

Demand-side Energy Policies and Strategic Approaches in ASEAN

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**One Community
for Sustainable
Energy**

What is ASEAN Centre for Energy (ACE)? What's the role?

Intergovernmental organisation within ASEAN structure that represents the 10 ASEAN Member States' interests in the energy sector.



As a Think tank..

Conduct studies and provide policy recommendations



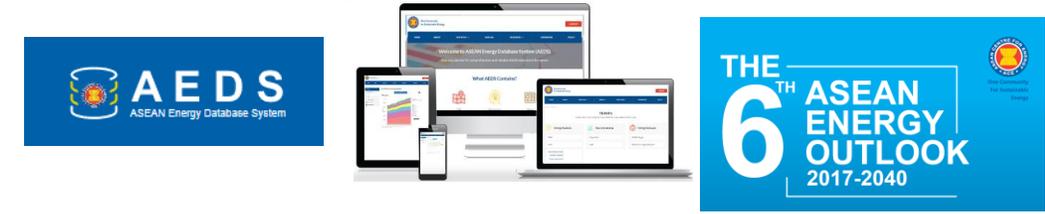
..Catalyst

Collaborate with national, regional, and international entities



..and Knowledge hub

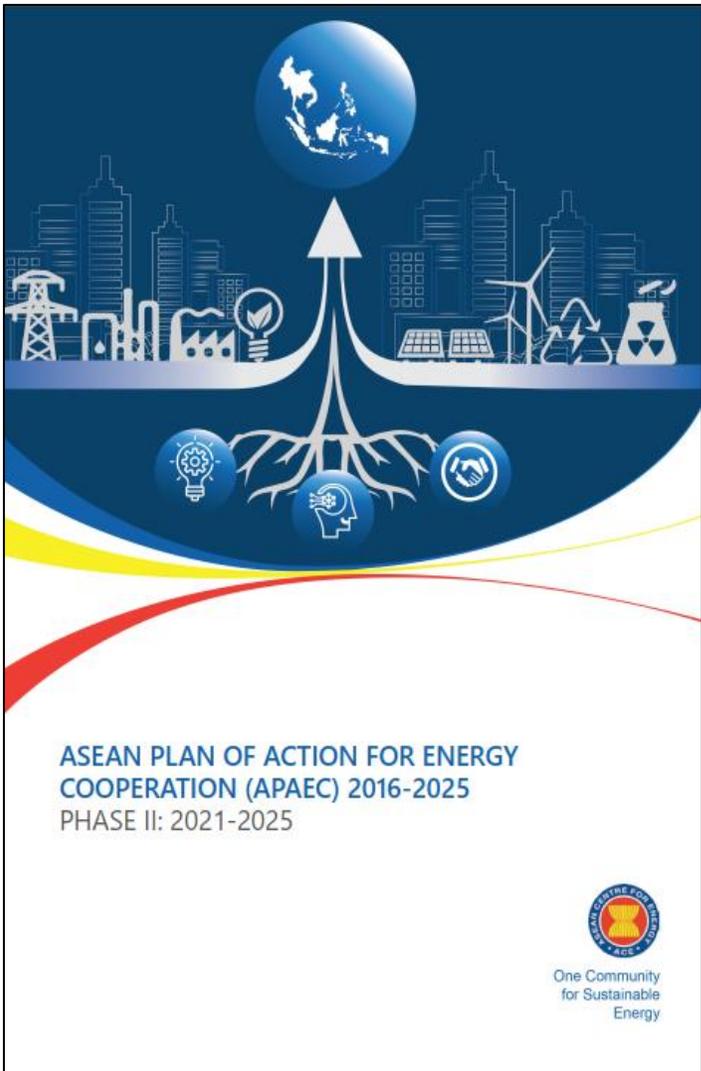
Data and knowledge repository and analysis



Implementing Agency of Regional Blueprint

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

APAEC 2016-2025 Phase II: 2021-2025



Enhancing Energy Connectivity and Market Integration in ASEAN to Achieve Energy Security, Accessibility, Affordability and Sustainability for All

Accelerating Energy Transition and Strengthening Energy Resilience Through Greater Innovation and Cooperation



1. ASEAN Power Grid

To expand regional multilateral electricity trading, strengthen grid resilience and modernisation, and promote clean and renewable energy integration.



2. Trans-ASEAN Gas Pipeline

To pursue the development of a **common gas market** for ASEAN by enhancing gas and LNG connectivity and accessibility.



3. Coal and Clean Coal Technology

To optimise the **role of CCT** in **facilitating the transition** towards sustainable and lower emission development.



4. Energy Efficiency and Conservation

To **reduce energy intensity** by 32% by 2025 and encourage **EE&C** efforts, especially in transport and industry



5. Renewable Energy

To **increase the share of RE** to 23% in TPES and 35% in installed power capacity by 2025



6. Regional Energy Policy and Planning

To advance energy policy and planning to **accelerate the region's energy transition** and **resilience**



7. Civilian Nuclear Energy

To build **human resource capabilities** on **nuclear science and technology** for power generation.

Programme Area No 4: Energy Efficiency & Conservation

5 Outcome-based Strategies and 14 Action Plans



OBS1

Expand, Harmonise, and Promote EE S&L



OBS2

Enhance Participation of Private Sector, Financial Institutions, and Clusters



OBS3

Strengthen Energy Efficiency in Building



OBS4

Pursue Energy Efficiency in Transport



OBS5

Advance Energy Efficiency in Industry

1. Regional and National Policy Roadmaps
2. Gradual Strengthening of MEPS
3. MVE Initiatives, including product registration database
4. Energy Efficiency Mutual Recognition Arrangement

5. Business Forum & Matchmaking
6. ASEAN Energy Awards
7. EE&C Partnership Scheme
8. Integrated ASEAN Energy Management Certification Scheme
9. EE Financing Mechanism

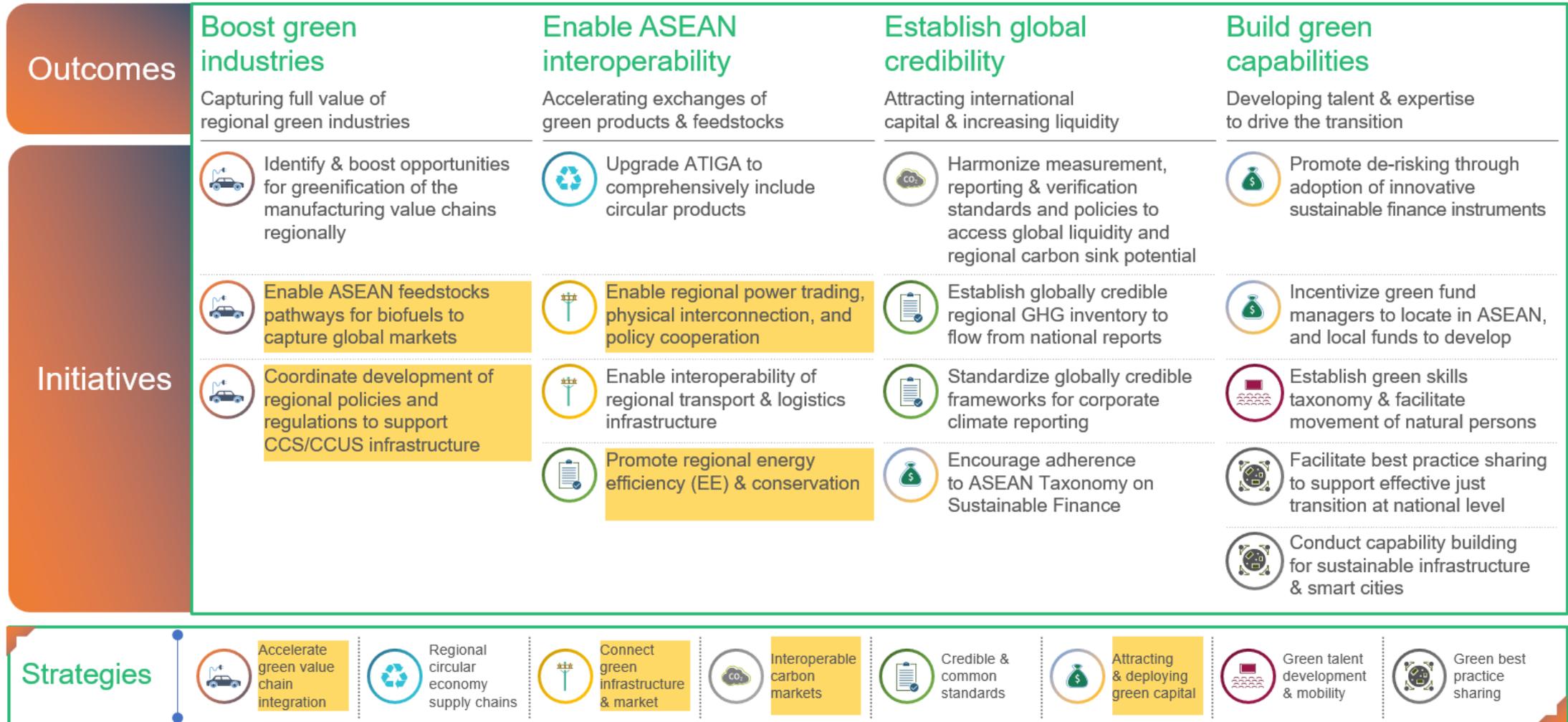
9. Sustainable EE Building and Cooling Roadmap
10. Information Sharing on Sustainable EE in Building

11. Capacity Building on EE Policy in Transport Sector
12. Information Sharing on Best Practices of EE&C in Transport

13. Capacity Building and Information Sharing on Best Practices of EE&C in Industry
14. Energy Management in Industry

ASEAN Strategy for Carbon Neutrality

Identifies 8 regional strategies and 16 specific initiatives will deliver 4 key outcomes



ASEAN Sustainable Buildings Roadmap

URBAN PLANNING

Cities are developed using integrated approaches and policies to be more sustainable, resource-efficient, compact, connected, and liveable.

Improve coordination and policy alignment for low-carbon development

Boost low-carbon urban infrastructure and construction

Expand capacity to deliver low-carbon urban development

NEW BUILDINGS

New buildings are designed such that they enable higher levels of thermal comfort and energy efficiency, resulting in comfortable, affordable and low-carbon buildings.

Strengthen the adoption of and compliance with mandatory building energy codes

Boost market demand for efficient, low-carbon buildings

Boost capacity for delivery of efficient, low-carbon buildings

EXISTING BUILDINGS

Existing buildings are retrofit to achieve high levels of energy performance and lower levels of embodied carbon to reduce fuel costs and improve thermal comfort.

Promote utilisation of high-performance fabric systems

Boost the rate of energy efficiency retrofits

Boost the quality of energy efficiency retrofits

Promote the adoption of building performance standards

MATERIALS

Materials and construction techniques that lower embodied carbon and improve energy performance are commonly applied in the construction of new buildings and renovation of existing ones.

Promote new design and construction practices for material efficiency

Collect data and promote disclosure of embodied carbon

Decarbonize production of carbon intensive materials

Governments leading by example to create demand for low-carbon materials

SYSTEM AND OPERATIONS

Energy efficient systems and modes of operations that reduce energy use, energy bills and emissions, while increasing comfort are dominant on the market.

Improve quality, availability and efficiency of appliances and systems

Encourage uptake of sustainable energy devices and systems

Improve efficiency of building operation

Promote awareness of system and operational energy performance

SUSTAINABLE ENERGY

Supported by an effective policy package, buildings are powered by integrated sustainable energy systems which provide flexibility to the power system.

Promote the uptake of sustainable distributed energy resources

Promote grid interactive energy-efficient buildings

RESILIENCE

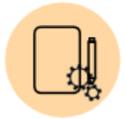
Cities integrate resilience attributes in building design, ensure critical urban infrastructure and limit construction in disaster risk areas and where vulnerable populations live.

Improve climate change resilience of built environment

Integrate climate change resilience in building energy codes and materials regulations

Enhance data monitoring of disaster risks and their impacts on built environment

Sustainable Buildings Roadmap: Policy Packages



Regulation

Policy measure	Description
Building Energy Codes and Building Standards	Minimum energy and thermal performance requirements, renewable energy systems installation or utilisation, maximum allowed amount of embodied carbon emissions, structural and thermal resilience, covering all building types, new and existing buildings.
Product standards	Mandatory minimum energy performance standards (MEPS) for all types of appliances and building systems that are progressively and regularly updated.
Procurement regulation	Mandatory requirements for public procurement to use low-carbon materials and highly efficient equipment and appliances; use life-cycle approach to assess embodied carbon emissions in buildings' materials.
Regulation on materials	Mandatory protocols for buildings' deconstruction, plans and systems for collection and reuse/recycling of construction and demolition waste.
Framework regulations	Electricity regulation that supports decentralised production, selling to the grid, peer-to-peer trading of renewable electricity; phase out of fossil fuel subsidies; mandatory requirements for integration of renewables into urban planning.



Information

Certification	Certification of energy and carbon performance for new and existing buildings with requirements for materials efficiency, use of low-embodied-carbon materials.
Labelling	Mandatory rating labels for new and existing buildings based on energy and carbon performance (including materials and systems); harmonised testing.
Disclosure and benchmarking	Mandatory disclosure and benchmarking schemes for energy and carbon performance for new construction and large renovation projects.
Training programmes	Integrated policy portfolios towards net zero-carbon solutions for net zero-carbon buildings; Life-cycle analysis of embodied carbon emissions and ways to reduce them; use of low-carbon materials; benefits of and solutions for energy-efficient home improvements.
Education programmes	Accreditation systems for professionals on low-carbon construction, renovation, building energy management; related curricular for all levels of education.
Awareness raising	Awareness raising programmes for consumers on multiple benefits of efficient and low-carbon buildings, energy-efficient renovation policies and incentives.
Digital tools and data	Integrated design tools to assess energy performance and embodied carbon for building construction or renovation, building energy management systems.

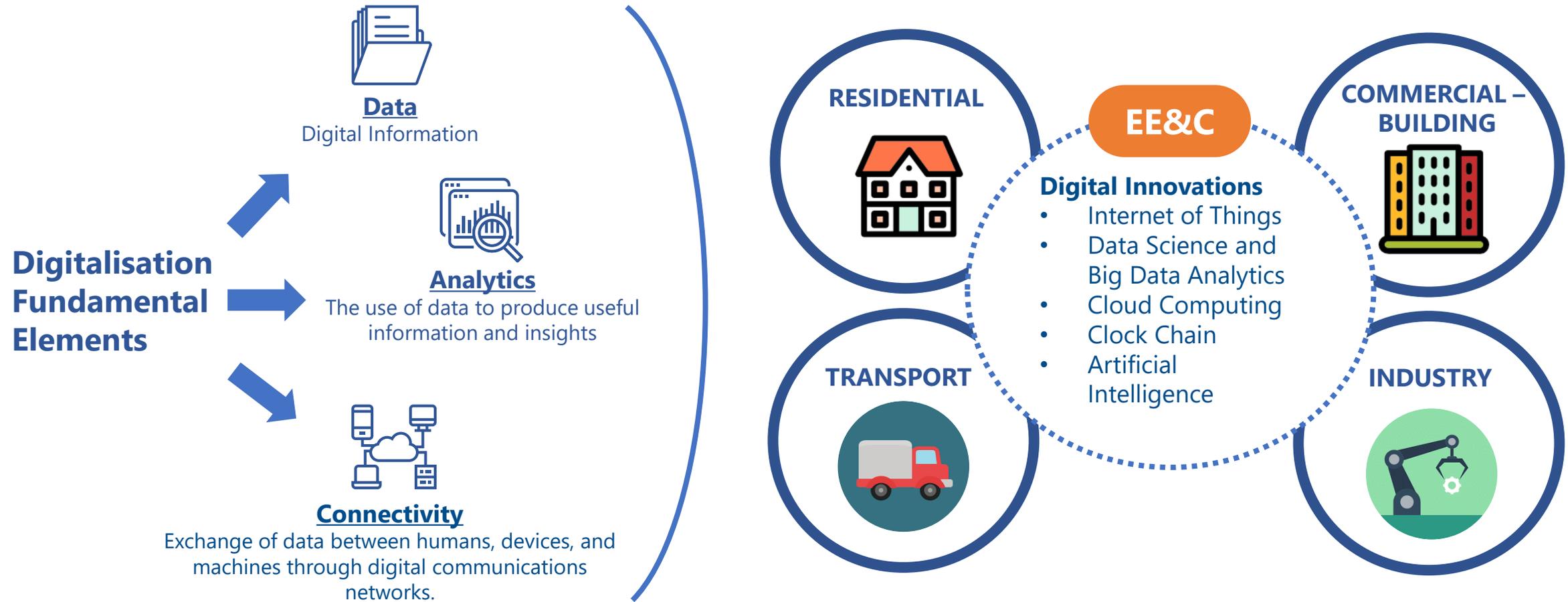


Incentives

Financial incentives	Grants, preferential loans, tax rebates, tied to energy and carbon performance levels of new or renovated buildings, building materials, systems and appliances.
Non-financial incentives	Expedited development review and approvals, fee reductions, density bonuses and development allowances for energy-efficient low-carbon buildings.
Tariff policies	Reflective energy pricing and preferential tariffs for renewable energy, especially that produced through distributed energy sources.

Digitalisation in Energy Efficiency & Conservation Sectors

Increasing energy efficiency is one of the key outcomes of digitalisation



More advanced technologies and digital penetration can help ASEAN to achieve the energy intensity reduction target



ASEAN Centre for Energy
One Community for Sustainable Energy

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Thank You