

Middle East Energy Shocks and Carbon Pricing in Asia

Implications for climate policy and the green transition

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Self Introduction

- Professor of Economics, Waseda University
- Research: **Carbon Pricing, CBAM, Climate & Energy Policy**
- Vice President, **AAERE**
- Former President, **SEEPS**
- Member of Japanese government committees on **GX-ETS** and **Tokyo/Saitama ETS**
- Visiting experience at **RFF, Paris School of Economics, and Sciences Po**
- Steering Committee Member, **ASPI ETS Dialogues in Asia**



Energy Crisis Policy Response in Asia

IEA: 2026 Energy Crisis Policy Response Tracker

- **Work from home**

- Cambodia, India, Indonesia, Korea, Lao PDR, Malaysia , Myanmar, Nepal, Pakistan, Philippines, Thailand, Viet Nam

- **Cooling:** Temperature limits of air conditioners

Cool Biz in Japan
(2005-)

- Bangladesh, Cambodia, Malaysia, Philippines, Singapore, Thailand

- **Government travel Limits**

- Cambodia, India, Indonesia, Korea, Malaysia, Nepal, Pakistan, Philippines, Thailand, Viet Nam

- **Transport**

- Brunei, India, Indonesia, Korea, Lao PDR, Myanmar, Pakistan, Philippines , Singapore, Thailand, Viet Nam

EV Promotion

Two competing effects on the green transition

Energy shocks are not automatically pro- or anti-climate; design and politics determine the outcome.



Offshore Wind Power in the Goto Islands, Japan

Acceleration channel

Higher fossil-fuel prices improve the private payoff to energy efficiency, renewables, electrification, EVs, and fuel switching.

Delay channel

Governments may cut fuel taxes, expand subsidies, or slow reform to shield consumers and energy-intensive industry.

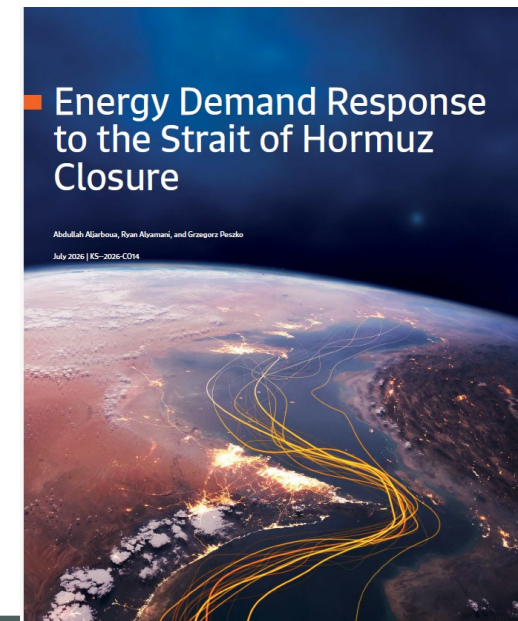
Key policy challenge

Convert temporary price signals into durable investment incentives without ignoring affordability and competitiveness.

Signals of Structural Demand Shifts

(Acceleration channel)

- EV sales surge
 - China's EV Adoption: 63% of new car in May 2026
 - Chinese EV exports 80% increase over years.
 - In Australia, EV market share rose to 23.4% in June 2026
- Biofuel Blending
 - Thailand increased mandates from 5% to 7%
 - Indonesia accelerated the deployment of 50%-blend palm-based diesel oil.
- Clean Energy Partnership
 - China, Korea, India and Southeast Asia



Aljarboua et al. 2026

Overall Trends in SEA

1. Strategic Reserve, Renewables & Nuclear
2. Importance of energy efficiency.
 - Many AC units in ASEAN consume roughly twice as much electricity as efficient Japanese models
3. ASEAN Power Grid
 - Growing interest following the crisis

ASEAN Power Grid interconnector project



IEA: Southeast Asia Energy Outlook 2026

Regional Cooperation

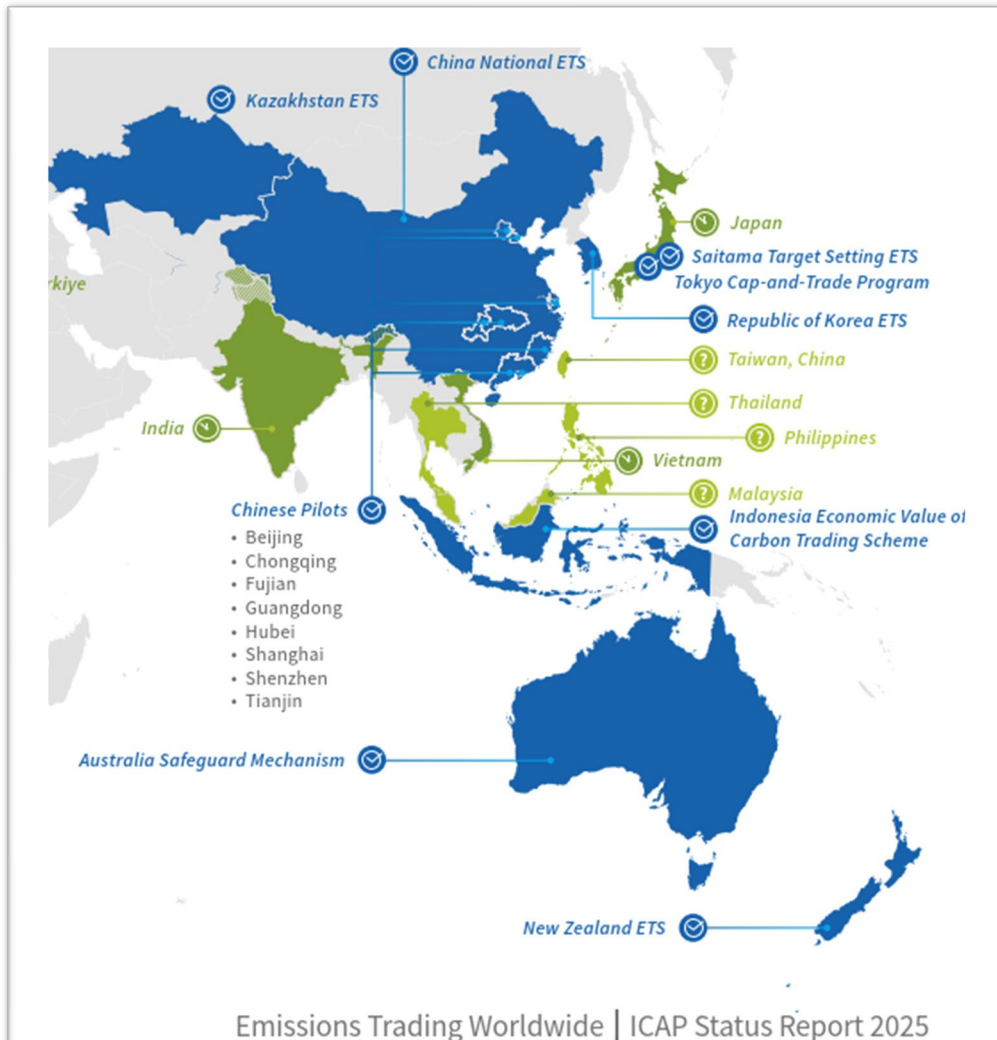
- Clean Energy Partnership
 - China, Korea, India and Southeast Asia
- POWERR Asia
 - a Japan-led regional energy-resilience initiative involving AZEC (Asia Zero Emission Community) partners and other Asian economies, including India, South Korea, Bangladesh, Sri Lanka and Timor-Leste.
- Asian governments are increasingly integrating decarbonization with energy security, but through different models:
 - resilience in Japan,
 - technology and supply chains in Korea,
 - infrastructure and investment in China.

Tension between Energy Security & Decarbonization

(Delay channel)

- Japan and India are restarting selected coal plants
- Price stabilization
 - fuel subsidies, electricity/gas support, protection for households and firms
- Negative impacts on carbon pricing?

Carbon Pricing in Asia and Pacific



<https://icapcarbonaction.com/en/ets>

(2026/09/20 Access)

- New Zealand ETS (2008-)
- Tokyo/Saitama ETSs in Japan (2010/11)
- Japanese Carbon Tax (2012-)
- Chinese Pilot ETSs (2013-)
- Korean ETS (2015)
- Australia Safeguard Mechanism (2016)
- Chinese National ETS (2021-)
- Singapore Carbon Tax (2019-)
- Indonesia ETS (2023-)
- Japanese GX-ETS (2023:2026-)
- Vietnamese ETS (2026:2028-)

In ASPI dialogue, we see no changes yet in ETS Discussion among participating Asian countries. But..

Case Study 1: Malaysia

- Delay
 - In 2024, Malaysia planned to introduce carbon tax on energy, iron & steel in 2026.
 - April 2026, minister hinted a delay in the carbon tax introduction.
- Acceleration
 - More policy toward renewables, battery and grids
 - Renewable target is upgraded to aim for 35% by 2030.
 - Interests in ASEAN Power grid

Case Study 2: Japan

Green Transformation (GX) Act in Japan

(May '23, revised in May '25)

1. Climate **Transition** Bond (**GX-Bond**)

(FY2023-)

✓ Funding for R&D and Innovation

2. Carbon Pricing (to pay back GX bond)

A) An Emissions Trading Scheme (**GX-ETS**)

1. Voluntary Phase: FY 2023-2026

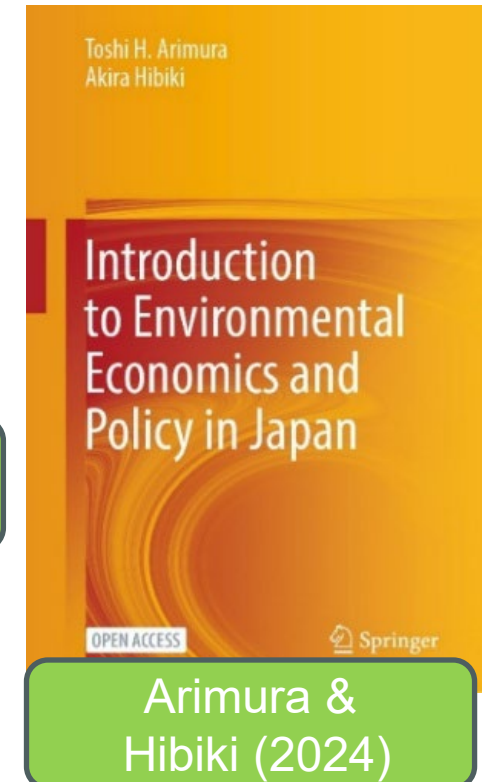
2. Mandatory Phase: FY 2026-2032

3. Auction in the power sector: FY 2033-

Some discussion on additional allowances?

B) Fossil Fuel Surcharge (additional carbon tax)

- Charges on the imported fossil fuels (like current oil and petroleum tax) after 2028



Case Study 2: Japan

Japan Climate Transition Bond(GX-Bond): GX Bond for Industrial Policy

Breakdown of government support over the next decade funded by new government bonds

20 trillion yen

Expansion of non-fossil energy

6~8 trillion yen

Research and development of new technologies related to renewable energy
Support for demand expansion of **hydrogen and ammonia**

Transformation of industrial structure on both supply and demand sides & Drastic reinforcement of energy saving

9~12 trillion yen

Energy conservation and fuel conversion for structural reform and improving profitability in the manufacturing industry
Achieve drastic **energy savings**
Nationwide domestic demand measures

Resource recycling and carbon fixation technologies etc.

2~4 trillion yen

R&D and implementation of new technologies

Overall public and private investment over the next decade

150 trillion yen

60 trillion yen~

Massive introduction of renewable energy
Nuclear energy (R&D of innovative reactors, etc.)
Hydrogen and ammonia

80 trillion yen~

Energy saving and fuel conversion in the manufacturing industry (e.g., steel, chemicals, cement)
Digital investment for decarbonization
Establishment of **battery industry**
Structural transformation of ship and aircraft industries
Next-generation automobiles

10 trillion yen~

Zero-emission Housing and Buildings
Resource recycling industry
Bio manufacturing **CCUS, CCS**



More focus on energy security related investment or R&D after the middle east crisis?

My personal observations (Speculations)

- The introduction of carbon pricing may be delayed in some countries.
- However, the overall direction toward carbon pricing is unlikely to change.
- Climate policy will increasingly need to incorporate energy security considerations.
 - Renewables and nuclear power are likely to accelerate further.
- Electrification, EVs, energy storage and energy efficiency will become increasingly important.

Thanks!

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