The 63rd APEC Expert Group on Energy Efficiency and Conservation (EGEEC 63)

Meeting Summary

5 to 8 Nov 2024

Tianjin, China

1. Introduction

The 63rd meeting of the APEC Expert Group on Energy Efficiency and Conservation (EGEEC 63) was held in Tianjin, China on 5 to 8 November 2024. The meeting was accompanied by the 8th APEC Energy Efficiency Policy (EEP) workshop on 5th November 2024, and the Tenth Asia-Pacific Energy Sustainable Development Forum on 6th November 2024, and a technical visit on 8 November 2024.

Delegates from eleven (11) APEC member economies (China; Hong Kong, China; Japan; Korea; Malaysia; Papua New Guinea; Russia; Singapore; Chinese Taipei; Thailand; Viet Nam), and representatives from six (6) APEC fora and sub-fora (APEC Secretariat; Asia Pacific Energy Research Center (APERC); APEC Sustainable Energy Center (APSEC); Expert Group on Energy Data and Analysis (EGEDA) ; Expert Group on Energy Efficiency and Conservation (EGEEC); Expert Group on New and Renewable Energy Technologies (EGNRET), and EWG Secretariat attended. Moreover, representatives from three (3) international organisations (Collaborative Labelling and Appliance Standards Program (CLASP), Energy Foundation China (EFC), and Energy Efficiency Hub (EE Hub)(pre-recorded) participated in the meeting as speakers and observers.

2. Meeting of EGEEC63 (7-8 Nov 2024)

The session was chaired by Mr. Meng Liu, Chair of EGEEC.

2.1 Official Welcome

On behalf of the National Energy Administration, Mr. Xiang Li, Director of the Europe and America Department of the International Cooperation Department of the National Energy Administration, delivered an opening speech. Director Li welcomed representatives and experts from various economies to attend the meeting, and expressed gratitude to the China National Institute of Standardization (CNIS) for organizing and arranging the meeting. While sharing the latest progress in China's energy development, he also welcomes and attaches great importance to the active discussions and exchanges in the fields of energy efficiency and energy conservation in

the APEC region, as well as the utilization of clean fossil fuel.

2.2 Opening Address and Adoption of Meeting Agenda

The EGEEC Chair expressed his sincere gratitude to the host, APSEC for providing the meeting venue and organizing the meeting. The meeting agenda was adopted by the participants during the meeting.

2.3 Host Economy Presentation and Introduction of Meeting Theme

Mr. Meng Liu introduced the meeting theme, "**Energy Efficiency and Energy Management: Accelerating the energy transition for a sustainable future**" and shared the experiences and insights sharing from China in accelerating energy transition. To support the dual carbon emission targets, the three pillars of energy transition in China are (1) policies and standards, (2) digital transformation and (3) energy management and system.

2.4 Updates from APEC fora and sub-fora

Six (6) presentations were conducted as follows:

2.4.1 "APEC Secretariat Update" by Mr Takayuki Niikura, Program Director of the APEC Secretariat

The APEC Secretariat shared the updates on EWG-related meetings in 2024, and in EWG 68. The EWG endorsed the 'Just energy transition initiative', new lead shepherd of EWG in the term of 2025-2026 was selected from China. 2025 EWG meetings and host economy, Korea, was introduced. All the implemented projects in 2024 and onward projects from 2025 were introduced in the meeting, he also introduced the EWG fora assessment.

2.4.2 "EWG update" by Ms. Ari BenAissa, EWG Lead Shepherd

Ms. Ari BenAissa shared an update on the EWG. APEC leaders agreed "to pursue and encourage efforts to triple renewable energy capacity globally through existing targets and policies as well as demonstrate similar ambition with respect to other zero and low emissions technologies including abatement and removal technologies in line with domestic circumstances by 2030."

2.4.3 "EGEEC Update" by Mr. Ren Liu, Secretary of EGEEC Secretariat

The EGEEC Secretariat reported the EGEEC engagement in recent EWG

activities and meeting outcomes of the 62nd EGEEC Meeting, the theme of which was “From the supply side to demand side, utilisation of clean energy and energy efficiency in realising energy transition”. The general status of EEC-related APEC projects was reported during the meeting, and he also introduced cross-fora cooperation with CLASP and EFC. This cooperation aims to enhance communication and collaboration between APEC fora and international organizations. By bringing together the expertise and resources of CLASP and EFC, it is expected to facilitate the sharing of best practices and the joint exploration of innovative solutions in relevant fields.

2.4.4 “APERC Update” by Mr. Munehisa YAMASHIRO, Vice President, APERC

The Vice Chair of APERC reported EE related part in the energy overview, and the APEC Energy Overview published in August 2024, in this report give the overview of the progress toward meeting the two APEC energy goals, and give the specific economies energy efficiency data which included in APEC energy overview. He also shared the recent policy cooperative activities, research activities and energy data management and training on data and modelling.

2.4.5 “EGEDA Update” by Mr. Nobuhiro Sawamura, EGEDA Secretariat

The EGEDA Secretariat shared the data collection and processing update, EGEDA training courses and workshops, international cooperation. He reported that the collection of 2022 annual energy supply and demand data has been completed by the secretariat and give the sheets to show the JODi Oil and Gas analysis in APEC region.

He introduced the EGEDA training courses. Energy statistics course was held in Tokyo from 22 Jan. to 2 Feb. 2024. And the 22nd APEC workshop on energy statistics was held from 23 to 26 July 2024, with the theme: Tracking the progress of capacity built from the last workshops.

2.4.6 “EGNRET update” by Dr. Chi-Wen Liao, EGNRET Chair

The EGNRET chair reported the meeting of EGNRET 60, which has 11 participating economies and 7 APEC fora, 2 Non-APEC organizations. The meeting theme is “Policy making and technologies deployment of new and renewable energy to achieve APEC doubling goal”, member of economies shared policies, strategies and plans on the theme.

He also shared report of EGNRET in EWG 67 and EWG 68, and update the project as of October, 2024, there are 8 projects are implementation and 3 projects completed in 2024.

2.4.7 "APSEC Update" by Mr. Steivan Defilla, President Assistant, APSEC

Mr. Defilla presented APSEC work progress updates. He shared the activities on resilient cities, urban energy and policy dialogue hold by APSEC. He gave the summary report on those ongoing APEC project, and some publications in 2024. He reported the 10-year Anniversary Forum of APSEC which was held by APSEC, in Tianjin.

2.5 Invited Presentations

Three (3) invited presentation was conducted as follows:

2.5.1 "NET ZERO HEROES: Scaling Efficient Appliances for Climate Change Mitigation, Adaptation & Resilience" by Dr Lei Zeng, Steven, China Program Lead, Collaborative Labeling and Appliance Standards Program (CLASP)

CLASP shared its report on "Net Zero Heroes" and related research which identified appliances at the core of achieving Net Zero Emissions by 2050 and set the "Net Zero Hero Targets" for emission mitigation.

Appliances are responsible for 39.3% of energy-related CO2 emissions. These emissions are equal to roughly the total CO2 emissions from China, Europe, and Brazil. It is reported that meeting CLASP's Net Zero Heroes targets would avoid 9.2 Gt of CO2 in 2025 relative to BAU, enabling appliances to do their part in meeting IEA's Net Zero goal; reduce exposure to climate risks and improve quality of life through enhanced food security and economic opportunity for over 100 million people; improve health outcomes for nearly 100 million people.

EGEEC Members were encouraged to explore cooperation opportunities with CLASP on improving energy efficiency of appliances and equipment and reduce emissions through knowledge sharing and APEC Project collaboration.

2.5.2 "Demand-Side Response of Residential Air Conditioning Load to Support Energy Saving and Carbon Reduction" by Mr. Zhengtan, EFC

EFC introduced the progress on China's MEPS for cooling sector by conducting case study to RAC, research was done from different perspectives of policy development, stakeholder engagement, cost-effect analysis, and experiences

were shared as well.

The issue of improving refrigeration energy efficiency and energy-saving and carbon reducing technology paths for end use energy products mentioned in the report has attracted the attention of the attending representatives. The meeting held in-depth discussions and believed that the next step should be to carry out in-depth and extensive discussions and research on comprehensive energy and product energy efficiency standard labeling in relevant regions.

EGEEC Members were encouraged to explore cooperation opportunities with EFC on MEPS for cooling efficiency through knowledge sharing and APEC Project collaboration.

2.5.3 "Update of EE hub" by Dr Jonathan Sinton, Head of Secretariat, EE Hub (pre-recorded)

EE Hub shared the latest work of the five Task Groups：Digitalisation Working Group (DWG), Energy Management Action (EMAK), Super-Efficiency Equipment & Appliance Deployment Initiative (SEAD), Top Ten Energy Efficiency Best Available Technologies and Practices (TOP-TENs), and Energy Efficiency in Buildings (EEB).

2.6 Member Economy Presentation

The theme of the joint meeting was "Energy Efficiency and Energy Management: Accelerating the energy transition for a sustainable future". Nine (9) member economies presented and were summarized below:

2.6.1 China

China presented China's climate policy framework for reaching its carbon reduction targets, and measures to achieve the goals. It is reported that wind power and solar PV have become the main body of newly installed capacity in 2022, and non-fossil energy is now nearly 50% of the total installed capacity. The electricity consumption of the new energy vehicle (NEV) manufacturing industry has increased by 71.1% year-on-year. NEA proposed a timetable for the construction of the new-type electric power system, which will accelerate the clean and low-carbon transition. To promote energy transition, China has also revised standards in transformer, motor for renewable energy, updated ESG, energy management standards, and improved green financial standard system.

2.6.2 Hong Kong, China

Hong Kong, China presented its targets to reduce total carbon emission by 50% by 2035 (as compared with 2005) and achieve carbon neutrality by 2050. Hong Kong, China reported the supply and notable development on clean fossil energy. In addition to importation, several landfill sites and biogas production plant in operation to supplement clean energy supply. Energy efficiency initiatives such as Development of the Mandatory Energy Efficiency Labelling Scheme (MEELS) was reported.

2.6.3 Indonesia

2.6.4 Indonesia aims to reduce 93% emissions in the energy sector, by optimizing New and Renewable Energy, and implementing energy efficiency in 2060. Energy efficiency contributing 24% or equal to 31.87 million tonnes of CO2e of the emissions reduction achievement in 2023. The Government promulgated the Government Regulation Number 33/2023 concerning Energy Conservation, which mandates that energy producers and users exceeding specific consumption thresholds must implement energy management practices.Japan

Japan presented the utilization of clean energy and energy efficiency in realizing energy transition in Japan. Japan presented its 2050 carbon-neutral declaration, which aims to reduce its GHG emissions by 46% in 2030 from the level of 2013 and continue efforts to meet the goal of cutting its emissions by 50% in 2030. In the 6th Strategic Energy Plan formulated in 2021, Japan expect energy demand in FY2030 to be 280 million kl-oe with 62 million kl-oe reduction in final energy consumption by thorough energy efficiency, promoting energy efficiency improvement with regulation and supportive measures.

2.6.5 Korea

Korea presented its energy transition goal and strategy, to reduce the absolute level of energy demand by improving energy efficiency, and transforming the fossil energy structure to low-carbon and carbon-free energy sources. Korea introduced the energy efficiency enhancement measures including major measures for energy efficiency by sector, energy efficiency in industry, etc. Opportunities for the energy transition also is being presented as build-up carbon free power system, economical clean hydrogen supply system.

2.6.6 Singapore

Singapore shared about their energy transition strategy where regional power

grids are expected to provide around 30% of Singapore's electricity supply in 2035. One of the milestones for regional power grids is the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP), the first multilateral and multidirectional cross-border power trade among four ASEAN Member States.

2.6.7 Malaysia

Malaysia has instituted a comprehensive regulatory framework to advance energy efficiency (EE) through the Energy Efficiency and Conservation Act (EECA) 2024, which mandates energy audits, energy management systems, and stringent reporting requirements for energy consumers in the industrial and commercial sectors. The Act enforces compliance through the accreditation of energy managers and auditors, ensuring widespread adherence to efficiency best practices. Complementing this, the National Energy Efficiency Action Plan (NEEAP) 2016–2025 drives efficiency improvements across buildings, industries, and appliances through Minimum Energy Performance Standards (MEPS) and targeted financial incentives. Additionally, the Energy Audit Conditional Grant (EACG) provides financial assistance to businesses for conducting audits. These initiatives align with the National Energy Transition Roadmap (NETR), reinforcing Malaysia's commitment to reduce energy consumption, fortifying energy security, and achieving a 45% reduction in carbon intensity by 2030..

2.6.8 Chinese Taipei

Under the framework of 2050 Net-Zero Emission pathway, the Actions Towards Net-Zero Transition is proposed in the end of 2022. The primary objective is to maximize energy efficiency. To attain the target, Chinese Taipei has recently updated the energy efficiency standards for various residential appliances (Ductless Air Conditioners with Interconnection Agreement, Dehumidifiers, air cleaner, LED tube, Downlight and Axial Fan) to phase out inefficient products. Chinese Taipei has been diligently devising and executing energy saving strategies to achieve Net-Zero Emission in 2050. Chinese Taipei is eager to strengthen collaboration with APEC member economies and working together towards net-zero carbon emissions.

2.6.9 Thailand

Thailand introduced the Energy Efficiency Plan 2018 (EEP), which sets a target to reduce energy intensity (EI) by 30% by 2037, using 2010 as the baseline. The

EEP outlines three key measures: (i) Compulsory measures – Enforcement of energy management standards and energy codes. (ii) Voluntary measures – Implementation of equipment standards and labeling, along with energy conservation support. (iii) Public awareness and human resource development – Initiatives to promote energy efficiency knowledge and skills. Additionally, Thailand enacted the Energy Conservation Promotion Act, B.E. 2535 (revised B.E. 2550), which mandates that designated factories and buildings: Appoint a qualified person responsible for energy management; Establish an energy management system; Submit an annual energy management audit and certification report. Thailand mentioned that an effective energy management system can serve as a pathway to sustainability.

3 Project Updates / Concept Notes Presentations

3.1.1 PREE Project Update (Phase 13) by APERC

APERC reported that the project contributes towards achieving the shared APEC energy intensity reduction goal of 45% from 2005 levels by 2035. Follow-up PREE in Chile was held on 6-10 May, 2024 in Santiago. APERC introduced the outcome of Follow-up PREE in Chile which 8 priority fields have been identified, including energy efficiency policy development, institutional and legal framework, data collection and monitoring, industry, building, transport, district energy, and energy systems. APERC shared theprogress and results of 8th EEP workshop, which was held in conjunction with the EGEEC 63 meeting, and with the theme “Integrating International Standards and Policy Instruments for Advancing Energy Management”.

3.2 EGEEC Governance Issues

3.2.1 EGEEC Contact List

EGEEC Secretariat reported that the EGEEC Contact List was updated and circulated to members on 22 April 2024. Members were encouraged to nominate experts from APEC economic members to join the EGEEC and regularly review and update the EGEEC contact list to build capacity and share knowledge in energy efficiency and conservation-related policy.

3.2.2 EGEEC Website

The EGEEC Secretariat reported that the EGEEC website for promoting and

sharing of energy efficiency and conservation information. EGEEC 62 meeting documents and meeting summary were uploaded on the EGEEC website. Members are encouraged to send the EGEEC63 meeting documents to the EGEEC Secretariat for uploading on the EGEEC website. Members are encouraged to share information on the EGEEC website.

3.2.3 Review of EGEEC Terms of Reference

The EGEEC ToR was endorsed on 26 November 2021. The EGEEC ToR has a four-year term starting 1 January 2022 to 31 December 2025. EGEEC Secretariat encouraged members to review and deliberate issues for endorsement by the "consensus" of the member economies.

3.2.4 Term of Reference

The EGEEC ToR was endorsed by SOM on 26 November 2021. The EGEEC ToR has a term of four years starting from 1 January 2022 to 31 December 2025.

Members are urged to review the EGEE&C ToR and deliberate issues for endorsement by the "consensus" of the member economies, and the statues of ToR is submitted to EWG review and will circulate to members.

During the meeting, EGEEC secretary share the document of ToR to members and discussed those sentences and parts of revised.

3.2.5 Upcoming meeting

Hong Kong, China will host the Joint meeting for 4 expert groups in 8 – 11 April 2025. EGEEC Members are encouraged to express their interest in hosting the EGEEC 65 meetings in 2025.

3.2.6 Other Business

To deepen the collaboration with CLASP, it was suggested inviting CLASP to be EGEEC guest member, participating members have no comments after discussion. After meeting, EGEEC will seek endorsement from all members. Subject to endorsement by EGEEC members and acceptance by CLASP and then by APEC senior officials, CLASP would attain a three-year guest status in APEC EGEEC.

3.3 Closing Remarks

Finally, Dr. Meng Liu, Chair of EGEEC, delivered the closing speech of the meeting. After completing all the agenda items, the meeting concluded successfully.