



APEC Sustainable Energy Center

# APSEC UPDATES

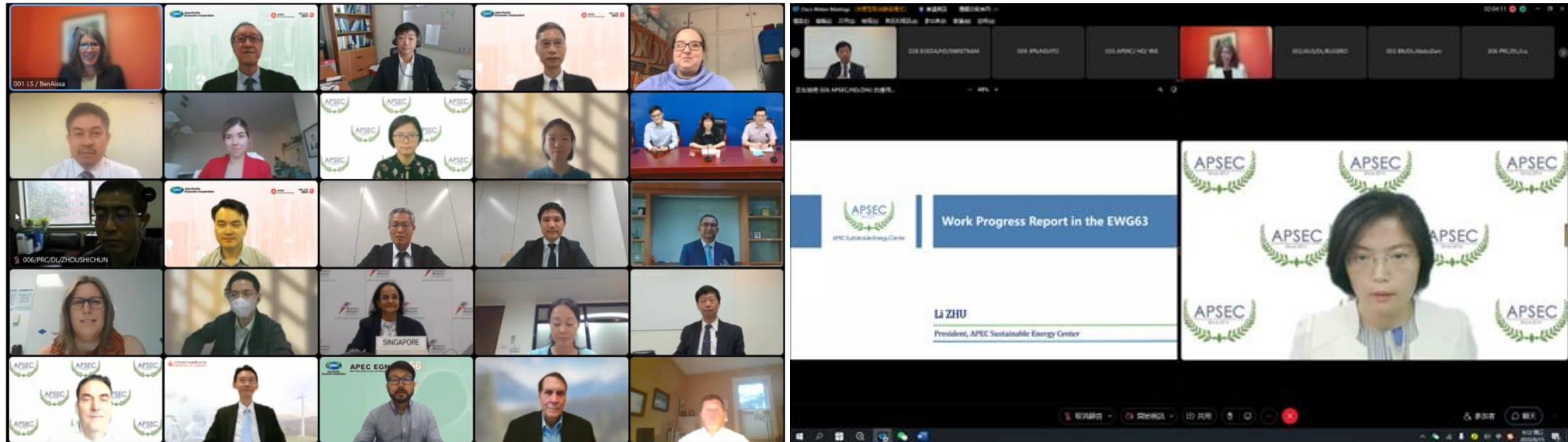
## **Jinlong MA**

Vice President, APEC Sustainable Energy Center  
Professor, Tianjin University

# Outline

- i. **APEC events and activities**
- ii. **APEC projects**
  - SPESS Phase 2
  - Projects within ETS pillar
  - Projects within CNSC pillar
- iii. **Institution building**
  - CNSC network
  - CCT being upgraded to CET pillar
  - Information platform
- iv. **Proposed research program, 2023-25**

## □ Participated in the 63<sup>th</sup> APEC Energy Working Group Meeting



- Attended the 63<sup>th</sup> APEC Energy Working Group (EWG) Meeting, online, 13-16 June 2022;
- Updated relevant activities of the APSEC operation and progress of the APEC projects.



## □ The 8th Asia-Pacific Energy Sustainable Development Forum



Parallel sessions held along the Forum

- 8th **Steering Committee Meeting** & The 7th **Advisory Board Meeting**
- Periodical Meeting on **Network of Chinese Participation in APEC Energy Cooperation**
- Workshop on the **APEC Cooperative Network of Sustainable Cities**
- Sub-form **Energy Transition Solutions**
- Briefing of the 6th APEC **ESCI Best Practices Award**

- Tianjin, hybrid, 21-23 Sept 2022;
- More than **40** experts from APEC Energy Working Group, experts from **13 APEC economies**;
- **International organizations** included World Energy Council (WEC), Global Green Development Alliance (GLOGDA), Asia Development Bank (ADB), Rocky Mountain Institute (RMI);
- Over **200** representatives from domestic enterprises, think-tanks, academic, technical and engineering services institutions.



## □ Workshop the APEC Cooperative Network of Sustainable Cities

- Tianjin, online, 22 Sept 2022;
- The workshop was hosted by the CNSC team of APSEC;
- **Mr VY Ek Chin**, Chair of APEC EGEE&C delivered opening remarks;
- Theme, **“Driving APEC Cities towards Carbon Neutrality – Identifying Urban Energy Sustainability Gaps”**;
- Close to 60 participants; 8 economies;
- Rocky Mountain Institute (RMI).

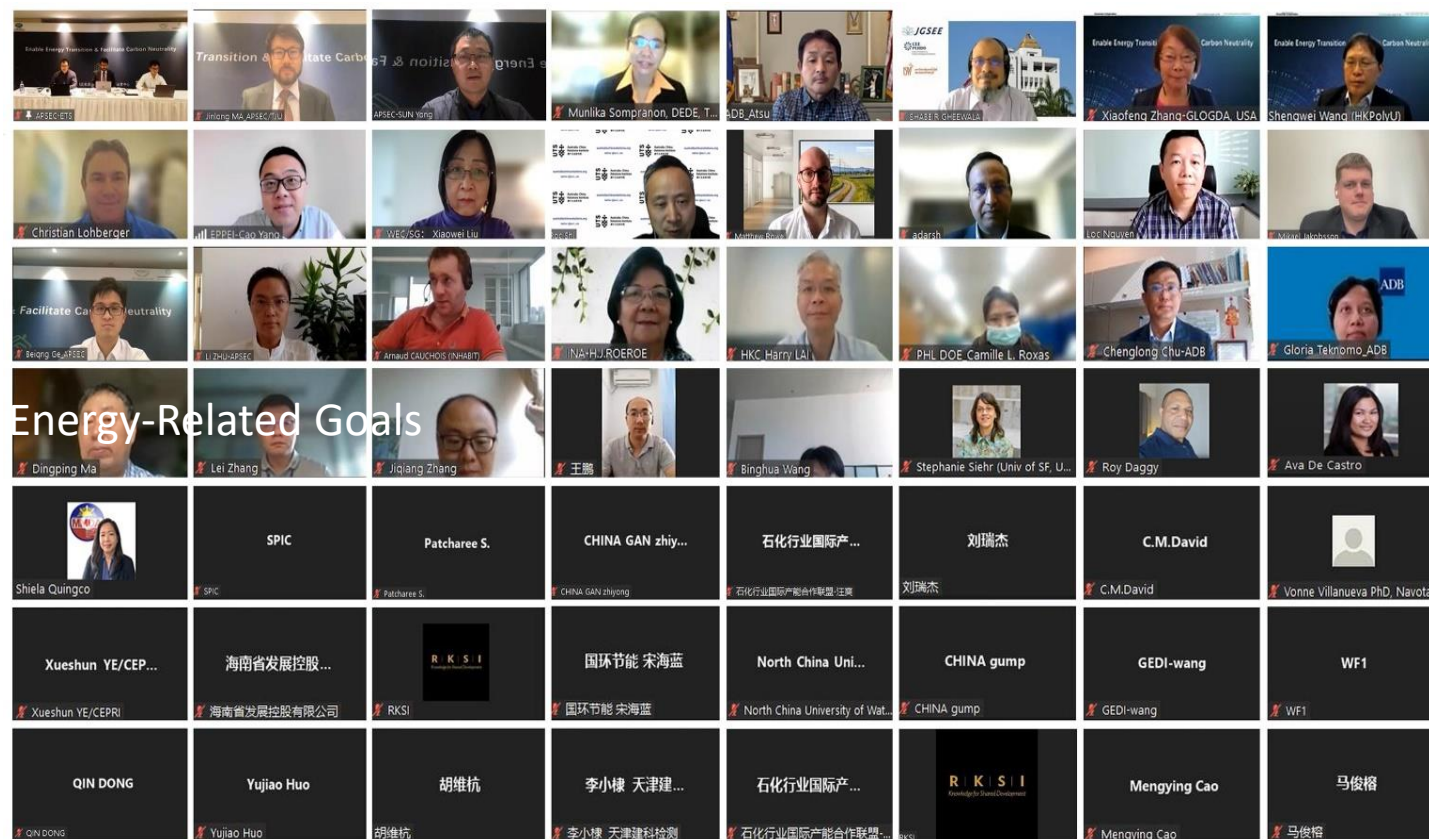


WORKSHOP ON THE APEC COOPERATIVE NETWORK OF SUSTAINABLE CITIES

SEPTEMBER 22, 2022 TIANJIN, CHINA

## □ Sub-forum “Enable Energy Transition and Facilitate Carbon Neutrality”

- Tianjin, online, 23 Sept 2022;
- Organized by the Energy Transition Solutions (ETS) team of APSEC;
- **Ms Munlika Sompranon**, Vice-Chair of APEC ENRET delivered opening remarks;
- Session one: “Enable Energy Transition and Support Renewable Energy Development”;
- Section two: “Achieving Emission Peaking and Carbon Neutrality”;
- Over 80 participants, 11 economies;
- International organizations s World Energy Council (WEC), Asia Development Bank (ADB), Global Green Development Alliance (GLOGDA).



Energy Transition Solutions (ETS) Sub-forum  
**Enable Energy Transition and Facilitate Carbon Neutrality**

September 23, 2022 Tianjin, China

Thoughts sharing for sustainable energy and sustainable city future in APEC region.

- **Participating in the discussion of potential new energy-related goals**
  - current APEC energy goals
  - challenges
  - new energy related goals

The logo for APSEC (Asia-Pacific Sustainable Energy Center) features the acronym 'APSEC' in a bold, blue, sans-serif font. Below it, the text 'Since 2014' is written in a smaller, lighter blue font. The entire text is enclosed within a green laurel wreath that curves around the top and sides.

APEC Sustainable Energy Center

**Second Small Group Meeting  
to Explore Potential New Energy-Related Goals**

**Steivan DEFILLA**

---

President Assistant, APEC Sustainable Energy Center



## □ **EWG 01 2022S: Demonstration and Promotion of Energy Resilience tool based on Solar-Powered Emergency Shelter Solutions (SPESS) for Natural Disaster in APEC**

### **Objective**

It provides information on the potential applications and technologies related to solar powered emergency shelter (SPES) in APEC region.

- **Understanding needs:** geographic climate and resource constraints within the APEC disaster management framework;
- **Selecting related technologies:** overview of research progress in design methods, new materials applications, novel construction and other technologies related to emergency disaster relief shelters;
- **Analysis:** theoretical aspects of the main design principles, design influencing factors and key technology systems related to SPES;
- **Balance of the plant:** relevant exterior energy supply devices.

### **Progress**

- Draft report completed, “Technical Review of Examples of Emergency Shelters in the APEC region”;
- Planned to develop the second technical report.



## Research & activities within CNSC pillar program

### On-going APEC Projects

- Research on means to overcome the shortage of basic urban energy-climate data (EWG 04 2021S)
- Research on means to diminish the financing gap for sustainable urban energy (EWG 09 2021S)
- Data Driven Carbon Neutral Disaster Resilient Cities (APEC EWG 04 2022A)

## ❑ Research on means to overcome the shortage of basic urban energy-climate data (EWG 04 2021S)

- Endorsed: 6 May 2021

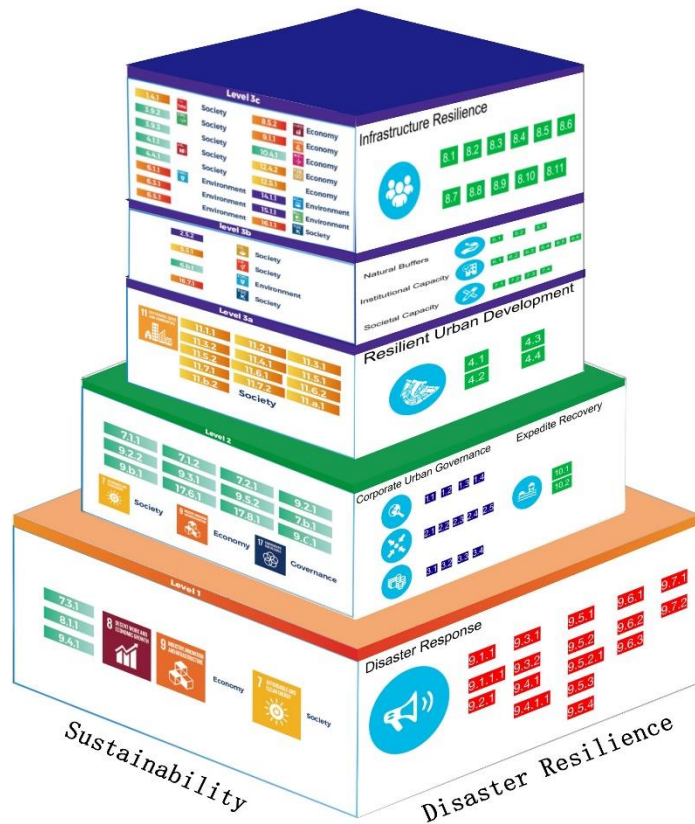
### ■ Project summary

- Aims at exploring the feasibility of constructing an urban Sustainable Development Goals (SDGs) database for APEC cities, provisionally named “**APEC Urban SDG Tracker for Energy and Climate**”;
- The purpose of the database is to contribute to filling the **data shortage** of SDG-relevant urban data as described in the previous project reports EWG 11 2018S and EWG 09 2019S.
- Benefits of addressing simultaneously **local SDG indicators** as well as criteria of the **Disaster Resilience Scorecard for Cities**.

### ■ Project activities

- Discussing the definition of the feasible **input data** sets and the desired output visualization tools with a group of APEC pilot cities and a data user group;
- Programming the **input and output portals** and the data base, receiving feedback from the test runs;
- Discussing ways of how **knowledge transfer and capacity building** can be organized for further development.

## Creation of a database for cities with SDGs and disaster resilience data Three commitment levels, depending on the size of cities or municipalities



→ **Commitment level 3:** Implementing and evaluating local action plan  
**Objective:** In-depth transformation towards integrated sustainable development and disaster resilience. Data requirement aiming at monitoring equilibrated in-depth development in all major urban areas, **for large cities;**

→ **Commitment level 2:** Local 2050 vision, 2030 targets, elaborating integrated holistic local action plan for **middle-sized cities**  
**Objective:** Data requirement aiming at achieving rapid progress, driven by key areas: Energy, Industrial Innovation, IT; urban governance;

→ **Commitment level 1:** Improve sustainable development and disaster resilience and showcase results  
**Objective:** Allowing APEC **communities of any size** to participate in the Cooperative Network of Sustainable Cities CNSC network whereby only basic data is needed,



## □ Research on means to diminish the financing gap for sustainable urban energy (EWG 09 2021S)

- Endorsed : 29 November 2021

### ■ Summary

- Aim at exploring means for APEC cities and local communities to **diminish the gap** for financing local sustainable energy investments and accelerate the move towards carbon neutrality.
- Within the scope of this project, the local sustainable energy investments are understood to be **disaster resilient**.
- The project addresses several ways to diminish the local financing gap, namely how cities and towns can enhance the **mobilization of local green finance, catalyse green finance** with other financing tools and channel it in appropriate ways to **local sustainable energy projects**, and how cities can better accede to economy-wide and global green finance.

### ■ Progress

- Organizing the **Workshop on Sustainable Cities** gathering representatives from APEC cities (including small and medium sized cities) as well as financial institutions;
- Development of the draft project report.

## □ Data driven carbon neutral disaster resilient cities, APEC EWG 04 2022A

- Co-sponsored by AUS, CHL, HKC, INA, JPN, PHL, SGP, THA

### ■ Project summary

- Aim at accelerating the development towards carbon neutrality by increasing the number of APEC cities or municipalities having the **capacity to collect relevant data** and use a **multi-stakeholder dialogue** to become carbon neutral and energy inclusive;
- The **relevant data** has been described in Chapter 4 of the APEC Integrated Urban Planning Report and is being tested and improved in pilot phase in project EWG 04 2021S;
- The project will **train local planning officers** of APEC municipalities to collect the specified data in cooperation with a local university;
- **A multi-stakeholder dialogue** will be used to elaborate 2050/2060 visions and provide reference for setting 2030 targets. The group of key stakeholders will include the energy poor populations of the lowest income quintile.

### ■ Progress

- Setting criteria;
- In the process of selecting the target cities.

## Research & activities within the ETS pillar program

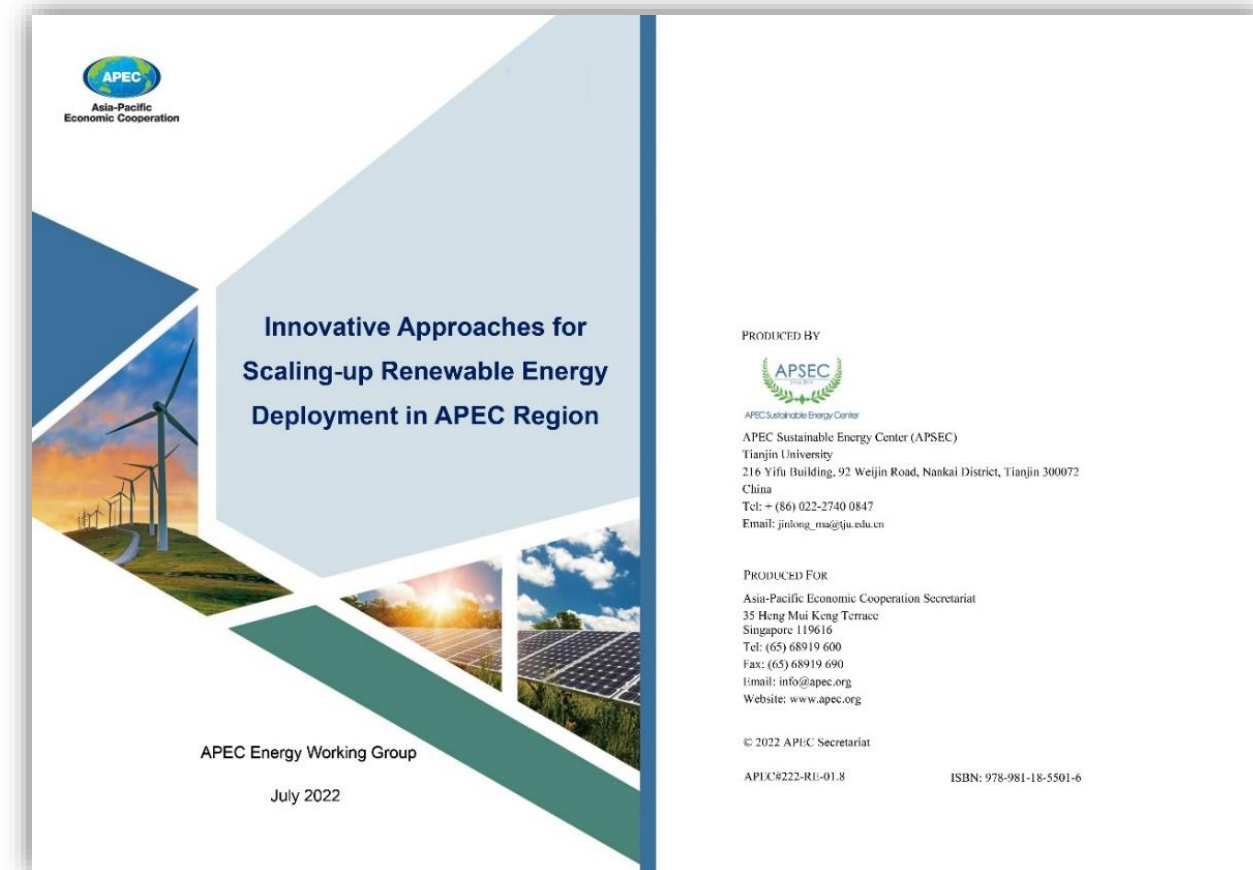
### On-going APEC projects

- Innovative Approaches for Scaling-Up Renewable Energy Deployment in APEC Region (EWG 04 2020S)
- Support Offshore Wind Deployment and Grid Connection in APEC Region (EWG 06 2021A)
- Impacts of COVID-19 on Renewable Energy Development in APEC Economies (EWG 07 2021A)



## □ Innovative Approaches for Scaling-Up Renewable Energy Deployment in APEC Region (EWG 04 2020S)

- Project tasks completed;
- The Project Completion Report submitted;
- The project report published with APEC publication number APEC#222-RE-01.8 and ISBN: 978-981-18-5501-6;
- Report available on the APEC website (<https://www.apec.org/publications/2022/07/innovative-approaches-for-scaling-up-renewable-energy-deployment-in-apec-region>);
- Findings were presented at EWG events, including EGNRET meetings, APSEC forum and others.



## □ Support Offshore Wind Deployment and Grid Connection in APEC Region (EWG 06 2021A)

### Project Information

- **Proposing economy:** China
- **Co-sponsoring economies:** Hong Kong, China; Indonesia; Korea; Singapore; Thailand
- **Expected start/completion date:** 01/12/2021 - 31/12/2022
- Extension applied;
- The main targeted APEC economies for the research: China; Korea; Japan; Chinese Taipei; Viet Nam and the US.

### Project objective

- The project is to review and analyze the experience of OSW power development and synthesize recommendations **to accelerate OSW development in the APEC region.**
- **Review** relevant policies and development plans, and planning mechanisms.
- **Analyze** the challenges, barriers, and opportunities for OSW project investment.
- **Support** OSW grid integration.
- Provide **recommendations** on policies and technical solutions to promoting OSW in the APEC region.

To **build up relevant capacity**, the project is to disseminate the knowledge on innovative approaches, best regulatory and policy framework, and market mechanism for supporting OSW development among the key stakeholders in APEC economies.

# APEC Projects

## Project tasks and expected outputs

- 1. Research work:** information and data gathering, literature review, stakeholder consultation, case study, and synthesis and assessment.
- 2. Project workshop:** The purpose of the Project Workshop is to engage renewable energy experts, government officials and industrial sectors (technology and OSW power equipment suppliers) to discuss the current technology development and industry supply chain, project development and plant operations in the APEC region.
- 3. Project report:** a reference supporting OSW deployment and grid connection in the APEC region.

## Progress

- Project commencing: January 2022;
- TOR: preparation, revision and finalization;
- Bidding process: issuance of RfP, receiving tenders, evaluation and assessment by PO and the APEC Secretariat
- Contracting process: **Ove Arup&Partners Hong Kong Limited (ARUP)**
- Meetings and communications on project execution;
- In the process of research and investigation;
- The first Draft Report expected: October 2022;
- Extension applied for the project completion.



Project inception meeting



## □ Impacts of COVID-19 on Renewable Energy Development in APEC Economies (EWG 07 2021A)

### Project Information

- **Proposing economy:** China
- **Co-sponsoring economies:** Hong Kong, China; Malaysia; Singapore; Thailand
- **Expected start/completion date:** 01/12/2021 - 31/12/2022

### Project objective

- The COVID-19 pandemic has caused significant impacts on the APEC economies. Efforts have been made by different economies to control the spread of the virus, aiming at bringing back social and economic conditions of the societies. Across the region, different economies have formulated programs and stimulus packages for the economic recoveries;
- The project is to gather, analyze, and assess the key issues and **recovery strategies**, the priority and approach **addressing sustainability** and **supporting renewable** energy sector development;
- Relevant experience and knowledge are to be shared **toward sustainable and green economic recoveries, enhancing the resilience of the energy systems, sustaining and accelerating renewable energy development**, and facilitating to achieve the renewable energy doubling goal of the APEC region.

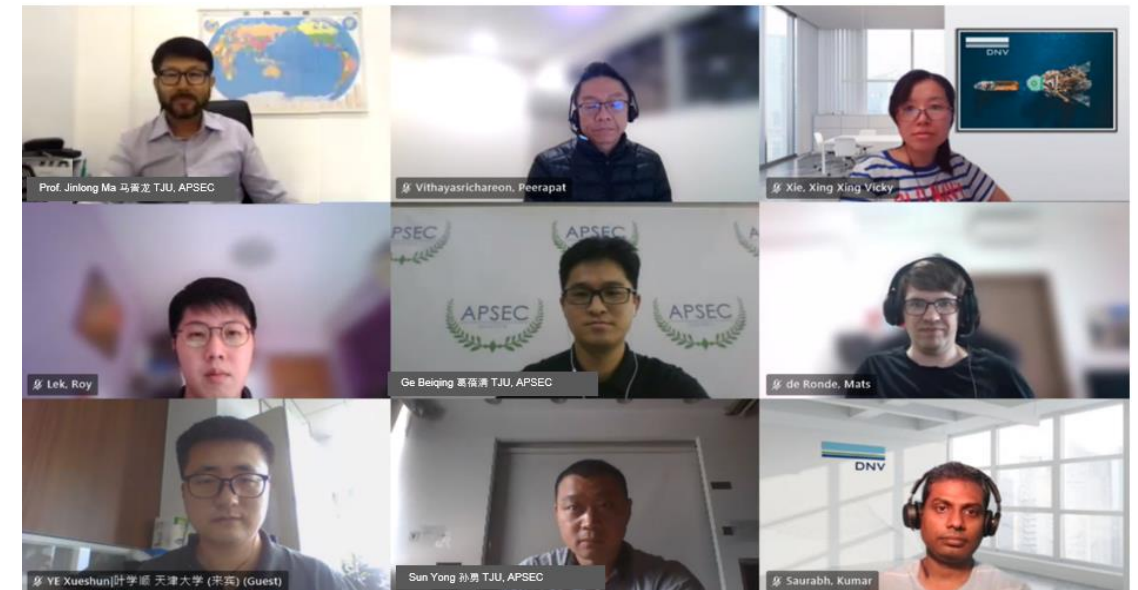
# APEC Projects

## Project tasks and expected outputs

- 1. Research Work:** review, analysis, survey, assessment, investigation
- 2. Project Workshop:** i) exchange information and experiences regarding supporting RE development on the trajectories of economic recoveries; ii) presenting findings of the Research Work and receive comments and feedbacks from the member economies' representatives and participants of the Workshop; iii) capacity building for relevant policy making process and policy implementation.
- 3. The Project Report:** The Project Report will encapsulate the key findings of the Research Work as well as the Workshop, contributing to knowledge dissemination and information sharing.

## Progress

- Project commencing: January 2022;
- TOR: preparation, revision and finalization;
- Bidding process: Issuance of RfP, receiving tenders, evaluation and assessment by PO and the APEC Secretariat;
- Contracting process: **DNV Singapore;**
- Meetings and communications on execution;
- In the process of research and investigation;
- Expected the draft report in November 2022;
- Extension applied for the project completion.



Project inception  
meeting



Kickoff of Impacts of COVID-19 on Renewable Energy  
Development in APEC Economies (EWG 07 2021A)

30 June 2022 Tianjin China

## Online survey

Survey period: 28 Sept – 10 Oct 2022

### Two targeted groups:

- i) For these in the public sector (government institutional, academic and research institution, think-thank);
- ii) For these in the private sector (utility, developer, manufacturer, equipment supplier, financial institutions).

Circulated among the member economies through the **APEC Secretariate** on 28 September.

### Two languages:

a) On Website



Dear Energy Experts

DNV is currently conducting an analytical project for the Asia-Pacific Economic Cooperation (APEC) Secretariat on "Impact of COVID-19 on Renewable Energy Development in APEC Economies". As part of this project, we are conducting a survey to gain a deeper understanding on key concerns, issues recovery strategies, priority and approach to address the sustainability challenges and support the growth of renewable energy, including policy and regulatory framework, as a result of COVID-19 as well as the recent global situation caused by the Russian invasion of Ukraine.

We would like you to participate in this 7-10 minute survey. Your response will contribute to our analysis on the impact of Covid-19 and the recent energy situation, and options to support the development of renewable energy as part of the clean energy transitions

Please click the survey link below. Your answer will be completely anonymous.

[Start survey](#)

Thank you in advance for your contribution.

b) On social media WeChat

### 支持APEC地区绿色复苏问卷调查



天津大学APEC可持续能源中心的APEC基金项目“新型冠状病毒肺炎疫情对APEC经济体可再生能源发展的影响 (Impacts on COVID-19 on Renewable Energy Development in APEC Economies) (EWG 07 2021A)”正在执行过程中。该项目旨在研究新冠肺炎大流行对可再生能源发展的影响，为APEC经济体的绿色可持续复苏提供政策制定和决策参考。

为了深入了解新冠疫情对可再生能源政策制定及行业发展的影响，我们诚挚地邀请您参与一项问卷调查。

问卷时长不超过10分钟。请根据您的工作单位复制其中一个链接到浏览器打开参与问卷。期待您的支持和参加。

1, 政府部门、事业单位及研究机构:

<https://forms.office.com/r/PPkeVu06L1>

2, 制造商、供应商、开发商及投资者:

<https://forms.office.com/r/Tc6sm3mBm4>

注意: 问卷结果将汇总形成报告, 您的个人数据将被严格保护。

更多项目信息请点击以下链接:

<https://aimp2.apec.org/sites/PDB/Lists/Proposals/DispForm.aspx?ID=2907>

如有建议和意见, 请联系项目组!

联系人: 葛蓓清

邮箱: [beckbei@126.com](mailto:beckbei@126.com)



## CNSC Network building-up

- A **Local Vision for CNSC Members** defined, the details Information can be found on APSEC website  
<http://apsec.tju.edu.cn/index.php/En/Xiangmu/article/id/51.html>.
- Ongoing invitations and contact information updates.
- As of September 2022, **APEC Cooperative Network for Low Carbon Energy Efficient Cities** mainly includes **20 cities** from **6 economies**
- **APEC Sustainable City Service Network** includes **58** companies and organizations.

POSITION: Home > Research Work> APEC Cooperation Network of Sustainable Cities (CNSC) > Project Introduction

### Defining a Local Vision for CNSC Members

#### Defining a Local Vision for CNSC Members

Members of the Cooperative Network of Sustainable Cities (CNSC) elaborate Visions for guiding them towards a carbon-free future. They use Multistakeholder Dialogues (MSD) to do so.

Multistakeholder Dialogue (MSD) is a structured dialogue organized in view of elaborating the views of the CNSC Member. The MSD is guided by the Focal Point of the Member and assisted by APSEC or a designated qualified contractor. The stakeholders of the Member include stakeholder groups such as (1) universities & science parks, (2) green and innovative finance, (3) electricity industry, (4) TOD urban transport sector, (5) manufacturing industry, (6) building and real estate industry, (7) agriculture and food industry, (8) energy poor populations of the lowest income quintiles. The MSD makes all efforts to decide by consensus.

Focal Point designates a senior planning officer of the Member who represents the Member with CNSC and in the MSD. In case of persistent impossibility to generate consensus among MSD stakeholders on a specific question, or persistent disagreement among the MSD stakeholders on that question, the Focal Point of the Member decides on that question.

Vision designates a negotiated document of maximum 500 words (approx. one page) length. The Vision should be inspiring, energizing, hopeful, positive, clear, allow for tough decisions, guide decision-making and allocation of resources, and create consistency. The Member is encouraged to translate the elaborated Vision to the local language. APEC cannot bear the cost of translating the Vision to local language. The Vision should state:

- The Member's overarching purpose if it exists and can be described in one sentence.
- The Member's 3 to 5 core values if they exist and can be expressed around keywords arranged in order of decreasing importance. Core values are values to be preserved in the very long run, even beyond mid-century
- The Member's 3 to 5 biggest current sustainability challenges (in order of decreasing importance)

## CCT upgraded to the CET pillar

- **CCT establishment:** APEC Clean Coal Technology Transfer (CCT) Program Joint Operation Center was established on September 20th 2018.
- **CCT mission:** CCT program is committed to promote and disseminate China's clean coal technologies, especially clean and efficient coal-fired power generation technologies, to promote international cooperation and exchange of clean energy technologies between China and other APEC economies.
- **Driving force for transformation and upgrading:** China sets to reach carbon neutrality before 2060 and has seized time to formulate action plan for peaking carbon dioxide emissions before 2030.
- China's National Energy Administration (NEA) agrees transformation and upgrading of CCT Pillar Program to **Future Clean Energy Technology (CET) Pillar Program**.



<http://apsec.tju.edu.cn/>

## APEC Urban SDG Tracker for Energy and Climate

<http://apeccitystats.tju.edu.cn/client/homePage>



**Project Introduction**

The absence of urban data relating to sustainability is a root cause of insufficient urban sustainability. Without relevant data, cities cannot formulate the right policies for becoming more sustainable. This Urban SDG Tracker for Energy and Climate for APEC cities is designed to improve this situation. The participating cities will have the possibility to showcase and monitor their development step by step, including for the elaboration of visions for 2050 and intermediary goals for 2030. In the framework of this project, the term "city" is to be understood as "local community of any size". This opens the possibility for **small and medium size cities** to fully cooperate in this project.

More than any other region of the world, the APEC region is hit by natural disasters. This is the result of the geological Ring of Fire consisting of hundreds of volcanoes and geological faults, combined with the Pacific Ocean as largest water mass of the globe. Climate change is expected to hit this region harder than others. For this reason, it has been decided to include two different kinds of indicators in the data base: A group of sustainability indicators derived from the **Global Indicator Framework after the latest review** and a group of disaster resilience indicators taken from the **UN Disaster Resilience Scorecard for Cities Detailed Assessment**.

**Social media:  
Wechat**



Cloud-based Urban  
Energy Planning  
Tools



Indicator-based and  
Carbon Neutrality  
Oriented Urban  
Energy Database



# APEC Urban Energy Report

Framework of Flagship Report 2023-25

APEC Energy Transition & Sustainable Development

- Analyze the energy structure and carbon emission of APEC cities
- Examine and assess the challenges and obstacles to achieving carbon neutrality in APEC cities
- Review the way for cities to address the climate challenge and low carbon development
- Create urban energy and sustainable development data platform and evaluation index
- Evaluate the progress of urban sustainable development and clean energy transition
- Assess clean energy technology development
- Summarize the applications and deployment patterns of clean energy technologies in APEC cities
- Put forward suggestions on policies and mechanisms to accelerate the utilization of clean energy resources and deployment of clean energy technologies
- Contribute to APEC urban energy transition, sustainable development and carbon neutrality

2023 Report (Measurement & evaluation)

**Driving Cities toward Carbon Neutrality**

2024 Report (Enabling technology)

**Storage to Enable Energy Transition**

2025 Report (Supply technology)

**Clean Heating and Cooling**



# THANK YOU!

Copyright © 2022 APSEC