



APEC Sustainable Energy Center

# APSEC Updates in EGEEC 58

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## ■ Progress

- ◆ **APEC Events**
  - **EGs' Meetings**
- ◆ **APEC Projects**
  - **APEC Projects**
  - **Projects within CNSC Pillar**
- ◆ **Extended Research & Service Activities**

## ■ Attended the EGs' Meetings-EGEEC 57



Invited by Chairs of EGEEC, APSEC participated in the EGs' meetings and made work report.

## ■ Progress

- ◆ APEC Events
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- ◆ **APEC Projects**
  - **APEC Projects**
  - **Projects within CNSC Pillar**
- ◆ Extended Research & Service Activities

## ■ **Research & Activities within CNSC Pillar Program**

### ◆ **On-going Research Task — APEC Self-Funded Project (EWG 04 2021S)**

Research on means to overcome the shortage of basic urban energy-climate data

### ◆ **On-going Research Task — APEC Self-Funded Project (EWG 09 2021S)**

Research on means to diminish the financing gap for sustainable urban energy

### ◆ **Planned Research Task — CN submitted to EWG for scoring in session 1 2022**

Data Driven Carbon Neutral Disaster Resilient Cities

### ◆ **On-going Research Plan 2022**

Sustainable Urban Energy System and Technology System within the “Vision 2050”

## ■ On-going Research Task — EWG 04 2021S

Research on means to overcome the shortage of basic urban energy-climate data

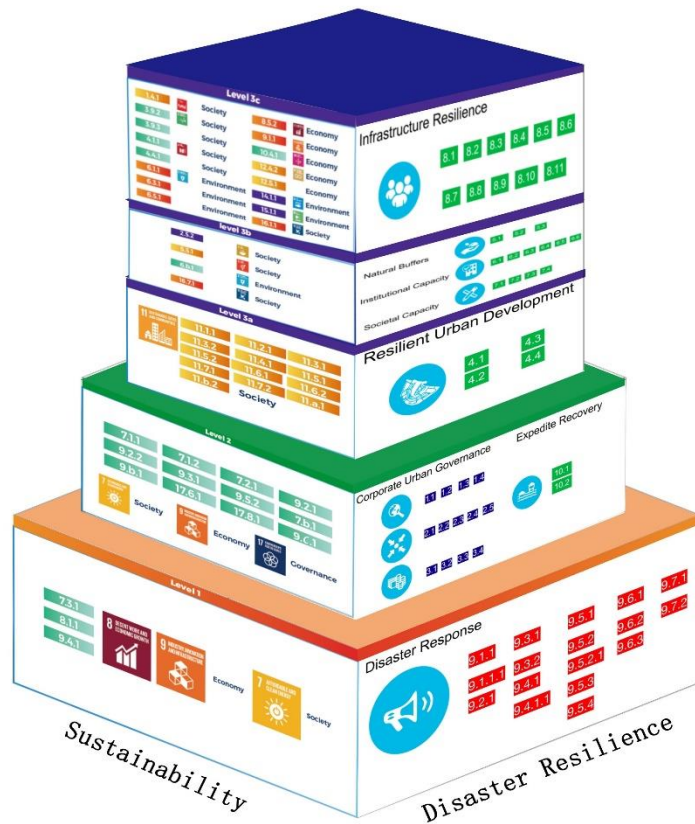
### ■ Endorsed Project Proposal: 6 May 2021

#### ● Project summary

- This self-funded project aims at exploring the feasibility of constructing an urban Sustainable Development Goals (SDGs) data base for APEC cities provisionally called [“APEC Urban SDG Tracker for Energy and Climate”](#) .
- The purpose of this data base is to contribute to filling the data shortage of SDG-relevant urban data as described in project reports EWG 11 2018S and EWG 09 2019S. The latter also explains the benefits of addressing simultaneously local SDG indicators as well as criteria of the Disaster Resilience Scorecard for Cities.
- The planned activities comprise 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 feed-back from the test runs, and discussing ways of how knowledge transfer and capacity building can be organized for further development.

## ■ Description — APEC Self-Funded Project EWG 04 2021S

Research on means to overcome the shortage of basic urban energy-climate data



**Creation of a data base 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

# APEC Urban SDG Database has been programmed and tested



## Project Introduction

The absence of urban data relating to sustainability is as 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**.

The participating cities will collect information on those key areas which are known to drive sustainability, namely **energy, information technology** and **industrial innovation**. This is complemented by the most important indicators showing the degree of **disaster resilience**, namely indicators related to disaster response and early warning, organizing resilience, understanding risks, strengthening financial capacity, and expedite recovery.

- **APEC CNSC Workshop held on 16/09/2021**
- **Co-organized with IRENA**
- **Received feed-back from pilot cities: Hong Kong China, Manila, Manado, Tomohon**
- **Database will be operational at the website**  
<http://apeccitystats.tju.edu.cn>
- **Final report under elaboration**



## ■ On-going Research Task — APEC Self-Funded Project EWG 09 2021S

Research on means to diminish the financing gap for sustainable urban energy

■ Endorsed Project Proposal: 29 November 2021

### ● Project summary

- This self-funded project aims 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, catalyze 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.
- The planned activities comprise organizing the **6th APEC Workshop on Sustainable Cities** gathering representatives from APEC cities (including small and medium sized cities) as well as financial institutions.

## ■ The 6<sup>th</sup> APEC Workshop on Sustainable Cities

On 9<sup>th</sup> December 2021, the 6th APEC Workshop on Sustainable Cities was successfully held in Tianjin. This meeting was hosted by the APEC Sustainable Energy Center, in cooperation with Manado State Polytechnic. The theme of the seminar was "**Green Finance for Sustainable Urban Energy**". The seminar was attended by representatives from 8 economies, as well as experts from International Renewable Energy Agency (IRENA), Asian Infrastructure Investment Bank (AIIB), Asian Development Bank (ADB) and other international organizations.



## ■ Main take aways of the 6<sup>th</sup> APEC Workshop on Sustainable Cities

- ◆ **There is a substantial global financing gap to attain the SDGs.**
- ◆ **Green finance can make a significant contribution to fill this gap.**
- ◆ **Cities have means to raise green finance for their development purposes.**
- ◆ **Urban sustainable energy projects are among the core focus of green finance.**
- ◆ **International financial institutions broaden their facilities to assist cities to finance heavy urban infrastructure projects.**
- ◆ **The workshop summary can be found on: <http://news.tju.edu.cn/info/1012/59359.htm>**
- ◆ **The detailed report on Green Finance for Sustainable Urban Energy is under elaboration.**

## ■ Project Submitted to EWG for scoring in session 1 2022

Data Driven Carbon Neutral Disaster Resilient Cities

### ■ Project Proposal Endorsed by EWG: 22 March 2022

#### ● Project summary

- This project aims 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 present project will first train local planning officers of APEC municipalities to collect the specified data in cooperation with a local University.
  - Thereafter, a multistakeholder dialogue will be used to elaborate 2050/2060 visions and set 2030 targets. The group of key stakeholders will include the energy poor populations of the lowest income quintile.
  - Will be presented in detail tomorrow under the agenda item: Project Updates & Concept Notes Presentation
- ◆ Co-sponsored by AUS, CHL, HKC, INA, JPN, PHL, SGP, THA

## ■ On-going Research Plan 2022

Sustainable Urban Energy System and Technology System within the “Vision 2050”

### ■ Project summary

- APSEC will build upon the results of previous research, explore further ways to deepen the cleanliness of urban energy supply and improve end-use energy efficiency, and explore elements of a new urban integrated energy system featuring low carbon, high efficiency and smartness, and promote the transition of urban energy towards becoming green and digital by 2050.
- APSEC will establish a sustainable urban energy system and technology system within a broader “Vision 2050” . The research will analyse urban heating and cooling, energy conservation in buildings, traffic emission reduction, and environmental control. It will explore the urban energy transition through the improvement of energy efficiency, the large-scale use of new and renewable energy sources, urban energy storage, and the implementation of green supply chains.

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- ◆ APEC Events
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- ◆ **Extended Research & Service Activities**

## ■ Research and demonstration on Key Technologies of comprehensive utilization of wind, solar and geothermal energy based on Artificial Intelligence



This project focuses on the demands of Tianjin's smart city development and urban energy transformation, by using artificial intelligence algorithms to coordinate wind, solar, and geothermal energy to develop an efficient energy supply system that integrates heating, power, and cooling in a smart way. This system aims to establish a new renewable and integrated energy supply model that is cleaner, more stable and high-efficiency, and to promote the development of new energy industry in Tianjin. The developed smart renewable energy supply system will be demonstrated on the park area of the China State Grid Northern Customer Service Centre, and the percentage of renewable energy will be increased from 32% to above 35%.



## Database of Tianjin Public Building Energy Consumption



The construction of building energy information database is the basis for carrying out carbon reduction work in the building sector.

In Tianjin, we have carried out the general survey of basic information and energy consumption information of more than 7,000 public buildings; 12 buildings and more than 300,000 square meters of public buildings were selected and itemized metering instruments were installed, involving schools, hotels, subway stations, etc., which laid a good foundation for follow-up research work on energy efficiency and energy conservation in building area.

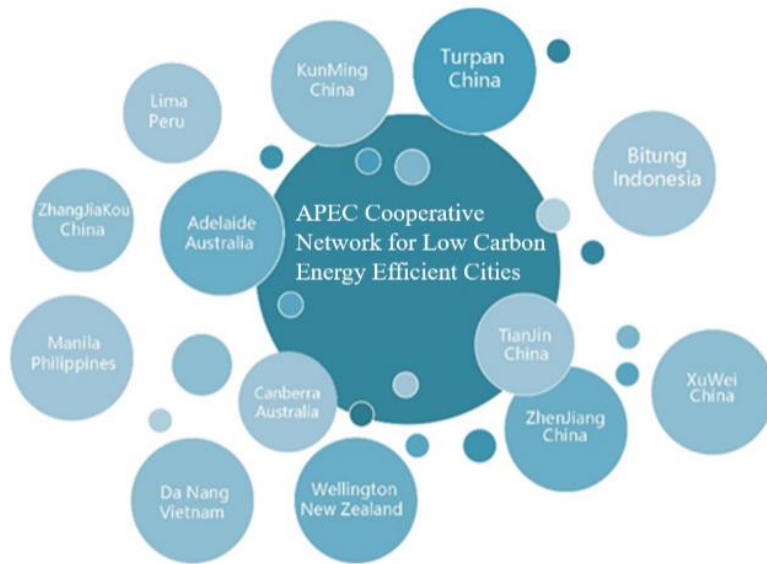


## ■ CNSC Network Expanding

As of May 2021, APEC Cooperative Network for Low Carbon Energy Efficient Cities mainly includes 12 cities from 6 economies. APEC Sustainable City Service Network mainly includes 58 companies and organizations.

We are also in the process of ongoing invitations and contact information updates.

### City Network



### Service Network



# THANK YOU!

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