



APEC Expert Group on  
New and Renewable Energy Technologies

**EGNRET 49**

**Project Progress  
in Chinese Taipei**

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**Chinese TAIPEI**

## ■ Completed Project

### ➤ 【EWG 21 2015A】

Long-Term Reliability Study of PV Systems for Installation on Islands

### ➤ 【EWG 23 2015A】

Best Practices for Developing the Green Energy Smart Farm in the APEC Region

## ■ Ongoing Project

### ➤ 【EWG 11 2016A】

Filling the Gap to Reach the Goal of Doubling Renewable Energy in the APEC Region

### ➤ 【EWG 18 2016A】

Heating Applications of Bio-pellet made from Ecological-Hazard Plant in Small and Medium Enterprises to Enhance Utilization of Renewable Energy in the APEC Region

# Completed Project in Chinese Taipei

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【EWG 21 2015A】

Long-Term Reliability Study of PV Systems for Installation on Islands

Workshop: Hsinhu, Chinese Taipei, March 9-10, 2017

Conclusions: Issues to be addressed in the future

1. Impact of renewable energy on the grid system
2. Home energy storage system
3. How to recycle retired PV system
4. The standards and requirements for **floating** PV technology



【EWG 21 2015A】

Long-Term Reliability Study of PV Systems for Installation on Islands

### Project Overall Outcome

#### Workshop

- The workshop offers an opportunity to assess in the validity of the project findings, and provide the check, peer reviews, consultations, and also receives the feedback for further revised actions.

#### Project Report

- A short executive summary list the failure modes (or potential failure modes) and what should be done differently by manufacturers, system designers, and installers (that would make it really valuable to those of us working in salt-laden environments).
- A **risk-matrix** on what are the likelihood of failure and the consequence, and then the residual risk after mitigation would be extremely useful for APEC economies.

**【EWG 23 2015A】**

**Best Practices for Developing the Green Energy Smart Farm in the APEC Region**

### Outcome

Workshop

Guidebook

Project  
Report

Demonstration  
Site

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## Outcome

### Workshop

**1<sup>st</sup> Workshop**  
**Apr 12-13, 2016**  
**Taichung**  
**Chinese Taipei**

**2<sup>nd</sup> Workshop**  
**Oct 12-13, 2016**  
**Jakarta**  
**Indonesia**

Two workshops are conducted alongside a demonstration site visit to focus on the preliminary findings in light of the desired outcomes.



2nd Workshop delegates



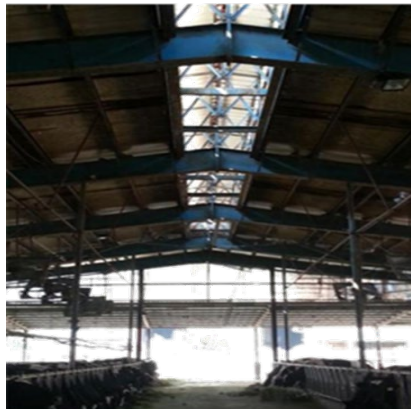
2nd Workshop site visit

## Outcome

### Demonstration Site



A small demonstration site (test base) was established to conduct project experiments and show the best practice model for developing the green energy smart farm in the APEC region.

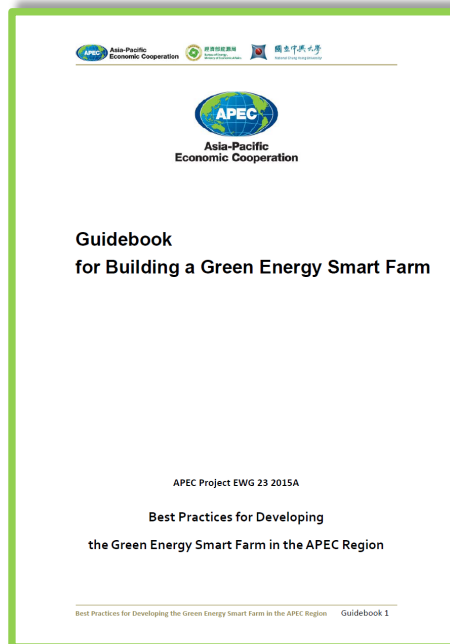


**Experimental Animal Farm, National Chung Hsing University, Chinese Taipei**



### Outcome

#### Guidebook



A Guidebook will be published to provide all useful information and knowledge about building a green energy smart farm including 5 parts

1. Introduction
2. Scope and Objectives
3. Legal Concerns on establishing Green Energy Smart Farm
4. Financial Issue on Establishing Green Energy Smart Farm
5. Remarks

This Guidebook will be uploaded to the APEC EGNRET's website, and also be delivered to the farmers who request support to build up a green energy smart farm.

## Outcome

### Project Report

The final project report contains 7 parts including one appendix, the Guidebook:

1. Introduction
2. Legal Issues on Development of Green Energy Farm
3. Policy and Economic Analysis of Renewable Energy for Smart Farms in the APEC Region
4. Establishing a Small Smart Farm Demonstration Site
5. Project Workshops
6. Social Entrepreneurship Matters
- A. Guidebook for Building a Green Energy Smart Farm

【EWG 23 2015A】

Best Practices for Developing the Green Energy Smart Farm in the APEC Region

An Important Concept is Developed in the Project:

# RETI

**Regulations**

**Economy**

**Technologies**

**Integration**

# RETIS

Social Entrepreneurship

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# Ongoing Project in Chinese Taipei

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### 【EWG 18 2016A】

Heating Applications of Bio-pellet made from Ecological-Hazard Plant in Small and Medium Enterprises to Enhance Utilization of Renewable Energy in the APEC Region

## Project Progress

1. Completed review of the recent advances in bio-pellets technologies.
2. Completed demonstration of the utilization of white-leadtree pellet fired in an existing SMEs boiler for green energy applications.
3. Completed an economic feasibility study of utilizing white-leadtree pellet instead of fossil fuel for boiler application.





### 【EWG 18 2016A】

Heating Applications of Bio-pellet made from Ecological-Hazard Plant in Small and Medium Enterprises to Enhance Utilization of Renewable Energy in the APEC Region

## Workshop

APEC Workshop on Bio-pellet Production, Handling and Energy Utilization  
Oct 24-25, 2017 IEEJ, Tokyo, Japan

### Site visit (Oct. 25)

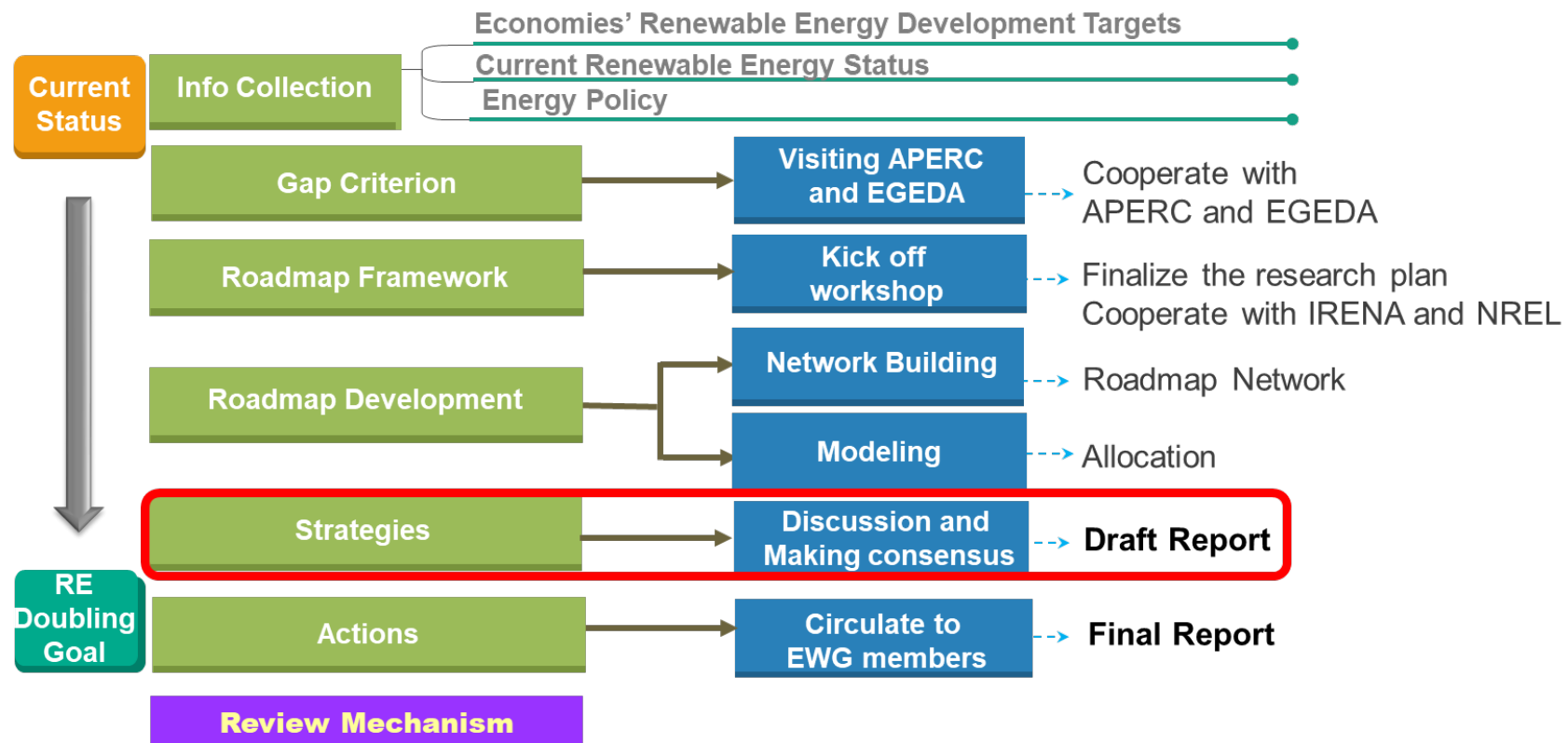
- Japan Blue Energy Co., Tokyo, Japan
- Biomass Gasification Power Generation System, Minami Tama Water Reclamation Center, Tokyo, Japan



【EWG 11 2016A】

Filling the Gap to Reach the Goal of Doubling Renewable Energy in the APEC Region

## Project Progress



### 【EWG 11 2016A】

## Filling the Gap to Reach the Goal of Doubling Renewable Energy in the APEC

### Seminar 1: APERC, Tokyo, Japan, Mar 02-03, 2017

#### Meeting Outcome



#### APEC RE Doubling Roadmap:

Boundary definition scope, i.e. Roadmap scope,  
Renewables definition (based on EGEDA definition) presented and  
endorsed by EGNRET

#### Two-phased approach

- Roadmap baseline analysis
- Comprehensive Roadmap development
- \* Nominate 1 (one) expert from each economy to be contact point

#### Analysis limited to electricity sector

- APERC assists in quantitative analysis
- Show workplan and timeline

【EWG 11 2016A】

Filling the Gap to Reach the Goal of Doubling Renewable Energy in the APEC

### Workshop : Jeju, Republic of Korea, Mar 27, 2017

- Learn about the resource, then attract investors to contribution
- Understanding the barrier and challenges when making strategies
- Taking APEC RE doubling goal into consideration when APEC economies make renewable energy targets and policies
- Try to maximize the potential in APEC region
- Strategies of government support could be divided into 6 approaches
- Initiating the network among technical experts, government officers



### 【EWG 11 2016A】

Filling the Gap to Reach the Goal of Doubling Renewable Energy in the APEC

### Seminar 2: APERC, Tokyo, Japan, Oct 23, 2017

## Topic

- Updates on APEC RE Roadmap
- Updates on RE modelling for the 7th Outlook
- APEC RE data description
- Discussion on the Doubling the share of RE in APEC by 2030
- ITRI and APERC Cooperation on data, policy and quantitative analysis

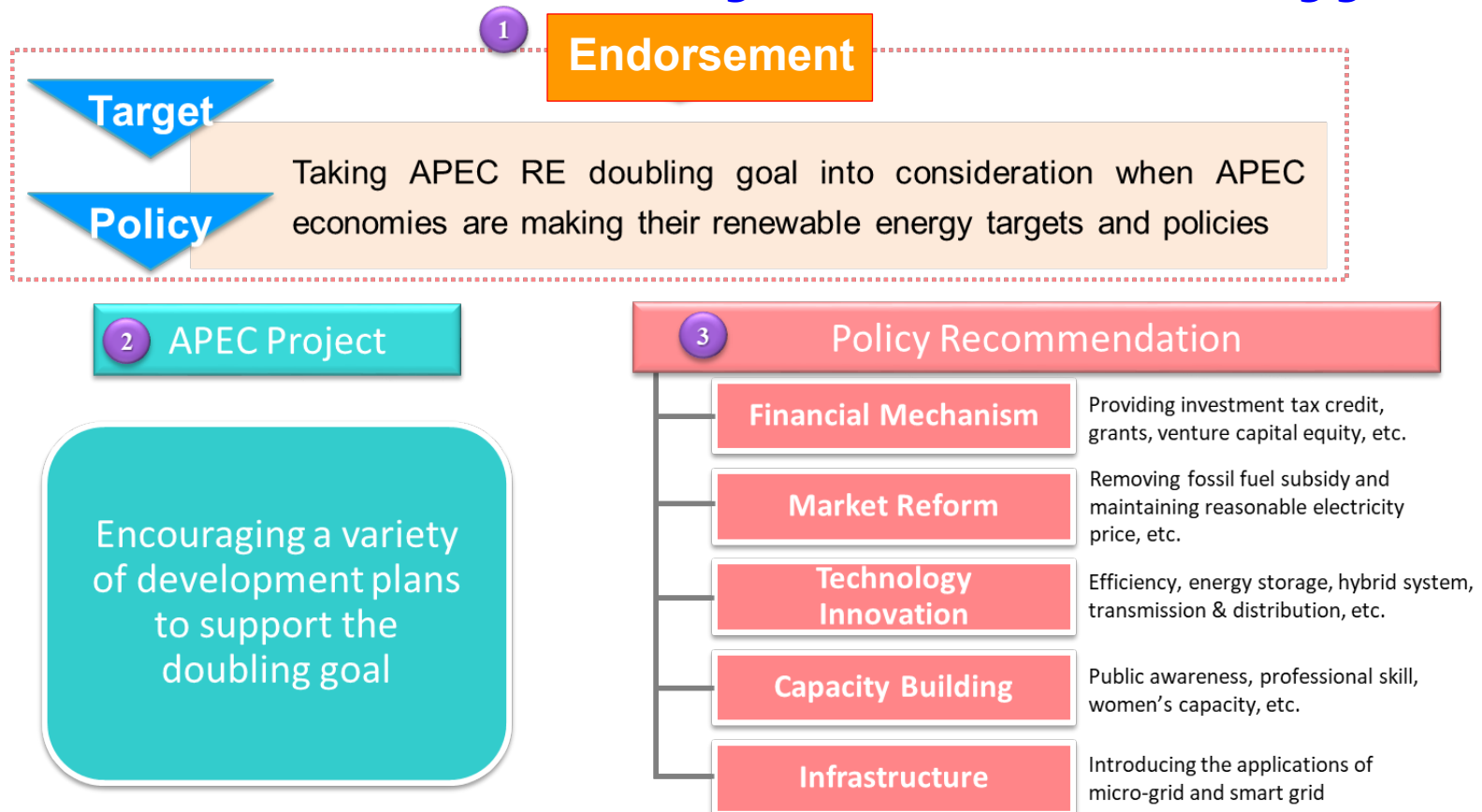




【EWG 11 2016A】

Filling the Gap to Reach the Goal of Doubling Renewable Energy in the APEC

**Mid-Term Conclusions** ➤ Economies in APEC region are working together to reach RE doubling goal.



# Thank you for your attention

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