



## **Session 4: APERC's Research Activities**

### **B. Report on APERC Activities**

#### ***B-1. Energy Efficiency and Clean Energy Supply in the APEC Region***

#### ***-Progress of PREE, CEEDS, PRLCE and LCMT –***

**Kazutomo IRIE ( APERC)**

**The 24th Meeting of the Expert Group on Energy Data Analysis (EGEDA)  
Jeju, Korea, 10~12 October, 2012**

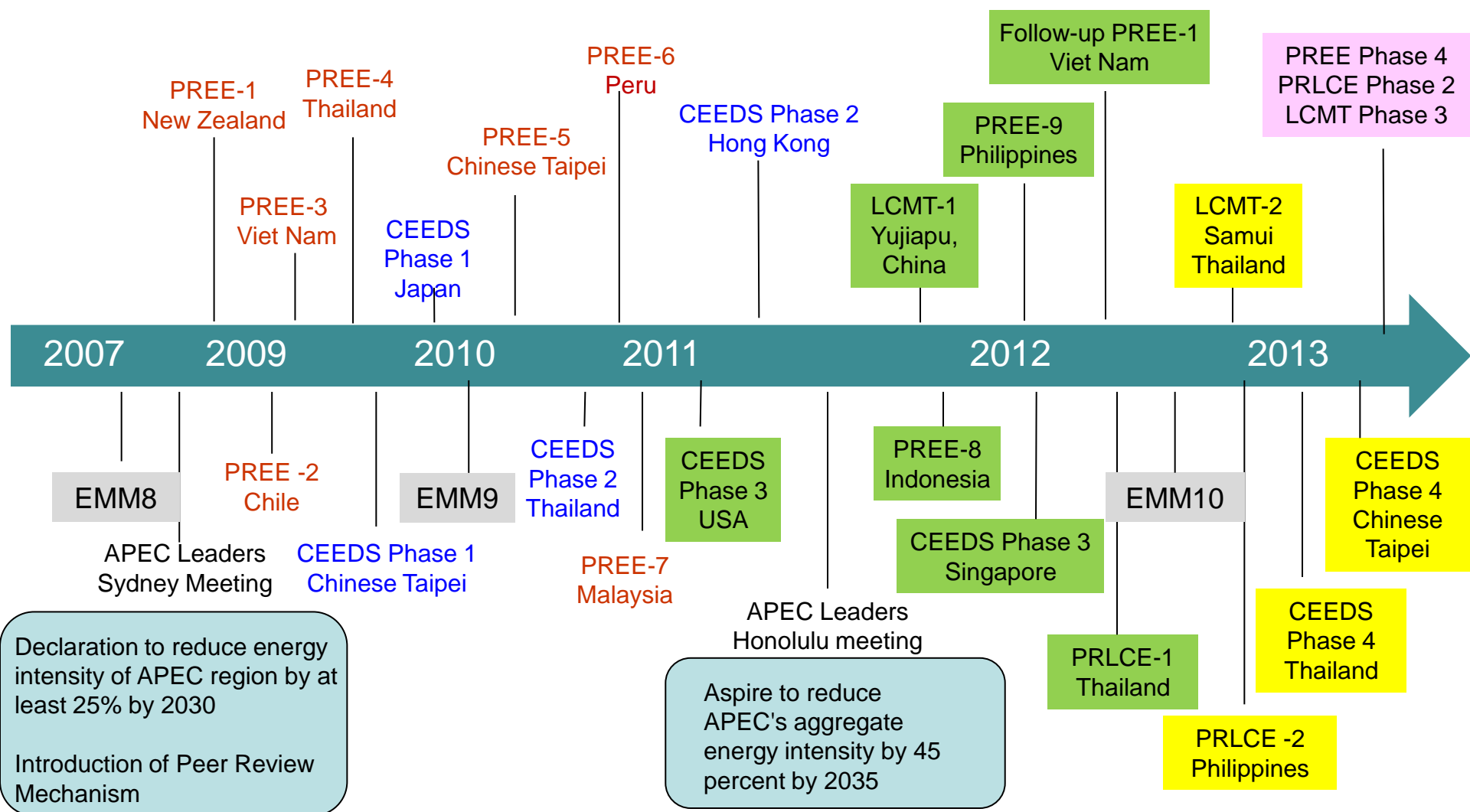


# Outline



- **Introduction**
- **Peer Review on Energy Efficiency (PREE)**
- **Cooperative Energy Efficiency Design for Sustainability (CEEDS)**
- **Peer Review on Low Carbon Energy Supply (PRLCE)**
- **APEC Low Carbon Model Town (LCMT)**
- **Conclusion**

# Summary of PREE, CEEDS, PRLCE & LCMT





## ***Main Roles and Responsibilities of Stakeholders***

### **APERC**

- Coordinate the review team formation with the host economy
- Coordinate the draft final report preparation with Host Economy
- Prepare policy templates for the CEEDS, the guidelines for PRLCE and the Concept for LCMT

### **Host Economy**

- Plan review process
- Prepare Documents for Review
- Arrange logistic needs
- Assess the preliminary and the draft final report

### **Review Team**

- Conduct the review
- Present findings and recommendations in the preliminary report
- Prepare the draft final report

### **EWG**

- Discuss and Endorse the draft final report
- Report to APEC Senior Officials



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## ***Objectives of PREE***

### **Initiated by APEC Energy Ministers' 2007 Darwin Declaration**

- Provide a *broad review* of EE policies and measures for more effective EE policies.
- Provide *recommendations* on how implementation of action plans could be improved to achieve EE goals.
- Two activities are organized:
  - **Peer review**: Visit volunteer economy by interviewing people and relevant organizations by the experts from member economy. The findings and recommendations are provided.
  - **Compendium**: To compile energy efficiency policies of all the APEC member economies under a common format which reflects the diversity of approaches that could be adopted by member economies.
- PREE considers the whole range of energy efficiency policies and measures for one economy at a time.



## ***PREE- 8 (Indonesia)***

- The peer review in **Indonesia** was conducted by a Team of seven experts (from Japan, the Philippines, China and APERC) who visited Indonesia from 10 -14 October 2011.
- The review team expert has provided *policy recommendations* on:
  - ✓ Identifying and mitigating barriers addressed by **the National Energy Conservation Master Plan (RIKEN)** is a critical aspect in the fundamentals of EE. Such barriers include removing financial barriers to increase the viability to invest in EE.
  - ✓ Sufficient and highly qualified regulators, an overarching strategy on EE, greater emphasis on short to medium term EE targets, high level coordination of relevant Ministers in a permanent inter Ministerial team, compulsory appointment of an energy manager in large energy users, EE in buildings, among others .



## ***PREE- 9 (The Philippines)***

- The peer review in **the Philippines** was conducted by a Team of nine experts (from Japan, USA, ADB, Chinese Taipei, Thailand, Indonesia, Brunei and APERC) who visited the Philippines from 6-10 February 2012.
- The review team expert has provided *policy recommendations* \*on:
  - ✓ Recommends a call back or feedback mechanism “**Information, Education and Communication Campaign (IEC)**” for enhancing consumers’ awareness by the Department of Energy (DOE’).
  - ✓ An appropriate regulatory scheme for utilities to participate in supporting and carrying out energy efficiency and conservation programs, an energy efficiency framework that is focused on the low-income people. a need to further improve the collection and monitoring of energy data, the introduction of electric vehicles, the introduction of fuel economy standards, and financial (tax) incentives ,and finally but most importantly, the passage of **Energy Conservation Bill**.

\* Waiting for the final confirmation of the Philippine Government.





## ***1st Follow-up PREE (Viet Nam)***

- The Follow-up PREE is designed to assist former PREE host economies in implementing the earlier recommendations of the PREE review teams.
- The objective is to fill the gap between the implementation of energy efficiency action plans and the monitoring and evaluation of those plans.
- The first Follow-up PREE was held in **Viet Nam** from 27 February to 2 March.
- The Follow-up PREE training in Viet Nam was developed to help the Government identify and utilize energy efficiency data to ensure that the National Energy Efficiency Programs of Viet Nam are carried out in accordance with the best practices currently employed in other economies worldwide.



## ***Highlights of PREE***

- The review team found that **transport sector** policies stand out as having less substantial implementation – although, economies have realized the necessity of ***fuel economy standards policy*** imposed on vehicle manufacture or sale.
- This policy is still at a planning stage in **Thailand, Viet Nam, Chile, Peru, Malaysia and the Philippines**, while **New Zealand and Chinese Taipei** have standard for both new and used vehicles including a national program on *vehicle fuel labeling*.
- Overall, the survey found that all **9** economies (**NZ, Chile, Viet Nam, Thailand, Chinese Taipei, Peru, Malaysia, Indonesia and the Philippines**) have looked into the urgent need to expand their implementation of national EE policies as well as development of *incentives* to promote financial instruments to encourage EE investment.



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## ***Objectives of CEEDS***

### **Referred in APEC Energy Ministers' 2010 Fukui Declaration**

- To promote “high-performance” energy efficiency policy measures in developing economies in the APEC region.
- To assist developing economies who wish to design and implement measures for achieving energy efficiency improvements in a specified sector.
- Two workshops is organized:
  - One is an analysis of potential energy savings that might be obtained in the APEC region if each participating developing APEC economy were to adopt the high-performance measures.
  - The other is focusing on how these measures might be implemented in developing APEC economies.
- CEEDS considers policies and practices for several developing economies in one sector at a time.



## ***CEEDS Phase 3***

- **CEEDS Phase 3** dealt with “**Energy Efficient for Urban Passenger Transportation**” in APEC Economies. The first workshop was hosted by **USA** on September 14~16 2011 with the presentation from 5 participating eligible economies: **China, Mexico, the Philippine, Thailand, Viet Nam**, and invited speakers from Japan, New Zealand, Singapore, USA, and Asian Development Bank (the Philippines). The other attendants from Canada, Chinese Taipei, Hong Kong, Indonesia and Malaysia.
- A more specific focus on “Livable Communities and Transit-Oriented Development (TOD)” and “Improving Road Vehicle Efficiency” for the first workshop of CEEDS Phase 3. Five economies make presentations on the Current Economy Reports.





## ***CEEDS Phase 3***

- The second workshop for **CEEDS Phase 3** was held in January 17~19 2012 and hosted by **Singapore**, with the presentation from 4 economies: **China, Indonesia, the Philippines, Thailand, Viet Nam**, and invited speakers /moderators from Singapore, Japan, the Philippines and USA. The other attendants from Malaysia and Thailand.
- At the second workshop, the representatives from each economy reported back on progress in implementing the planned actions. Discussions among the economies and invited experts helped each economy develop a “fine-tuned” plan of action or roadmap for implementing the policies and programs discussed during the two workshops.



## ***Findings – CEEDS Phase 3***

### **Key Takeaways on EE Urban Passenger Transportation**

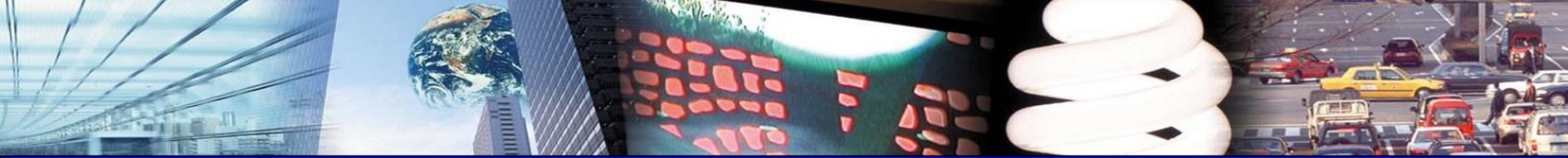
- Economies can use the ‘*Avoid-Shift-Improve*’ framework to effectively improve the efficiency of transportation systems by pursuing three simultaneous goals:
  1. *Avoiding* or reducing the need to travel or use motorized vehicles, e.g., through the integration of land use and transportation planning.
  2. *Shifting* to more energy efficient modes of travel, e.g., by improving and promoting the use of public transit and encouraging the use of non-motorized transport.
  3. *Improving* vehicle and fuel technologies in order to reduce the impact of each kilometer travelled.



## ***Findings – CEEDS Phase 3 (cont.)***

### **Main Challenges**

- Urban traffic congestion, resulting in limited mobility, traffic accidents, and pollution
- Congested and inadequate bus and rail systems
- Lack of traffic infrastructure and facilities
- Proliferation of unregistered, unregulated transit operators (e.g., buses, jeepneys) and motorbikes for personal transport
- Lack of government capacity to implement EE transport policies and regulations
- Population movements out of cities that result in long commutes
- Unregulated and inefficient used vehicle imports



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## ***Objectives of PRLCE***

### **Initiated by APEC Energy Ministers' 2010 Fukui Declaration**

- To assist volunteer APEC economies to promote **low-emission power sources** by providing recommendations from APEC peer review experts.
- Share experiences and knowledge on best practices for efficient and effective policies to promote **low carbon power supplies** (such as renewable energies) in developing APEC economies, and how to adapt policies and measures which have been successful elsewhere to the unique conditions of each economy;
- Encourage developing APEC economies to **set individual goals** on power supply from low carbon sources (such as renewable energies), and to formulate action plans to achieve the goals;





## ***Progress of PRLCE Phase 1***

- The guideline for “**APEC Peer Review on Low-Carbon Energy Supply**” was approved.
- **Thailand** hosted the first PRLCE in 21~25 May 2012 with the focus on “Alternative Energy Development Plan (2008 – 2022) on Solar, Wind , Biomass and Biogas (ADEP)”.
- The review team expert has provided *policy recommendations* on:
  - The development of bioenergy standards the promotion and development of domestic bioenergy industries,
  - Technical capabilities both in government, academia and industry to handle challenges with the target of 1200MW wind capacity.
  - Accreditation system and a sufficient number of professional engineers and skilled workers to set up and monitor PV systems.



## ***Progress of PRLCE Phase 1***

- The review team expert also has provided *policy recommendations*\* on:
    - Stricter monitoring of hydro power plants', including small hydro plants' compliance with environmental regulation.
    - Evaluation of tariff system (FiT) on a periodic basis.
    - The involvement in APEC related activities on smart grid.
    - Consistencies among policies, especially with regards to encouraging clean development mechanism projects, which will assist the green house gas mitigation target set out in the 2010 Power Development Plan.
- \* Waiting for the final confirmation of the Thai Government.
- **The Philippines** is expected to host the second PRLCE in 19~23 November 2012 with the focus on Feed-in Tariff (FIT) system for renewable energy.



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# *The APEC LCMT Project*

## Initiated by APEC Energy Ministers' 2010 Fukui Declaration

- Ministers agreed to
  - Launch the APEC LCMT Project
  - Establish a Task Force
  - Implement Yujiapu Center Business District Development Project as the first case

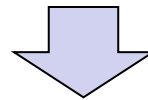






## ***The APEC LCMT Project***

- Ministers instructed a Task Force to
  - Develop the “Concept of a Low Carbon Model Town”
  - Provide advice on the project planning
  - Share best practices



1st APEC LCMT Task Force Meeting (Tokyo, Japan, 13 July 2010)

2nd APEC LCMT Task Force Meeting (Vancouver, Canada, 9 May 2011)

3rd APEC LCMT Task Force Meeting (Kuala Lumpur, Malaysia, 5 March 2012)



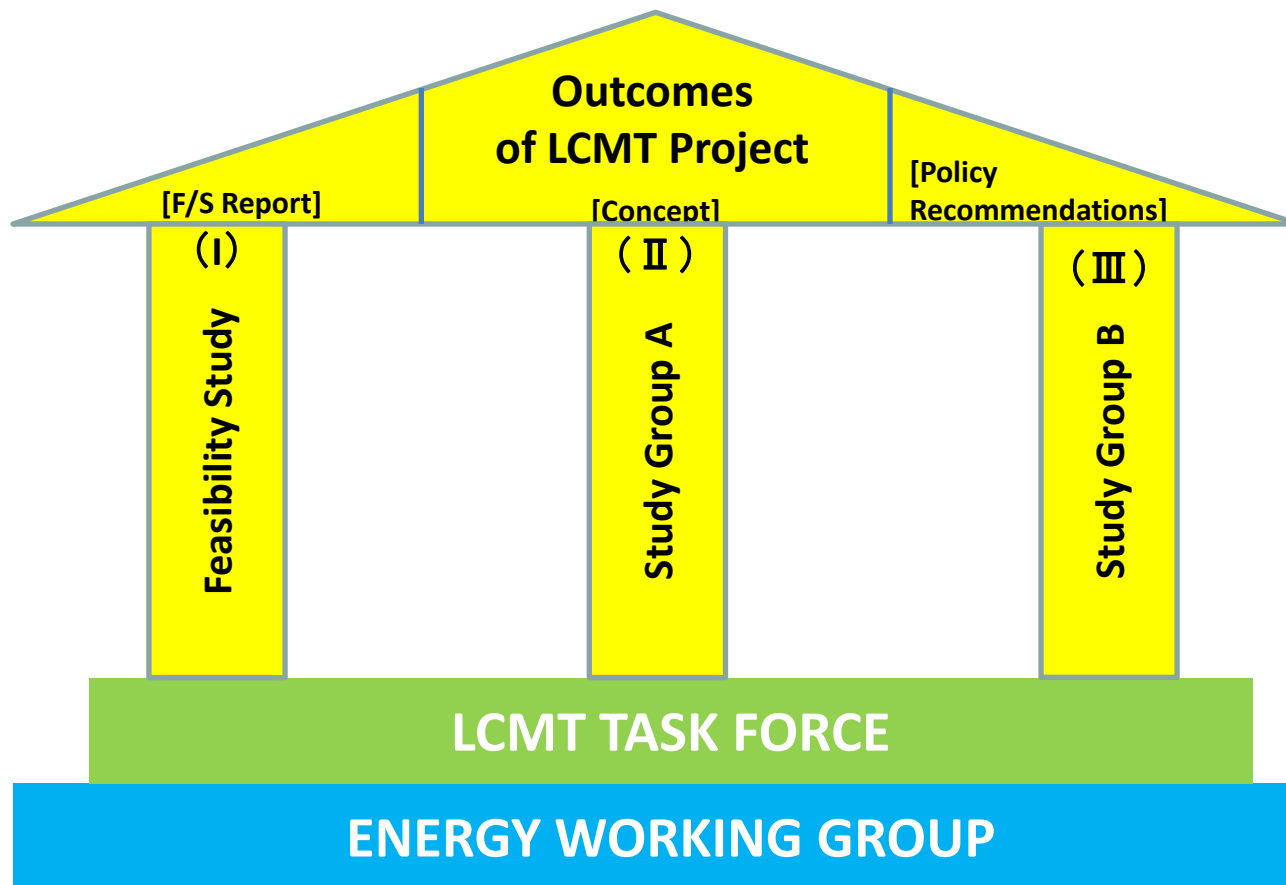


## *Objective of the APEC LCMT Project*

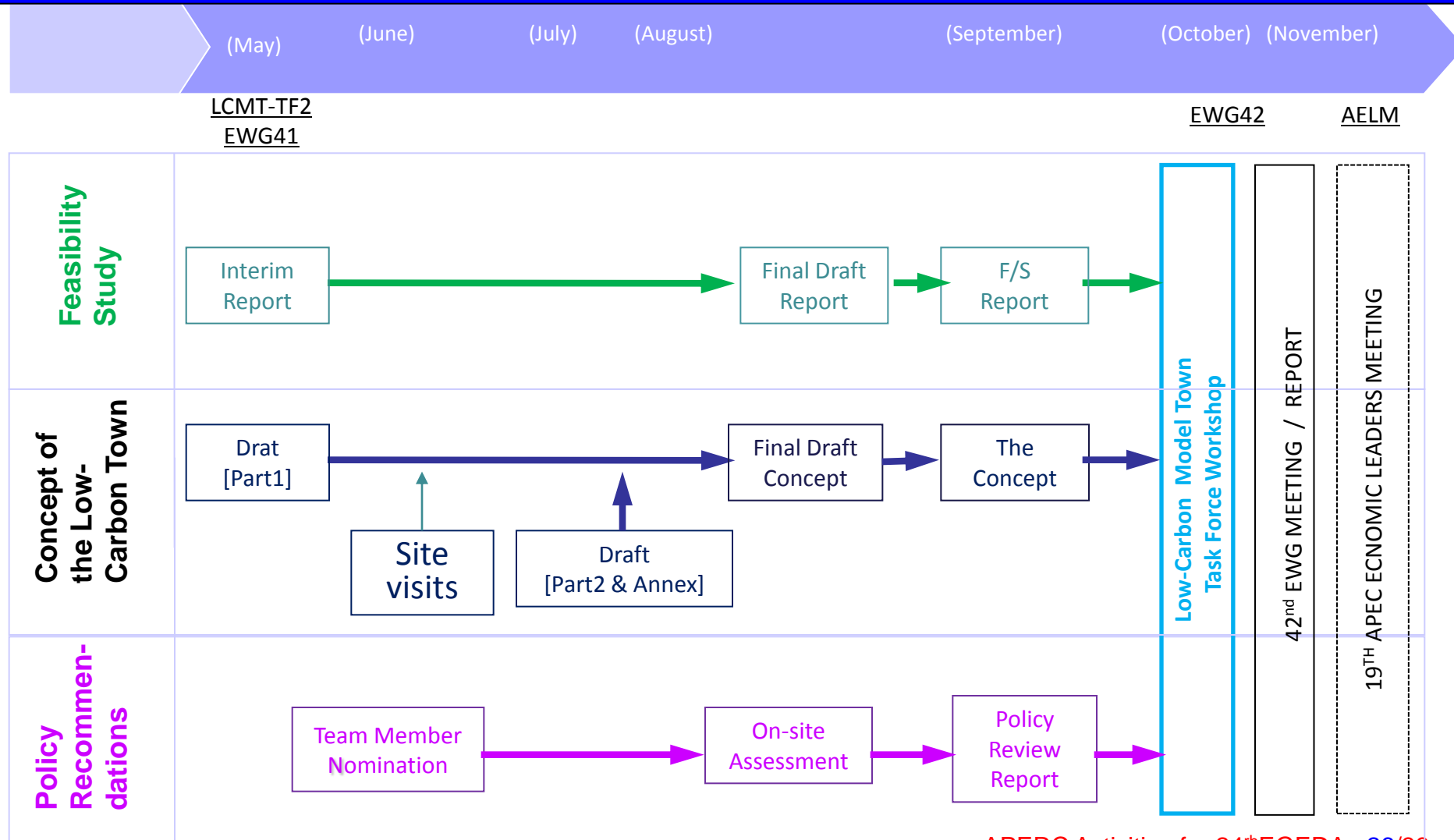
- To promote low-carbon town developments in order to manage rapidly growing energy consumption especially in urban areas of the APEC region.
- The key activities are;
  1. -**Feasibility study** will be conducted by qualified urban design consultants to encourage creation of low-carbon communities in urban development plans.
  2. -to develop the “**Concept** of the Low-Carbon Town in the APEC”.
  3. -to assess **real** low carbon town development **projects** both technical and policy sides



## *Overview of the APEC LCMT Project*



# LCMT Phase 1 (Project Schedule)





## ***LCMT Phase 1 (Outcomes)***



**Asia-Pacific  
Economic Cooperation**

### **The Concept of the Low-Carbon Town in the APEC Region**

Final Report

October, 2011

The APEC Low Carbon Model Town Task  
Force  
APEC Energy Working Group

(APEC Website)

[http://publications.apec.org/publication-detail.php?pub\\_id=1240](http://publications.apec.org/publication-detail.php?pub_id=1240)



**Asia-Pacific  
Economic Cooperation**

### **APEC Low Carbon Model Town Project Phase 1**

### **Policy Review for Yujiapu CBD, Tianjin, China**

Final Report

September 30, 2011

Report for the APEC Energy Working  
Group

(APERC Website)

<http://www.iecee.or.jp/aperc/2012pdf/Policy%20Review%20for%20Yujiapu%20CBD,%20Tianjin,%20China.pdf>



## LCMT Phase 1 (Outcomes (cont.))

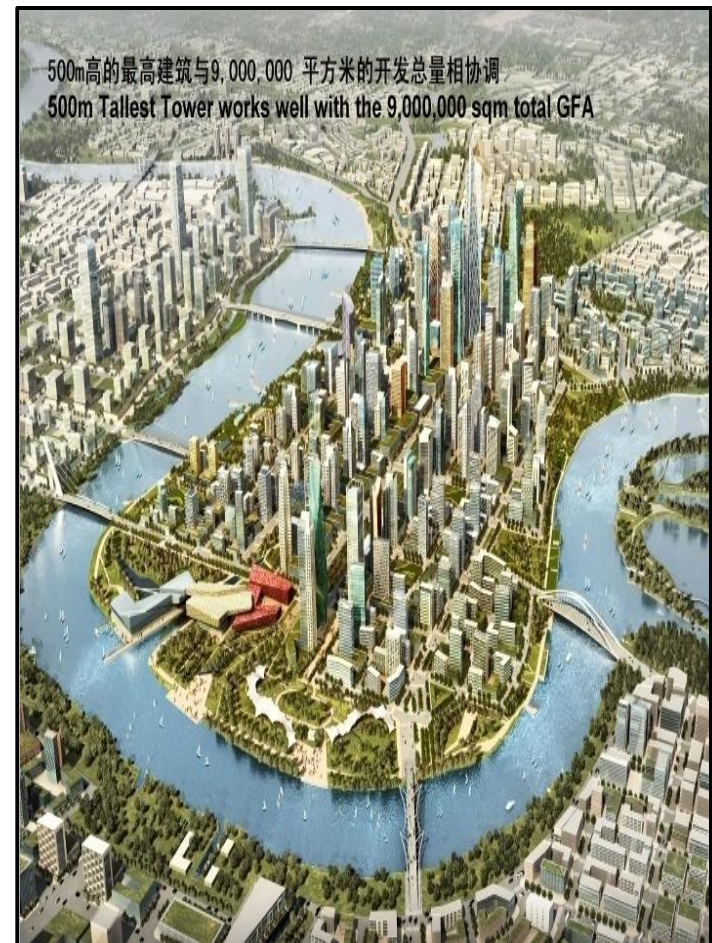


**APEC  
Low Carbon Model Town (LCMT)  
Project  
Tianjin Yujiapu Feasibility Study**

Final Report

October, 2011

Nikken Sekkei Research Institute



(APEC Website)

[http://publications.apec.org/publication-detail.php?pub\\_id=1225](http://publications.apec.org/publication-detail.php?pub_id=1225)

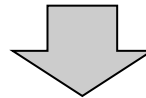




## ***LCMT Phase 2 (Selection of the Case)***

**5 August, 2011**

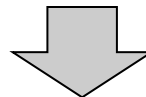
Invitation letter for nominations of LCMT phase 2 project was sent to **eligible economies**



**27 August, 2011 (Nomination Deadline)**

Three candidate projects were nominated

- San Borja Town, Lima, Peru
- Samui Island, Thailand
- Da Nang, Viet Nam



Evaluation on a scale of 1-5 for each selection endorsed by the APEC LCMT Task Force  
*(See the later slide for the criteria)???*

# LCMT Phase 2 (Invitation Letter of Nomination)

## NOMINATION FOR THE APEC LOW CARBON MODEL TOWN PROJECT

You are invited to nominate candidate APEC Low Carbon Model Town (LCMT) Project Phase 2 that will be funded by the APEC Support Fund. Under the APEC LCMT Project, Feasibility Study (F/S) and Policy Review will be conducted to the selected Low Carbon Town (LCT) development project in the eligible APEC economy by a qualified urban planning consultant and experts from APEC member economies respectively.

The economy who has the intention to nominate the candidate development project for the APEC LCMT Project Phase 2 is asked to provide relevant information on LCT development project including low carbon vision, CO2 emission reduction targets, low carbon measures, town specifications and characterizations etc by submitting following Nomination Sheet.

The nomination of LCT development projects made by eligible developing economies is on the voluntary basis. The information submitted regarding nominating LCT development project will be used for considering the conformity of the project with the Criteria for APEC LCMT Project and the relevance as a candidacy for Phase 2 or subsequent Phases of the APEC LCMT Projects.

**Note:** According to the "GUIDEBOOK ON APEC PROJECTS EDITION 7," the eligible economies for the APEC Support Fund are as follows;

Chile, China, Indonesia, Malaysia, Mexico, Papua New Guinea, The Philippines, Peru, Russia, Thailand, and Viet Nam

## APEC Low Carbon Model Town Project Nomination Sheet

### Part A

On behalf of government of [name of member economy], I submit following low-carbon town project as a candidate for the APEC Low-Carbon Model Town Project.

Name of town:
Location:

\*Please attach the map which shows the location of the low carbon town

Signature:	Date:
Name:	e-mail:
Title:	
Organization:	Economy:

Questions regarding conformity with the Criteria for APEC LCMT Project	
1.	Is the candidate project coordinated or supervised by a relevant government authority? If yes, please identify.
2-1.	Is the responsible entity for the candidate project identified? If yes, please identify.
2-2.	Is the project already on-going or has been committed to being implemented? If yes, please describe in detail.



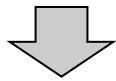
## ***LCMT Phase 2 (Evaluation of Results)***

**27 September - 3 October, 2011**

METI, Japan (Project Overseer) sent out two recommendations to LCMT Task Force members and they were endorsed unanimously

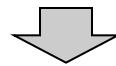
- Samui Island to be the case for LCMT phase 2 project
- Other two towns should hold candidacy status for subsequent phase of the APEC

LCMT Project



**4-17 October, 2011**

METI sent out the recommendations to EWG members and they were endorsed unanimously



**19-20 October, 2011 (at EWG 42)**

Official announcement of Samui Island to be the case study for LCMT phase 2 project



## ***Criteria for the APEC LCMT Project***

- ✓ Criteria 1: Is the candidate project coordinated or supervised by a relevant government authority?
- ✓ Criteria 2.1: Is the responsible entity for the candidate project identified?
- ✓ Criteria 2.2: Is the project already on-going or has it been committed to being implemented?
- ✓ Criteria 3: Has the implementation plan of the candidate project already been developed?
- ✓ Criteria 4.1: Have the organization and people responsible for the possible Feasibility Study (F/S) been identified?
- ✓ Criteria 4.2: Have the organization and people committed to provide necessary information for the purpose of F/S and policy review?
- ✓ Criteria 4.3: Does your economy agree to prepare the necessary funding and human resources for internal use?"

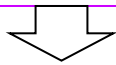


## ***Evaluation Results of Phase 2 Project***

27 September - 3 October, 2011

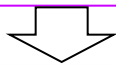
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- ✓ Other two towns should hold candidacy status for subsequent phase of the APEC LCMT Project



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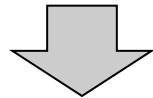




## ***LCMT Phase 2 (Feasibility Study of Samui Island)***

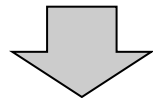
**30 December 2011**

Approval of Project Proposal of EWG 18/2011A  
“APEC Low-Carbon Model Town (LCMT) Project – Phase 2”



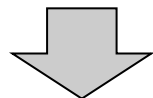
**18 January – 3 February 2012**

APEC project tender for LCMT phase 2 was posted on the APEC website



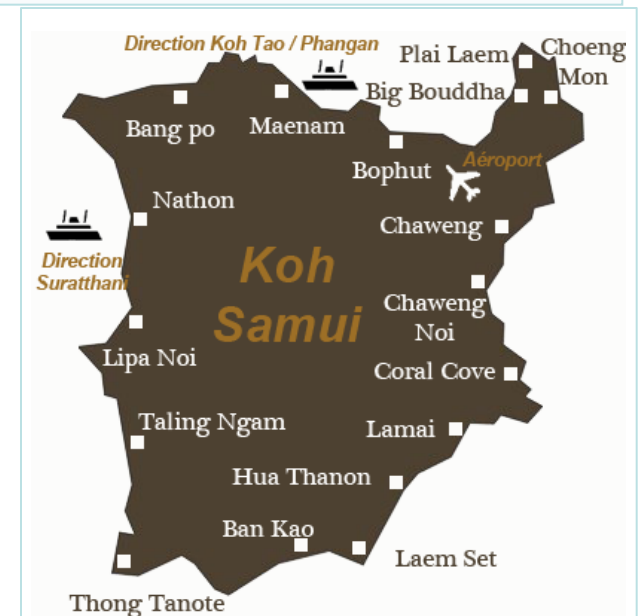
**February 2012**

The Contract was signed between APEC Secretariat and EEC Engineering Network and the F/S started in Samui Island in Thailand



**December 2012**

F/S report will be finalized





## *LCMT Phase 2 (Refinement of the Concept)*

“The Concept of the Low Carbon Town in APEC” is tailored for **island-type development**



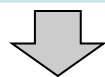
Task Force Japan

- Prepare preliminary draft
- Consists of Japanese experts



Study Group A & LCMT Task Force

- Site visits on low-carbon development projects : Samui, Da Nang and Pengfu Islands
- Development of Draft and circulate among LCMT Task Force



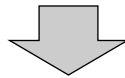
The Refined Concept will be distributed to EWG members



## ***LCMT Phase 2 (Policy Recommendations)***

### **Study Group B**

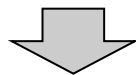
- Conduct Peer Review



Recommendation on regulatory schemes, technical matters and others

### **Site Visit (Samui Island)**

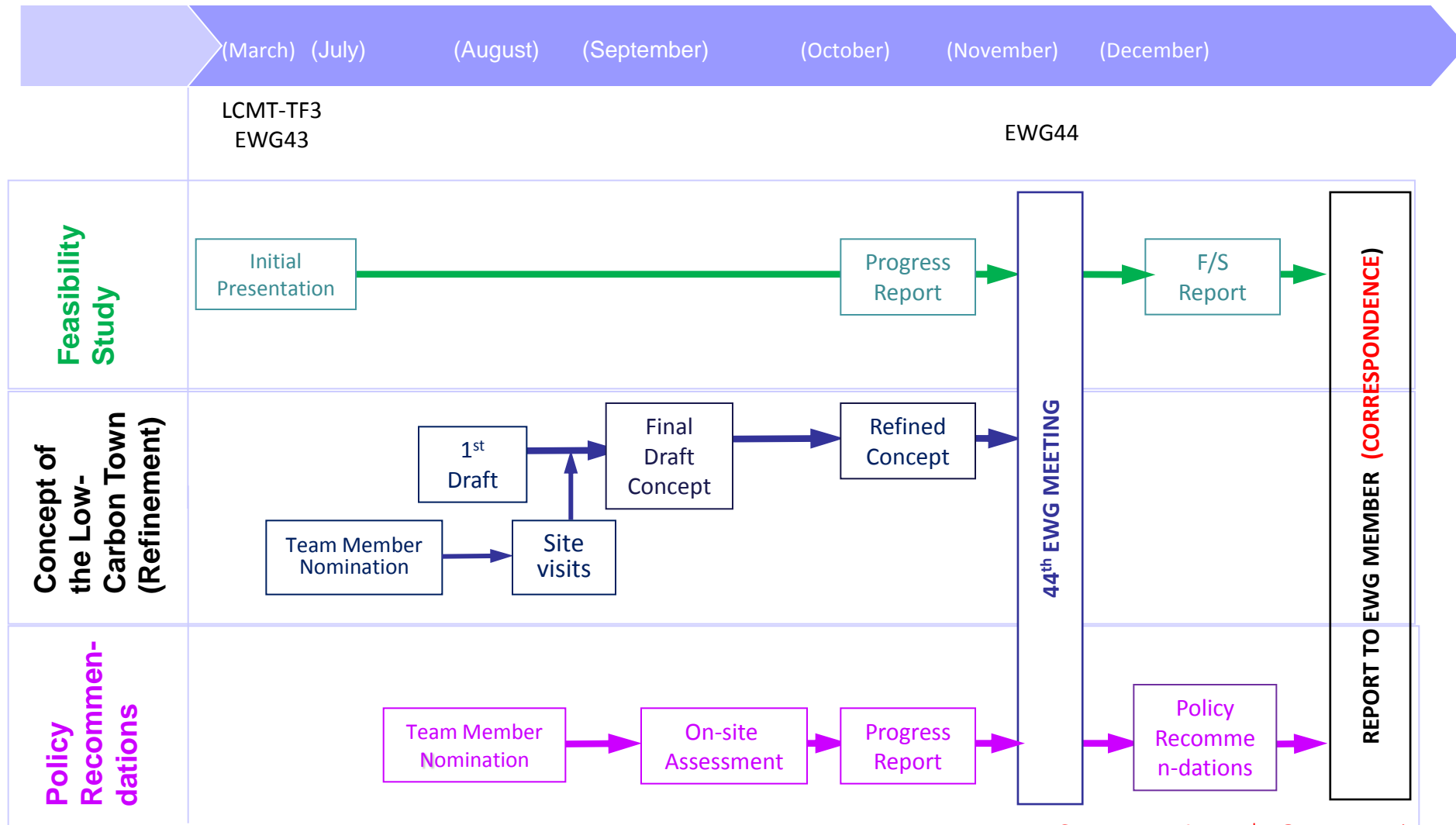
- Nominated experts will participate
- Develop draft recommendations and circulate among the LCMT Task Force



“Policy Review Report” will be distributed to EWG members



## LCMT Phase 2 (Plan of Action)







## ***Conclusion Remarks***

- To facilitate APEC economies to develop EE & RE goals and formulate action plans, through APEC *Peer Review Mechanisms* (e.g. PREE, Follow-up PREE, CEEDS, PRLCE, LCMT) for the achievement of the APEC-wide aspirational goal of a reduction in energy intensity and carbon emission, as instructed by APEC Ministers and LEADERS.
- To serve the need of *volunteer* economies in identifying *effective EE & RE policies* and *best practices* as well as *barriers*, and carefully providing *policy recommendations* on alternatives to overcome existing impediments in their current plan.

***“APEC-wide EE & RE Implementation ” is still urgently needed..***





**Thank you for your kind attention**

<http://www.ieej.or.jp/aperc/>



**Asia-Pacific  
Economic Cooperation**