TRANSFORMATION OF GERMAN- AND EUROPEAN-STYLE FEED-IN TARIFF SCHEMES IN EAST ASIA IN THE POST-FUKUSHIMA AGE: RECENT DEVELOPMENTS IN JAPAN, SOUTH KOREA, AND TAIWAN

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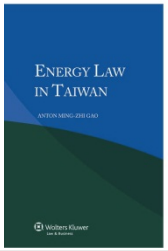
About me



- CO-PI: National Energy Program: A Study on the Establishment of Legal Framework of **Carbon Capture and Storage(CCS)** in Taiwan, 2010-2013, National Science Council(NSC) & Taiwan Institute of Economic Research.
- PI, A Study on the Current Electricity Liberalization Reform Bills and Ordinances in Taiwan: The Lessons from European Regulatory Model, NSC.
- PI, National Renewable Electricity Feed in Tariff Think Tank Project: A Study on the FIT in 7 European Countries and Revision of Taiwan Renewable Energy Act of 2009, 2011, **Bureau of Energy** (Ministry of Economic Affairs) & Taiwan Research Institute (2011).
- CO-PI: **National Energy Program**: A Study on the **Clean Energy Legal Framework** for Taiwan with a View to Implementation of Taiwan Nationally Appropriate Mitagation Actions, 2011-2013, NSC.
- Co-PI, The Establishment of **Policy Framework for Taiwan Low-carbon Energy and Industry**, 2011-2012, NTHU Research Project.

- **REGULATING GAS LIBERALIZATION. A COMPARATIVE STUDY ON UNBUNDLING AND OPEN ACCESS REGIMES IN THE US, EUROPE, JAPAN by: Anton Ming-Zhi Gao**

I. Introduction

the main schemes to promote the development of renewable electricity

Feed in Tariff

Investment Subsidy

Renewable portfolio standards (RPS)

Tendering system

Net Metering

Winner: **feed in tariff**

II. The Development of RES Promotion scheme in JP, KR, and TW

Main Schemes and Phases

JP

(1) Phase I. Preparatory Stage: Prior to 1997

(2) Phase II. 1997-2002

(3) Phase III. RPS Law and Voluntary Net Metering Scheme

(4) Phase IV. 2009 Mandatory PV Net Metering

(5) Phase V. Post-Fukushima: 2011 FIT with Mandatory Small PV Net Metering

KR

(1) Phase I. Soft Law in the 1990s

(2) Phase II. 2000s: Feed in tariff

(3) Phase III. 2012: RPS and Mandatory Capacity Installation of PV

TW

(1) Phase I. Before Drafting Renewable Energy Bill in 2002

(2) Phase II. 2003 Restricted Version of FIT: Transition Period between 2002 and 2009

(3) Phase III. 2009 Renewable Energy Act: FIT: Adoption of Renewable Energy Act in 2009

(4) Phase IV. **Post-PV Boom** and **Post-Fukushima**: New Energy Policy of November 2011: FIT + PV Tendering

Before Fukushima

Warm up stage: focus on **R&D funding, small scale subsidy for market applications**

- JP: 1980-2002
- KR:1990's
- TW: Before 2002

Since 2002, 2003 → March 2011 Fukushima: FIT or RPS

- JP:Phase III. **RPS Law** and Voluntary Net Metering Scheme
  Phase IV. 2009 Mandatory PV Net Metering
  (a) Government Budget, Projects, and Programs (b) Taxes (c) Investment Subsidies and Demonstration Project Subsidy
- KR: **Feed-in Tariffs 2002**
  (a) Investment Subsidies and Demonstration Project Subsidy (b) Taxes
- TW: **2003 Restricted Version of FIT**: Transition Period between 2002 and 2009
  2009 Renewable Energy Act: **FIT**

After Fukushima

JP

- 2011
  FIT
  + Mandatory Small PV Net Metering

KR

- 2012
  RPS
  + **Mandatory Capacity Installation of PV**

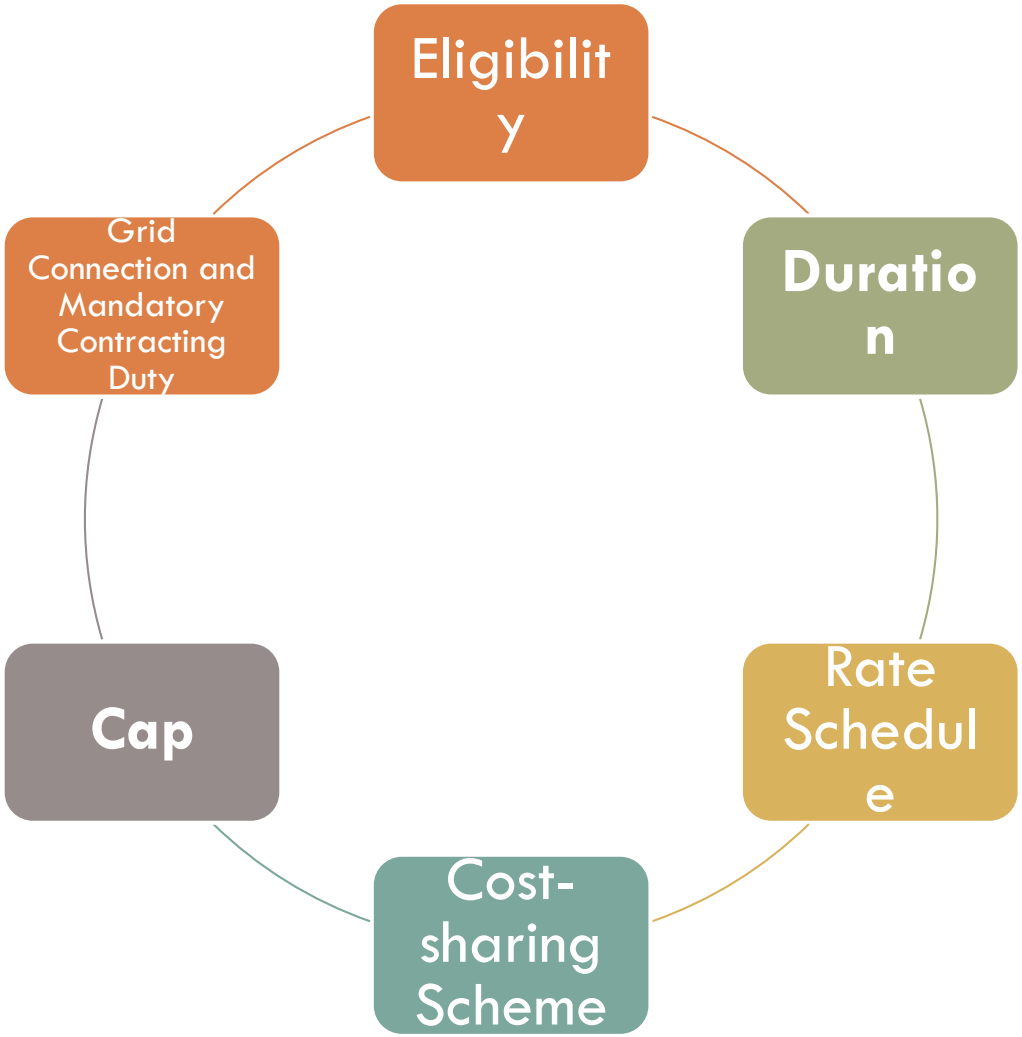
TW

- Post-PV Boom and Post-Fukushima: New Energy Policy of November 2011
  FIT + PV Tendering

!!!No pure-blood

III. Comparison with German-style FIT: Unique FITs in Japan, South Korea, and Taiwan

Main elements of Feed in tariff



Successful Story of Germany model

Eligibility

As many types of RES electricity as possible

Duration

15, 20

Rate Schedule

Multi years Rate Schedule	Tariff Degression

Cost-sharing Scheme

User pays principle

Cap

No cap

Grid Connection and Mandatory Contracting Duty

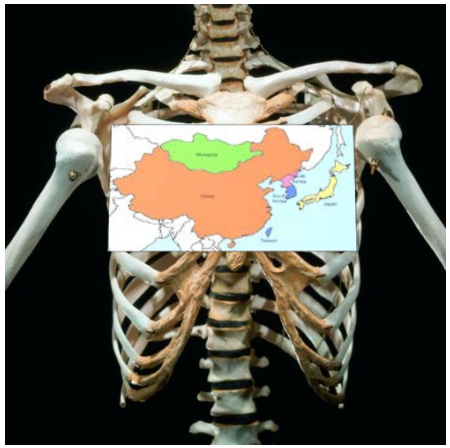
Peculiar Transformation in East Asia

	Germany	Japan	Taiwan	South Korea
Eligibility	☆☆☆	☆	☆	☆☆
Duration	☆☆☆	☆☆☆	☆	☆☆☆
Rate scheme	☆☆☆	☆	☆	☆☆☆
Cost sharing	☆☆☆	☆☆☆	☆	☆
Cap	☆☆☆	☆☆☆	☆	☆
Grid connection and usage	☆☆☆	☆	☆	☆

Why ?

- **European Feed in Tariff Skin and Face**

- BUT… with **Asian Bone**



A Dilemma of encouraging RES Electricity !

Pros

-Green economy, new green jobs

-New Domestic RES industry

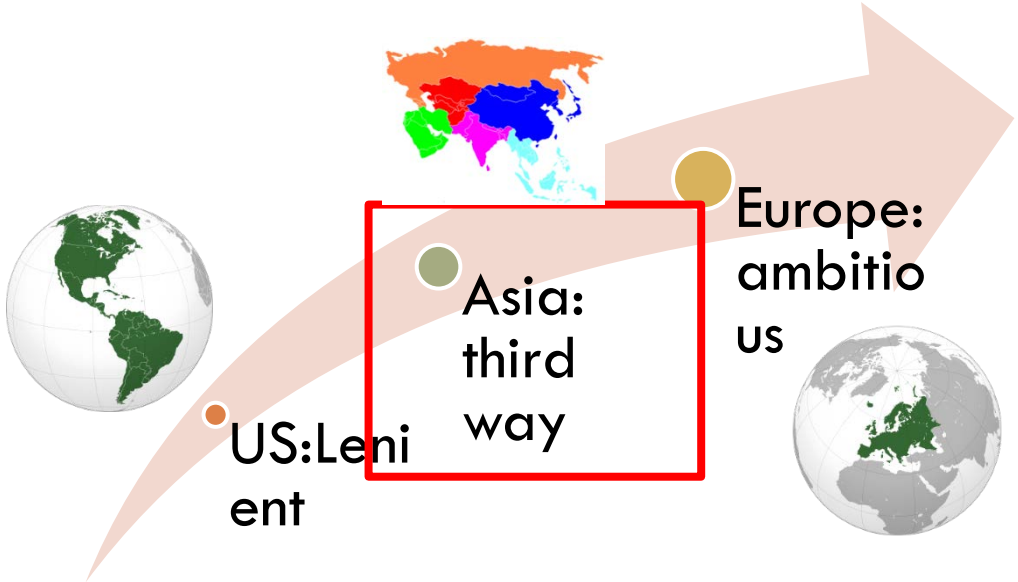
Cons:

-Bad news for energy intensive industry AND manufacturing industry

-Higher consumer electricity price and bills

Conclusion

Interesting cross-continent comparison among Europe, US and Asia RES promotion models



mixture of Anglo-Saxon- and European-style economic and legal regimes

Because they rely heavily on the **manufacturing sector**, facilitating the domestic PV application and boosting PV export creates a dilemma.
Add to that the **increasing costs of electricity**.
Therefore, the main focus remains on **boosting PV export**.

The future cooperation between taiwan and Europe in this field

Thanks for your attention!

Welcome your comment!