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# 3. Follow-up Peer Review on Energy Efficiency (PREE) in Thailand

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# Presentation Outline

1. PREE and Follow-up PREE Background Information

2. Overview of Energy Efficiency in Thailand and the 2010 PREE Report

3. The Follow-up PREE in Thailand Report

# 1.1- PREE and Follow-up PREE Background information

- **Original PREE:**
  - Broad review of energy efficiency polices and measures.
  - Provide recommendations on how these policies and measures might be improved.
  - A Report on the experts' findings, which includes findings, achievements and recommendations.
- **Follow-up PREE:**
  - Same as above, but focuses on one or two energy use sectors, not economy wide.
    - The 1st Follow-up PREE (Viet Nam) focused on energy data (workshop).
    - The 2nd Follow-up PREE (Philippines) focused on the sugar, glass and cement industries, and the commercial buildings sectors (report).
    - This Follow-up PREE focused on the transport sector (report).

# 1.2- Five phases of PREEs, ten PREEs and three Follow-up PREEs

**P1**

- New Zealand (Feb 2009).
- Chile (Mar 2009).
- Viet Nam (Jun 2009).
- Thailand (Nov 2009).

**P2**

- Chinese Taipei (Aug 2010).
- Peru (Nov 2010).
- Malaysia (Dec 2010).

**P3**

- Indonesia (Oct 2011).
- Philippines (Feb 2012).
- Follow-up PREE in Vietnam (Feb 2012) Workshop Style.

**P4**

- Brunei Darussalam (Jun 2013).
- Follow-up PREE in the Philippines (Sep 2014).

**P5**

- Follow-up PREE in Thailand (Aug 2015).

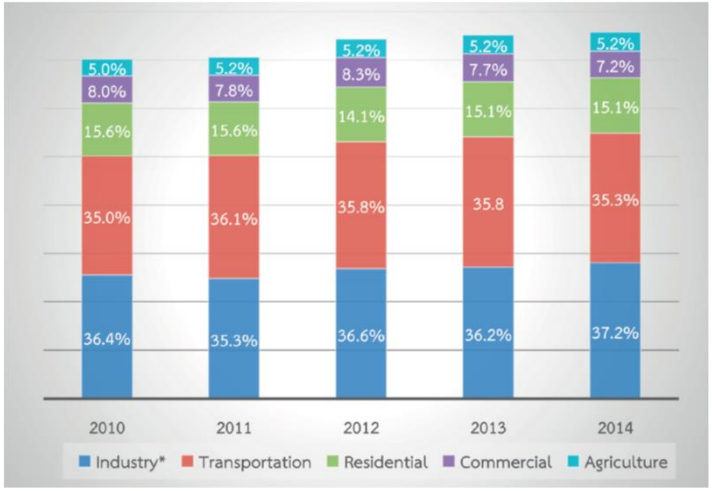
# 2.1- The PREE in Thailand Report (2010)

## 34 Recommendations on:

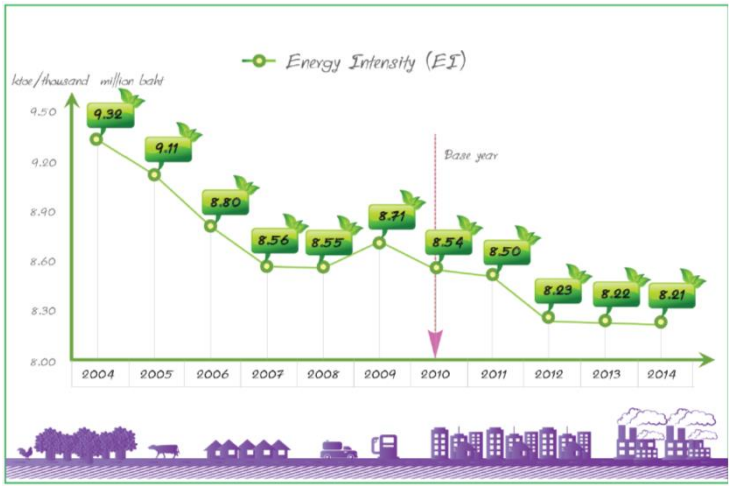
- Institutional Context (2)
- Energy Efficiency Goal, Targets and Strategy (4)
- Energy Data Collection and Monitoring (3)
- Appliances and Equipment (5)
- Energy Efficiency related R&D (3)
- Industry Sector (4)
- Electricity Sector (2)
- Commercial and Residential Sector (5)
- Transport Sector (6)

# 2.2- Thailand in Brief

- **Total primary energy supply (2014) = 136.83 MTOE**
  - **81% from fossil fuels.**
- **Final energy consumption (2014) = 75.80 MTOE**
  - **Industrial sector to grow 3.0% on average per year to 2040, followed by the building sector at 2.8% and transport sector 2.6%.**
- **Energy intensity improving.**

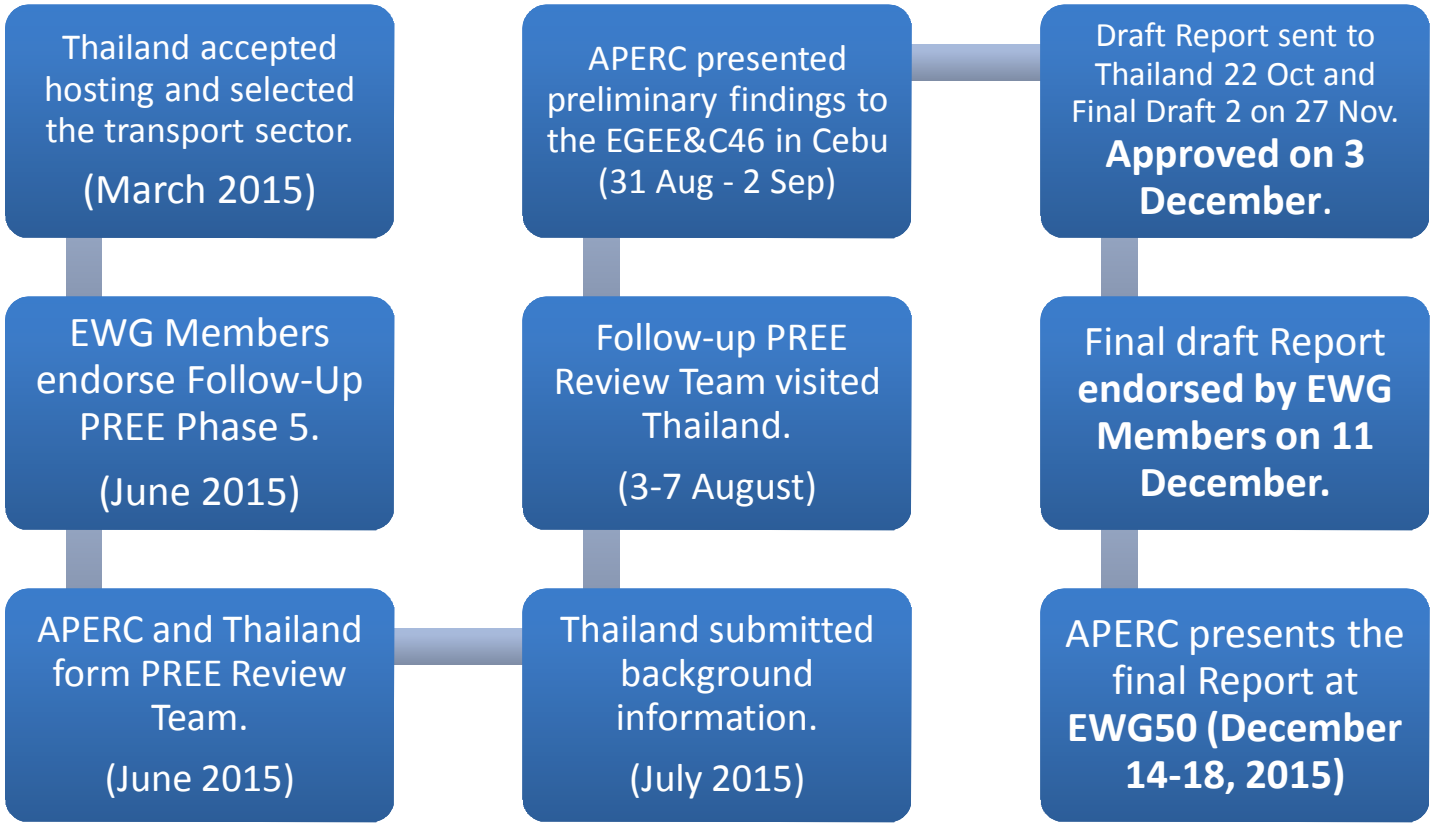



**Share of final energy demand by sector**
Source: DEDE, 2014.




**Energy intensity**
Source: DEDE, 2014.

# 3.1- The Follow-up PREE Process for Thailand



# 3.2- Draft Report Process

- **Follow-up Peer Review Team visit to Thailand:**
  - Meetings with various transport and energy related government agencies and associated bodies.
  - Site visits to an inland container depot, a truck terminal and the Thailand Automotive Institute.
  - Preliminary feedback to the Thai Government.
- **The private sector and the Thai Government are committed to improving energy efficiency and conservation.**
- **Progress since the 2010 PREE Report on Thailand, highlighted in the achievements.**
- **48 recommendations divided into 7 sections: *(1) Overarching*; *(2) Transport financing and investment*; *(3) Urban land use and transport integration*; *(4) Low carbon transport systems*; *(5) Travel demand management*; *(6) Vehicle fuel economy labelling and standards*; and *(7) High efficient vehicle technology*.**

# 3.3- Overarching Recommendations (6)

- R1. The Thai Government should develop a *Memorandum of Understanding* between transport agencies and organisations to share data to improve evidence-based decision-making in the transport sector.
- R2. The Ministry of Energy should organise a *regular meeting* with the Ministry of Transport and other relevant ministries to ensure policy coordination and achieve necessary energy saving in transport sector.
- R3. The Thai Government should support *local governments* to implement preventive measures to develop efficient public transport systems in medium and small cities in the regions of Thailand.
- R4. Reducing fossil fuel subsidies by the Ministry of Energy was a remarkable success and will make energy efficiency measures through *price mechanisms (incentives, taxes, etc.)* more workable. The Thai Government should continue to employ those measures, while monitoring and evaluating their policy effects.
- R5. The Thai Government should continue to raise public awareness in transport energy efficiency through various events and media.
- R6. *Policymakers in the relevant ministries* (including the Ministry of Energy and the Ministry of Transport) should continue to listen to the opinions/concerns of policy implementing bodies, the business sector and the public.

# 3.4- *'Transport Financing and Investment'* Recommendations (7)

- R7. Expanded and more flexible use of the *ENCON fund* (for policy support, infrastructure development, local government investments, subsidies) should be promoted in the transport sectors and regional governments agencies.
- R8. Better energy pricing to reflect cost of supply, and gradually the public costs (safety, local pollution and greenhouse gases).
- R9. Moving from an input-based to output-based taxation regime, and creating a fiscal space for transport investment.
- R10. More structured *local government finance* for improving first/last mile infrastructure including pedestrian and cycling facilities, and encouraging the use of public transport.
- R11. Prudent policies on internationally funded projects, and consolidation of three railway systems (narrow gauge, standard gauge and high speed system) into the regional/international rail networks.
- R12. Increasing the capacity to manage PPP scheme by gradual introduction of private sector partnership (management contract, extended turnkey, availability payment, VGF/partial construction support and guarantee scheme, BOT/BTO).
- R13. Expanded role of the MRTA to manage and finance TOD projects and negotiate in a B2B (Business to Business) arrangement with property owners around stations.

# 3.5- *'Urban Land Use and Transport Integration'* Recommendations (7)

- R14. Implement *car restrictions* and *congestion controls*.
- R15. Design the area around rail stations 'precincts' carefully to include a number of features including walkability, greening, mixed-use development and bicycle access.
- R16. Carefully assess railway precinct areas before making planning decisions.
- R17. Fund the costs of new public transport lines from *the profits of land development*.
- R18. Continually improve public transit amenity, including access, information systems, shelters, timetables, and consistent colour-coding.
- R19. Make all railway stations *multi-modal interchanges*.
- R20. Create circumferential MRT services to connect *sub-centres* away from the CBD.

# 3.6- *'Low Carbon Transport Systems'* Recommendations (5)

- R21. Improve data collection on *passenger and cargo movement*, and traffic data such as VKT and emissions factor.
- R22. Improve the *Bangkok's Transport Master Plan* to include the role of *feeder transport*.
- R23. Reform the bus system in Bangkok to improve its overall system strategic planning, network planning and operations.
- R24. Develop a plan to improve MRT capacity.
- R25. Develop more strategic plans for freight transport within of the *'Lean Logistics'* program's framework.

# 3.7- *'Travel Demand Management'* Recommendations (10)

- R26. Include TDM strategies to meet energy savings targets in the 20-year Energy Efficiency Development Plan.
- R27. Set KPIs for mode share, bus and rail ridership, and VKT, and collect data to track trends.
- R28. Conduct a detailed road pricing study, considering several design options.
- R29. Educate the public about road pricing policy.
- R30. Conduct a study on the measures to increase the cost of vehicle acquisition and ownership, along with adopting alternatives such as city-owned car sharing services and extending the efficient operation of public mass transport system.
- R31. Increase the cost of vehicle ownership by raising economy-wide vehicle excise tax and car registration fees based on carbon emissions emitted.
- R32. Unify the ticketing system across all modes of transit.
- R33. Introduce *employer subsidised transit passes*.
- R34. Implement road pricing and create *an office for Mobility Management*.
- R35. Supporting the use of IT in the transport/logistics industries (on demand service, virtual marketplace).

# 3.8- *'Vehicle Fuel Economy Labelling and Standards'* Recommendations (7)

- R36. Institutionalise *an annual review of the taxation scheme* and establish 'a committee' to check whether the intended outcome is being achieved.
- R37. Policies and incentives for vehicle manufacturers under *Eco Car Phase II* should include other vehicle types, *e.g. 2-wheelers*.
- R38. Explore the adoption of *a feebate system* that provides fees for less efficient vehicles and rebates to more efficient vehicles.
- R39. Explore the adoption of Minimum Energy Performance Standards (MEPS) as *mandatory standards* for LDVs.
- R40. Include a comparison reference point in the *Eco-Sticker* labelling.
- R41. Analyse how the Eco-Sticker can apply to *second-hand vehicles*.
- R42. Establish a database of the sales of new vehicles, including detailed information, e.g. engine size, fuel, etc through the Excise Department, for example.

# 3.9- *'High Efficient Vehicle Technology'* Recommendations (6)

- R43. Develop policies for encouraging the adoption of *more efficient electric 2-wheelers*, particularly for urban traffic.
- R44. Remove speed limit requirements for electric 2-wheelers, adding optional safety measures (banning them from highways for example), to allow the market to develop.
- R45. Analyse the potential for using of *LNG for trucks* along suitable corridors.
- R46. Address the emissions efficiency of *the passenger and freight maritime sector* and develop appropriate policies.
- R47. More analysis should be done on *hybrid cars and buses in Bangkok's start-stop traffic*, as their efficiency is currently greatly underestimated.
- R48. Supporting the replacement of old vehicles and old vehicle technologies with *more energy efficient vehicles/vehicles technologies (e.g. electric vehicles)* for the domestic market, i.e. using tax incentives and promoting public awareness of this issue.

# *Photos from the team visit…*



# Thank you

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