



Enabling Green Growth through the K-City Network: The Bandung Smart Town Master Plan in Indonesia

6th May, 2026

KOREA OVERSEAS INFRASTRUCTURE AND URBAN DEVELOPMENT CORPORATION

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1. KIND Overview

DEVELOPER and INVESTOR

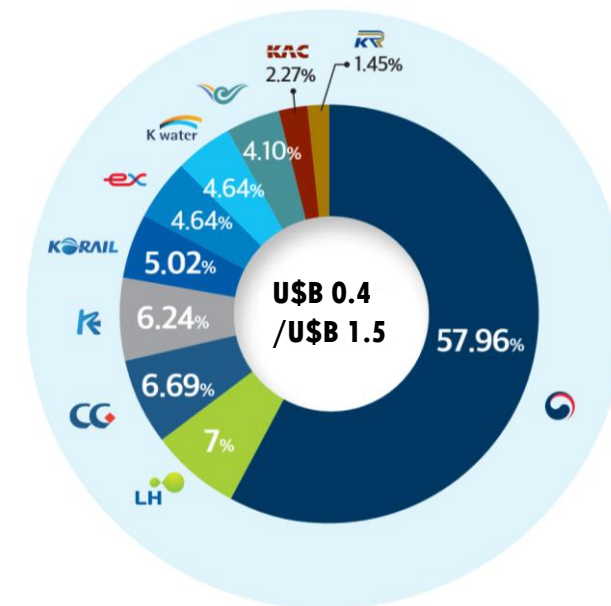
for Infrastructure Projects

1. KIND Overview – Policy Instrument to [Develop + Finance] Infrastructures

KIND is a young governmental investor [equity provider] set up in 2018 under MOLIT*.

* Ministry of Land, Infrastructure & Transport, the Republic of Korea

[Shareholders] Korean government,
 Korea Exim Bank, Korea Construction Guarantee,
 Korea Land & Housing Corp.,
 K-Water,
 Korea + Incheon Airport Corps.,
 KORAIL + National Railway Network,
 Korea Expressway Corp.

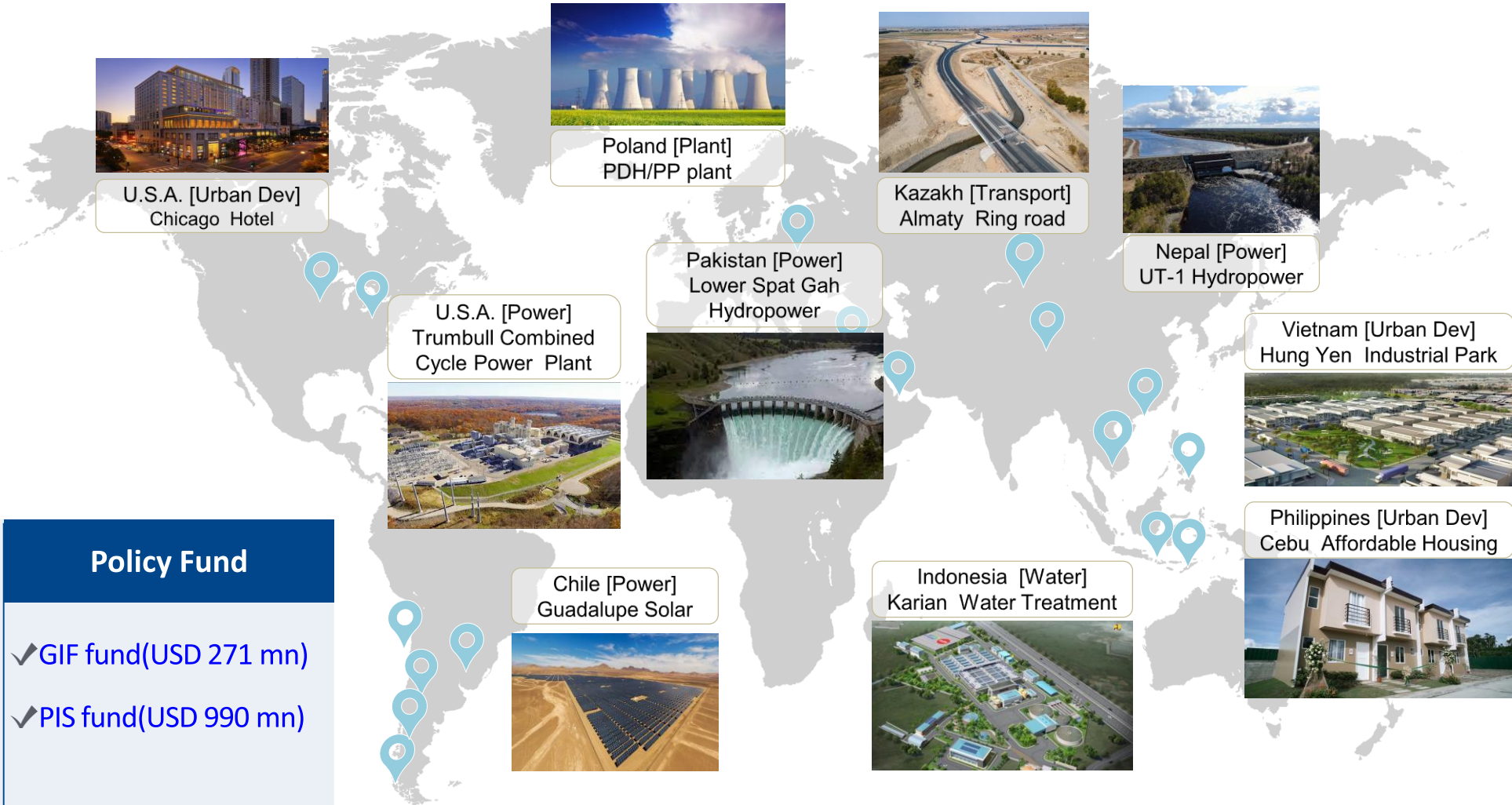


“... represents the Entirety of infrastructure and finance in public sector of the Republic of Korea ...”

KIND's	[Mandate]	to support Korean companies' overseas investment
	[Sector]	in infrastructure and urban development projects
	[Role]	Co-Developer and/or Co-Investor
	[Function]	funding Development Capital and financing of Equity and others

1. KIND Overview

➤ Project Status

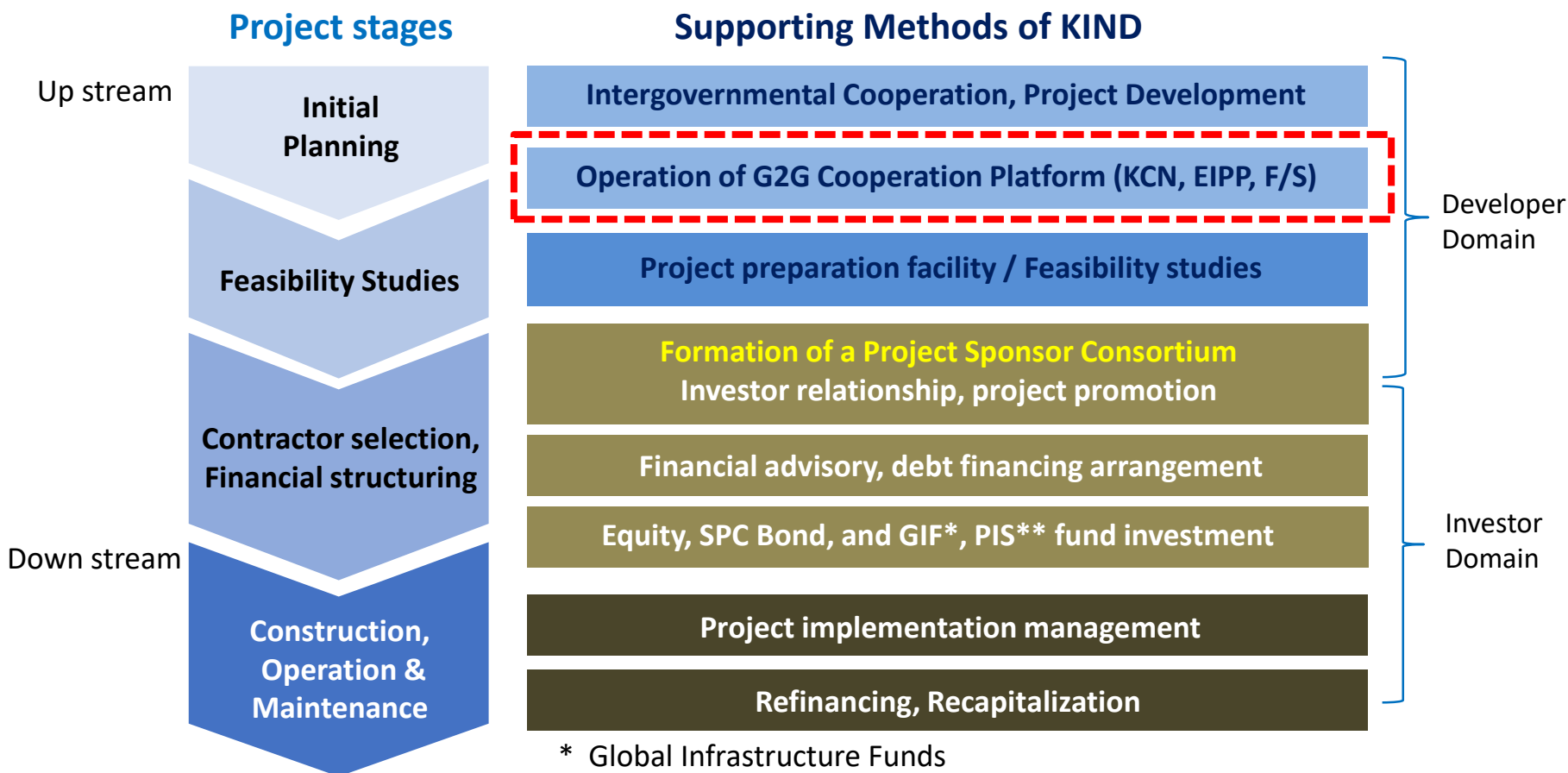


(As of Jan 2026)

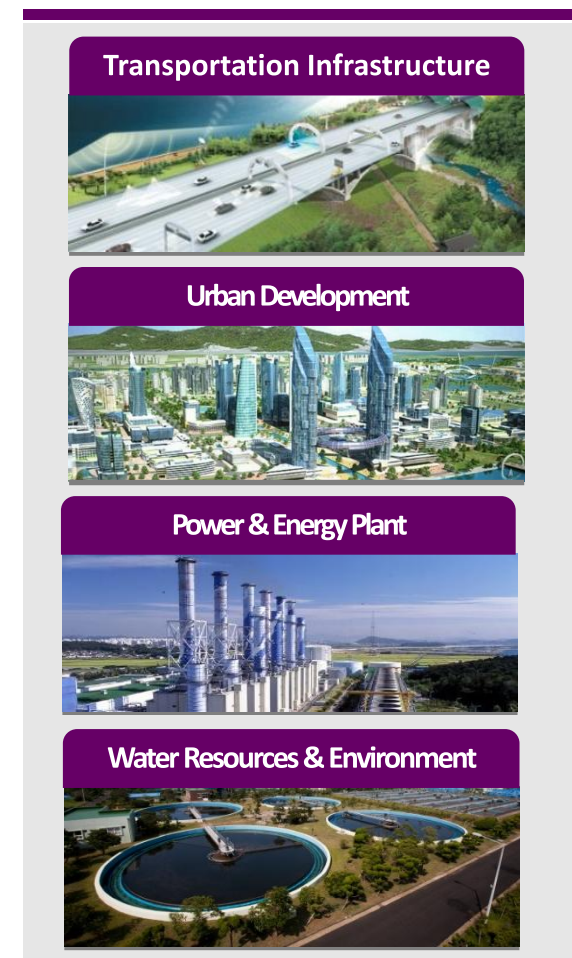
Direct Investment	Policy Fund
<ul style="list-style-type: none"> ✓ Cumulative Investment : 21 projects in 14 countries (USD 502 mn) ✓ Investment Approved: 9 projects in 8 countries (USD 447 mn) 	<ul style="list-style-type: none"> ✓ GIF fund(USD 271 mn) ✓ PIS fund(USD 990 mn)

1. KIND Overview – Linking of Upstream and Downstream

Not only direct investments, KIND boasts its various supporting means applicable to the entire lifecycle of a project, materializing a piece of idea into a solid project in the real world.



* Global Infrastructure Funds
 ** Plant, Infrastructure and Smart city funds



2. K-City Network – Sharing Korea’s Smart City Expertise

Keywords for Future Cities

- + Smart Infrastructure
- + Sustainability (Resilience)
- + Inclusive Cities

(New Urban Agenda, UN Habitat 2016,)

Gwang-gyo New Town
Republic of Korea

Urban Competitiveness of Korea

- Global Power City Index(GPCI 2024):
Seoul is ranked 6th in the Global City Competitiveness Index, demonstrating particular strengths in culture, environmental sustainability, and connectivity
- EIU 2024(Economist Intelligence Unit)
In the Urban Livability Index, **Seoul is ranked 5th and Busan 6th.** Korean cities receive high evaluations in areas such as residential stability, healthcare, culture and environment, education, and infrastructure
- Smart City Index (IMD):
“Korea stays ahead in smart city technologies and data utilization.”

2. K-City Network – Sharing Korea’s Smart City Expertise



A global cooperation platform designed to share Korea’s smart city expertise and technologies worldwide. Since 2020, **58 projects** have been implemented in 27 countries, offering tailored solutions to meet local needs.

K-City Network Program Overviews



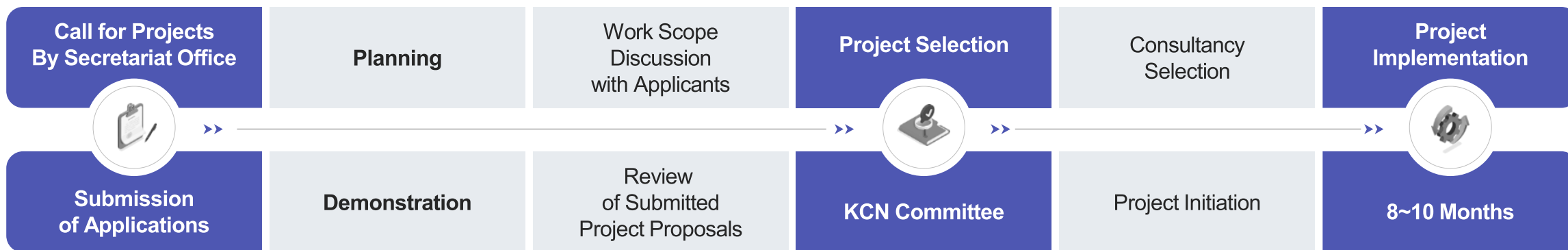
Subject	Scope	Applicants
<ul style="list-style-type: none"> Developing/regenerating into a smart city by adopting multiple smart solutions with land-use plan(green and brown field) Adopting smart solution to address urban challenges 	<ul style="list-style-type: none"> Development condition & comprehensive analysis Concept & Mast Plan Roadmap & Business model Pre-f/s 	<ul style="list-style-type: none"> Central Governments Local Governments International Organizations
<ul style="list-style-type: none"> Smart Solutions refer to technologies to provide services and related platforms or systems in the areas of transportation, energy, environment, security, urban administration, etc. 	<ul style="list-style-type: none"> Pilot Operation & Validation (ex. Demand respond transport, smart parking, ITS, etc.) 	<ul style="list-style-type: none"> Korean companies (with overseas governments)

2. K-City Network – Sharing Korea’s Smart City Expertise

➤ Programs Structure

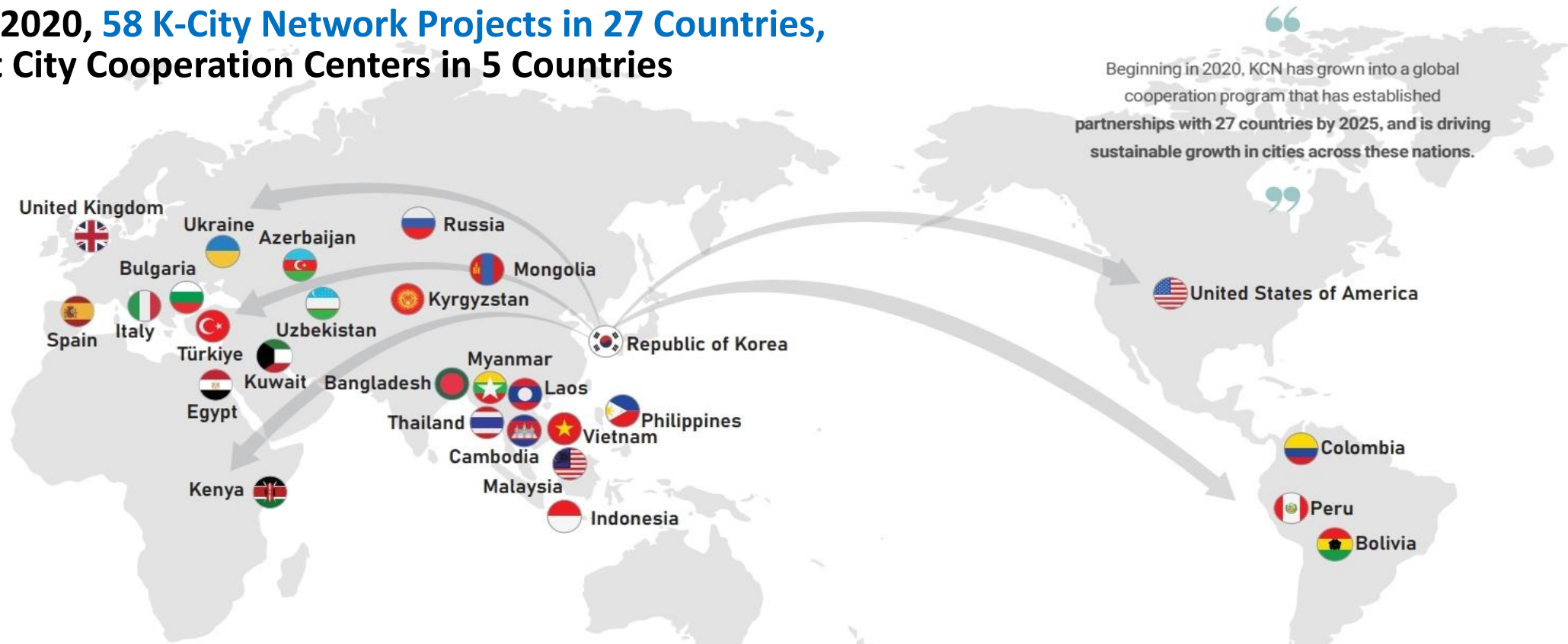


➤ Procedure



2. K-City Network – Track Record

Since 2020, 58 K-City Network Projects in 27 Countries, Smart City Cooperation Centers in 5 Countries



Europe & Central Asia Total 14

Russia	Urban Planning(1)
Bulgaria	Solution Planning(1)
Spain	Demonstration(1)
Azerbaijan	Urban Planning(1), Solution Planning(2)
Uzbekistan	Urban Planning(2)
Ukraine	Urban Planning(1)
Italy	Demonstration(3)
Kyrgyzstan	Urban Planning(1)
United Kingdom	Demonstration(1)

Asia Total 30

Indonesia	Urban Planning(3), Solution Planning(2), Demonstration(3)
Vietnam	Urban Planning(2), Solution Planning(2), Demonstration(2)
Malaysia	Urban Planning(2), Demonstration(1)
Bangladesh	Urban Planning(1), Demonstration(1)
Philippines	Urban Planning(1), Solution Planning(1), Demonstration(1)
Mongolia	Urban Planning(1), Solution Planning(1)
Thailand	Solution Planning(1), Demonstration(2)
Myanmar	Urban Planning(1)
Cambodia	Demonstration(1)
Laos	Solution Planning(1)

Middle East & Africa Total 7

Egypt	Urban Planning(1)
Kenya	Urban Planning(1)
Kuwait	Solution Planning(1)
Türkiye	Solution Planning(2), Demonstration(2)

Latin America Total 5

Bolivia	Solution Planning(2)
Colombia	Solution Planning(1)
Peru	Urban Planning(1), Demonstration(1)

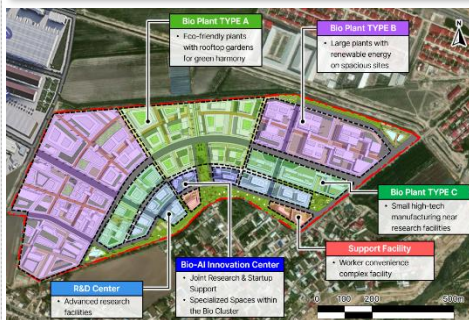
North America Total 2

USA	Demonstration(2)
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2. K-City Network – Case of the K-City Network Program

➤ Smart City Planning

Tashkent Smart Bio Cluster MP (Deal Sourcing)



- Location: Zangiata, Uzbekistan (60ha)
- Partner org: Ministry of Health (Agency for Pharmaceutical Industry Development)
- Period: '25.4. - '25.12
- Consultancy Cost: USD 470,000
- Scope: Master Plan, Pre-F/S

➤ Smart Solution Planning → Demonstration

Gaziantep Smart City Integrated Platform MP



- Location: Gaziantep City, Southern Turkey
- Partnering org: Gaziantep Metropolitan Municipality
- Period: '20.7. - '20.12
- Consultancy Cost: USD 250,000
- Scope: Master Plan, F/S

Tashkent Smart Bio Cluster Project (Development)



- Project Period: 50years
- Project Cost: USD 65mn
- Developer: SPC(planned)
- Future Plan
 - Feasibility Study and Investor Recruitment
 - Financial Structuring
 - Project Commencement

Gaziantep Smart City Platform Demonstration



- Project Cost: USD 1mn (MOLIT 53%, SDS 12%, Turkey Gov 36%)
- Scope: Smart City Coordination Center
 - Traffic CCTV control
 - Heavy Vehicle Info Collecting
 - Security Center CCTV control & GIS Map Info
 - Police and Fire station Info connection

※ Based on the Pre-FS, the conditions for Korean participation in the project have been outlined. The Uzbek government has submitted a LoI granting a two-year period of exclusive negotiation rights, under which KIND is currently conducting a FS to advance the project.

※ Based on the Smart Solution planning's Output, it is possible to link with K-City Network Solution Demonstration programs to initiate pilot projects

2025 K-City Network (Smart City Planning) Bandung Smart Town Master Plan, Indonesia

- Site Area: 107,600m²
- Gross Floor Area: Approx. 269,000m²
- Floor Area Ratio: 250%
- Building Area: 42,928m²
- Building Coverage Ratio : 39.9%
- Max Height: 66m (19F)
- Total 3,788 Units
 - Affordable Housing(27 Type) 1,338 Units
 - Mid Range Housing(50/72 Type) 2,450 Units

Mid Range
Housing(50 Type)

Mid Range
Housing(72 Type)

Affordable
Housing

Mosque

Commercial

Mixed Use
(Commercial)

Office & Commercial
Building

Exhibition Hall



3. Bandung Smart Town Master Plan, Indonesia – Low-Carbon Social Housing in Korea

Demonstrates practical application of zero-energy housing in Korea,

- Contributes to carbon neutrality and energy efficiency
- Reduces household energy burden



- **Seoul Nowon EZ House, Korea**
- Energy Self-Sufficiency: approx. 75–80%
- Energy Cost Reduction: 100%(Net-Zero achieved)
- Renewable Energy Integration(Solar+Geothermal)

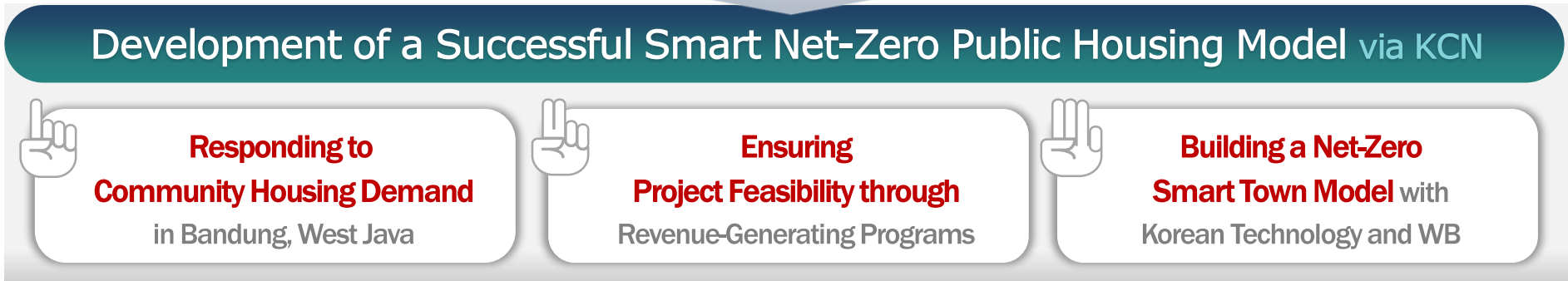


- **Gangdong Onbitchae, Korea**
- Energy Self-Sufficiency: approx. 60–70%
- Energy Cost Reduction: approx. 30–35%
- Heat Loss Reduction: approx. 35%

3. Bandung Smart Town Master Plan, Indonesia – Project Background and Objectives

Securing a Low-Carbon Smart Town Business Model to Drive West Java’s Public Housing Initiatives & Engage Korea–Indonesia Business Participation

<p>Surging Housing Demand from Rapid Urbanization in West Java, Indonesia</p> <p>Bandung Population: 2.5 million, Projected to Reach 3 Million by 2030</p>  <p>Bandung, Indonesia</p>	<p>Demand for Eco-Friendly Community Housing Aligned with Emission Reduction Target</p> <p>Indonesia’s emission reduction target : 62%</p>  <p>e.g. Env. & Energy Science Center</p>	<p>Application for K-City Network to Apply Smart Town Model to Community-Based Public Housing</p>  <p>Busan EDC, Korea</p>
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3. Bandung Smart Town Master Plan, Indonesia – Public and Provision System

Indonesia aims to expand housing supply, with a target of up to 3 million units annually, as part of its broader national development agenda under the RPJMN.

➤ National Plans about Public Housing in Indonesia

RPJMN Overview

Name	▪ The Indonesia National Medium-Term Development Plan (RPJMN; Rencana Pembangunan Jangka Menengah Nasional 20-24)
Scope	▪ 5-year mid-term plan, 2025-2029
Establishing Authority	▪ National Development Planning Agency (BAPPENAS; Badan Perencanaan Pembangunan Nasional)

RPJMD Plan Overview

Name	▪ The West Java Regional Medium-Term Development Plan (RPJMD; Rencana Pembangunan Jangka Menengah Daerah)
Scope	▪ 5-year mid-term regional plan, 2025-2029
Establishing Authority	▪ Regional Development Planning Agency of West Java Province (BAPPENAS Provinsi Jawa Barat)



Implementation of the 3 Million Houses Program
following President Prabowo Subianto's inauguration in 2024



About price, sustainability, and publicness
in housing supply

Expected to reflect housing supply strategy of 2018-23 RDJMD

- Provision of affordable and livable housing
- Development of residential areas based on spatial planning and sustainability
- Regeneration of slums and dilapidated residential areas



IGASP (Indonesia Green and Affordable Housing Program)
Target: 1 Million Green Affordable Housing Units by 2030

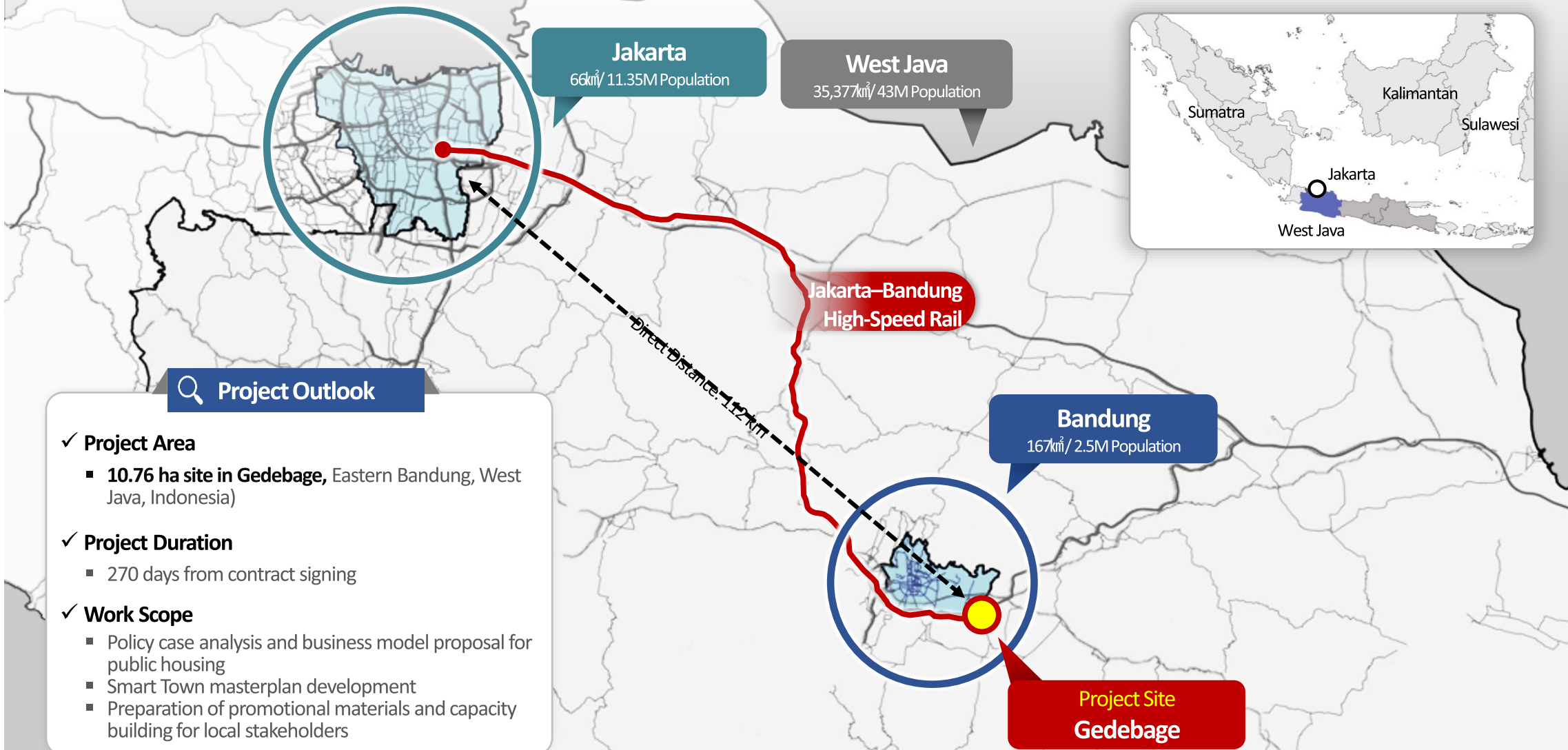
- Indonesia Eco-Friendly Affordable Housing Supply Program
- Minister of Public Works and Public Housing Regulation No. 21 of 2021 : Green Building Performance Evaluation Guidelines
- Project Funding : WB(IFC) Green Loan approx. 4B USD, Bank Indonesia 1,300 trillion Rupiah plan

Key review points for Indonesia's public housing plan

Gedebage in Bandung metropolitan area is **connected to West Java's strategic urban development and eco-friendly public housing policies**

3. Bandung Smart Town Master Plan, Indonesia – Location and Scope

Through Korean Case Studies and Local Context Analysis
 Proposing a Net Zero Smart Town Model and Establishing a Masterplan



Project Outlook

- ✓ **Project Area**
 - 10.76 ha site in Gedebage, Eastern Bandung, West Java, Indonesia)
- ✓ **Project Duration**
 - 270 days from contract signing
- ✓ **Work Scope**
 - Policy case analysis and business model proposal for public housing
 - Smart Town masterplan development
 - Preparation of promotional materials and capacity building for local stakeholders

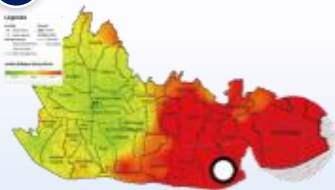
3. Bandung Smart Town Master Plan, Indonesia – Analysis of Bandung and The Project Site

The Gedebage area, part of the city's secondary CBD, is home to **Large-scale metropolitan facilities alongside new development zones (Summarecon)**

CBD: Gedebage

Key Considerations

- 1 Expected inflow via arterial roads and Tegalluar Station
- 2 Anticipated access via Gedebage rail stat.
- 3 Consider pedestrian linkage with southern commercial zone
- 4 Secure minimum public space using drainage corridors
- 5 Proximity to ITB Technopark
- 6 Nearby schools



3. Bandung Smart Town Master Plan, Indonesia – Defining Development Trajectory and Key Targets

Deriving an Optimization Model Strategy to plan the optimal model, technology, and qualification implementation measures for K-APT's carbon reduction

➤ Smart Town Differentiation Strategy: Establishment of Indonesia-Type Carbon Reduction Optimization Model

Optimization Model Strategy

62% Carbon reduction
Optimization Model

INNI BGH Certified
(Madya)

Plan for optimized
natural ventilation

100% self-sufficiency
in shared energy

50% improvement in
indoor air quality

Action 1

Net-Zero Energy Optimization Technologies

PASSIVE (Energy-saving technologies)

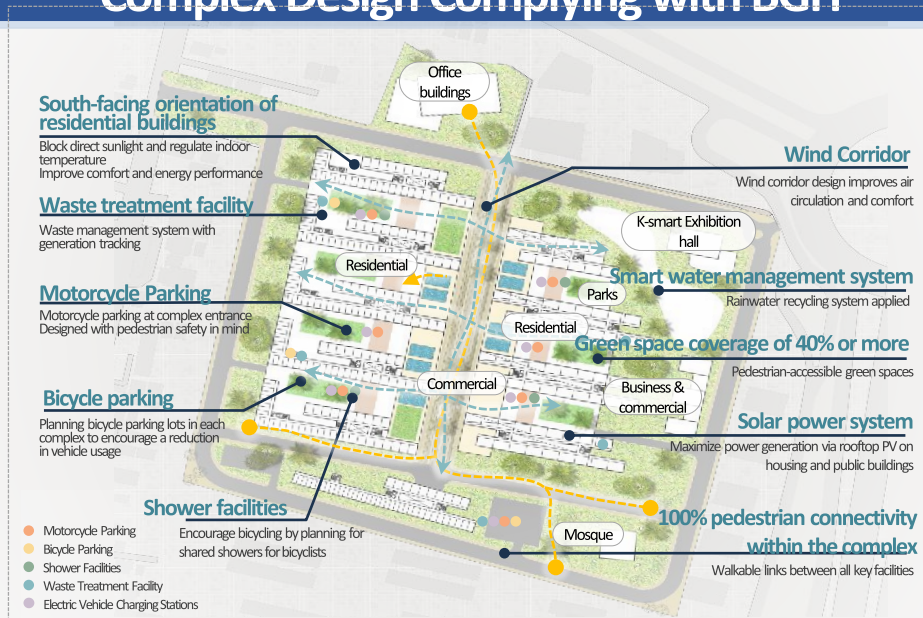
<p>South-facing Placement</p> <ul style="list-style-type: none"> • South-facing layout within 15° east-west • Minimizes solar exposure to units 	<p>Daylighting & natural ventilation</p> <ul style="list-style-type: none"> • Daylight for lighting energy • Cross-ventilation layout for airflow 	<p>Solar control devices</p> <ul style="list-style-type: none"> • Interior blinds reduce solar gain and lower cooling energy demand 	<p>Cool roof</p> <ul style="list-style-type: none"> • Cool roof with solar canopy and green roof to reduce rooftop temperature
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ACTIVE (High-efficiency & renewable energy technologies)

<p>Heat recovery ventilation</p> <ul style="list-style-type: none"> • Heat-recovery ventilation Improves IAQ and humidity control 	<p>High-Efficiency LED Lighting</p> <ul style="list-style-type: none"> • High-efficiency LED lighting reduces power consumption 	<p>Air conditioning systems</p> <ul style="list-style-type: none"> • Energy-saving cooling system uses high-efficiency equipment 	<p>Solar power systems</p> <ul style="list-style-type: none"> • Solar power system for electricity • Adjustable height also provides shading
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Action 2

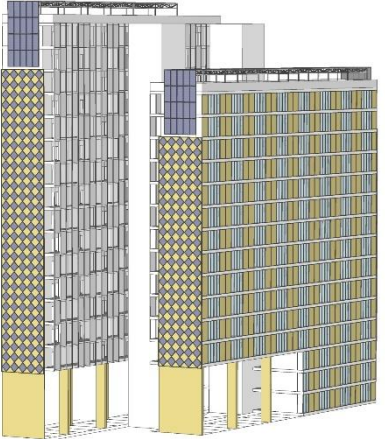
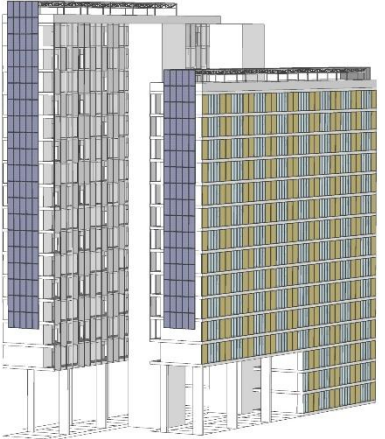
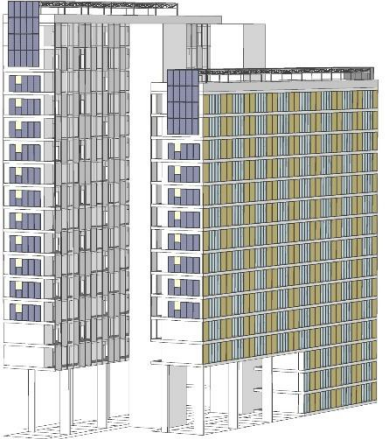



Complex Design Complying with BGH



3. Bandung Smart Town Master Plan, Indonesia – Defining Development Trajectory and Key Targets

Through Building-Integrated PV design,
Achieve both resident acceptability and eco-friendly power generation

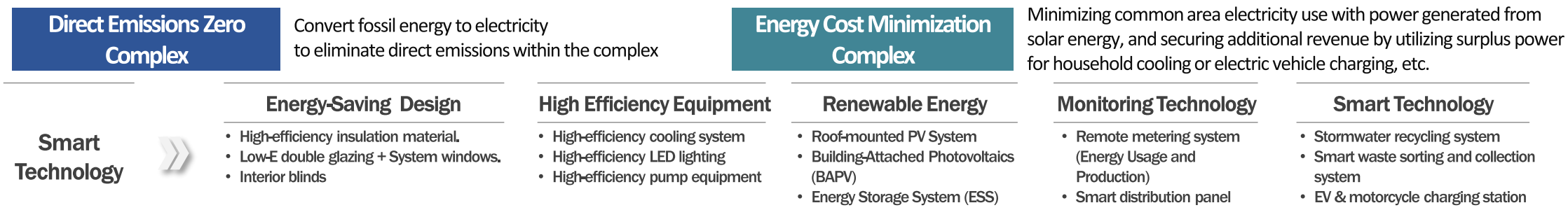
➤ Smart Town Differentiation Strategy: Proposal for Renewable Energy Utilization Design

Preferred					
Alt1. Cultural–Functional Harmony		Alt 2. Efficient–Functional Balance		Alt 3. Structural–Functional Integration	
					
					
<p>Harmonizing culture & function Traditional textile patterns bring cultural symbolism and vibrancy to the facade, harmonizing tradition with energy design.</p>		<p>Harmonizing Efficiency & Function A simplified massing that maximizes function, with technical aesthetics emphasized through restrained facade design.</p>		<p>Harmonizing structure & function Panels align with slab lines, blending structural systems with function to maintain architectural flow.</p>	
Installed Capacity	2,854.5kW	Installed Capacity	3,324.0kW	Installed Capacity	2,803.7kW
Annual Electricity Gen.	3,131.1MWh	Annual Electricity Gen.	3,433.6MWh	Annual Electricity Gen.	3,099.4MWh
Electricity Use	Public ELEV, Common Area Lighting, 30% A/C	Electricity Use	Public ELEV, Common Area Lighting, 40% A/C	Electricity Use	Public ELEV, Common Area Lighting, 30% A/C

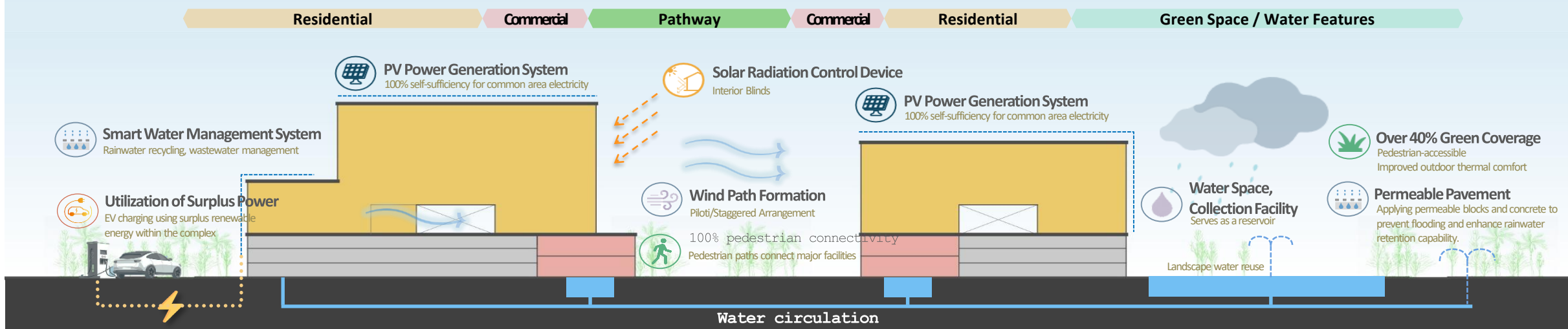
3. Bandung Smart Town Master Plan, Indonesia – Smart Town Specialization Strategy

Development and establishment of an optimized model for Indonesia-type carbon-reducing apartment complexes, and a standard model for carbon-reducing affordable housing for the public

➤ Proposal for Carbon-Reducing Public Housing Model



Reflecting the Criteria of Green Building Certification (BGH)



3. Bandung Smart Town Master Plan, Indonesia – Smart Town Specialization Strategy

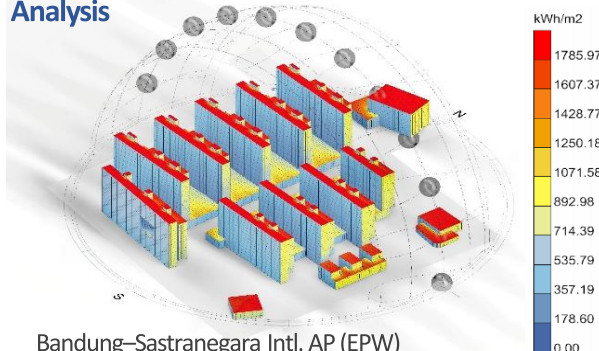
Implementing a complex-optimized, energy-saving layout plan and external space design strategy through the analysis of solar radiation, airflow, and surface temperature based on climate and environmental data.

➤ Proposal for a Standard Model of Carbon-Reducing Affordable Public Housing

Passive Design Optimization Strategies Based on Climate Simulation

Sunlight Analysis

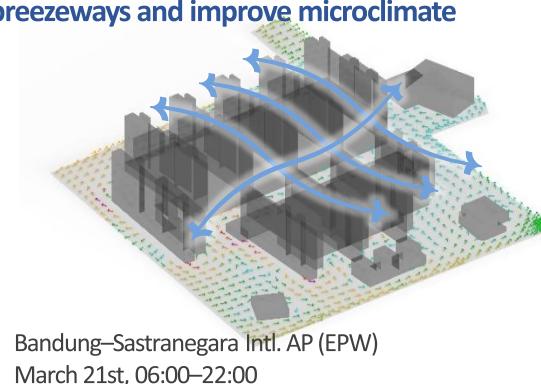
Finding Energy Efficiency Through Sunlight Analysis



Solar analysis for optimized PV installation and inter-unit daylighting

Airflow Analysis

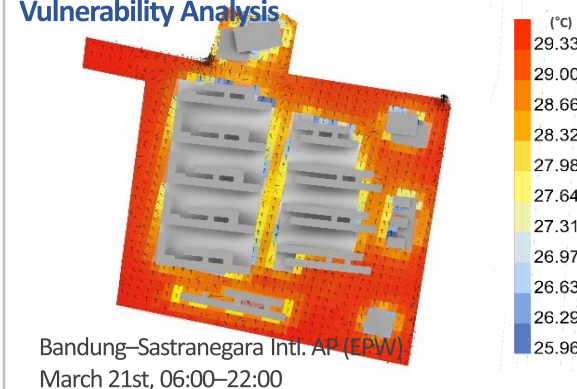
Arranging complexes to secure breezeways and improve microclimate



Forming wind corridors within the complex and **improving the microclimate** through airflow analysis.

Surface Temperature Analysis

Exterior Space Planning through Thermal Vulnerability Analysis



Designing external spaces focused on **thermal comfort** through surface temperature analysis.

3. Bandung Smart Town Master Plan, Indonesia – Plans by sector

Create a sustainable **K-Smart Town solution residential complex** by applying eco-friendly and smart technologies optimized for the hot and humid climate of Bandung, Indonesia.



Implement Smart HEMS
Energy monitoring via smartphone app linked to remote energy metering



Smart Safety Management
Crime and disaster prevention through CCTV and disaster warning systems



Smart Healthcare
Provide customized healthcare and smartphone-based monitoring services by analyzing resident health data



Smart Robot Delivery
Logistics automation and carbon emission reduction within the complex by introducing an autonomous driving-based robot delivery system



Smart EV Charging Station
Operation of charging stations utilizing solar power surplus



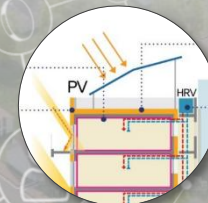
Smart Water Management
Installing reservoirs, water collection facilities, etc., for rainwater storage and recycling.



Smart Energy Storage System (ESS)
Storing surplus generated electricity for efficient utilization and preparation for emergency power supply



Smart Renewable Energy (Solar)
100% power self-sufficiency for common areas



Smart Design Technology (Passive-Active)
Minimize cooling energy load by applying design technology suitable for the local climate

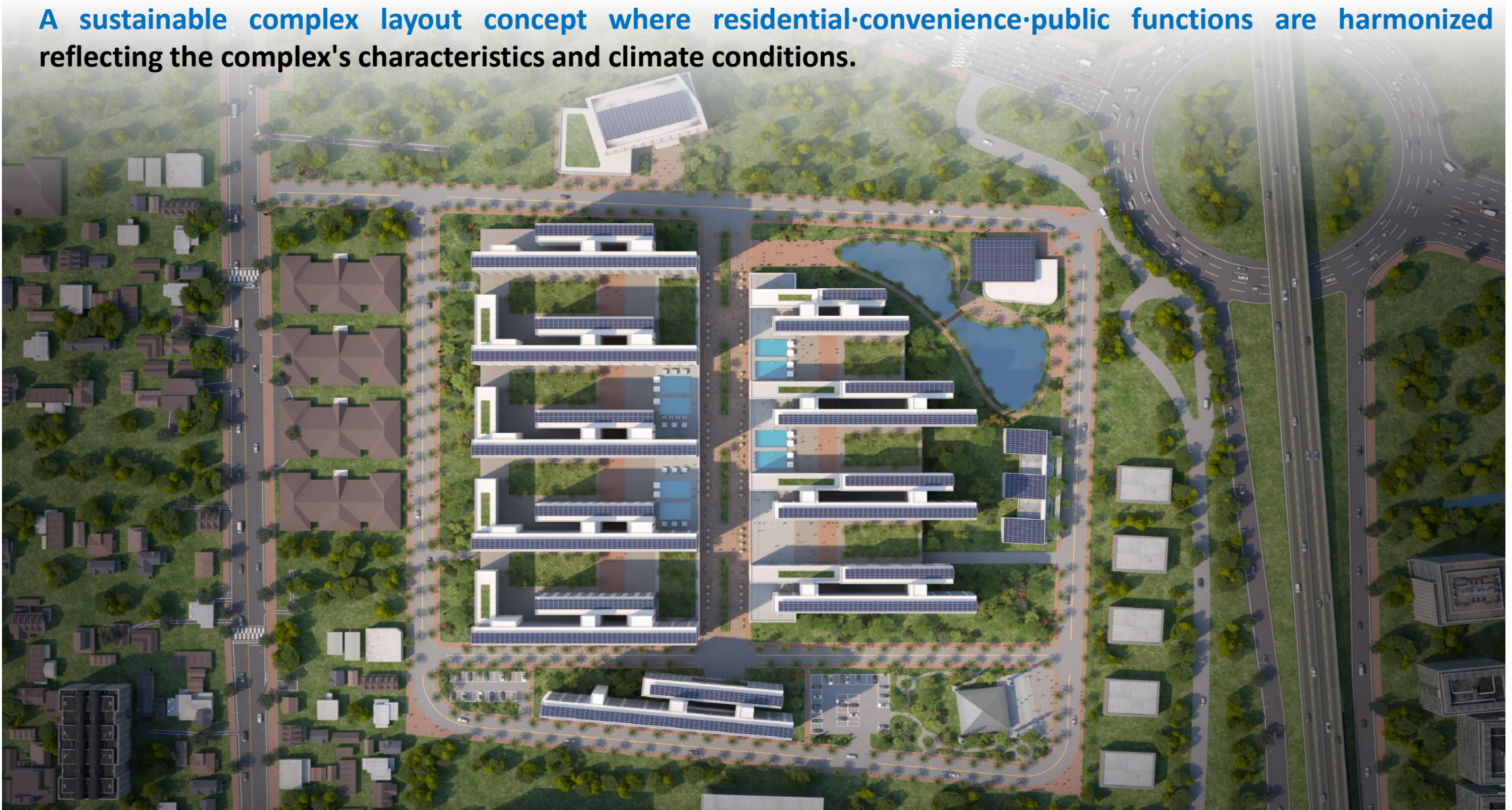


Smart Waste Management
Waste reduction through smart sorting/collection and food waste recycling facilities



3. Bandung Smart Town Master Plan, Indonesia – Smart Town Layout and Perspective Drawing

A sustainable complex layout concept where residential-convenience-public functions are harmonized reflecting the complex's characteristics and climate conditions.



3. Bandung Smart Town Master Plan, Indonesia – Smart Town Layout and Perspective Drawing



3. Bandung Smart Town Master Plan, Indonesia – Smart Town Layout and Perspective Drawing



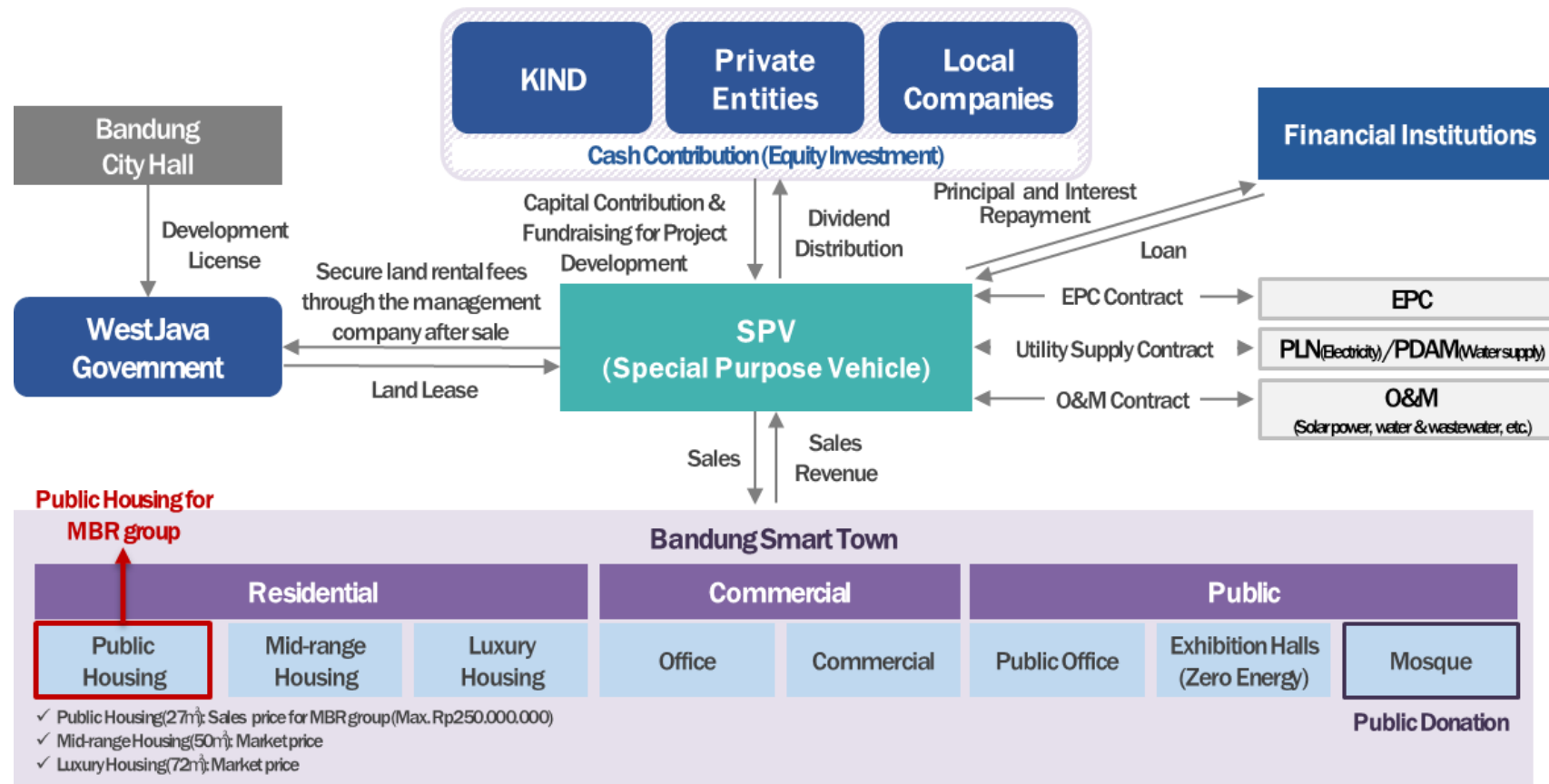
3. Bandung Smart Town Master Plan, Indonesia – Smart Town Layout and Perspective Drawing



3. Bandung Smart Town Master Plan, Indonesia – Business Model

Promote active private sector participation and alleviate government fiscal burden through an SPV-based, private-led land lease development structure.

➤ Business Structure(planned)



KIND's business model:

[Deal sourcing] Identify potential projects through G2G, G2B discussions

[Development] Provide Master Plan / Feasibility Study / Structuring / Advisory

[Investment] Invest in Equity, Funds, and Bonds



Thank You

ABOUT K-City Network

K-City Network is a global cooperation program that provides customized solutions tailored to the characteristics and needs of partner cities, based on Korea's advanced smart city experience and accumulated urban development capabilities. Through this program, we support partner cities in solving urban challenges and promoting sustainable development, while facilitating the overseas expansion and spread of the Korean urban model and smart



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Ongoing Projects



For more information, please visit the official website:
www.kcitynetwork.go.kr