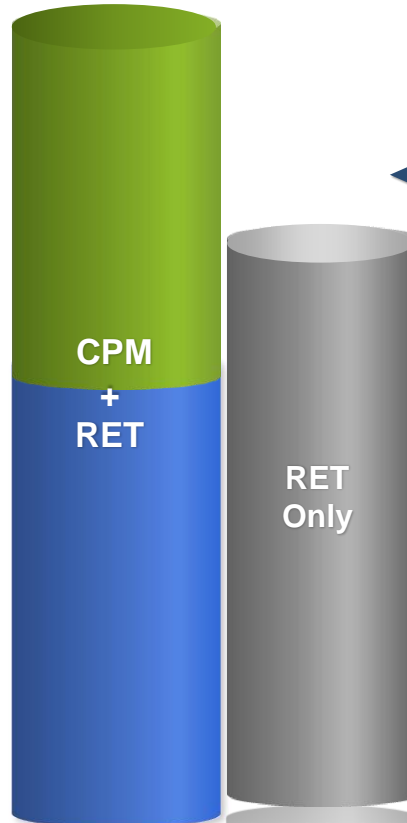
# Australia: CPM+RET

## CPM ONLY

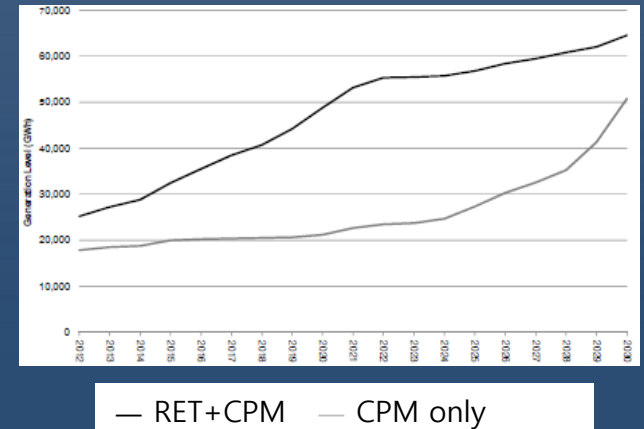
- R-Energy small Increases by 2020.
- However, R-Energy rapid Increases after 2025

## RET + CPM

- R-Energy Increases Rapidly by 2020.
- However, increasing rate is slower after 2025 .



## RET and CPM Renewable Energy Forecast

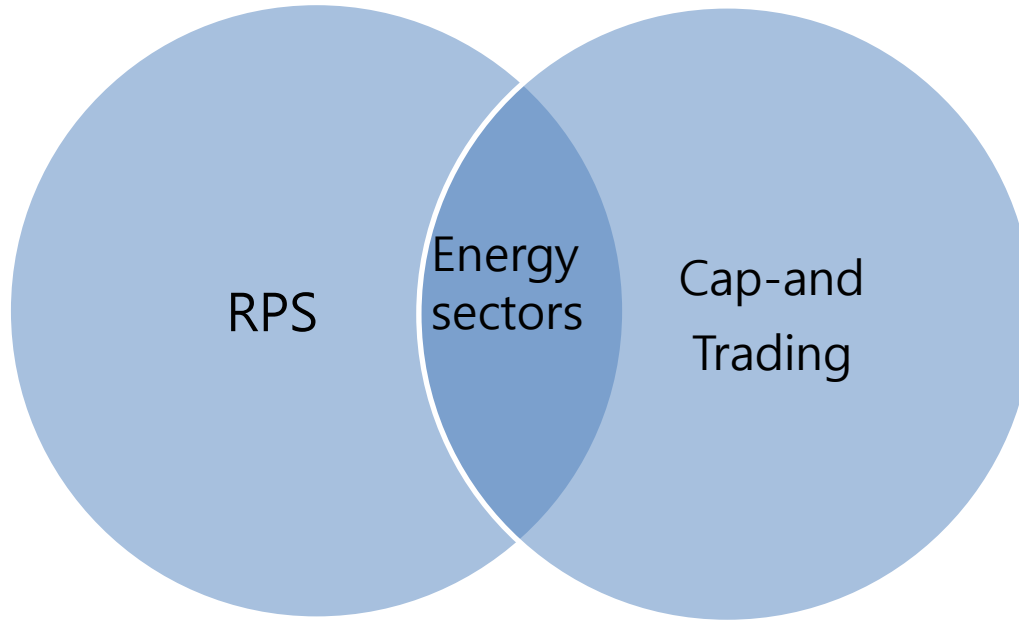


## RET ONLY

- Nor cost-effective

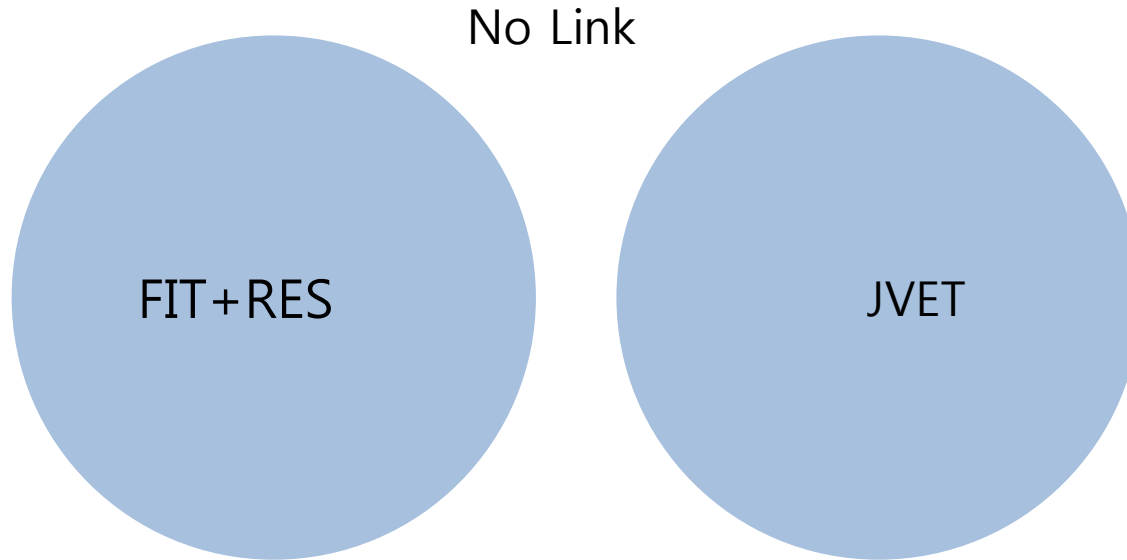
**Implication: policy mix is better up to 2020, but after 2020 it does not hold any more**

# US(California State)



- CER and REC are not Fungible
- Carbon leakage problem if cap is not expanded.

# Policy Mix in Japan



- Energy Policy: RES+FIT
- GHG reduction policy: ETS is delayed, JVET is on.  
→ No double regulation

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# Insights for Korea

Issues of Policy Mix		Possible Solutions
RPS	<ul style="list-style-type: none"> <li>• REC Price Fall</li> <li>• Administrative cost increase</li> <li>• Sectoral Unfairness(caused by carbon price drop)</li> <li>• Distortion in Mitigation</li> <li>• technology investment</li> <li>• Wholesale electricity market</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust REC weight</li> <li>• RPS target adjustment</li> <li>• Cap adjustment for Emissions Trading System</li> <li>• Not allowing fungibility between ETS and RPS</li> </ul>
TAX	<ul style="list-style-type: none"> <li>• Carbon Tax and Emissions Trading System Interact</li> </ul>	<ul style="list-style-type: none"> <li>• Sectoral approach (avoid double burden)</li> <li>• Make tax system supplement to Trading System (Carbon price floor)</li> <li>• Adjust Objectives of carbon tax to support energy efficiencies or renewable energy investment</li> </ul>

# Conclusion

- Emissions Trading System + RPS incurs no extra mitigation → each policy needs to be operated to meet the original objective of the policy design
  - Energy Security, Clean Energy industrialization, clean energy job
- Clear logic of policy mix and consistency is necessary for private sector to be able to set long-term strategies
- Domestic industrial structure and mitigation technology level should be considered when referring climate change package of the developed countries.



THANK YOU