Progress Report of Low-Carbon Model Town (LCMT) Project

October 25, 2017

Agency for Natural Resources and Energy
METI, Japan
APEC Low-Carbon Model Town (LCMT) Project

LCMT Project was initiated in 2011 in response to Declaration at the 9th APEC Energy Ministers Meeting held in Fukui, Japan in 2010.

Background of the LCMT Project:

- Rapid urbanization and increase in energy consumption in the APEC Region
- Necessity of low-carbon measures in city planning to boost energy efficiency and fossil energy use
Key Activities of LCMT Project (Phase 1-6)

1. Development and refinement of the “Concept of the Low-Carbon Town in the APEC Region (Concept)”
   - The Concept shows a basic idea/principle of a low-carbon town and provide guidance.
   - The APEC Low-Carbon Town Indicator (LCT-I) System has been developed based on the Concept.

2. Feasibility Study for a Case Town

3. Policy Review for a Case Town
Development of LCT-I System

**Concept**

**Cities Surveyed in Phase 1-6**
- Da Nang, **Viet Nam**; Surabaya, **Indonesia**; Cebu, **The Philippines**; Putrajaya, **Malaysia**; and Tianjin, **China**
- Samui Island, **Thailand**; Penghu Island, **Chinese Taipei**; and Da Nang, **Viet Nam**
- Portland, **The US** and San Borja, **Peru**
- Vancouver, Calgary, and Toronto in **Canada**; and Philadelphia, **The US**
- Adelaide and Melbourne in **Australia**; Auckland and Palmerston North in **New Zealand**; and Santiago, **Chile**
- Yongin and Jincheon in **Korea**; Krasnoyarsk, **Russia**; and Yokohama and Kashiwa in **Japan**

**Feasibility Study**

**Case Towns in Phase 1-6**
- Yujiapu, Tianjin, **China**
  - Greenfield development of central business districts (CBD) of a large city
- Samui Island, **Thailand**
  - Development on an island resort
- Da Nang, **Viet Nam**
  - Redevelopment of an existing city
- San Borja, Lima, **Peru**
  - Residential area in a city
- Bitung, **Indonesia**
  - Industrial area in a city
- Mandaue, **The Philippines**
  - Low-carbon development plans in cooperation with neighbouring cities
- Portland, **The US** and San Borja, **Peru**
- Vancouver, Calgary, and Toronto in **Canada**; and Philadelphia, **The US**
- Adelaide and Melbourne in **Australia**; Auckland and Palmerston North in **New Zealand**; and Santiago, **Chile**
- Yongin and Jincheon in **Korea**; Krasnoyarsk, **Russia**; and Yokohama and Kashiwa in **Japan**
Case Towns of Feasibility Study and Policy Review

Phase 1
Tianjin
China
Central Business District (CBD)

Phase 2
Samui
Thailand
Island resort area

Phase 3
Da Nang
Viet Nam
Redeveloping mixed-use urban district

Phase 4
San Borja
Peru
Residential areas

Phase 5
Bitung
Indonesia
Industrial area

Phase 6
Mandaue
Philippine
Cooperation with neighboring cities

Phase 7
Krasnoyarsk
Russia
Inland region with high demand for heating and cooling
The Concept and the LCT-Indicator System

The Concept of the Low-Carbon Town in the APEC Region (Sixth Edition)

APEC Low-Carbon Town Indicator System Guideline (First Edition)
http://publications.apec.org/publication-detail.php?pub_id=1797
## Assessment Framework of LCT-I System

<table>
<thead>
<tr>
<th>Tier 1</th>
<th>Tier 2 (No. of Tier 3 indicators)</th>
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</table>
| **Demand** | 1. Town Structure (3)  
2. Buildings (4)  
3. Transportation (6) |
| **Supply** | 4. Area Energy System (1)  
5. Untapped Energy (1)  
6. Renewable Energy (1)  
7. Multi Energy System (1) |
| **Demand & Supply** | 8. Energy Management System (3) |
| **Indirectly Related** | **Environment & Resources** |
| | 9. Greenery (2)  
10. Water Management (3)  
11. Waste Management (2)  
12. Pollution (3) |
| **Indirectly Related** | **Governance** |
| | 13. Policy Framework (4)  
14. Education & Management (2) |
APEC Low Carbon Town-Indicator system

Image of assessment result

Overall Assessment Result

Overall Rank

⭐⭐⭐⭐⭐

Total Point average of (1) to (15) 2.5

CO2 Reduction 470 t-CO2/year

Radar Chart

Demand Side

Supply Side

Governance

Environment & Resource

Demand & Supply Side

Individual Assessment (more than 30 items)

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Transition of LCMT Project

Phase 1 – Phase 6 (2011-2016)
- Refinement of the “Concept” (including the LCT-I System)
- Feasibility Study (full scale) of the Case Town
- Policy Review of the Case Town

Phase 7 (July 2016 - December 2017)
- Feasibility Study (full scale) of Krasnoyarsk city
- Policy Review of Krasnoyarsk City
- Volunteer Towns Nomination/Selection
- LCMT Symposium (Sep. 2017)

- Feasibility Study (specific area) of 3 Volunteer Towns
- Volunteer Towns Nomination/Selection
- 2nd LCMT Symposium

Dissemination Phase 2 (The Concept Note to be submitted for APEC fund)
- Feasibility Study (specific area) of Volunteer Towns
- Volunteer Towns Nomination/Selection
- 3rd LCMT Symposium
Transition of LCMT Project

**Krasnoyarsk city**  
FS Consultant: Nikken Sekkei Research Institute

**Phase 7 (July 2016 - December 2017)**
- Feasibility Study (full scale) of Krasnoyarsk city
- Policy Review of Krasnoyarsk City
- Volunteer Towns Nomination/Selection
- LCMT Symposium (Sep. 2017)

**Banda Aceh City, Indonesia**  
**Hang Tuah Jaya, Malaysia**  
**Shah Alam City, Malaysia**

FS Consultant will be selected through open tendering process

- Feasibility Study (specific area) of 3 Volunteer Towns
- Volunteer Towns Nomination/Selection
- 2nd LCMT Symposium

Call for nomination - Next Volunteer Towns
Key Objectives of Dissemination Phase

• To disseminate the basic ideas and effective approaches of the Concept through utilizing the LCT-I System, which helps evaluate the progress and status of low-carbon development of various area in the APEC region;

• To provide Feasibility Studies of a specified area of low-carbon development projects selected as the LCT-I volunteer towns in the LCMT Project and identify how to improve the low-carbon development plans through the Feasibility Studies; and

• To share best practices and real-world experiences of low-carbon town design with planners and policy makers throughout the APEC region.
1st APEC Low-Carbon Model Town Symposium
14-15 September 2017, Jakarta, Indonesia
Thank you for your kind attention!
(A-ri-ga-to-u-go-za-i-ma-si-ta!)