



APEC Peer Review on Energy Efficiency in Malaysia

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Asia-Pacific
Economic Cooperation

Outline

A. Review Team Members

B. EE Activities in Malaysia

C. Energy Efficiency in Malaysia

D. Recommendations

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Review Team

- ❑ **Mr Kenji KOBAYASHI, Peer Review Team Leader, President, Asia Pacific Energy Research Centre (APERC).**
- ❑ **Mr. Titovianto WIDYANTORO, Senior Lecturer, Electricity & Renewable Energy Training Center, Indonesia.**
- ❑ **Mr. George SUN, Deputy Director, Research and Statistics, Land Transport Authority, Singapore.**
- ❑ **Mr. Jeffery NENG, Deputy Director, Building and Construction Authority, Singapore.**
- ❑ **Mr. Chin-Chung WU, Chief of Planning Section, Taiwan Power Company, Chinese Taipei.**
- ❑ **Mrs. Sirinthorn VONGSOASUP, Director, Department of Alternative Energy Development and Efficiency, Thailand.**
- ❑ **Mr. Brian CASTELLI, Executive Vice President, Programs and Development, Alliance to Save Energy, the United States.**
- ❑ **Mr, Chandran SUNDARAJ, Researcher, Asia Pacific Energy Research Centre (APERC).**
- ❑ **Ms. Kate PENNEY, Young Professional , Asia Pacific Energy Research Centre (APERC).**

PREE Activities in Malaysia

Monday 29 November

□ An Overview of Energy Policy

- Institutional Framework; Sustainable Energy Policy and Measures; Energy Efficiency Programs

□ The National Energy Efficiency Master Plan

- Briefing on objectives, goals, strategies and measures

Tuesday 30 November

□ Energy Efficiency in the Transport Sector

- Policy and programs on energy efficiency improvement in the transport sector.

PREE Activities in Malaysia

Tuesday 30 November

- ❑ **Energy Efficiency in various economic sectors**
 - **Policy and programs on energy efficiency improvement in various economic sectors including cross-cutting issues**

Wednesday 1 December

- ❑ **Electrical energy efficiency**
 - **Policy and programs on electrical energy efficiency improvement and demand-side management**
- ❑ **Roles and responsibilities of private sector, NGOs and academia to improve energy efficiency**

PREE Activities in Malaysia

Thursday 2 December

- Policy and Action Plan on Green Technology**
- Green Building Index Program and The Green Technology Fund**

Friday 3 December

- Present and Discuss Preliminary Recommendations**

Energy Efficiency in Malaysia

Major findings

Institutional Context

- ❑ Malaysia is taking step to enact an energy efficiency law.
- ❑ Malaysia is also strengthening its institutional capacity to promote energy efficiency by designating an agency called The Energy Efficiency and Conservation Agency Malaysia (EECAM).

Energy Efficiency Goals, Targets and Strategies

- ❑ A National Energy Efficiency Master Plan (2011-2020) has been formulated.
- ❑ The main goal of the plan is to stabilise energy consumption against economic growth in three main economic sectors, i.e. the industrial, the commercial and the residential sector.

Energy Efficiency in Malaysia

Major findings

Energy Data Collection and Monitoring

- ❑ Malaysia has established a mechanism to collect and report energy data. However, the mechanism has not been designed to collect data for specific energy efficiency analysis at sectoral and sub-sectoral levels.

Industry

- ❑ Persuasive strategy has been used by the Malaysian government to improve energy efficiency in the industry sector.
- ❑ Measures like energy efficiency guidelines, demonstration project, training, workshop and awareness programs have been carried under this strategy.

Energy Efficiency in Malaysia

Major findings

Electricity

- ❑ The key measure initiative in the electricity sector is focused on demonstration projects of cogeneration and tri-generation in industries and commercial facilities.

Residential and Commercial

- ❑ Malaysian government promotes energy use in commercial buildings by developing demonstration projects.
- ❑ Buildings with the Malaysian Green Building Index (GBI) rating scheme are provided with fiscal incentives.

Energy Efficiency in Malaysia

Major findings

Transportation

- ❑ The transport sector is the second largest energy user with the share of 36.9% of the final energy use in 2008.
- ❑ The large use of energy by the sector was attributed to a high usage of private cars for passenger transport.

Appliances and Equipment

- ❑ Malaysia has a comparative “five star” label system that provides a rating; one star worst, 5 stars best.
- ❑ The rating covers 5 products: High Efficiency Motors; Domestic Fans; Televisions; Air conditioners; and Domestic Refrigerators.

Energy Efficiency in Malaysia

Major findings

Energy Efficiency Related R&D

- ❑ **Energy efficiency related research and development (R&D) is a small and relatively new sector in Malaysia.**

Recommendations

The Review Team made 41 recommendations in its draft final report.

Institutional Context

- 1. Enhance inter-ministerial institutional setup to address cross-cutting energy efficiency policy issues by establishing a permanent energy committee chaired by the Prime Minister.**
- 2. Exhibit constant and consistent leadership on energy efficiency policy issues especially policy coordination among agencies.**

Recommendations

Energy Efficiency Goals, Targets and Strategies

- 3. The National Energy Efficiency Master Plans (NEEMP) should set a stretch goal beyond just balancing or stabilizing the energy consumption/GDP ratio.**
- 4. The transport sector should be covered in NEEMP.**
- 5. The NEEMP should explicitly state that energy efficiency is a fuel resource equal to natural gas, oil, hydro, coal and renewable.**
- 6. The NEEMP should strongly advocate for regulatory reform & incentives to create a viable business model for utilities to promote energy efficiency.**
- 7. The NEEMP should focus on programs that will build an indigenous ESCO industry.**
- 8. The NEEMP's focus should be modified to promote the combining of low hanging fruit with more expensive measures as a means to deliver greater EE in the economy.**

Recommendations

Energy Data Collection and Monitoring

9. The Data and Statistics Unit (DSU) of Energy Efficiency and Conservation Agency of Malaysia (EECAM) should function independently.
10. Enact a provision under the proposed EE Act to empower the government to obtain energy and economic data for energy efficiency analysis.
11. Develop an analytical energy efficiency monitoring framework.
12. Develop a set of energy efficiency indicators at a sectoral and sub-sectoral level for the NEEMP.
13. Carry out factorisation or indexation techniques on the indicators to remove the non-energy factors.
14. Publish, periodically, energy efficiency monitoring reports and disseminate the reports to stakeholders and energy users.

Recommendations

Industry Sector

- 15. Review the energy pricing mechanism for the industry sector to gradually remove energy subsidies.**
- 16. Develop and promote energy efficiency improvement business models for the industry sector.**
- 17. Develop funding mechanisms for energy efficiency investments.**
- 18. Create channel for interaction among the interested parties of NEEMP programs.**
- 19. Identify human resource needs for the implementation of NEEMP programs and develop programs to train the human resource.**

Recommendations

Electricity Sector

20. Formulate a policy framework to promote more cogeneration and tri-generation system in the industry and the commercial sector.
21. Make continuous efforts to further reduce transmission & distribution losses.

Commercial and Residential Sector

22. Expand the scope of MS1525 codes to include new residential buildings.
23. Enhance the content of MS 1525.
24. Promote energy efficiency in residential building by demonstration projects.
25. Expand the soft loan facility under the Green Tech Fund Scheme (GTFS).
26. Promote the 'Government take lead' in commercial buildings EE.
27. Continue cooperation with non-governmental bodies.

Recommendations

Transport Sector

- 28. Continue to enhance the integration across Government Agencies on the policy, planning, financing, regulation and management of all aspects of the land transport system.**
- 29. Develop regular working mechanisms for relevant Ministries and Agencies to make concerted efforts to address the challenges and bridge the gaps in new initiatives such as energy efficiency.**
- 30. Develop large scale demonstration projects of energy efficient transport systems in the newly developed districts.**
- 31. Set fuel economy target to the vehicle Original Equipment Manufacturers (OEMs).**
- 32. Estimate energy consumption by transport mode and type of transport activity, and prioritise the implementation plans for energy efficiency and green transport plan based on cost-benefit analysis.**

Recommendations

Appliances and Equipment

33. Focus overall Appliance Standards and Labels on moving from “voluntary” to mandatory” standards and labels.
34. Develop a “top end” performance level program.
35. Enhance testing procedures and protocols.
36. Develop a long-term public awareness label strategy and program.

Education and Energy Efficiency Related R&D

37. Provide a firm commitment to energy efficiency related R&D spending.
38. Establish a clear framework for establishing R&D priorities.
39. Establish a long-term technology roadmap for EE that sets out R&D priorities.
40. Increase cooperation with academia and industry in apply EE research.
41. Disseminate information and knowledge on energy efficiency.

Summary

- ❑ Malaysia is bringing in energy efficiency as one of the important elements in its energy policy framework.
- ❑ The commitment to strengthen and enhance energy efficiency policy framework and institutional setup are the evidence that Malaysia is scaling up energy efficiency improvement.
- ❑ The recommendations by the PREE Team are aimed to fill the gaps and provide some adjustments on the planned energy efficiency strategies and programmes.







Thank you for your attention

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