

APEC EXPERT GROUP ON NEW & RENEWABLE ENERGY TECHNOLOGIES (EGNRET) 53rd Meeting and Associated Meetings

Meeting Summary

Seoul, Republic of Korea

22-26 October 2019

1. Introduction

The 53rd Meeting of the APEC Expert Group on New and Renewable Energy Technology (EGNRET 53) was held in Seoul, Republic of Korea on 22 to 24 October 2019, and it was alongside the Renewable Energy Policy Network for the 21st Century's (REN 21) event, the 8th International Renewable Conference Seoul 2019 (KIREC Seoul 2019). Technical site visit had 3 options scheduled in the afternoon of 25 October, LG Science Park, Solar PV ExPo in Seoul City Hall Plaza and Shinsung E&G, and technical tour to the Hwaseong Fortress was arranged on 26 October.

The EGNRET meeting was chaired by Dr. Hom-Ti Lee, the Chair of EGNRET. Delegates from 7 APEC member economies, namely Hong Kong, China, Japan, Republic of Korea, Malaysia, the Philippines, Chinese Taipei (represented by EGNRET Secretariat) and Thailand. Representatives from APEC sub-fora, APERC, and representatives from REN 21, International

Renewable Energy Agency (IRENA) and United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) also attended the meeting.

2. Official Welcome and Adoption of Agenda

Chair of the meeting, Dr. Hom-Ti Lee gave the opening addresses, welcomed the delegates, and thanked the Republic of Korea for its hospitality in hosting the EGNRET 53rd meeting. The meeting was opened after the agenda was adopted.

3. Updates of APEC/ EGNRET/ APERC

(1) “APEC Secretariat Report” by Dr. Tarcy Sih-Ting Jhou, EGNRET Secretariat on behalf of Mr. Tetsuya SHIMOKAWA, Program Director, APEC Secretariat.

The overall outcomes of 2019 APEC project sessions were presented. In 2019 project session 1, the approval rate of APEC funded project was 50% with 6 EWG projects were approved by BMC. In 2019 project session 2, the approval rate of APEC funded project was 54% with 7 EWG projects granted in principle approval.

The APEC project cycle for 2020 project session 1 including the deadline for concept note submission, the key information for updates, advices for project implementation in organizing workshops and APEC procurement rules were introduced. The key messages from 2019 APEC Gender Focal Point Report were also presented.

(2) “Recent EGNRET Activities”-by Dr. Tarcy Sih-Ting Jhou, EGNRET Secretariat

EGNRET Secretariat reported the meeting summary of the 52nd EGNRET meeting including the participating economies and organizations, discussion topics and meeting outcomes. EGNRET Secretariat also introduced the status of ten (10) EGNRET projects and the relevant extract of the minutes of the EWG 57th meeting and EWG 58th meeting.

(3) APERC Presentations-by Mr. Alexey Kabalinskiy and Dr. Victor Martinez, APERC

The presentations from APERC representatives included two topics, one was “APEC Renewable Energy Forecast-Challenges from renewable energy side to achieved APEC energy goals” and the other was “APEC Energy Demand and Supply Outlook 7th Edition- Selected Economies Renewable Energy Outlook”.

A. “APEC Renewable Energy Forecast-Challenges from Renewable Energy side to achieved APEC energy goals”

APERC introduced the renewables modelling in the 7th Edition of APEC Energy Demand and Supply Outlook and its scenarios.

APERC had expanded the list of renewables technologies to include large, medium, small and pumped hydro, onshore and offshore wind in the renewable energy model, and introduced

concentrated solar power and marine energy. According to the APERC modelling projection, the APEC energy intensity goal can be met to reduce intensity by 45% by 2035, but the renewable goal will not be achieved by 2030 under the BAU scenario.

The APEC goal of doubling the share of renewable energy by 2030 from 2010 levels is achieved in the APEC Target (TGT) scenario through improving cost-effectiveness of renewables, adopting more supportive policies and reducing energy demand. To meet this goal which requires an extra 851 GW of renewables power capacity, 38 Mtoe of additional biofuels for transport and 24 Mtoe of renewable fuel use in industry. In addition, the 2-Degrees Celsius Scenario (2DC) and the suggestions for increasing renewable deployment were also introduced.

B. “APEC Energy Demand and Supply Outlook 7th Edition- Selected economies RE Outlook”

APERC reported that the renewable energy share falls short of achieving the goal to double the share of renewables in the business-as-usual scenario. APERC developed two alternative pathways: an APEC goals scenario and a 2-degree Celsius scenario. Then, APERC introduced the key assumptions and key findings based on three scenarios of the participating economies of EGNRET 53rd meeting, Hong Kong, China, Japan, Republic of

Korea, Malaysia, the Philippines, Chinese Taipei and Thailand.

4. Invited Presentations

(1) “REN 21 Presentation and Perspectives for Collaboration” by Ms. Rana Adib, Executive Secretary, REN 21.

The presentation included the introduction of REN 21’s work and its organization, and briefed the REN 21 debates and REN 21’s publications, outlook, Renewables in Cities Global Status Report, Renewables Global Futures Reports and the Renewables Global Status Report. REN 21 also elaborated the method of data collection and mentioned the opportunities for future collaboration with EGNRET.

(2) “Global Energy Transformation” by Mr. Nicholas Wagner, Programme Officer - Renewable Energy Roadmaps (REmap), IRENA.

The presentation started by introducing the drivers for the energy transition and an overview of IRENA’s energy transition publications. The presentation covered a pathway for the transformation as detailed in IRENA’s Global Energy Transformation report. It overviewed the different scenarios presented in the report, the renewable energy shares in all end-use sectors, recent cost evolution in renewable energy and the analysis of the development and strategies in different sectors. Then, the key actions needed to accelerate the renewable energy development were outlined.

(3) “SDG7 and the Energy Transition in the Asia-Pacific” by Mr. Michael Williamson, Section Chief, Energy Division, UNESCAP.

The presentation included the overview of UNESCAP, its members, targets in SDG 7, driver and enablers for SDG7 and the energy transition, Asia-Pacific renewable energy progress, and modalities for SDG7 regional cooperation in Asia-Pacific.

5. Document Discussion - Policy Dialogue

EWG requests EGNRET to have discussion on the policy dialogue on “Renewable Energy Transition for Sustainable Growth” and to work with relevant sub-fora on the policy dialogue.

The representative of Malaysia, Mr. Edisham Bin Mohd Sukor gave the presentation “Renewable Energy Transition for Sustainable Growth”. The key areas for discussion were renewable energy deployment to catalyze socio-economic growth and to meet demand for reliable, affordable and environmentally responsible energy.

EGNRET Secretariat presented two relevant documents, one was the tentative Policy Dialogue drafted by Malaysia and the other was the supporting document prepared by APEC Sustainable Energy Center (ASPEC). No comments were received in the meeting and it was agreed that EGNRET Secretariat would circulate the documents to EGNRET members after the meeting to seek for broader comments.

6. Project Updates

(1) “Progress / Status of Current EGNRET Projects and Updates on EGNRET Project Submission Process” by Dr. Tarcy Sih-Ting Jhou, EGNRET Secretariat

EGNRET Secretariat introduced the project submission process including the concept note stage and proposal stage. The APEC project management in the EGNRET Secretariat and the latest deadline for concept note submission for 2020 session 1 were introduced as well.

EGNRET Secretariat reported the current EGNRET projects. The EGNRET has a variety of projects underway to facilitate the use of renewable energy technologies in the APEC region. Currently, EGNRET have 1 concept note, 3 proposing projects (2019 session 2), 6 on-going projects and 2 completed projects since the EWG 57th meeting. The above projects are listed below.

A. Concept Note (1 project)

Project Title		Proposed Economy
1	Facing the Challenges of Integrating Electrical Vehicles and Solar Rooftop PV in Electricity Distribution Systems with Continued Performance of Distribution Transformers	Thailand

B. Approved in-principle (3 projects)

Project Title		Proposed Economy	Project Number
1	APEC Workshop on Strategies and Successful Case Studies on Solar Energy	Viet Nam	EWG 10 2019A
2	Accommodating Disruptive Technology into RE&EE Policy for Energy Security	Thailand	EWG 11 2019A
3	Evaluation of Energy Technologies, Programs and Policies	USA	EWG 12 2019A

C. On-going APEC-funded Projects (6 Projects)

Project Title		Proposed Economy	Project Number
1	Off Grid Electrification Option for Remote Regions in APEC Economies	China	EWG 07 2016A
2	Low Emissions Development Strategies: Supporting the transition to energy efficient, electric transport systems	USA	EWG 10 2018A
3	Filling the Gap to Reach the Goal of Doubling Renewable Energy in the APEC Region-Phase 2	Chinese Taipei	EWG 02 2019A
4	APEC Multi-stakeholder Dialogue on Promoting Renewable and Clean Energy Policies	Viet Nam	EWG 03 2019A
5	Exploring Co-Benefit Opportunities for Renewable Energy and Energy Efficiency Projects in the APEC Region	Thailand	EWG 04 2019A
6	APEC Workshop on University Collaboration to Support Data Gathering and Analysis in Energy Efficiency and Renewable Energy	USA	EWG 06 2019A

D. Completed Project since EWG 57 (2 Projects)

Project Title		Proposed Economy	Project Number
1	APEC Workshop on Public-Private Partnership for Solar Energy Development	Viet Nam	EWG 12 2018A
2	Technological Challenges and Opportunities to Supply Flexibility to Electric Systems	Chile	EWG 15 2018A

(2) EGNRET Projects Report

Thailand introduced the concept note “Facing the Challenges of Integrating Electrical Vehicles and Solar Rooftop PV in Electricity Distribution Systems with Continued Performance of Distribution Transformers” which is seeking for the APEC funding for session 1, 2020. Viet Nam submitted the presentation file to share the project outcome for APEC Workshop on Public – Private Partnership for Solar Energy Development (EWG12 – 2018A/Viet Nam)

7. Economy Update

(1) Renewable Energy Updates

Six (6) APEC member economies, Hong Kong, China, Japan, Malaysia, the Philippines, Chinese Taipei represented by EGNRET Secretariat and Thailand presented the updates on key development in renewable energy policies, programs and the progress of renewable energy development. Each economy has different challenges on promoting renewable energy including cost, lack of infrastructure, etc. In addition, promotion strategies include financial incentives, FiT,

green finance certification, etc.

- A. Hong Kong, China** reported the latest energy end-use data in 2017 and renewable energy development progress. The renewable energy infrastructure including solar PV, waste-to-energy and geothermal energy were introduced. The Feed-in Tariff and renewable energy certificate schemes and public engagement were also briefed.
- B. Japan** introduced the latest statistic data of renewable energy share and capacity in electricity in 2019 and the renewable energy heating/cooling data in 2017. The renewable energy target, main issues for promoting renewable energy and policies for promoting renewable energy were also reported.
- C. Malaysia** briefed renewable energy development including the chronology of renewable energy targets, relevant regulations, projects and schemes. The installed capacity in 2018 and the share of renewable energy, potential, barriers and roadmap for energy transition were also introduced.
- D. The Philippines** briefed the sectoral renewable energy roadmap, the summary of renewable energy service contracts under R.A. 9513, funded projects, recent policies, renewable energy installed capacity, generation and the share of renewable energy. The Philippine Competitive Renewable Energy Zone (CREZ) Project, major activities and promotion schemes including

Renewable Portfolio Standards (RPS) for On-grid, Green Energy Option Program and FiT were also introduced.

E. Chinese Taipei reported the current renewable energy development including the installed capacity and generation in 2018. The latest renewable energy target, key policy measures for renewable energy development projects and main challenges and opportunities for developing renewable energy were also introduced.

F. Thailand introduced energy situation including final energy consumption, energy production in 2018 and the renewable energy promotion strategies. The renewable energy target and Draft Power Development Plan (AEDP) 2018 were also briefed.

(2) Member Economy Presentation: Geothermal Energy

“Geothermal Energy” was the meeting theme for the EGNRET 53rd meeting. Four (4) member economies introduced their targets, plans, related regulations, incentives and projects for developing geothermal energy. The information is summarized as follows.

A. Japan introduced the geothermal energy development in the world, the role of geothermal energy in Japan’s 2030 Energy Outlook, the current development in Japan and the challenges including the risk and public acceptance and R&D for geothermal development. The governmental support scheme, for instance, subsidy, investment loan guarantee and FiT for operation of

power generation facilities were also reported, and the new geothermal power plant and relevant regulations were covered in the presentation.

- B. Malaysia** introduced the geothermal resource in Malaysia and the different challenges for developing geothermal energy.
- C. The Philippines** introduced the geothermal development and the geothermal plants in the Philippines. The added geothermal capacity since enactment of REPUBLIC ACT No. 9513 (RA 9513), the challenges for developing geothermal energy, the current development projects and international cooperation were included in the presentation.
- D. Thailand** introduced the locations of geothermal energy resource, geothermal power plants and the history of geothermal development in Thailand.

(3) Discussion

A. Topic 1: Sharing Session regarding KIREC Experience

EGNRET Chair invited member economies to share their views on attending KIREC. The discussion topics included trading renewables, carbon tax, policy and market design and hydrogen as the fuel in the transportation. EGNRET members suggested the renewable energy trading could be the future meeting theme to discuss the trade among consumers.

B. Topic 2: Discussion on Roadmap for Achieving Renewable Energy Goal

EGNRET Secretariat reported the instructions from EWG 57th meeting regarding the work for renewable energy doubling goal and summarized the invited presentations from REN 21, IRENA and UNESCAP in the EGNRET 53rd meeting as the background information for the discussion.

Members proposed the following suggestions:

- Information and data are the foundations for developing roadmap. EGNRET could cooperate with REN 21 on policy information.
- EGNRET would share experience among members in promoting renewable energy to enhance inter-economy's activities.
- The renewable energy target is to double the share of renewable energy, and it is important to make renewable energy more

competitive, for instance, strong policy support, technology development etc.

8. Upcoming EGNRET Meeting

EGNRET Secretariat reported that the Philippines had accepted EGNRET's invitation to host the next EGNRET meeting and it would be held in spring 2020. The next EWG meeting will be held in Surabaya, Indonesia in March 2020 was also announced. EGNRET Chair proposed that the host economy could suggest a theme in the future EGNRET meetings and the member economies could share their works on the theme.

9. Closing

At the end of the meeting, EGNRET Chair made the closing remarks and thanked member economies and participants for their suggestions and welcomed member economies to continue to explore areas for future collaboration.

(Special gratitudes are due to Republic of Korea representatives from the Korea Energy Agency for their kind assistance and coordination on meeting affairs.)

The EGNRET 53rd meeting presentations are available on EGNRET website at: <https://www.egnret.ewg.apec.org/EGNRET53>

ANNEX 1: LIST OF PARTICIPANTS

No.	Title	Name	Economy	Organization
1	Mr.	Willy Yu	Hong Kong, China	Electrical and Mechanical Services Department
2	Mr.	Takao Ikeda	Japan	The Institute of Energy Economics Japan
3	Mr.	Edisham Bin Mohd Sukor	Malaysia	Sustainable Energy Development Authority (SEDA) Malaysia
4	Ms	Marissa Cerezo	Philippines	Department of Energy
5	Mr.	Kunwoo Ahn	Republic of Korea	Korea Energy Agency(KEA)
6	Ms.	Han Woo Rhee	Republic of Korea	Korea Energy Agency(KEA)
7	Ms.	Sukanya Nanta	Thailand	Department of Alternative Energy Development and Efficiency, Ministry of Energy, Thailand
8	Mrs	Munlika Sompranon	Thailand	Department of Alternative Energy Development and Efficiency, Ministry of Energy, Thailand
9	Ms.	Sutthasini Glawgitigul	Thailand	Department of Alternative Energy Development and Efficiency, Ministry of Energy, Thailand
10	Mr.	Alexey Kabalinskiy	APERC	Asia Pacific Energy Research Centre (APERC)
11	Dr.	Victor Julio Martinez Aranza	APERC	Asia Pacific Energy Research Centre (APERC)
12	Dr.	Tom, H. T. Lee	EGNRET Chair	Industrial Technology Research Institute

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No.	Title	Name	Economy	Organization
13	Dr.	Tarcy Sih-Ting Jhou	EGNRET Secretariat	Industrial Technology Research Institute
14	Mr.	Nicholas Wagner	IRENA	International Renewable Energy Agency (IRENA)
15	Ms.	Rana Adib	REN 21	Renewable Energy Policy Network for the 21st Century (REN 21)
16	Mr.	Michael Williamson	UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific NESPAC