ASEAN Initiatives:
Enhancing Energy Security and the Sustainable Use of Energy

A presentation for
2014 Policy Dialogue on Energy for Sustainable Development for Asia and the Pacific
26-28 November, 2014 | Bangkok
ASEAN Centre for Energy (ACE)

Based in Jakarta, Indonesia under the guideline of Governing Council composed of the Senior Officials on Energy (SOE) Leaders of the AMS, envisioned as a catalyst for the economic growth and development of the ASEAN region by initiating, coordinating and facilitating regional as well as joint and collective activities on energy.

Sources: ASEANstats, ASEAN Secretariat
Energy Situation

Source: ASEAN Energy Review and Statistics 2013, ACE
Energy Situation

Reached about 0.34 toe/million 2005 USD in 2010, Energy Intensity in 2011 back on the same level of 2005.

Renewable energy total installed capacity in the ASEAN increased significantly from 24,424.84 MW in 2006 to 39,097.58 MW in 2011.
Energy Findings

- As member countries continue to pursue their economic goals, energy consumption and CO$_2$ emission in ASEAN as a region will growth very fast, **put a pressure on energy security and environmental stability**.

- If current energy (fossil fuel) production levels in the region do not increase - the region will have to source out this additional demand from outside the region, or **need to tap more on its potential on renewable energies** which are abundantly available through the region.

- **Appropriate energy efficiency and conservation programs, low-carbon technologies and increased shares of non-fossil fuels in power generation** - would be needed to reduce carbon intensity and enhance energy security.
Energy Cooperation

- July 2009: ASEAN Ministers launched the third series of implementation plan of the ASEAN Vision 2020 as prescribed in the ASEAN Economic Community Blueprint 2015, named as ASEAN Plan of Action for Energy Cooperation (APAEC) 2010-2015, to serve as the blueprint for ASEAN cooperation in the field of energy for the period 2010-2015 under the theme “Bringing Policies to Actions: Towards a Cleaner, more Efficient and Sustainable ASEAN Energy Community”, to support the realization of the ASEAN Economic Community towards 2015 and beyond. Programme Areas:
  1. ASEAN Power Grid
  2. Trans-ASEAN Gas Pipeline
  3. Coal & Clean Coal Technology
  4. Energy Efficiency and Conservation
  5. Renewable Energy
  6. Regional Energy Policy and Planning
  7. Civilian Nuclear Energy
Energy Cooperation

1) P. Malaysia - Singapore (New) Post 2020
2) Thailand - P. Malaysia
   • Sadao - Bukit Keteri Existing
   • Khlong Ngae – Gurun Existing
   • Su Ngai Kolok - Rantau Panjang 2016
   • Khlong Ngae – Gurun (2nd Phase, 300MW) 2016
3) Sarawak - P. Malaysia 2025
4) P. Malaysia - Sumatra 2019
5) Batam - Singapore 2020
6) Sarawak - West Kalimantan 2015
7) Philippines - Sabah 2020
8) Sarawak - Sabah – Brunei
   • Sarawak - Sabah 2020
   • Sabah – Brunei Not Selected
   • Sarawak – Brunei 2016
9) Thailand - Lao PDR
   • Roi Et 2 - Nam Theun 2 Existing
   • Sakon Nakhon 2 – Thakhek – Then Hinboun (Exp.) Existing
   • Mae Moh 3 - Nan - Hong Sa 2015
   • Udon Thani 3- Nabong (converted to 500KV) 2019
   • Ubon Ratchathani 3 – Pakse – Xe Pian Xe Namnoy 2018
   • Khon Kaen 4 – Loei 2 – Xayaburi 2019
   • Thailand – Lao PDR (New) 2015-2023
10) Lao PDR - Vietnam 2016-2020
11) Thailand - Myanmar 2018-2026
12) Vietnam - Cambodia (New) 2020
13) Lao PDR - Cambodia 2016
14) Thailand - Cambodia (New) Post 2020
15) East Sabah - East Kalimantan Post 2020
16) Singapore – Sumatra Post 2020
Energy Cooperation
## Energy Cooperation

| Coal & Clean Coal Technology | - Strengthen Institutional and Policy Framework and build an ASEAN Coal Image  
|                             | - Promote Coal and Clean Coal Technologies  
|                             | - Promote Intra-ASEAN Coal Trade & Investment  
|                             | - Enhance environmental planning and assessment of coal projects |
| Energy Efficiency and Conservation | - Develop Energy Efficiency Policy and Build Capacity  
|                                 | - Enhance awareness raising and dissemination of information  
|                                 | - Promote good energy management practices, especially for industrial and commercial sectors  
|                                 | - Facilitate Energy Efficiency Financing |
| Renewable Energy | - Increase the development and utilization of RE sources to achieve the 15% target share of RE in ASEAN power generation mix  
|                  | - Enhance awareness and information sharing and strengthen networks  
|                  | - Promote intra-ASEAN cooperation on ASEAN-made products and services  
|                  | - Promote renewable energy financing scheme  
|                  | - Promote the commercial development and utilization of biofuels  
|                  | - Develop ASEAN as a hub for renewable energy |
# Energy Cooperation

| Regional Energy Policy & Planning | - Enhance energy policy and supply security information sharing network  
|                                 | - Conduct capacity building in energy and environmental policy planning and energy supply security assessment  
|                                 | - Prepare regional energy outlooks and conducting ASEAN energy policy reviews and analysis series  
|                                 | - Strengthen collaboration and dialogues with ASEAN partners and with national, regional and global institutions  
|                                 | - Monitor and evaluate the progress of APAEC programs |
| Civilian Nuclear Energy         | - Conduct capacity building among ASEAN Member States  
|                                 | - Strengthen public information and public education on nuclear power generation  
|                                 | - Strengthen institutional, legal and regulatory capacities on nuclear energy for power generation. |
Ministerial Directives

The 32nd ASEAN Ministers on Energy Meeting (AMEM)
23 September 2014 in Vientiane, Lao PDR

“Power Integration for ASEAN Prosperity”
The need for a concerted effort to promote energy efficiency and conservation, develop and deploy renewable energy sources, and achieve interconnected regional power systems to ensure sustainability of energy resources.
Para#4. The Ministers also recognised the important roles of the energy sector in advancing regional integration process and agreed that the development of the next ASEAN Plan of Action for Energy Cooperation (APAEC) for the period of 2016-2020 should build on the achievements of the APAEC 2010–2015, and contribute to the development of post-2015 Vision for the ASEAN Economic Community (AEC). The Ministers endorsed the following theme for the APAEC 2016-2020:

“Enhancing energy connectivity and market integration in ASEAN to achieve energy security, accessibility, affordability and sustainability for all”.
(*Subject to SOME’s approval upon official engagement)

Linkages and synergies to APEF Implementation Support Mechanism*
Potential Linkages

Data & Policy Information Portal
- ASEAN Energy Database System (AEDS): Data 1990-2011
- ASEAN Energy Review & Statistics (AERS)
- ASEAN RE Development
- ASEAN Energy Indicators

Dialogue
- Sub-Sector Networks and Specialized Energy Bodies Meetings
- Senior Officer on Energy Meetings
- ASEAN Ministers on Energy Meeting

Analysis & Reporting
- ASEAN Energy Policy Series and Analysis
- ASEAN CCT Handbook for Power Plant
- CCS Strategic Considerations
- Other thematic publication

As sample of potential linkages is on coal, shown in the following pages→
Data & Policy Information

TPES and % of Coal

TFEC and % of Coal

SUMMARY of PDP2010: Revision 3 (During 2012 - 2030)

Capacity During 2012 - 2030
- Total Capacity as of December 2011: 32,395
- Total Added Capacity: 55,130
- Total Retired Capacity: -16,839
- Grand Total Capacity at the End of 2030: 70,666

Numbers of Added Power Plants During 2012 - 2030

- Coal-fired Power Plant (Clean coal Technology): 4,400 (6 units)
- Gas-fired Power Plant: 25,451 (29 units)
- Nuclear Power Plant: 2,500 (2 units)
- Gas Turbine Power Plant: 756 (3 units)
- Cogeneration (CPP / CHP): 6,374 / 102
- Renewable Energy (solar, wind, etc.): 9,461
- Power Purchase from Neighboring Countries: 6,572

Unit: MW
JMS of the 32nd ASEAN Ministers on Energy Meeting (AMEM)

23 September 2014, Vientiane, Lao People’s Democratic Republic:

Para#10. The Ministers supported the on-going efforts to address the increase in electricity demand, the reduction of greenhouse gas emissions, and the development of high efficient coal-fired power plants in the region. Such efforts include the promotion of the adoption of CCT, enhancement of technology transfer and public financing.

JMS of the 11th ASEAN+3 (China, Japan and Korea) Ministers on Energy Meeting

23 September 2014, Vientiane, Lao People’s Democratic Republic:

Para#7. Recognizing that coal is a major fuel source for the region, the Ministers reiterated their collective call to step up efforts to develop cooperation programs, promote policies on clean coal technologies (CCT), such as high efficiency coal-fired power generation, the upgrading of low rank coal technologies, carbon capture and storage (CCS), cokes making, coal gasification, coal liquefaction and develop the industry in the region. ... Concerning the limitation of the public financial support for new coal-fired power plants (CFPP), the Ministers expressed their collective voice to continue technology transfer and public financial support by developed countries and Multilateral Development Banks (MDBs) in order to develop and deploy highly efficient CFPP which can significantly address both the increase of electricity demand and reduction of greenhouse gas (GHG) emissions in the region.
ASEAN CCS Strategic Considerations

- The document rationalises the need for CCS in the ASEAN region, describes ASEAN’s long-term energy path, quantifies the CCS contribution to emission reductions in ASEAN.
- Insights into the status of CCS activities in the ASEAN Member States.
- A high-level overview of key associated issues; such as cost of CCS, capture technologies, CO₂ transport, risks and environmental impacts, CO₂ utilization, storage issues, regulatory frameworks, as well as legal public engagement and supporting mechanisms including global CCS status.

ASEAN CCT Handbook for Power Plant

- The objective is to facilitate high policy level dialogues and discussions on the deployment of CCT.
- The document describes the situation of coal power development in ASEAN Member States, features, advantages and applicability of CCTs.
- The handbook provides an in-depth overview of some of the CCT’s basic ideas for planning such as plant configuration, plant size option, site/space requirement and its associated structure.
- The references for deploying various CCT are clearly described and elaborated in this handbook.
Thank You

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