



Potential of Carbon Pricing in ASEAN for Decarbonization of Energy Sector

ASEAN-Japan Insight Series

26 March 2024



Dr Zulfikar Yurnaidi

Manager

Energy Modelling and Policy Planning (MPP) Department

ASEAN Centre for Energy

Decarbonization in ASEAN Energy Sector is Guided by APAEC



ASEAN Center for Energy Role



Catalyst

To unify and strengthen ASEAN Energy Cooperation by providing platform for sharing, policy advisory, best practices, capacity building.



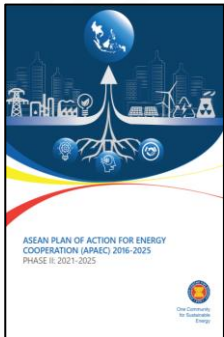
Knowledge Hub

To provide a knowledge repository for ASEAN Member States (AMS) and services through data Management, publication, dissemination.



Think Tank

To assist AMS on research and identifying practical & specific solution policies, legal & regulatory framework, technologies, innovative Solutions



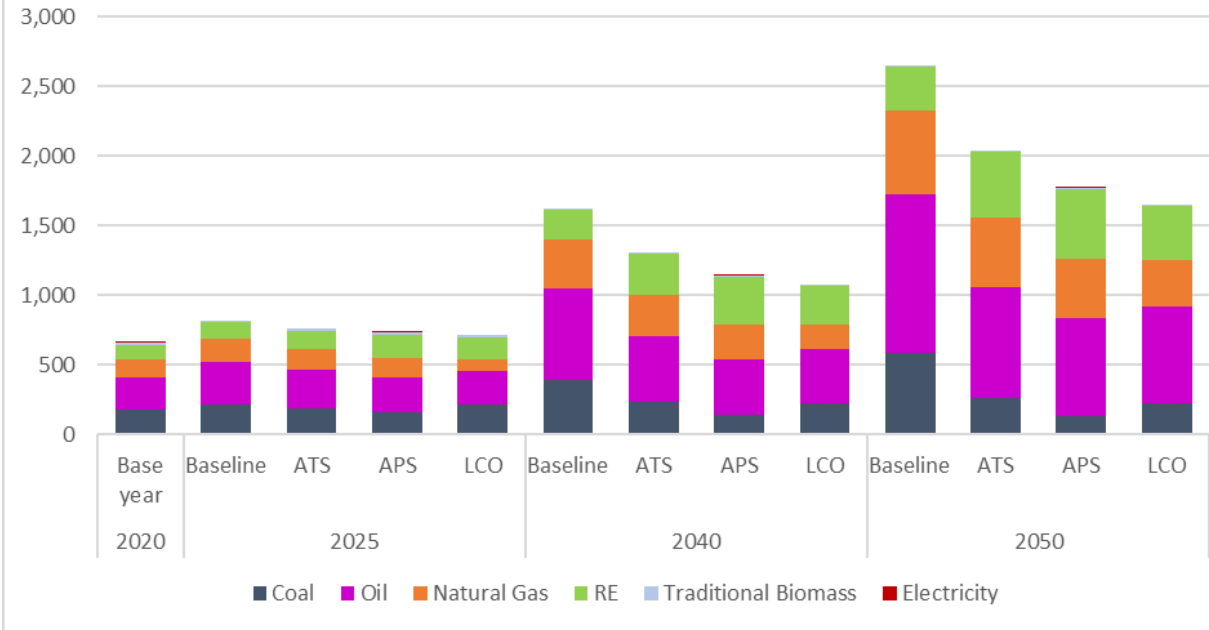
Enhancing Energy Connectivity and Market Integration in ASEAN to Achieve Energy Security, Accessibility, Affordability & Sustainability for All
Accelerating Energy Transition and Strengthening Energy Resilience Through Greater Innovation and Cooperation

ASEAN Plan of Action for Energy Cooperation (APAEC) Phase II (2016-2025)

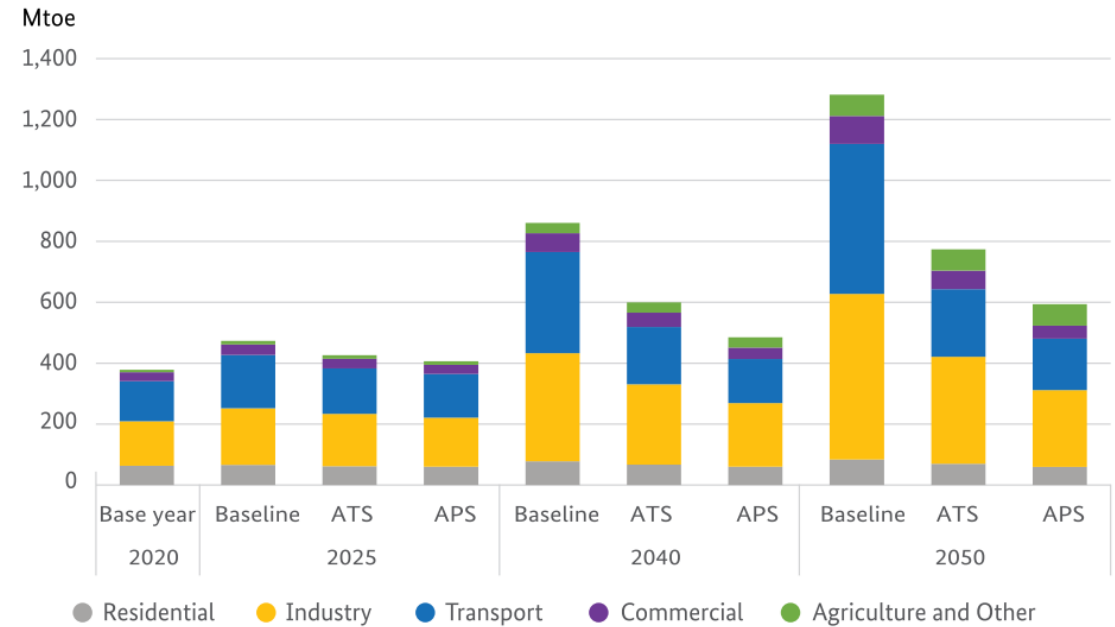
Focus	Program Area & Key Strategy
	ASEAN Power Grid: Expand MPT, Grid resiliency and clean & renewable energy integration
	Trans ASEAN Gas Pipeline : Develop Common Gas Market by LNG connectivity and accessibility
	Clean Coal Utilization: Optimize the role of Clean Coal in energy transition
	Energy Efficiency: Reduce energy intensity by 32% in 2025 based on 2005 level
	Renewable Energy: Achieve 23% share of RE in ASEAN energy mix and 35% share of RE in ASEAN installed Capacity
	Regional Energy Policy and Planning: Advance energy policy and accelerate region's energy transition & resilience
	Nuclear Energy: Build human resources capabilities on nuclear technology for power generation

AE07: Pathways of ASEAN Energy System

Energy Supply Projection (Mtoe)



Demand Growth By Sector



- ❑ Baseline Scenario projected a 4x of energy required to fuel the economic growth from 2020 to 2050. Energy efficiency measures reduce the need of energy to 3x and 2.7x in ATS and APS.
- ❑ LCO Scenario reduces the demand further to 2.5x of 2020.
- ❑ In all scenarios, fossil fuels remain the largest component.

Industry and transport sectors continue to be the highest energy consuming sectors in the region, dominated by oil especially in transport

Status and Progress of Carbon Pricing in ASEAN



Countries	Net Zero Target	Carbon Pricing in Climate Change Policy	Carbon Tax	Emissions Trading System (ETS)	Carbon Credit
	Net Zero 2050	✓	✗	✗	✗
	Carbon Neutral 2050	✗	✗	✗	✓
	Net Zero 2060 or sooner	✓	✗	✓	✓
	Net Zero 2050	✗	✗	✗	✓
	Carbon Neutral 2050	✓	✗	✗	✓
	Net Zero from forestry and other land use 2040	✗	✗	✗	✓
	No target set	✓	✗	✗	✓
	Net Zero 2050	✓	✓	✗	✓
	Carbon Neutral 2050; Net Zero 2065	✓	✗	✗	✓
	Net Zero 2050	✓	✗	✗	✓

In the context of ASEAN countries, carbon pricing is widely recognized as a key instrument for climate change mitigation within their respective climate policies or national climate reports. Nearly all these nations are at various stages of engagement with carbon pricing policies, ranging from assessment and design to implementation.

As of now, the only operational ETS within ASEAN is Indonesia's, launched in February 2023. This ETS specifically targets emissions from coal-fired power plants. On the other hand, Singapore introduced a carbon tax in 2019, marking another significant step in the region's carbon pricing initiatives.

Regarding the carbon market, almost all AMS are involved in carbon credit activities, which are predominantly voluntary. This widespread participation highlights the region's commitment to exploring diverse approaches to carbon management and climate change mitigation.

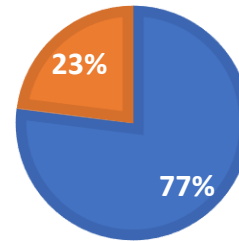
Source: ACE, "Progress of Carbon Pricing in ASEAN to Support the Shift Towards a Low Carbon Economy" (2024)

ACE Survey on CBAM and AMS Responses



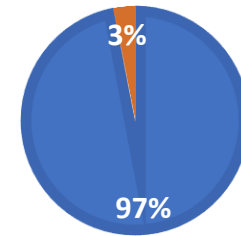
WILL CBAM BE EFFECTIVE FOR AMS TO ACHIEVE NET-ZERO TARGET?
YES (77%) AGREE THAT CBAM WILL HELP ACHIEVE NET ZERO

■ Yes ■ No ■ ■



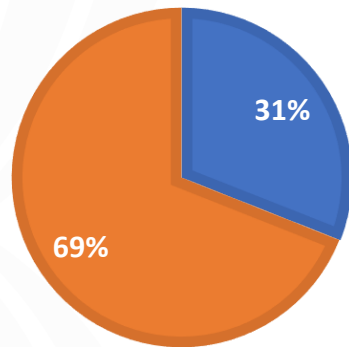
IS CBAM MAY RESULT IN HIGHER PRODUCT PRICES ?
YES (97%) THE PRODUCT PRICE WILL BE HIGHER DUE TO CBAM

■ Yes ■ No ■ ■



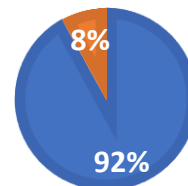
ARE AMS READY FOR CBAM?
69% ARE NOT READY YET FOR CBAM IMPLEMENTATION

■ Yes ■ No ■ ■



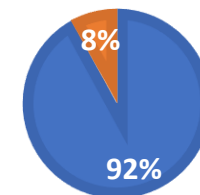
IS CBAM BE EFFECTIVE FOR EMISSION REDUCTION FROM ENERGY INTENSIVE INDUSTRIES?
YES (92%) CBAM WILL REDUCE EMISSION IN INDUSTRY

■ Yes ■ No ■ ■



WILL CBAM INCREASE TO MORE RENEWABLE ENERGY INSTALLATION IN INDUSTRY SECTOR?
YES (92%), CBAM WILL INCREASE RE IN INDUSTRY

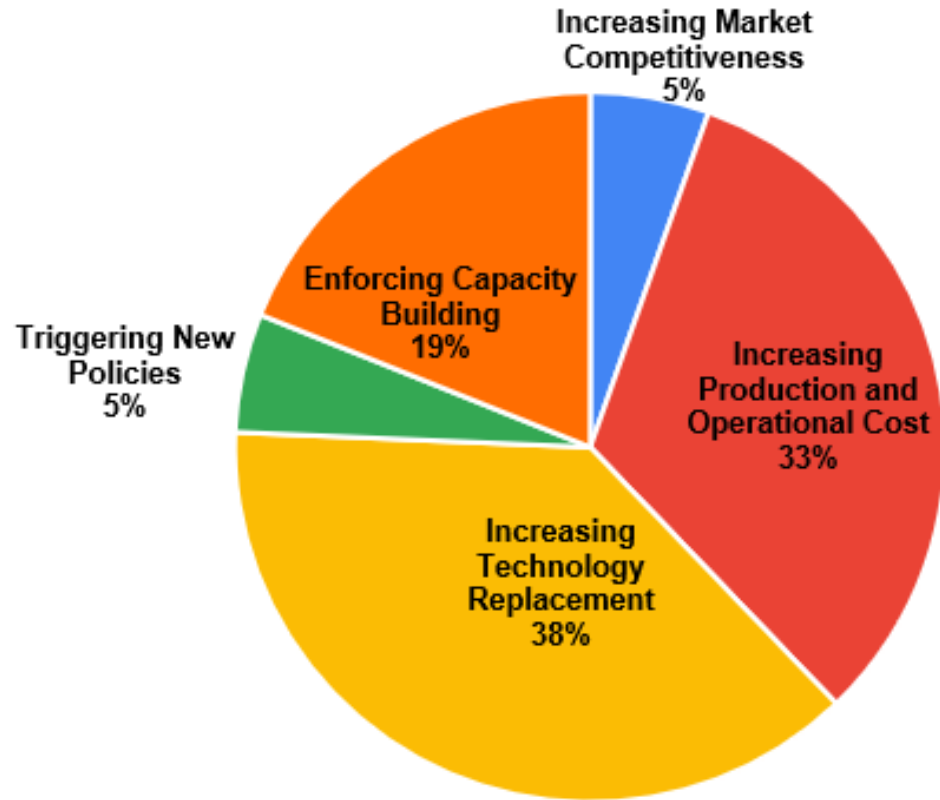
■ Yes ■ No ■ ■



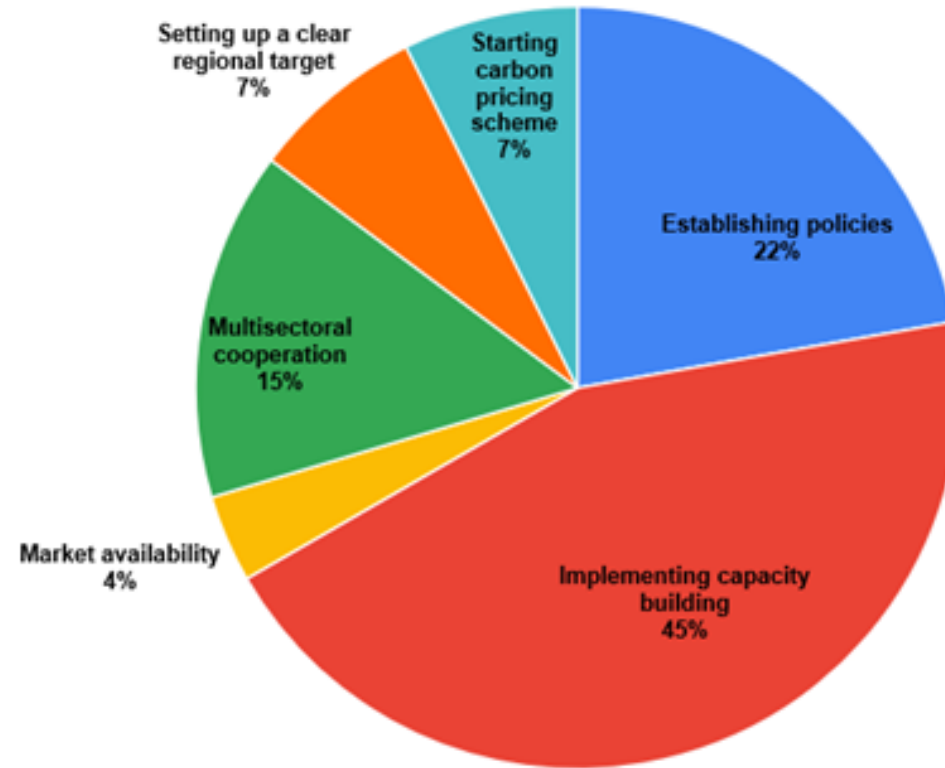
ACE Survey on CBAM and AMS Responses



CBAM Impact on Energy-Intensives Industries



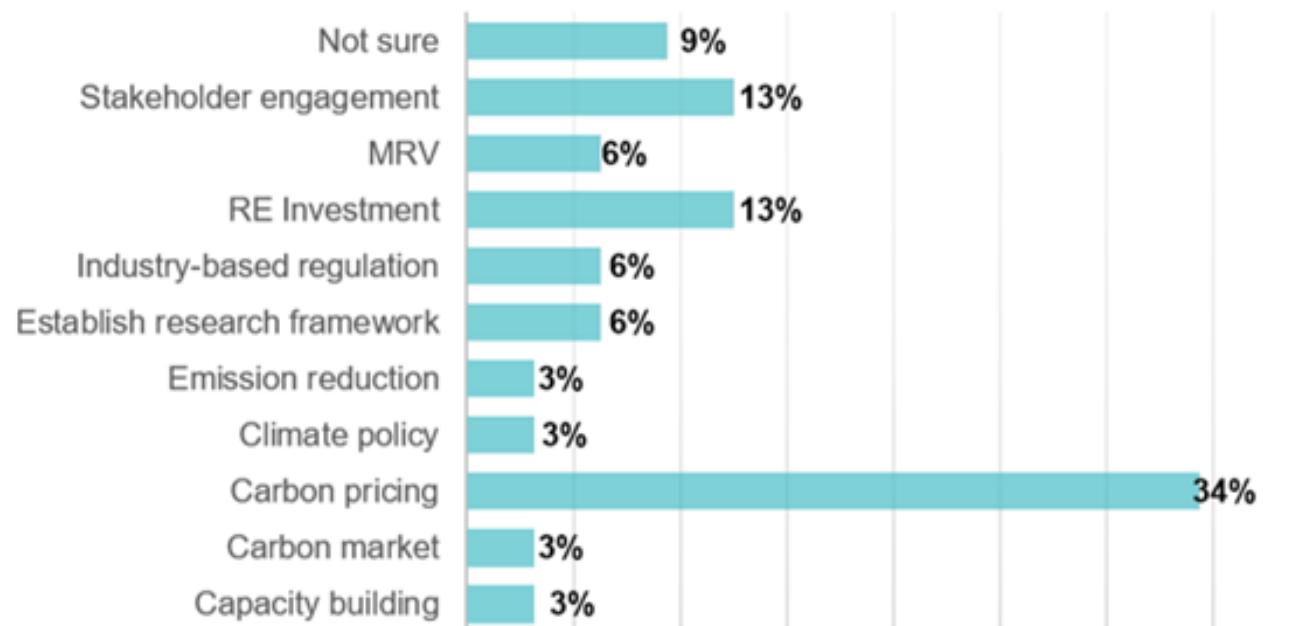
Strategies to Respond CBAM



ACE Survey on CBAM and AMS Responses



Policy Suggestions



Recommendations in Promoting Carbon Pricing Policy in ASEAN



- 1. Enhance Understanding and Capacity Building:** Launch comprehensive educational and training programs aimed at all stakeholders, including policymakers, industry leaders, and the workforce within energy-intensive sectors. These programs should focus on the mechanics of CBAM and Carbon Pricing, their implications for competitiveness, and strategies for adaptation.
- 2. Develop and Implement Carbon Pricing Policies:** ASEAN countries should consider adopting or enhancing Carbon Pricing mechanisms. This could involve direct carbon taxes or cap-and-trade systems tailored to the specific economic and environmental contexts of each country.
- 3. Foster Renewable Energy and Technological Innovation:** Incentivize the adoption of renewable energy sources and the development of low-carbon technologies. This can be achieved through subsidies, tax incentives, and support for research and development projects.
- 4. Collaborate Regionally and Internationally:** Strengthen cooperation among ASEAN members to share best practices, develop regional guidelines for Carbon Pricing and CBAM adaptation, and engage in dialogue with partners outside the region to ensure that ASEAN's interests are represented and protected.
- 5. Strengthen Policy and Regulatory Frameworks:** Update and refine regulatory frameworks to support the transition to low-carbon technologies and practices, ensuring they are conducive to innovation and competitiveness.
- 6. Engage Stakeholders:** Establish platforms for ongoing dialogue with all stakeholders, including the private sector, civil society, and the international community, to gather feedback, build consensus, and ensure that policies are effectively implemented and adjusted as necessary.



ASEAN Centre for Energy
One Community for Sustainable Energy

To know more about the latest ACE Publications,
those are available for download from:

aseanenergy.org/category/publications/



For further information or to provide feedback, please contact ACE at
secretariat@aseanenergy.org



ASEAN Centre for Energy



@aseanenergy



ASEAN Centre for Energy



@aseanenergy



ASEAN Centre for Energy

Thank You