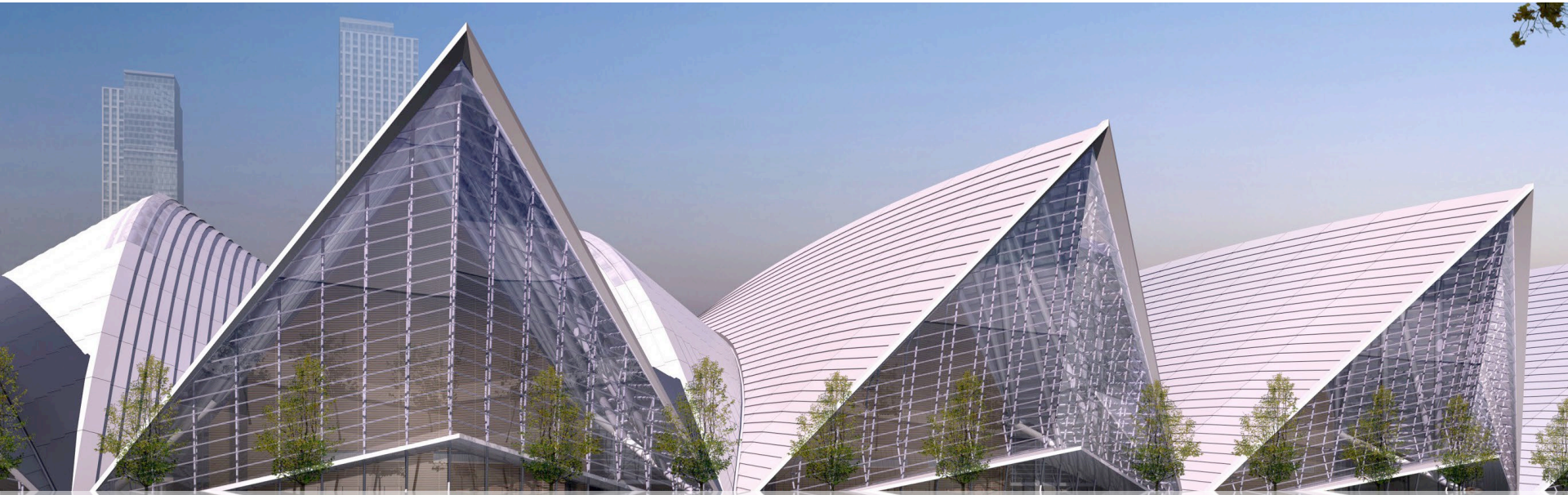


North-East Asia Low Carbon City Platform (LCCP)

Kwangik Wang, KRIHS

Contents

1. Korea's Low Carbon Green Growth Policy : National Level

Chronological List

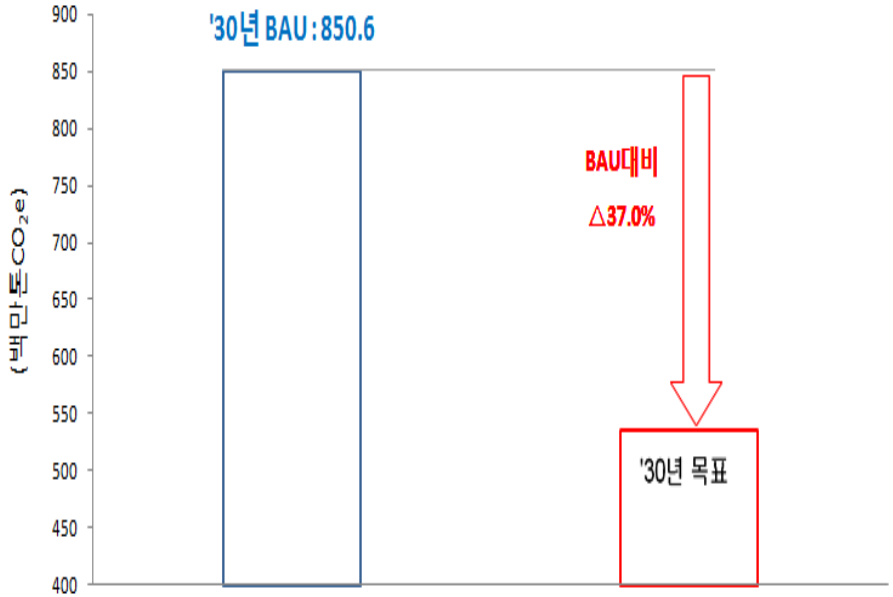
- 2008. 08. 15: Suggest 'Low Carbon Green Growth' as a national vision
- 2009. 02. 16: Establishing Green Growth Committee as a presidential advisory body
- 2009. 07. 06: Establishing 1st Green Growth National Five-Year Strategies (2009~2013)
- 2009. 08. 24: Legislating Urban Planning Guideline to establish low carbon green city
- 2009. 11. 17: Establishing National Greenhouse Gas Reduction Target in 2020 (30% reduction compare to BAU)
- 2010. 01. 13: Legislating Low Carbon Green Growth Law
- 2010. 04. 14: Implementing Low Carbon Green Growth Law
- 2014. 06. 03: Establishing 2nd Green Growth National Five-Year Strategies (2014~2018)
- 2015. 06. 30: Establishing national greenhouse gas reduction target in 2030 (37% reduction compare to BAU)

1. Korea's Low Carbon Green Growth Policy : National Level

Targets for reduction greenhouse gas of Korea

- Targets to 2020: Suggesting the mid-term goal in 2009 to reduce 30% of greenhouse gas compared to the estimated emission, Business As Usual (BAU)

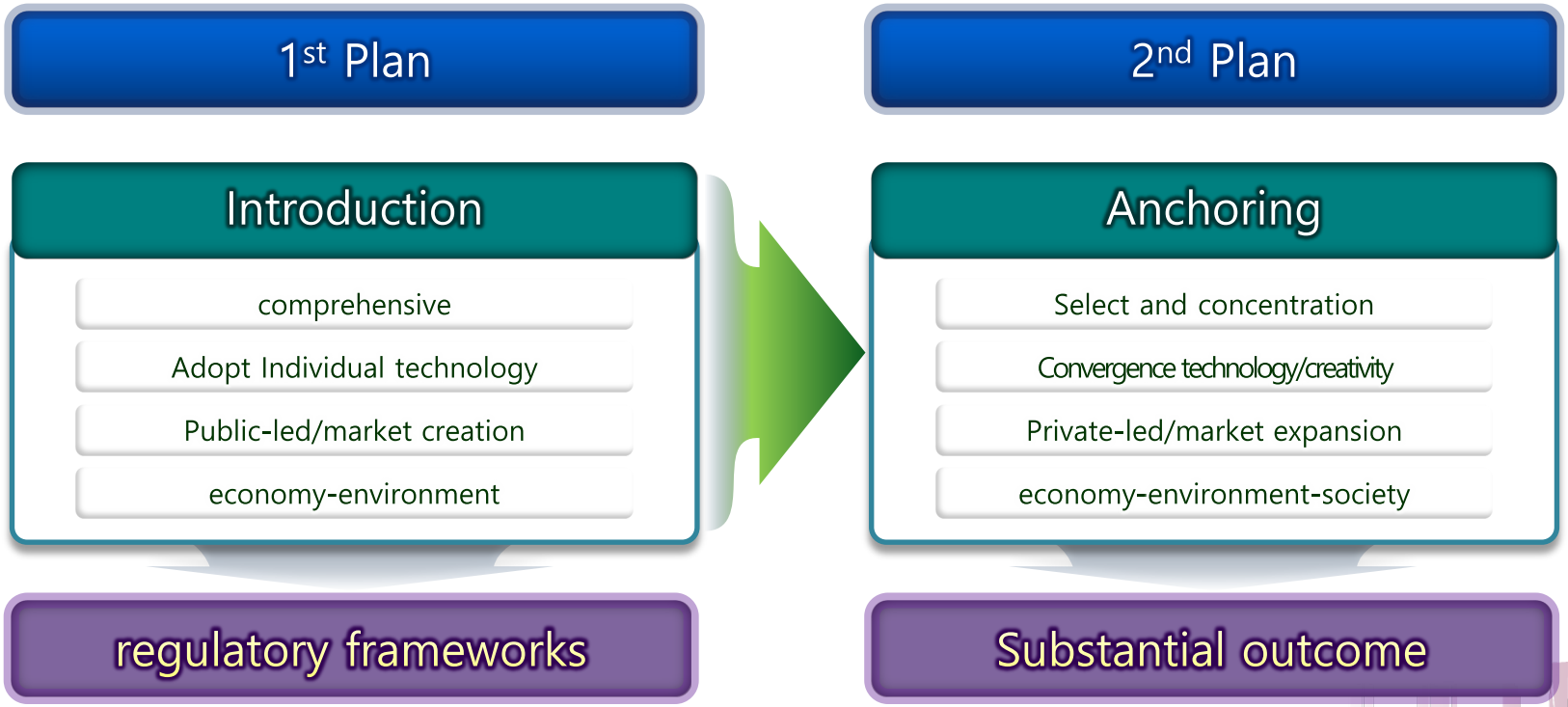
- Targets to 2030: Suggesting the regulation upward in June 2015, that reducing the 37% of greenhouse emission compared to the estimated BAU



1. Korea's Low Carbon Green Growth Policy : National Level

Five Year Plan for Green Growth

- July 2009 : prepared「National Strategy for Green Growth」& 「1st 5 year Green Growth Plan('09~'13)」
- June 2014 : termination of 1st Plan & launching of 「2nd 5 year Green Growth Plan ('14~'18)」



1. Korea's Low Carbon Green Growth Policy : National Level

Five Year Plan for Green Growth(2nd)

Vision

Realize national happiness through balanced development of economy and environment

Objectives

- Anchor Low-carbon Socio-economy
- Achieve Creative economy through convergence of green technologies & ICT
- Build pleasant and safe lifestyle base

Directions

- Effective reduction of Greenhouse gas
- Sustainable energy system
- Green creative industry
- Sustainable green society
- Global green cooperation

Focus Areas

- Systematic Implementation of greenhouse gas reduction roadmaps
- Settle tradable permit system vitalize carbon market
- Set long-term national goals
- Expand carbon absorption

- Fortify energy demand management
- Expand renewable energy provision
- Build dispersal development system
- Secure safety for energy facilities

- Develop high-end convergence green tech
- Foster green creative industries
- Settle economic Structure for resource recovery
- Rationalize regulation & train human resources

- Capacity building for climate change resiliency
- Expansion of eco-friendly living environment
- Build green national spaces
- Expand welfare & governance

- Effective response to climate negotiation
- Expand regional & international cooperation
- South to south cooperation
- Support collaboration with GGGI/GCF

1. Korea's Low Carbon Green Growth Policy : Local Government Level

Commitment of Seoul to respond the climate change

Vision	Realizing the resilient Low-carbon City
Objectives	Reducing the 4,500 thousand TOE energy consumption and 15 million ton of greenhouse gas by saving the energy
	Supply the 10% of new renewable energy in total energy consumption
	Maintaining the ultrafine dust(PM2.5) concentration to 15μg/㎥
	Establishing the safe and attractive public transportation infrastructures for comprehensive management
	Increasing the living waste recycling rate to 75%
	Increasing the recycling rainwater amount to 1 million ton
	Expanding the green spaces more than 30% compared to 2015
	Expanding the urban agricultural space 10 times compared to 2012
	Reducing the premature death rate to 40% compared to 2013
	Reducing the areas prone to floods .

1. Korea's Low Carbon Green Growth Policy : Local Government Level

One Less Nuclear Power Plant - Seoul Metropolitan Gov.

- Concept :

The flagship energy policy launched by Seoul to respond to climate change and energy crisis. The main target of this policy is to cut energy consumption by 2 million TOE, which is equivalent to the capacity of one nuclear power plant, mainly by directly engaging citizens in energy-saving and renewable energy generation.

Renewable Energy

Solar, wind and waste

Making

Energy Efficiency

Building Efficiency Project
LED lighting Project

Increasing

Energy Saving

Eco-mileage member
1,400 thousand
Energy Saving Campaign

Reducing

1. Korea's Low Carbon Green Growth Policy : Local Government Level

Seoul Sustainable Energy Action Plan (One Less Nuclear Power Plant Phase 2)

- Concept :

The flagship energy policy put in place by the Seoul Metropolitan Gov. This action plan is to produce clean energy, saving energy and improve energy efficiency with citizen.

Energy Independency

- Preparing to be Energy self-sufficient city
- Producing safe and sustainable renewable energy
- Enhancing energy industry and job industry

Energy Share

- Sharing the energy resource with vulnerable social group and future generation
- Improving the energy production and consumption with other regions by cooperating together

Energy Engagement

- Establishing energy governance for energy policy and implementation
- Establishing systems for enhancing volunteer engagement and opening policy

1. Korea's Low Carbon Green Growth Policy : Local Government Level

Seoul Sustainable Energy Action Plan (One Less Nuclear Power Plant Phase 2)

Solar generation city by citizen

Renewable Energy, Distributed power 12% →20%

Opening Building Energy Consumption and Introducing Saving Model

Changing Street lighting to LED (100%)

Driving Mileage
(1,410 thousand cars by `18)

Establishing Energy governance for citizen engagement

Improving Energy Efficiency Project for sharing

Reusing the energy in village units and creating job for seniors

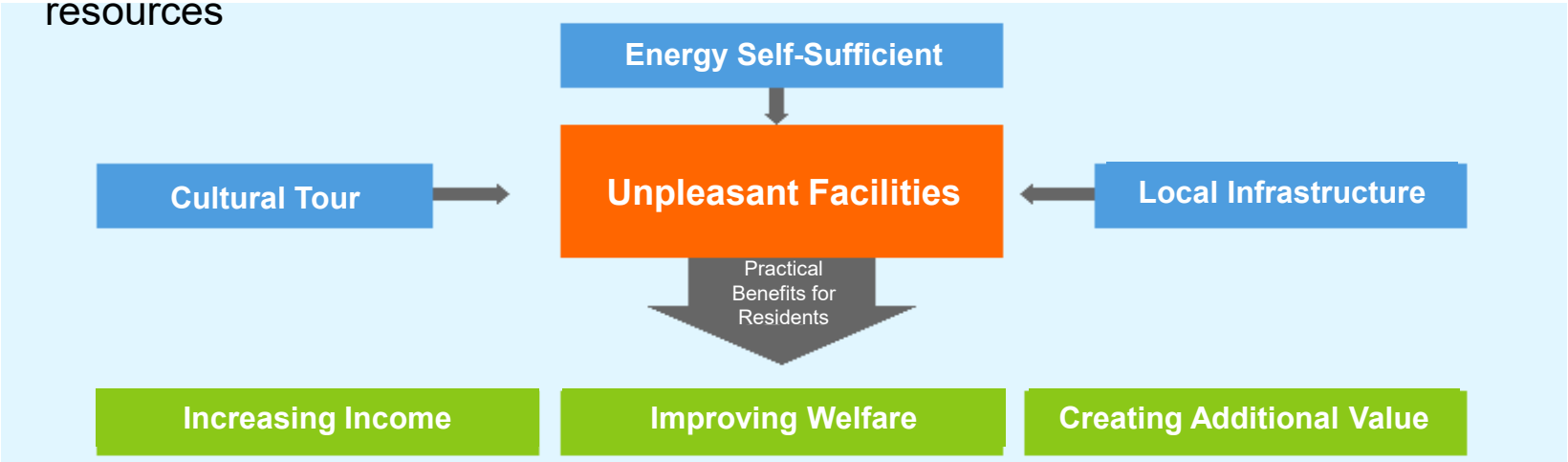
Energy New Industries

25 Energy Hub Centers Creating new jobs in service

2. National Pilot Project: Eco-friendly Energy Town

Concept

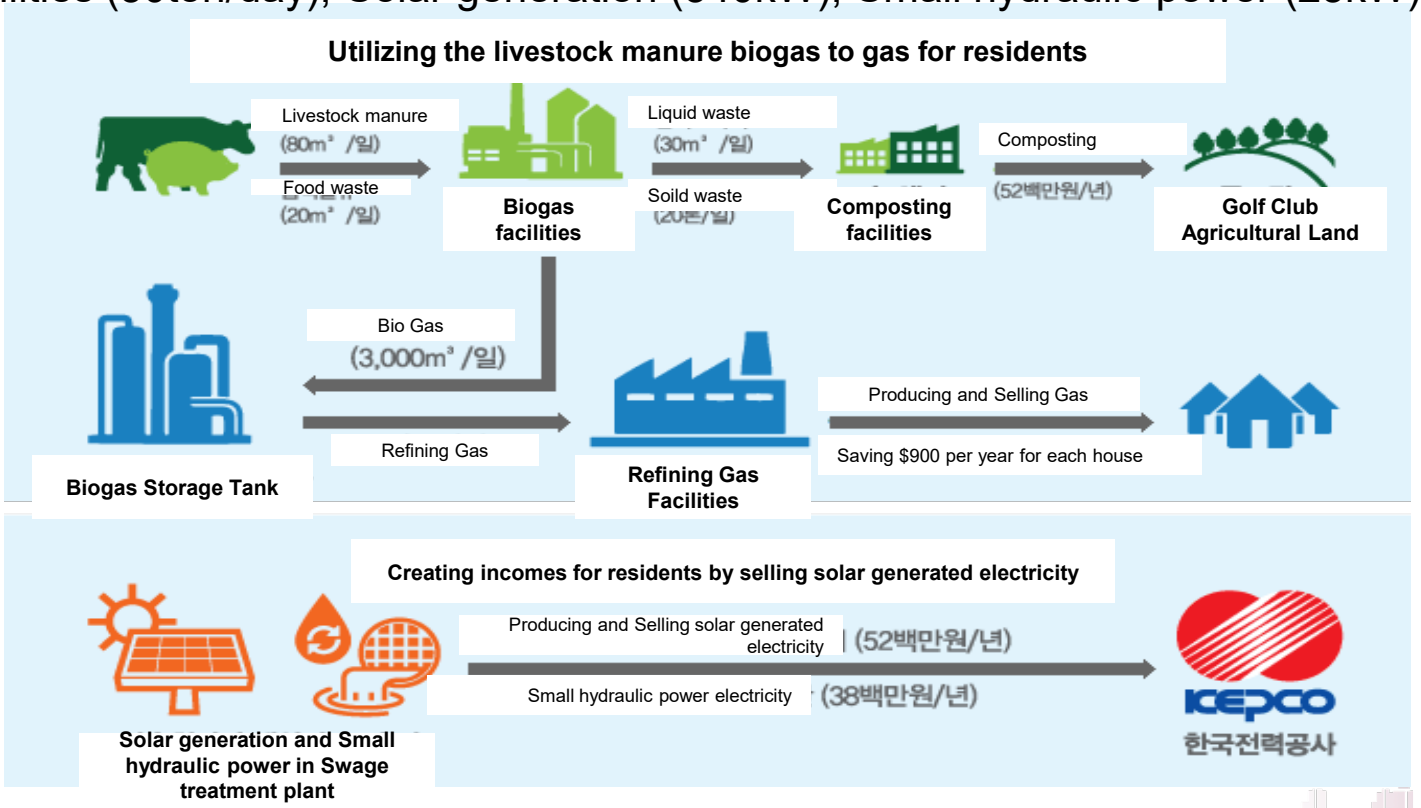
- Gov. project designed to return profits to the residents by combining the production of new and renewable energy such as waste energy and solar photovoltaic energy
- Improving the welfare and income of local residents by using waste resources such as food waste, and livestock manure and biomass to produce energy
- Energy self-sufficient: Securing independency generated from landfills or incineration facilities and new renewable energy facilities
  - Designing sustainable operating model for residents
- Culture tour connection: When installing unpleasant facilities, cultural tour connection need to be considered to provide residents incomes from tour sites, cultural heritage resources



2. National Pilot Project: Eco-friendly Energy Town

Project Site : Hongcheon, Gangwondo

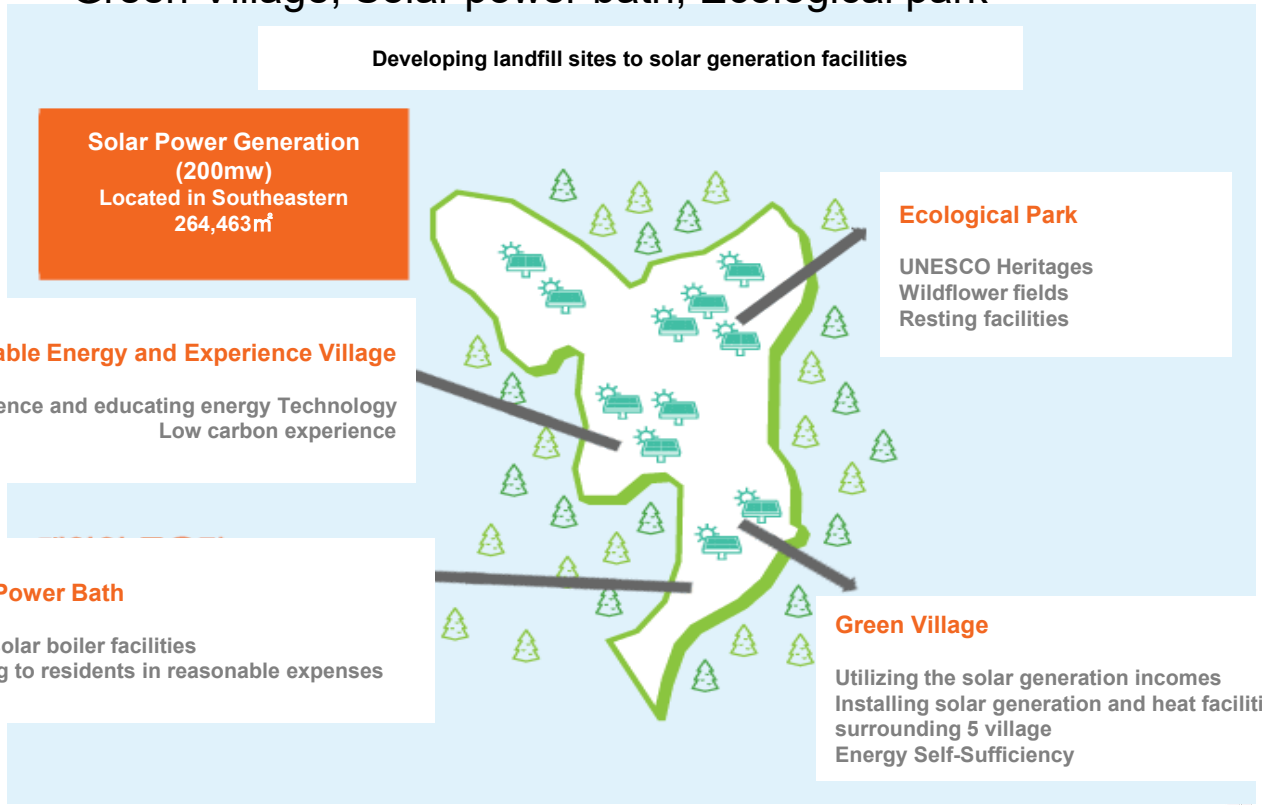
- Location : Somaegokri, Bukbang-myeon, Hongcheon-gun, Gangwondo (57 houses, 127 residnets)
- Facilities : Livestock manure and biomass facilities (100ton/day), Composting facilities (50ton/day), Solar generation (340kW), Small hydraulic power (25kW)



2. National Pilot Project: Eco-friendly Energy Town

Project Site : Gwangju Metropolitan City

- Location : 104 Unjeongdong, Bukgu, Gwangju Metropolitan City
  (460 houses, 1,095 residents)
- Facilities : Solar power generation (20MW), New renewable energy experience village, Green Village, Solar power bath, Ecological park

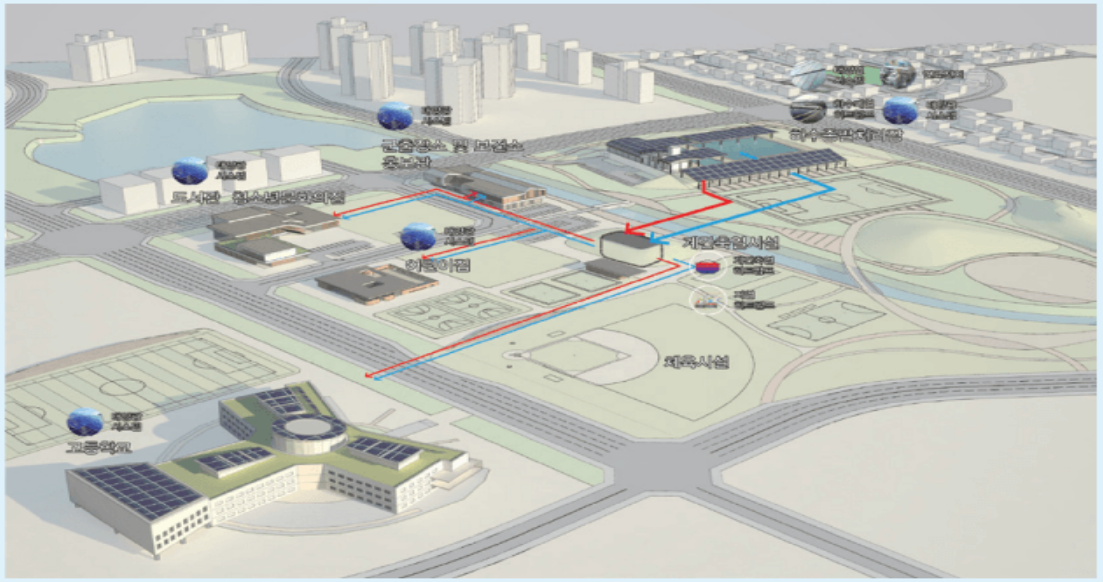


2. National Pilot Project: Eco-friendly Energy Town

Project Site : Jincheon-gun, Chungcheongbukdo

- Location : Seockjangri, Ducksan-myeon, Jincheon-gun, Chungcheongbukdo
  (swage treatment plant and industrial complex facilities district)
- Facilities : Solar Energy (2,000m²), Solar Power Energy (950kW), Heat pump from swage and ground (100RT), Fuel cell (10kW), Seasonal thermal storage system(5,000m²)

Establishing Energy Self-Sufficient Community using combined eco-friendly energy



[태양에너지, 지열, 하수배열, 수소에너지 등의 복합적 이용기술과 계간축열기술로 단위 지역의 열 및 전기 에너지 100% 자급 실현]

3. Ministry of Land, Infrastructure and Transportation R&D Trends

Developing Low Carbon Urban Planning System

- Goal :
  Establishing flexible and reasonable low carbon urban planning system

- Main Research Contents:
  - Developing technologies to establish low carbon urban planning and design
  - Developing technologies to manage low carbon urban planning project
  - Developing technologies to simulate low carbon urban spatial land use
  - Establishing comprehensive low carbon urban planning system
  - Establishing comprehensive system to support low carbon urban planning

3. Ministry of Land, Infrastructure and Transportation R&D Trends

Developing Green Technology 'Urban Heat Environmental Design System to Adapt Climate Change'

- Goal :
  - Monitoring heat generation and energy reduce in urban spaces and infrastructures based on the climate change scenario
  - Systematic technologies to plan and design from heat environment in spatial types based on the simulations

- Main Research Contents:
  - Developing urban heat generation and monitoring technologies
  - Developing heat Island mitigation design technologies
  - Suggesting amended urban guidelines for mitigating climate change adaptation and heat island

3. Ministry of Land, Infrastructure and Transportation R&D Trends

Developing Building Energy Comprehensive Support System for Low Energy Building Distribution

- Goal :
  - Establishing low energy building market by developing building energy comprehensive support system for distribution low energy buildings (residential and business buildings)

- Main Research Contents:
  - Establishing national building energy comprehensive support system (green together)
  - Developing DM/DBMS and energy performance evaluation standard model
  - Building energy efficiency portfolio support system
  - DB for building detailed energy consumption standard units
  - Program for comparing building energy

3. Ministry of Land, Infrastructure and Transportation R&D Trends

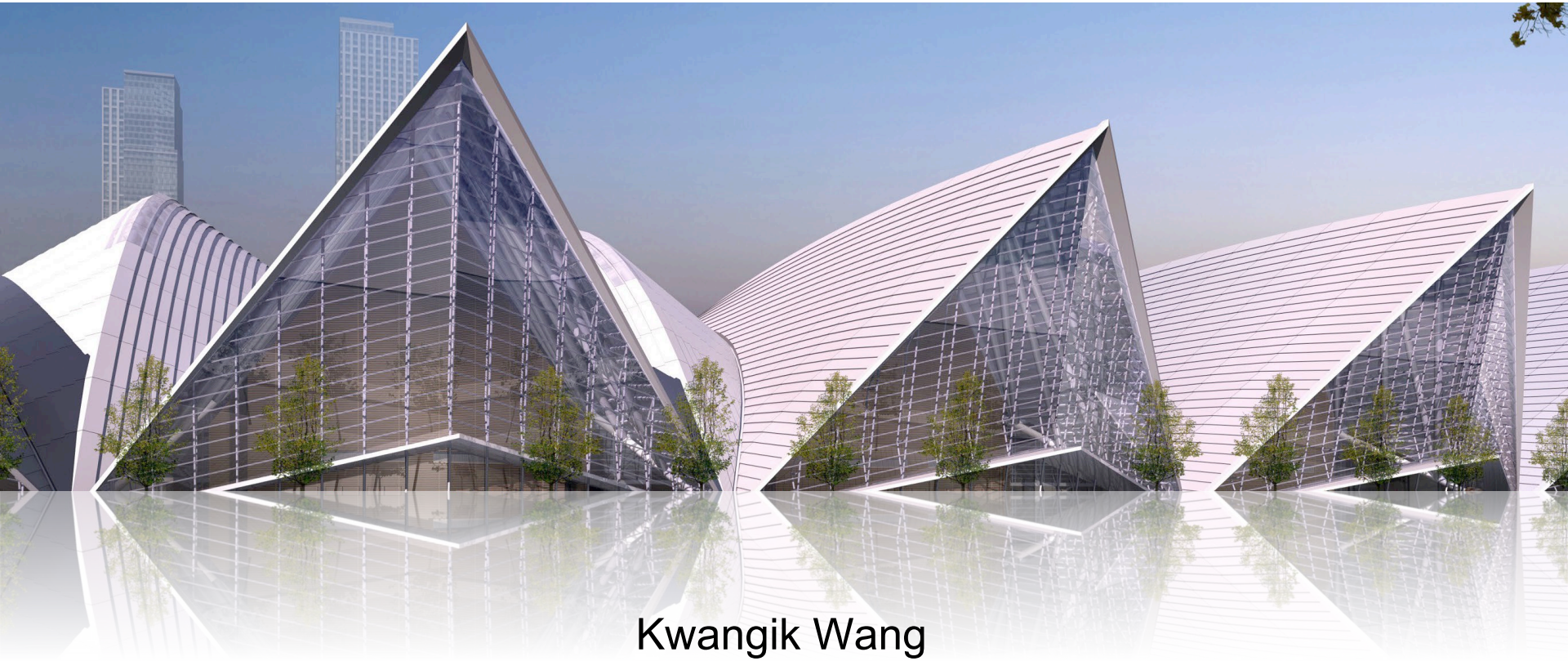
Establishing Optimized Model for Zero Energy Residents and Test Site

- Goal :
  - Minimizing the energy requirement of residential district based on existing developed technologies
  - Developing optimized model for first zero energy consumption by producing new renewable energy

- Main Research Contents:
  - Establishing zero energy residential districts, combining design technologies and construction technologies
  - Research for 4 welfare IT monitoring technologies including test product installation, performance and zero energy technology
  - Research economic effects by securing clean residential environment
  - Research various considerations required from technologies, policies and markets to distribute zero energy residences

4. Future Development Direction

- Strengthening the experts' abilities and cooperative research platform for 6 countries in northeast Asia
- Sharing the current national states to organize the committees for low carbon city platform and have cooperative meetings every year
- Supporting comprehensive consultants utilizing national potentials related to low carbon city projects
- Promoting excavation business and economic cooperation for low carbon city development



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