



## ***AEMI BRAINSTORMING SESSION: CONCLUSIONS***

### ***AEMI PAPERS for Blueprint and Roadmap***

#### **OVERVIEW**

<b>BLUEPRINT</b>	<b>AEMI PAPERS FOR BLUEPRINT</b>
I. Make AEMI market work	(1) Next generation energy prospects (2) Energy pricing and subsidies (3) Removal of tariffs and non-tariffs barriers (4) Quantify AEMI economic and environmental benefits
II. Expand market connectivity	(5) Evaluate ASEAN infrastructure connectivity needs
III. Support Renewable Energy (RE)	(6) Impact of RE targets and standards
IV. Enhance EE&C	(7) Quantify ASEAN opportunities for energy conservation, as well as the impact of standards and targets on EE&C
V. Build a clean-air, low-carbon economy	(8) Identify policy incentives for a clean-air, low-carbon ASEAN Economic Community – including renewable energy, energy efficiency, CO2 mitigation and clean air provisions
VI. Support ASEAN energy technology	(9) Formulate an ASEAN energy technology strategy
VII. Enhance energy security and accessibility	(10) Develop an ASEAN energy security strategy (11) Address energy poverty through AEMI
<b>ROADMAP</b>	<b>AEMI PAPERS FOR ROADMAP</b>
VIII. Formulate AEMI Roadmap Design a Roadmap identifying the steps, the sequence and the timing for the delivery of AEMI as part of the AEC through 2030.	(12) Understand national perspectives in joining AEMI (13) Develop a geo-political strategy of ASEAN energy security

## ***AEMI BRAINSTORMING SESSION: CONCLUSIONS***

***AEMI PAPERS***  
*(14-15 May, 2014)*

### **I. MAKE AEMI MARKET WORK**

#### ***(1) Next generation energy prospects***

- (a) Present a macro perspective for global energy flows.
- (b) Highlight advances in energy technology that shape next generation energy carriers, including hydrogen technology.
- (c) Draw implications for ASEAN energy supply, and draw policy recommendations

#### ***(2) Energy pricing and subsidies***

- (a) Investigate feasible options for energy pricing and taxation, with the view to identifying a cohesive approach across ASEAN for the energy market to function efficiently, while respecting national welfare objectives of protecting the poor and of addressing energy poverty.
- (b) Formulate innovative options in the short and medium terms, including the use of different instruments to “decouple” energy pricing from welfare objectives to assist the poor in most vulnerable communities.
- (c) Such alternative options include a combination of tax breaks, social security mechanisms, rebates on energy bills.
- (d) Explore ASEAN-wide equalization mechanisms, inspired from those in action in some federal systems.

#### ***(3) Removal of tariffs and non-tariffs barriers***

- (a) Review tariffs and non-tariffs barriers across ASEAN, including regulatory and legal barriers as well as governance bottlenecks.
- (b) Design an approach and framework to address the legal and regulatory frameworks for cross border free flow of energy products, services and investment across national borders in the framework of AEMI.

**(4) Quantify AEMI economic and environmental benefits**

- (a) Quantify AEMI benefits at the ASEAN level, from economic and environmental perspectives, including the impact on energy prices, economic growth, and on closing the ASEAN development gap.
- (b) Estimate benefits from using RE at the ASEAN level, from economic, social and environmental perspectives, including energy savings, reduction in greenhouse gas emissions
- (c) Quantify benefits from enhanced EE at the ASEAN level, from economic, social and environmental perspectives, including estimates of the impact of greater energy efficiency on energy savings; on energy security; and on economic competitiveness.
- (d) Establish cost effectiveness of EE as a demand-curbing measure, and estimate energy savings to consumers (households, businesses) through savings on energy bills.
- (e) Assess the impact of greater energy efficiency savings on the environment, notably through the reduction of emissions.
- (f) Provide a quantitative estimate of the impact of AEMI on CO<sub>2</sub> level due to the integrated energy market, the enactment of RE and EE targets, and the wider use of new technologies.

**II. EXPAND MARKET CONNECTIVITY**

**(5) Evaluate ASEAN infrastructure connectivity needs**

- (a) Assess the investment needs for physical connectivity through the APG and TAGP.
- (b) Assess the appropriate investments needed for the grid to be able to absorb the full potential from RE sources, including investment in smart meters and power grids, as well as in the design of a grid infrastructure which will enable renewables to compete on an equal footing with traditional sources.
- (c) Outline the policy and common standards on smart metering and smart grids needed to ensure interoperability across the network.
- (d) Identify public policy and governance structures for creating a stable framework for investment decisions.
- (e) Investigate the *policy incentives* and frameworks needed to create an enabling environment for the private sector to invest in energy infrastructure and smart grids.

### III. SUPPORT RENEWABLE ENERGY (RE)

#### ***(6) Impact of RE targets and standards***

- (a) Identify relevant targets and standards for use of RE in different sectors at the ASEAN level, taking into account the need to offset the impact on fiscal revenue from moving away from fossil fuels.
- (b) Provide options for establishing national targets consistent with such ASEAN-level target.
- (c) Quantify the impact of such targets on key environmental and economic indicators, as well as on fiscal revenues.

### IV. ENHANCE ENERGY EFFICIENCY AND CONSERVATION (EE&C)

#### ***(7) Quantify ASEAN opportunities for energy conservation, as well as the impact of standards and targets on EE& C.***

- (a) Identify opportunities for energy savings by sectors within ASEAN, with particular attention to the sectors where the greatest energy savings might be generated.
- (b) Estimate potential energy savings at the ASEAN level and propose different instruments (standards, targets) that would best realize such savings, in view of available technologies.
- (c) Quantify energy savings realized through the implementation of various standards and targets for EE, at the ASEAN sector level.
- (d) Identify ASEAN energy efficiency indicators and standards that could be applicable by the public sector (e.g., public transportation, buildings, procurement).
- (e) Examine how such indicators and standards could provide an effective instrument for public authorities to monitor their own use of energy, to develop innovative approaches (e.g., smart cities), and to introduce additional environmentally friendly energy saving measures.
- (f) Investigate the policy incentives and frameworks needed to create an enabling environment for the private sector to invest in the creation and deployment of EE & C technology across ASEAN.

## V. BUILD A CLEAN-AIR, LOW-CARBON ECONOMY

**(8) Identify policy incentives for a clean-air, low-carbon ASEAN Economic Community – including renewable energy, energy efficiency, CO<sub>2</sub> mitigation and clean air provisions.**

- (a) Explore policy incentives to encourage the use of RE in the context of AEMI.
- (b) Spell out incentives to fund RE technologies and practices, including innovative taxation and pricing approaches, and ways to encourage private sector investments for development and deployment of RE technologies.
- (c) Review international best practice in adopting RE policy instruments.
- (d) Explore market-based instruments and policies to stimulate EE and C, and quantify related potential ASEAN energy savings.
- (e) Review international EE and C best practice in adopting policy instruments, including incentives to fund energy-efficient technologies and practices, innovative taxation and pricing approaches, and ways to encourage investments for development and deployment of EE energy technologies.
- (f) Define policy incentives to reduce air pollution, reduce CO<sub>2</sub> emissions, including minimum efficiency standards for the use of coal to generate electricity, CCT and CCS.
- (g) Assess cost effectiveness of clean air measures, taking into account public health considerations.
- (h) Investigate new market mechanisms for promoting RE, EE, CT, CCS, including incentives to attract private sector investments, and investigate options for use of carbon credit earning mechanisms to bring down the cost of CCs and CCT.

## VI. SUPPORT ASEAN ENERGY TECHNOLOGY

**(9) Formulate an ASEAN energy technology strategy**

- (a) Take stock of the use of energy technology (RE, EE, CCS and CCT) throughout ASEAN, and identify the challenges in acquiring and deploying them further.
- (b) Investigate policy incentives at the ASEAN level to support the emergence of such technologies and a strategy for their development and deployment across AEC, including institutional, regulatory and legal frameworks.
- (c) Investigate the policy incentives and frameworks needed to create an enabling environment for the private sector to invest in the creation and deployment of such technology across ASEAN.
- (d) Develop a proposal (structure, operational rules and funding requirements) for the creation of an *ASEAN Energy Technology Trust*, with a dual *Brain Trust* and *Funding Trust* to enhance ASEAN ability to:

- generate promising new technologies for RE, EE, CCT, CCS, and clean air technologies;
- adapt technologies with a proven track of success around the world and facilitate their deployment;
- support the early-stage experimental deployment of such technology;
- attract funding from public and private sectors and from international sources.

## **VII. ENHANCE ENERGY SECURITY AND ACCESSIBILITY**

### ***(10) Develop an ASEAN energy security strategy***

- (a) Develop the rationale for ASEAN energy security strategy, and the modalities and mechanisms for its implementation.
- (b) The strategy would assess the recently adopted APSA and recommend ways to build on its accomplishments and address its current gaps (including physical availability, and deployment conditions and modalities of such reserves).
- (c) Such strategy would include reserve margins for power generation, to maintain electricity provision through national and local grids.
- (d) Such strategy would identify and develop key components including:
  - energy reserves;
  - technology requirements for physical reserve creation, maintenance and deployment;
  - reliability of such physical reserves;
  - funding and energy reserve pricing.

### ***(11) Address energy poverty through AEMI***

- (a) Design a set of policies and frameworks to improve access to energy and eradicate energy poverty across ASEAN by 2030, as per the millennium development goals.
- (b) Identify and estimate investments to achieve this objective, notably to build more efficient extensions of energy networks for access to electricity and clean energy fuel.
- (c) Investigate policy incentives and frameworks needed to create an enabling environment for the private sector to invest in such energy infrastructure projects.
- (d) Quantify the implications of eradicating energy poverty on narrowing the development gap across ASEAN (an objective of the AEC), and on improving GDP prospects across ASEAN.

## VIII. FORMULATE AEMI ROADMAP

### ***(12) Understand national perspectives in joining AEMI<sup>\*\*\*</sup>***

- (a) Review national perspectives in joining AEMI, highlight national benefits and challenges, and clarify for governments what needs to be done and the minimum requirements for joining AEMI both at the policy and institutional levels.
- (b) Provide an assessment of energy markets across ASEAN, which are at different stages of their development and have different structures and policies, covering the spectrum from the most liberalized markets to monopolistic structures.
- (c) Formulate options for the deployment of AEMI, taking into account ASEAN Member States (AMS) diversity and degree of preparedness. Such options include:
  - sequencing, to allow each AMS to join AEMI at its own pace in a “progressive and incremental” approach; or
  - gradual deployment, to allow AEMI components to be gradually deployed as all AMS are ready, through to 2030.

### ***(13) Develop a geo-political strategy for ASEAN energy security***

- (a) Identify global energy flows and growing energy demand, particularly from neighboring emerging economic powers (notably India, Japan, Korea and China).
- (b) Analyze the dynamics implications of such situation on ASEAN energy security and the heightened importance for more cohesion within the AEC.
- (c) Formulate the elements of an external ASEAN energy policy to promote a unified and cohesive external position on ASEAN energy policy in the framework of AEMI.