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APEC Follow-up Peer Review on Energy Efficiency (PREE – Phase 5) Thailand : *Preliminary Results*

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Presentation Outline

- **Introduction**
 - **Original PREEs**
 - **Follow-up PREEs**
- **The Follow-up PREE in Thailand**
 - **Expert Team**
 - **Key Areas in Transport Sector to be Covered**
- **The Preliminary Findings: Achievements & Challenges**
*(**confidential** - needs further coordination with the Thai side)*

What's a Follow-up PREE?

□ Original PREE:

- **Broad review of energy efficiency policies and measures across all energy sectors.**
- **Provide recommendations on how these policies and measures might be improved.**
- **A Report on the experts' findings, which includes findings, achievements and recommendations.**



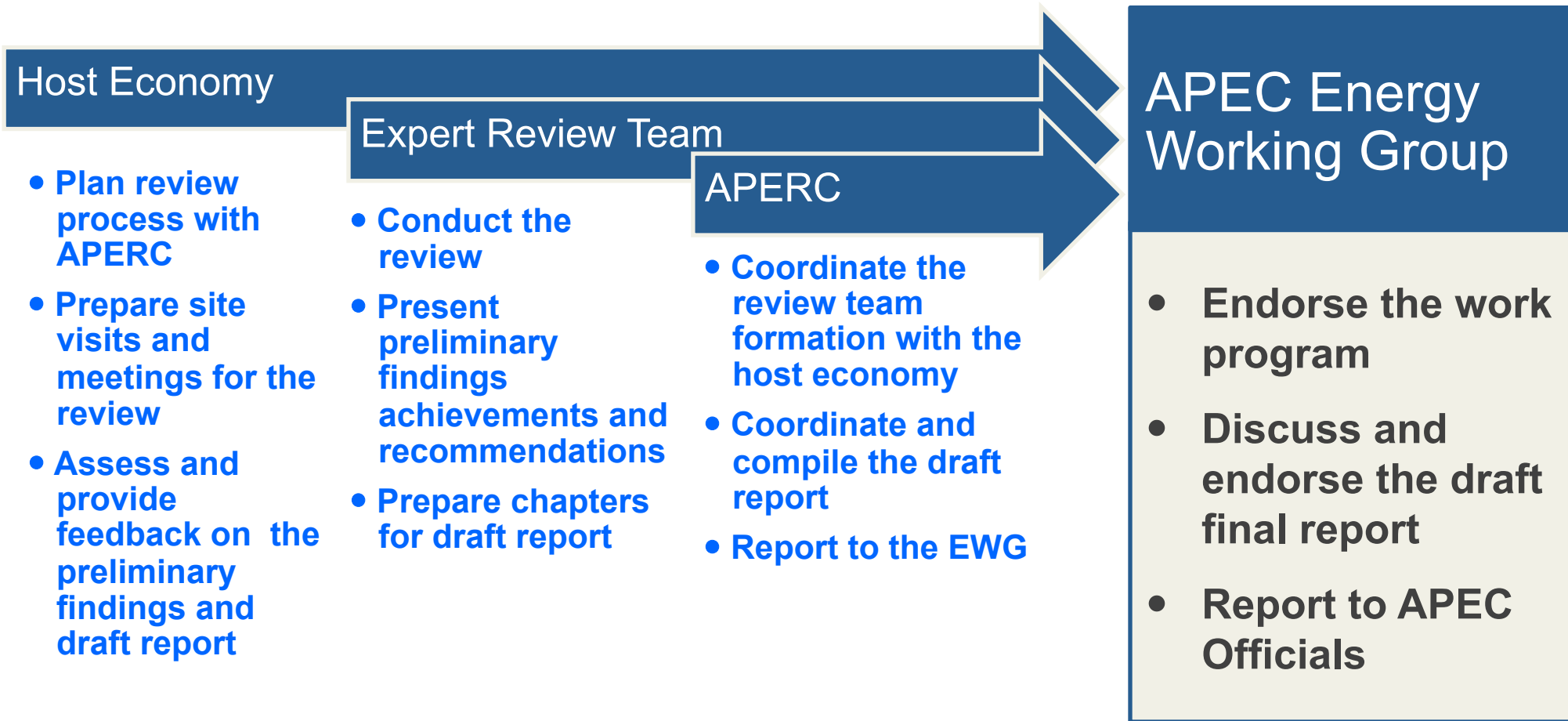
What's a Follow-up PREE?

□ Follow-Up PREE:

- **Follow-Up PREE is designed to assist former PREE host economies in implementing the recommendations drawn out from PREE.**
- **Same process with the Original PREE but will focus on particular sectors, depending on the host economy's priority sector.**



Stakeholders; who does what?



The Follow-up PREE in Thailand

3-7 August 2015 : Focus on Transport Sector

☐ Day 1

- Opening session and 6 presentations from Thailand's relevant agencies

☐ Day 2

- 10 presentations from Thailand's relevant agencies (continued)

☐ Day 3

- Site Visit: *Inland Container Depot (ICD) and Romklao Truck Terminal*

☐ Day 4

- Site Visit: *Thailand Automotive Institute*
- Experts prepare their preliminary findings, achievements and recommendations

☐ Day 5

- Experts prepare and present their preliminary findings, achievements and recommendations

Experts & APERC Researchers



Prof. Dr. Jeffrey Kenworthy
Curtin University of Technology
(Australia)



Prof. Dr. Danang Parikesit
University Gadjah Mada
(Indonesia)



Ms. Andrea Broaddus
University of California, Berkeley
(United States)



Mr. Bert Fabian
United Nations
Environment Programme
(UNEP)



Prof. Dr. Atsushi Fukuda
Nihon University
(Japan)



Mr. Tali Trigg
GIZ – Transport & Climate Change in ASEAN
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(President, APERC)



Dr. Kazutomo Irie
(General Manager, APERC)



Dr. Atit Tippichai
(Researcher, APERC)



Ms. Naomi Wynn
(Researcher, APERC)

Key Areas in Transport Sector to be Covered

1. **Overarching Issues** – Dr Kazutomo Irie and Dr Atit Tippichai (APERC)
2. **Sustainable Transport Investment and Financing** – Prof Dr Danang Parikesit (IND)
3. **Urban Land Use and Transport Integration** – Prof Dr Jeffrey Kenworthy (AUS)
4. **Low Carbon Transport Systems** – Prof Dr Atsushi Fukuda (JAP)
5. **Travel Demand Management** – Ms Andrea Broaddus (USA)
6. **Vehicle Fuel Economy Labelling and Standards** – Mr Bert Fabian (UNEP)
7. **High Efficient Vehicle Technology** – Mr Tali Trigg (USA).

Original PREE Recommendations from 2010

- **Rec. 21: Fuel economy – Demand & Supply side ⇒ by Mr. Fabian & Mr. Trigg**
- **Rec. 22: Comprehensive transport development plan ⇒ by Prof. Kenworthy & Prof. Fukuda**
- **Rec. 23: Demand management measures ⇒ by Ms. Broaddus**
- **Rec. 24: The Bangkok MRT/BRT & feeders ⇒ by Prof. Fukuda**
- **Rec. 25: Car driving cost ⇒ by Ms. Broaddus**
- **Rec. 26: Rail-based development strategy & financing ⇒ by Prof. Parikesit & Prof. Kenworthy**

1. Preliminary Findings: Overarching Issues

□ Achievements

- **New EEP2015 (Energy Efficiency Plan) to reduce EI (Energy Intensity) by 30% from 2010 to 2036, or 51 700 ktoe in total.**
(Nb: APEC's goal of 45% from 2005 to 2035)
- **Energy saving target in transport sector: 30 213 ktoe, 58% of total.**
- **Ministry of Transport & other departments** involved in energy efficiency policy implementations and participated in the Follow-up PREE process.

□ Challenges

- **Current policies focus on motor vehicle dependence in the greater Bangkok area → Medium/small regional cities need preventive measures.**
- **Monitoring and evaluating systems for measuring policy effects**
- **Participation from business and public sectors.**

2. Preliminary Findings: Sustainable Transport Investment and Financing

☐ Achievements

- ENCON fund generates innovative ideas of investment, e.g. EERF and ESCO.
- Pricing policy in the energy sector reflects the cost of supply.
- Taxation policy incentive is effective for both supply and demand side.
- Thai Government enacted Public-Private Partnership (PPP) Act 2013.
- Focused on regional rail development (dual-track, HSR) and MRT expansions.

☐ Challenges

- High logistics cost, 16.8% of the GDP (GIZ report, 2015).
- Subsidy policy for public transport, the fares reflect only O&M costs, not infrastructure costs.
- Capacity of local governments to build infrastructure and to provide subsidies.
- MRTA's mandates need to be reviewed and possibly enlarged to integrate stations with development around stations (TOD).

3. Preliminary Findings: Urban Land Use and Transport Integration

☐ Achievements

- **A rapidly growing understanding by many Thai planners and decision-makers of the need for a high level of amenities, walkability, livability, greening, superior urban design and integration between modes at stations.**
- **The BMA has introduced a series of density bonuses (increased Floor Area Ratio or FAR) of up to 20% for developments within 500 metres of station which provide for public open space, greening space, etc.**
- **More emphasis on walking and cycling, modes which greatly suit the land use arrangement in Bangkok and other Thai cities.**

☐ Challenges

- **The ability to finance all the planned new MRT lines and regional rail projects.**
- **Needs more integration of decision-making in land use planning and transport.**
- **Buses are a critical part of the transit system of Bangkok but appear in many cases to suffer from lack of investment (e.g. very old, un-air-conditioned buses, un-integrated bus system).**
- **Non-motorised modes are critical for better integration between land use and transport and reducing transport energy use, especially in cities.**

4. Preliminary Findings: Low Carbon Transport Systems including Public Transport and Non-motorized Transport

□ Achievements

- **Significant developments of new MRT lines in Bangkok.**
- **MOT developed Long-term development plan for Thailand transport infrastructure development 8 years (2015-2022).**
- **MOT is looking for possibility to establish the Department of Railway.**

□ Challenges

- **No coordination between the plans of double track, standard gage and HSR.**
- **No policy to integrate the transportation systems especially with feeder transport.**
- **Necessary historical and estimated data of transportation demand for both passenger and commodities are not regularly collected.**

5. Preliminary Findings: Travel Demand Management

□ Achievements

- **Strong progress on supply side measures, building out rail capacity, which will induce demand for rail services and support mode shift for passenger and freight.**
- **Some stations have been designed with TDM, e.g. retail center at Chatuchak park and park-and-ride at Lat Phrao.**
- **Support for pricing concept is evident in long-term plans, and some study been done, i.e. 2008 road pricing study.**

□ Challenges

- **Increasing the cost of driving is politically unpopular, and so measures must be studied carefully to assess winners and losers.**
- **Retain high bus share, ensuring that service quality not only retains riders and keep them from switching, but can attract new riders.**
- **Car purchase is encouraged by government efforts to grow auto-manufacturing capacity and policies like tax rebate for first time car purchase which undermine efforts to grow transit mode share.**

6. Preliminary Findings: Vehicle Fuel Economy Labelling and Standards

☐ Achievements

- Established robust automotive industry and research institutes.
- Announced adoption of eco-stickers to inform the public of cleaner and efficient vehicles.
- Policies and incentives adopted to support vehicle manufacturers and encourage production and sales of more efficient vehicles through the Eco-Car Phase 1.

☐ Challenges

- Encouraging the local market to prefer more efficient cars particularly for city driving, e.g. even with less excise tax, people still prefer the bigger and more powerful cars/SUVs.
- Consolidating data on the sales and use of the LDV fleet.
- Stronger co-operation with the relevant agencies to ensure success of the policies, e.g. DEDE, EPPO, OIE, TISI, and TAI.

7. Preliminary Findings: High Efficient Vehicle Technology

☐ Achievements

- **Fuel price restructuring levelled the playing field for all fuels, especially LPG and CNG, which increased overall energy efficiency, adjusted refining capacity, and led to better technology/fuel neutrality.**
- **A pragmatic approach to CNG has been implemented, focusing on fleets (taxis and buses).**
- **An electric bus trial is in place in Bangkok, aiming for 3,000 buses.**

☐ Challenges

- **Thailand is one of the largest markets for motorcycles, however no strategy for increasing their energy efficiency. Moving towards electric two-wheelers would achieve the goal with the co-benefit of air and noise pollutions.**
- **CNG prices still need to go floating like LPG prices (LPG imports cut in half 2014 as a result).**
- **Eco-car Phase II should include alternative fuel vehicles.**

Photos - Follow-up PREE in Thailand 3-7 August 2015



Thank You

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