



APEC Peer Review on Energy Efficiency (PREE) in Thailand

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**Kenji Kobayashi
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Asia-Pacific
Economic Cooperation



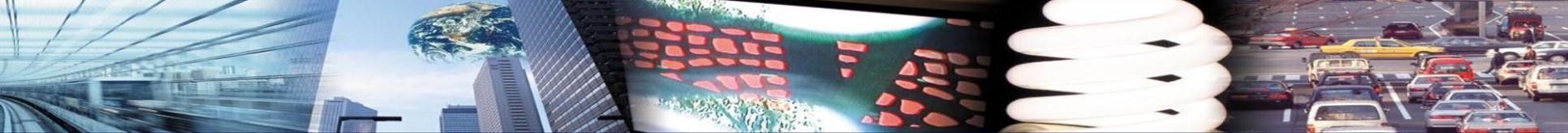
Outline

Part 1: Thailand's PREE Process

- Review Team Members
- Activities

Part 2: The Final Draft of Thailand's PREE Report

- Outline
- Major Features of Thailand's Energy Efficiency Policy and Programs
- Recommendations



Thailand's PREE process (I)

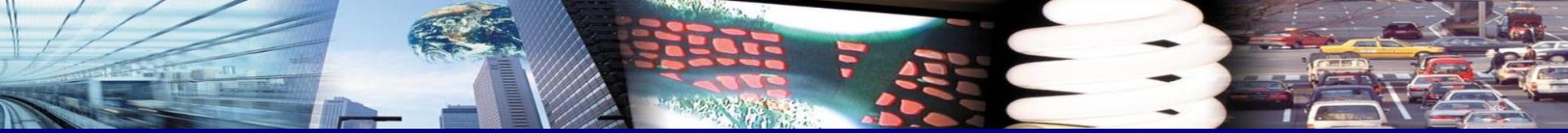
The PREE Team Members

- **KENJI KOBAYASHI**, Peer Review Team Leader, President of the Asia Pacific Energy Research Centre (APERC);
- **BRIAN T. CASTELLI**, Executive Vice President, Programs and Development. Alliance to Save Energy, U.S.A;
- **CHANDRAN SUNDARAJ**, Senior Researcher at the Asia Pacific Energy Research Centre, (APERC);
- **CONNY K. WACHJOE**, Senior Lecturer at the Bandung State Polytechnic, and Senior Researcher at Centre for Research on Energy Policy, Bandung Institute of Technology, Indonesia;
- **FRANCIS XAVIER JACOB**, Director of Economic Regulation and Industry Development of the Energy Commission, Malaysia;



Thailand's PREE process (II)

- **GEORGE SUN**, Deputy Director, Research & Statistics of Land Transport Authority, Singapore;
- **WEERAWAT CHANTANAKOME**, Senior Research Team Leader, Asia Pacific Energy Research Centre, Japan (APEREC); and
- **YUKARI YAMASHITA**, Director, Global Environment & Sustainable Development Unit, The Institute of Energy Economics, Japan.



Thailand's PREE process (III)

Activities

9 November (Monday)

➤ Meeting with Ministry of Energy (MOEN)

- Overview on energy situation and energy policy
- Policy and Framework of Energy Conservation
 - National Energy Policy Committee: Roles and Responsibilities
 - Energy Conservation Promotion Act
 - Energy Conservation Promotion Fund (ENCON)
- Energy Conservation Program Phase 3 (Revised:2008-2011)
 - Target of Each Sector- Industry, Transport and Residential
 - Brief Review on Each Sector's Programs



Thailand's PREE process (IV)

Activities

- Meeting with the Energy Policy and Planning Office (EPPO)
 - Brief Overview of EPPO;
 - EPPO's roles in Energy Efficiency;
 - Energy Efficiency Programs supported by the ENCON Fund

10 November (Tuesday)

- Meeting with Department of Alternative Energy Development and Efficiency (DEDE)
 - Brief Overview of DEDE;
 - Energy Efficiency Target and Conceptual Framework; and
 - Energy Efficiency Programs for Industrial Sector.



Thailand's PREE process (V)

Activities

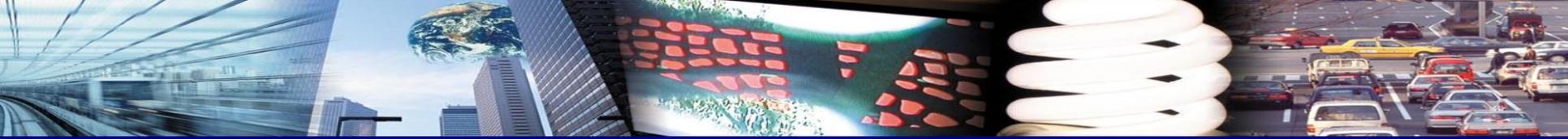
- Meeting with stakeholders (The Federation of Thai Industries, Thai Chamber of Commerce, ESCOs; and Commercial Banks)

11 November 2009 (Wednesday)

- Visit PTT Research Facility and DEDE Training Facility

12 November 2009 (Thursday)

- Meeting with Electricity Generating Authority of Thailand (EGAT)
- Visit Lee KijchareonSeang Co., Ltd, T5 compact fluorescent light bulb (CFL) manufacturer

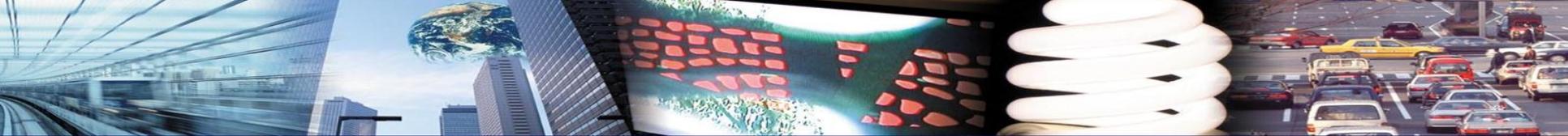


Thailand's PREE process (VI)

Activities

13 November 2009 (Friday)

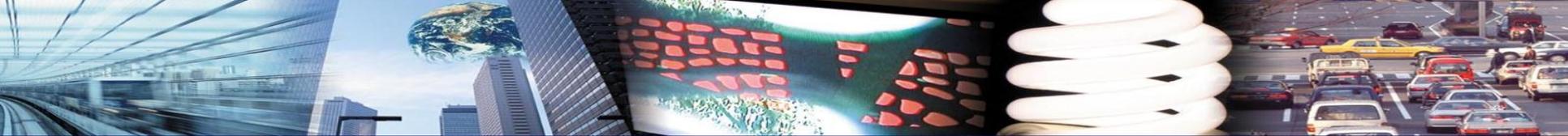
- Attend the launching of Thailand Energy Day 2009 Program
- Meeting with the Vice Minister of MoEN and senior officials of MoEN
 - Present the preliminary report with recommendations
 - Discuss the preliminary report



The Final Draft of Thailand's PREE Report

Outline

1. Institutional Context
2. Energy Efficiency Goals and Strategy
3. Energy Data Collection and Monitoring
4. Policy Measures-Sectoral Analysis: Industry, Electricity, Transport and Residential & Commercial Sector
5. Appliances and Equipments
6. Energy Efficiency Related R&D



The Final Draft of Thailand's PREE Report

Major Elements of EE&C in Thailand

1. EE&C Policy Framework and Institution

- The Energy Conservation Promotion Act

- The Energy Conservation Promotion Fund (ENCON Fund) has been established under the Act to promote energy efficiency and conservation efforts by providing financial assistance

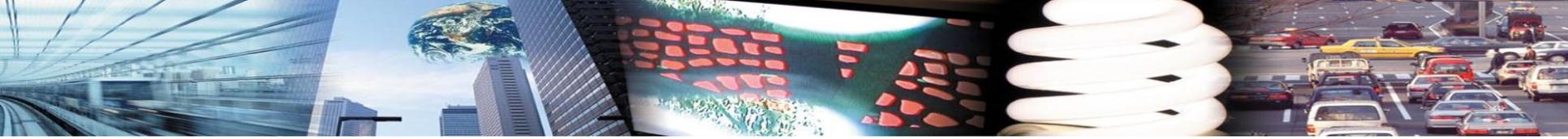
- Ministry of Energy (MoEN)

- Energy Policy and Planning Office (EPPO);

- Department of Alternative Energy Development and Efficiency (DEDE);

- Electricity Generating Authority of Thailand (EGAT); and

- PTT Public Company Limited (PTT)



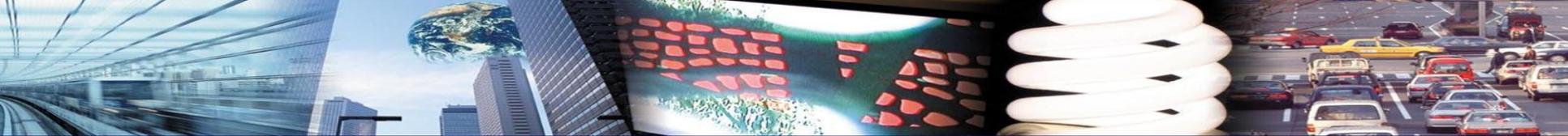
The Final Draft of Thailand's PREE Report

Major Elements of Thailand's EE&C

2. Programs and Projects on EE&C

- Energy Conservation Program, Phase 3 – revised (2008-2011)
- EE programs cover Industrial, Transportation and Household/ Business/ Government Sectors.

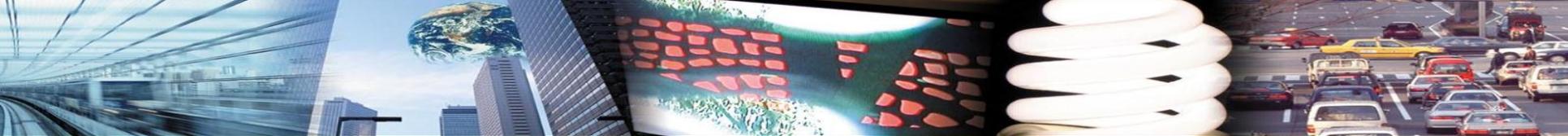
ENCON Program, Phase 3 (2008-2011)	Projected Energy Demand in 2011 (ktoe)		Saving Target	
	Business-As-Usual Case	With ENCON Plan	ktoe	%
Energy Efficiency Improvement Programs	80,331	72,511	7,820	10.8
(1) Industrial Sector	31,847	28,658	3,190	4.4
(2) Transportation Sector	28,781	25,367	3,413	4.7
(3) DSM – Household/ Business/ Government Sectors	19,704	18,486	1,217	1.7



The Final Draft of Thailand's PREE Report

Major Findings

- ❑ Energy efficiency improvement and conservation (EE&C) is the central element of Thailand's energy policy;
- ❑ A sound policy framework and institution is in place to promote EE&C efforts;
- ❑ Successful implementation of EE&C programs in the industrial, commercial and residential sectors;
- ❑ The economy having difficulties to improve energy efficiency in the transportation sector; and
- ❑ Roles and responsibilities of agencies involved in EE&C efforts need some refinement to avoid overlaps₁₂ and redundancy.



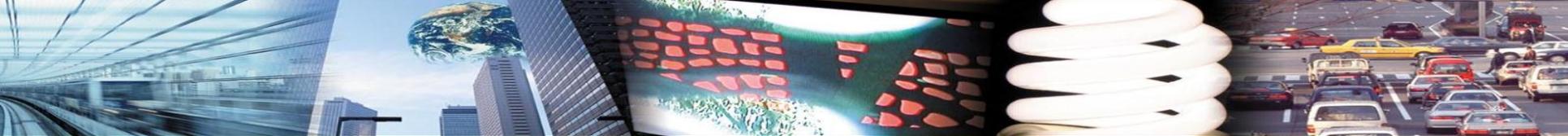
Recommendations

The PREE Team provides a total of 34 recommendations in the draft report

Institutional Context:

The recommendations are:

- Intensify more close cooperation among governmental agencies to achieve wider EE goals; and
- Clarify and strengthen the role of Energy Policy and Planning Office (EPPO).

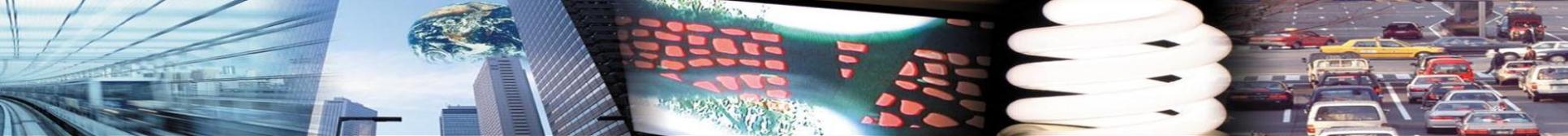


Recommendations

EE Goals and Strategy:

The Recommendations are:

- Establish sub-sectoral EE goals and action plan to support the existing overall and sectoral EE goals;
- Strengthen the monitoring and evaluation of EE programs;
- Stimulate more private sector investments in EE efforts; and
- Increase support on the development of energy management system.

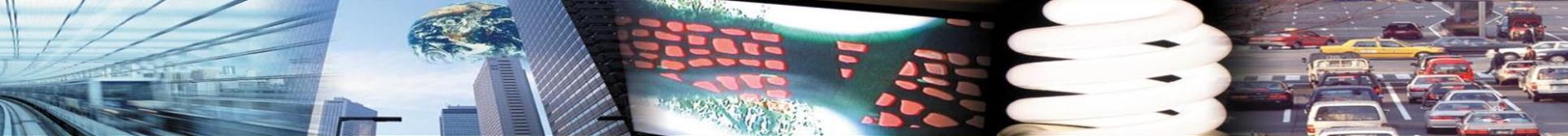


Recommendations

Energy Data Collection and Monitoring:

The recommendations are:

- ❑ Carry out a comprehensive evaluation on the sectoral and overall achievements of the national EE target;
 - ❑ Authorize an independent government office (e.g. Statistical Bureau) to produce consolidated energy data covering all energy sources including electricity; and
 - ❑ *Edit and publish as a synthesized report the feedback report of energy management of the designated users under the Act.*

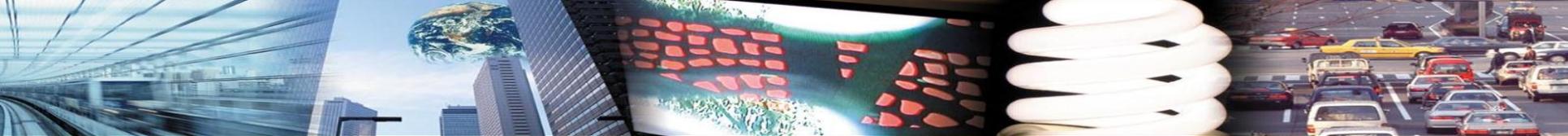


Recommendations

Industrial Sector (1) :

The recommendations are:

- Establish 1) a mandatory target for a percentage reduction, in energy consumption or energy intensity or 2) the implementation of recommended measures with a pay back period of less than a certain period;
- Continue as far as possible the revolving fund for industrial EE&C efforts until they reach more sustainable levels;*

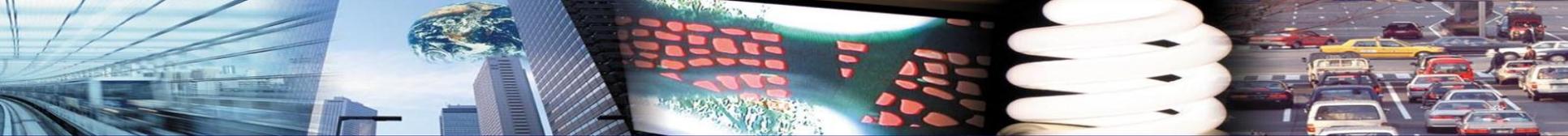


Recommendations

Industrial Sector (2) :

The recommendations are:

- Design and implement a strategy to provide information and technical support for the local manufacture of energy efficient equipment; and*
- Extend tax benefits to companies implementing EE&C measures in their own installations/premises to encourage more companies to undertake EE&C measures*

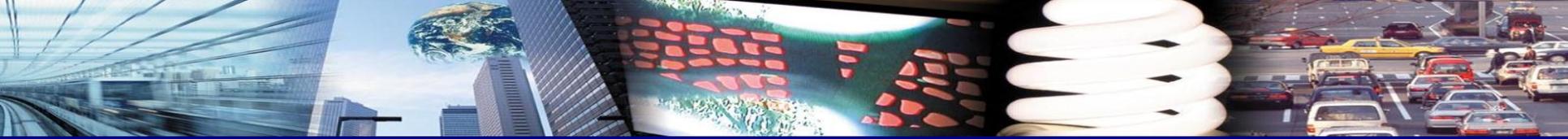


Recommendations

Electricity Sector :

The recommendations are:

- ❑ Continue the Demand-Side Management (DSM) programs to further improve electrical load management and to save electricity; and
- ❑ Continue to improve the T&D network system to reduce the losses up to 3% - 5% to match the international standards as well as power quality improvement by 2011.

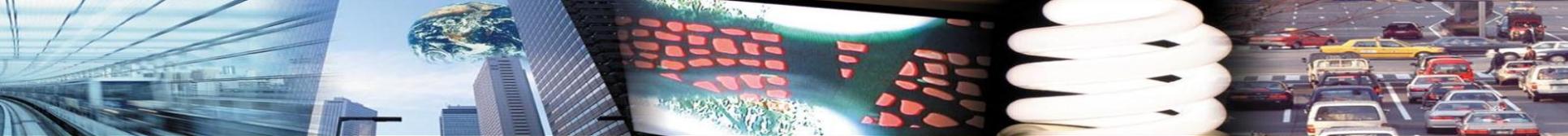


Recommendations

Commercial and Residential Sector (1):

The recommendations are:

- Expand the existing EE programs for the residential sector to achieve higher energy savings;*
- Increase the existing commercial building energy codes every 3 years;*
- Enact regulations to make Building Labels mandatory for new buildings;*

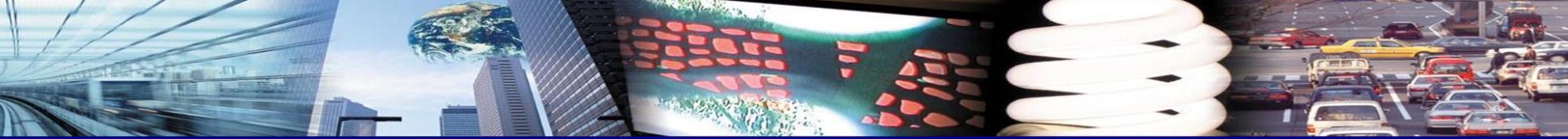


Recommendations

Commercial and Residential Sector (2):

The recommendations are:

- Improve fiscal incentives for building EE improvement efforts;*
- Adopt the “*Lead by Example*” concept to promote EE in government buildings.

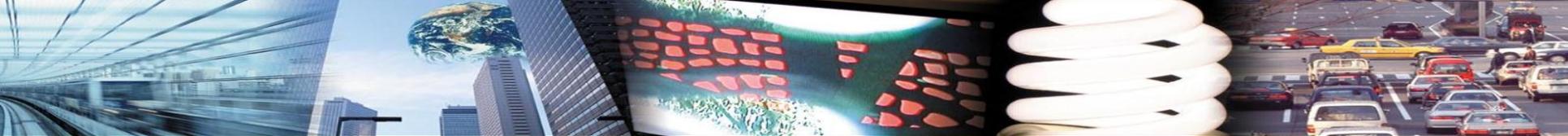


Recommendations

Transport Sector (1):

The recommendations are:

- Develop fuel economy programs;
- Develop a comprehensive transport development plan that covers all modes;
- Study and introduce many demand management measures;*

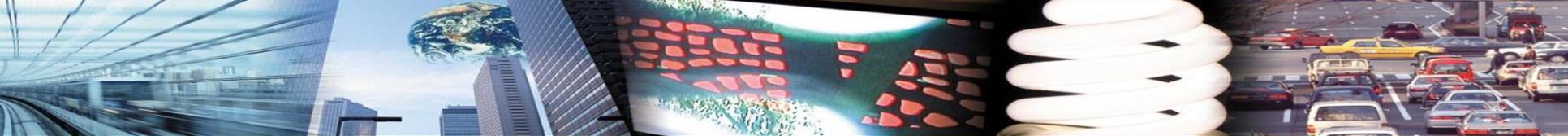


Recommendations

Transport Sector (2):

The recommendations are:

- Develop an integrated transport system in Bangkok City;
- Increase car driving cost in comparison with the public transit fare; and*
- Develop rail (MRT & railways) as backbone of national transport system.*

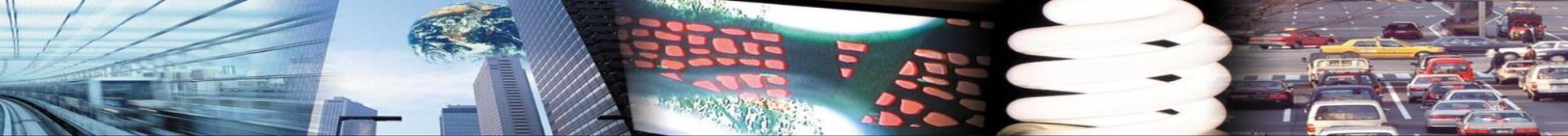


Recommendations

Appliances and equipment (1):

The recommendations are:

- Expedite and prioritise the implementation of MEPS for 50 products to meet the schedule, by 2011;
- Monitor continuously the progress of appliances and equipment market transformation through market research and sales data analysis and evaluation;*
- Design and implement programs such as a trade-in to accelerate the withdrawal of inefficient appliances and equipment; and*

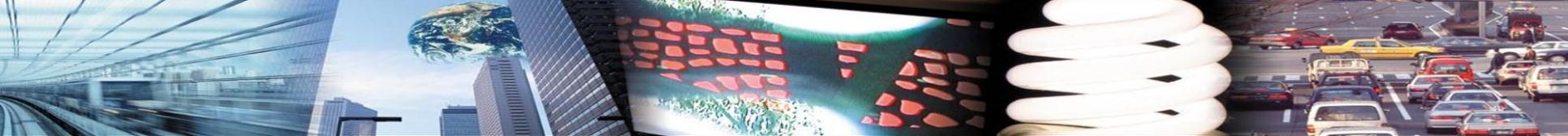


Recommendations

Appliances and equipment (2):

The recommendations are:

- Promote the market penetration of high efficient appliances and equipment by mandatory energy performance labeling (MEPL).*



Recommendations

Energy Efficiency-Related R&D:

The recommendations are:

- Establish an energy efficiency R&D roadmap under the current energy efficiency improvement programs;
- Assess and coordinate the needs for energy efficiency R&D funding; and
- Promote greater private sector involvement in energy efficiency R&D efforts through tie-ups such as industry-academia, industry-state enterprises.*



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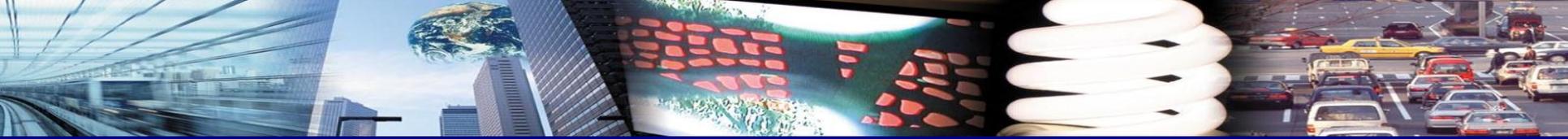
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Thank you very much for your kind attention.

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