

The Green New Deal Initiated by Daedeok-gu & Daedeok-gu Energy Transition Case

주민과 함께 하는 새로운 대덕



Mayor of Daedeok-gu **Jeonghyun Park**



대전광역시 대덕구

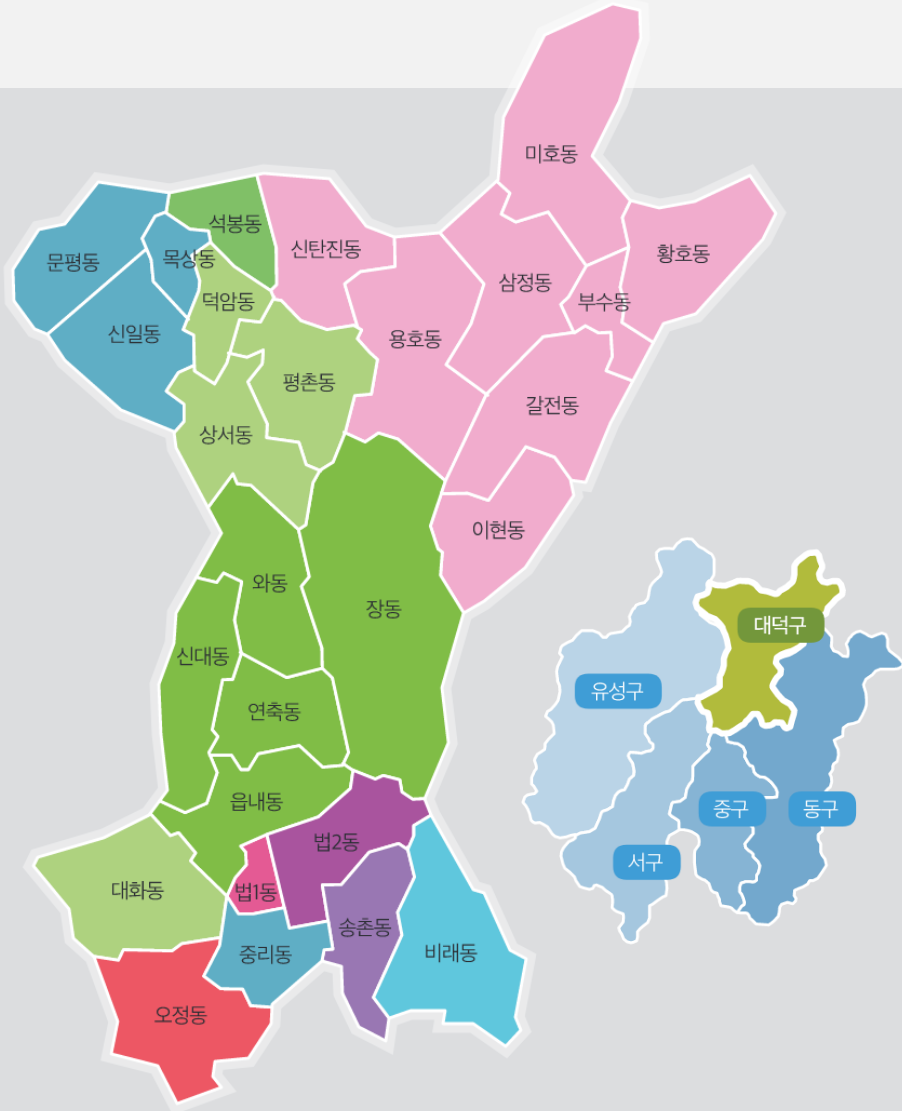
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01

The Overview of Daedeok-gu

The Overview of Daedeok-gu



2021.4.30.
기준

Population | 175,409 (75,515 households) / 12.04% of the city

Area | 68.69km²(GB 60.7%) / 12.73% of the city.

Administrative District | 12 dongs (26 legal dongs) / 357 tongs / 1,874 bans

Administrative Organization | 25 Departments in 4 Bureaus, 1 Direct Institution, 12 Offices, 1 Council
Total: 757 people / Current: 733 people

Major Facilities | 73 schools (32 elementary schools, 21 middle schools, 5 high schools, 1 special schools, 2 univs),
120 childcare facilities, 118 senior citizen centers, 223 medical institutions

Industrial Complex | Daedeok Industrial Complex (385), Daejeon Industrial Complex (357)
Sangseo Pyeongchon Area (368) / 29.9% of the city

02

The Green New Deal Initiated by Daedeok-gu

540.6 billion(KRW) for 40 projects in 5 major fields

Job creation of 7,655

Greenhouse gas reductions of 967tco₂/eq

Progress of the Korean New Deal

- '20.6.5. Climate crisis emergency declaration ceremony (226 local governments)
- '20.7.14. Korean New Deal plan announced
- '20.10.13. Balanced Regional New Deal Announcement (17 cities and provinces)
 - Enhancing the success of the Korean New Deal and the completeness of balanced territorial development
- '20.12.10. Republic of Korea Carbon Neutrality Declaration

Top Government Agenda on Carbon Neutrality-Green New Deal 2021

- Establishment and operation of the 2050 Carbon Neutrality Committee
- ('21.2.25.) Legislative hearings to draw four major carbon-neutrality bills
 - Park Jung-hyun, head of Daedeok-gu, ambassador to the European Union (EU) and Lee Yu-soo, a member of the Korea Institute of Energy and Economy participated.
- Announcement of the Ten Major Strategies of Local Governments for Carbon Neutral Society('21.4.21.)
- National Assembly passed the National Finance Act on the introduction of GHG budget system('21.5.21.)

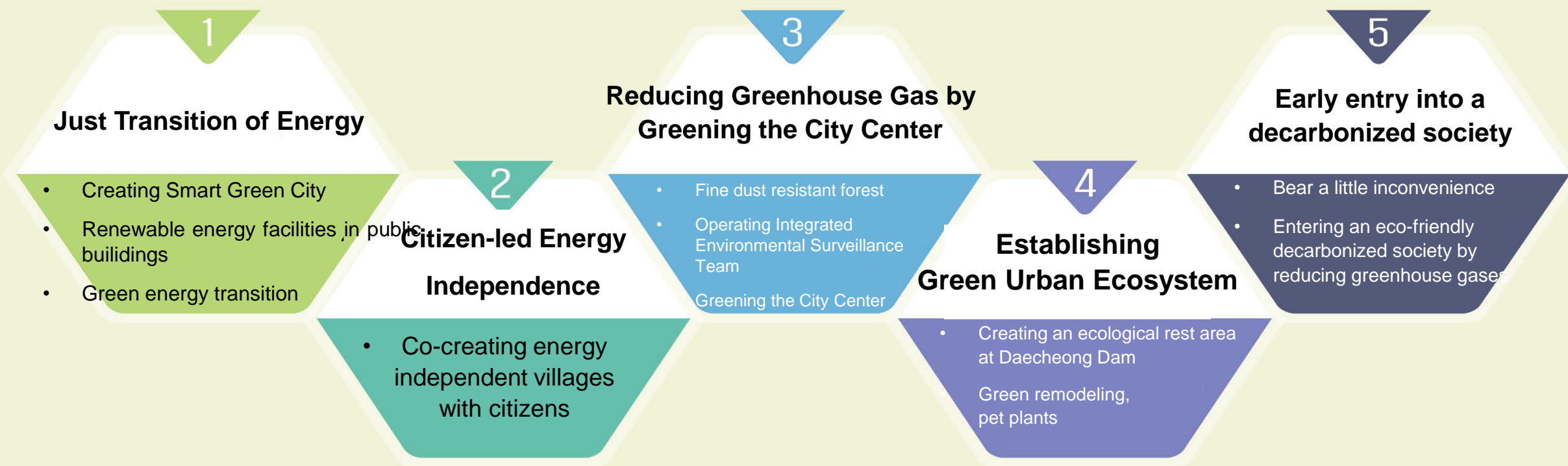


02 Domestic and Overseas Climate Policy Trend



02 The Green New Deal Initiated by Daedeok-gu

540.6 billion won in 40 projects in 5 major sectors / 7,655 job creation



50% reduction in greenhouse gas emissions by 2030

Smart Green City completed by 2050 with a just energy transition by 2050

02 The Green New Deal Initiated by Daedeok-gu

Green New Deal

Transition of Industrial Complex to Green Industrial Complex

Creating an industrial complex
using 100% renewable energy
Discovering companies practicing carbon
neutrality measures through the nation's
first voluntary Daedeok-type RE-100



Creating an 'eco-friendly energy independent smart green innovation city'

Realizing Energy Independent City
(Reporting and Declaring the Local
Energy Plan to citizens)

Building new Daedeok-gu Office as
Zero-Energy Building

Mainstreaming Green Mobility



Citizen-led Green New Deal

'Fostering Net-Zero 100,000 carbon dieters'
Energy Café, Ecoplaza, Special Vegetarian Zone



02-1 Creating an 'Eco-friendly energy independent smart green innovation city'

Building New District Office as a Zero Energy Building

- Project Period: 2020–2026
- Project size: Site 20,035m²/Construction 36,800m²
- Total project cost: 120 billion won (funded by the district) / Land purchase cost, construction cost, etc.;
- Zero Energy Building in Response to the Climate Crisis
- Customized buildings for disaster preparedness, such as infectious diseases;
- Citizen Participatory Office
- Encouraging Interdepartmental Communication

Smart Green Innovation City

- Fourth Industrial Revolution Scientific Innovation Cluster
- A City solving problems on its own: Living Lab
- Establishing decentralized power systems
- Establishment of an energy independent village (community)

Mainstreaming Green Mobility in Innovative Cities

- Business Period: 2020–2026
- Project cost: 2 billion won
- Introduction of electric and hydrogen vehicles in the public sector
- Restricting internal combustion engine operation of vehicles and expanding charging stations for electric vehicles
- Road maintenance centered on pedestrians and cyclists

Eco-friendly and smart green innovation city where nature and humans can co-exist

Create the best Green New Deal model city in the country.

02-2 Transition of Industrial Complex to Green

Industrial Complex

Old Industrial Complex

- Inefficient consumption of energy
- Pollutant Discharge



Smart Green Industrial Complex

- Combining Information and Communication Technology and Green Technology
- Renewable energy↑The amount of pollutant↓Jobs↑

Discovery of Daedeok-type RE-100 enterprises for low carbon and eco-friendly management



02-3 Citizen-led Green New Deal

Carbon dieters in our school

- Providing customized education at each level of daycare center, elementary school, and middle school
- Proceeding with Daedeok-gu's climate crisis response program (Theory + Experience)

Carbon dieters in our neighborhood

- Operating simple and real-life educational programs
- Living Lab for the discovery and practice of decarbonized living measures by residents themselves

Carbon dieters in our company

- Turning all employees into carbon dieters through an agreement between Daedeok-gu and businesses
- Providing educational programs related to the climate crisis upon the request of the enterprise



Are you refusing a straw at a coffee shop and refusing wet wipes at a restaurant?

Then you're already a **carbon dieter**~~

02-3 Citizen-led Green New Deal

Energy cafes, Eco-plazas, Special vegetarian zones

Energy Café/NetZero Public Market

- First opening in the nation
- To serve as a platform for learning about new green energy to understand the problem of climate change
- Selling eco-friendly products at Net-zero public market (Miho-dong), realizing carbon neutrality in the library (2nd floor) and establishing an energy transition ecological village;



Ecoplaza

- Expand and operate eco-friendly stores that sell products without packaging



Special vegetarian zone

- Goal of promoting vegetarian diet once a week for all Daedeok-gu residents within 5 years



02-3 Citizen-led Green New Deal

The Green New Deal that anyone can easily participate in!

Using Wooden Toothbrush, Tumbler

- Good consumption habits for Earth
- Good lifestyle, it's not hard!



Delete Emails

- Save electricity (4g of CO2) for data retention by deleting an unnecessary email!

$$1 \text{ Email} = \text{CO2 } 4\text{g}$$

Vegetarian Day

- A vegetarian diet once a week for a year will have the effect of planting 15 30-year-old pine trees!
- Effect of preventing more than 1 billion starvation through vegetarian*



- According to Jeremy Rifkin's "End of Meat Eating", there are a total of 22.9 billion "Edible" livestock on the planet. If grains are used to feed humans instead of livestock around the world, more than 1 billion people will be able to eat, leaving no one dying of starvation.

03

Participatory Daedeok-gu Energy Transition Cases

- 03-1 Create Daedeok-gu Energy Cafe
- 03-2 Fostering Net-Zero 100,000 carbon dieters
- 03-3 RE100 Campaign
- 03-4 Renewable Energy Convergence Projects
- 03-5 Carbon Budget System

03-1 Creation of the Daedeok-gu Energy Transition Platform "Energy Café"

The starting point of local energy transition, fostering activists by creating energy cafes, and conducting energy transition education;

→ To create an energy independent society, it is a platform that plays a role in citizen participation and communication as a combined form of **Cafe (commercial space) + local energy center (shared space)** for all residents;



The First Store
**And
Brunch cafe**



The Second Store
**Dalgerak
cafe**

The third Store
**Net-Zero
Public Market**



03-1 Creation of the Daedeok-gu Energy Transition Platform "Energy Café"

Miho-dong Net-Zero Public Market & Library opened (2021.5. 13)

- The 3rd energy transition platform created by a collaboration of local residents, energy companies, and social cooperatives in Miho-dong
- Implementation of a nationwide role model that realizes zero waste and energy independent villages in water supply protection zones



(1st floor of the market) sells agricultural products, energy transition products, and eco-friendly household goods



(2nd floor library) Climate crisis, energy transition, environment-related books, and exhibition on net zero-related experience and education



(Open Spaces) mini solar cell phone charging table, solar ovens, electric vehicle fast charging station (scheduled to be installed in June)

03-2 Fostering 100,000 carbon dieters

Providing climate education for citizens to take small steps in preventing climate crisis

- Promote consensus building education so that more than 100,000 residents (total 180,000 residents in Daedeok-gu) can talk about the response to the climate crisis (at least) for about 10 minutes
- (Climate Action) Practice for a decarbonized society such as refusing straws at the coffee shops and wet wipes at the restaurants

Carbon Dieters in Our School

- Operation of an educational program for the communication and practice of the necessity of decarbonized living (theory+experience);
 - For elementary and middle school students / 1 place for each of the 2 areas

Carbon Dieters in Our Neighborhood

- Operation of an educational program to communicate and practice the necessity of decarbonized living
- Program operation/decarbonation research institute, decarbonation family experience group, etc. where residents participate and study themselves

Carbon Dieters in Our Company

- Daedeok-gu ↔ Enterprise (agency) carbon reduction agreement to make all employees participate in carbon diet
 - Vegetarian day, not using disposable items and plastics, energy saving, etc.



03-3 RE100 Campaign

Daedeok-type RE100 agreement with companies promising to expand renewable energy to achieve carbon neutrality in 2050

- (Concept) A preemptive and voluntary campaign in which an enterprise within its jurisdiction declares that it will use 100% of its electricity for renewable energy;
- (Target) Companies with at least five employees located in the jurisdiction;
- (Goal) More than 12 companies per year
- (Contents of Agreement)
 - (Goal) 60% by 2030, 100% by 2040
 - (Participating Enterprise) Voluntary obligation to achieve renewable energy goals
 - Administrative support for the installation of renewable energy generation facilities

[Global RE100] Voluntary campaign led by the international organization "CDP Committee" to declare that companies that consume more than 100 GWh (0.1 TWh) of electricity annually will use 100% of their electricity as renewable energy by 2050.

1호 기업

신탄진주조



2호 기업

세형정밀



03-4 Renewable energy convergence project · Mini solar powerplant supply project, etc.

Establishing the foundation of citizen participation in the creation of an energy independent village by supplying renewable energy in the city center;

→ Proactively respond to climate change and contribute to reducing energy costs and greenhouse gas emissions by supplying renewable energy

→ Installation of mini solar powerplants(participation of social economy organizations) to multi-family housing, security offices, and neighbors in need and improvement of energy efficiency for low-income families to realize social values

Renewable Energy Convergence Project

Installation of 1,030 powerplants for 2020-2021 (8.7 billion KRW)



Local projects for public buildings

Establishment of 48 health centers between 2020 and 2021 (800 million)



Supply of Mini solar powerplants

Installation in 536 locations between 2019 and 2021 (3.4 billion KRW)



Energy efficiency improvement projects for low-income families

Improvement in 469 locations over 2019–2021 (1 billion KRW)



03-5 Carbon Budget System

Establishing the nation's first Carbon Budget Ordinance and hosting a policy forum in March 2021.

The carbon budget system is a system that separately evaluates the impact of greenhouse gas emissions when implementing various projects for which the budget is allocated, and reflects it in budgeting and execution, and prepares an institutional ground for achieving 2050 carbon neutrality goals.

Daejeon Metropolitan Government Ordinance on the Operation of Carbon Budget System

(Department of Energy Science, Climate Economy
Bureau) [Enforcement 2021.49.]

Article 1 (Purpose) The purpose of this Ordinance is to prescribe matters necessary for realizing carbon reduction in the compilation, execution, settlement of accounts, etc. of the budget of Daedeok-gu Daejeon Metropolitan City.

Article 2 (Definition) The meanings of terms used in this Ordinance shall be as follows:



04

Pathway of Daedeok-gu as an Energy Transition City

- 04-1 Establishment of a renewable energy resource management system based on GIS
- 04-2 Resident DR service for Daedeok-gu residents
- 04-3 Innovation in Energy and Mobility for Zero Carbon Action
- 04-4 Children's Net Zero Science Center Creation
- 04-5 Creation of Daedeok-gu Local Energy Center

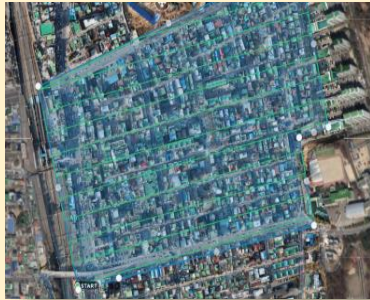
04-1 Establishment of GIS-based Renewable Energy Resource Management System

Predicting demand and expected power generation by managing data from the sources that can be generated through drones and AI.

→ Data analysis such as electricity and renewable energy generation in the region. It can help establish local energy plans specific to the region.

Automatic drone filming

Reduce costs by using drones



Create digital maps using AI

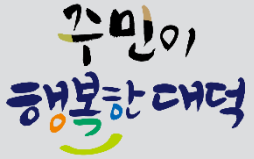
Creation of digital maps and 3D models based on data filmed by drones



Check net zero status in your region

Check whether it is possible to install using AI, and the amount of power generation, etc.

04-2 Implementation of Resident DR Service for Daedeok-gu residents



Wisely practicing energy conservation and contributing to the local economy by providing incentives (local currency/ **대덕e로움**)

→ The households with AMI participate in the national DR ("energy comma") and resident DR with the <Etzel> app, and are paid with the local currency

Resident Engaging Services



A resident-participatory service that requests demand reduction in the event of electricity supply emergency or fine dust warning, and pays incentives to energy-saving households;



Sharing energy and environmental values

Smart energy lifestyles not only save money but also share energy values and environmental values with neighbors



Activating the local economy

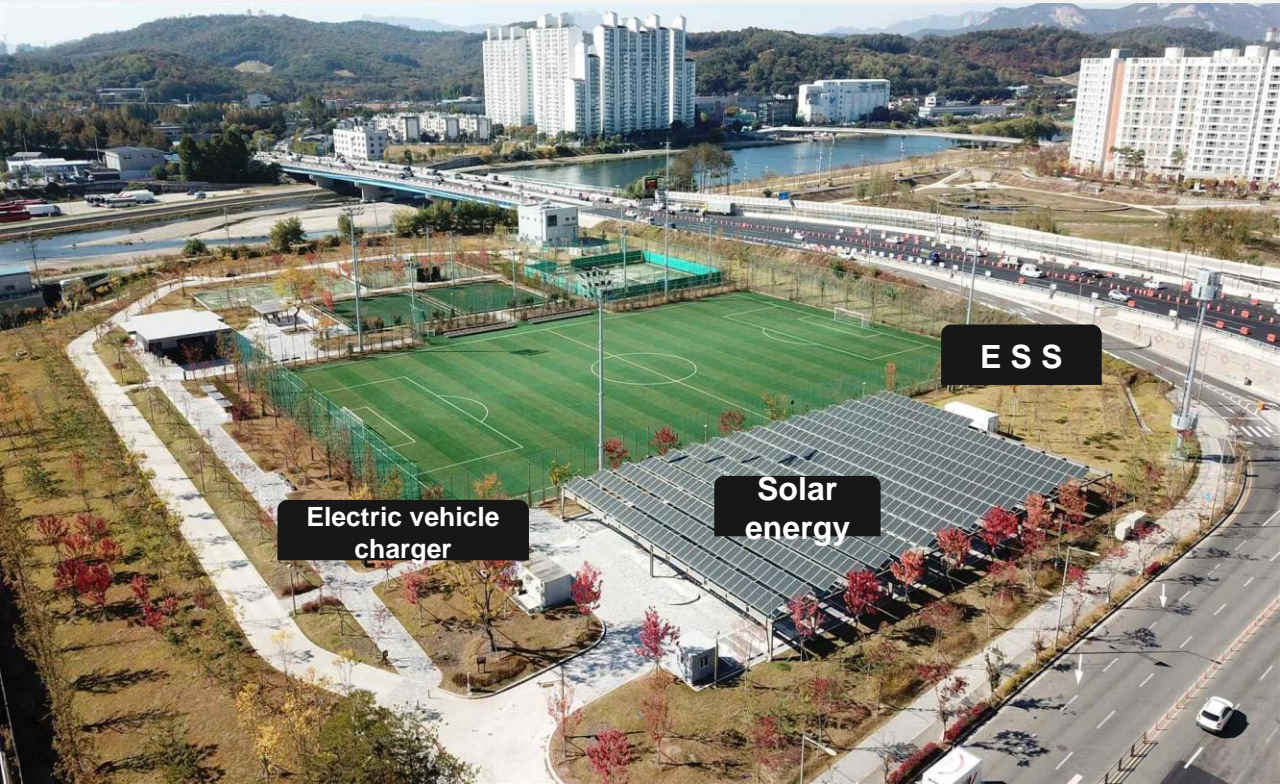
Local services of a virtuous circle structure that contribute to the local economy by paying incentives in Daedeok eLoun, a local currency



04-3 Transforming Energy and Mobility for practicing zero carbon

Zero Energy Park, which stores some of its solar power generated in the parking lot to an Energy Storage System (ESS).

→ Providing various community amenities such as electric vehicles charging stations, solar tables, kiosks, continuous lighting, etc.,



04-4 Creation of Children's Net Zero Science Center

주민이
동행하는
대덕

Contributing to the popularization of science by creating a children's science center under the theme of climate crisis response and energy transition

→ Close the gap between science culture and science infrastructure between the East and West part of Daejeon

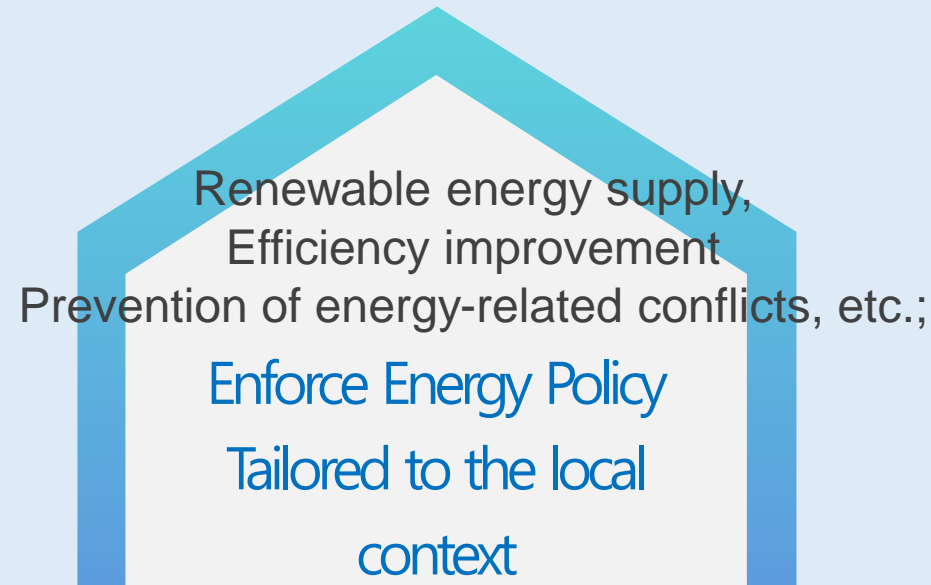
Spreading awareness of climate crisis response / Application for public contest scheduled in 2022



04-5 Creation of Daedeok-gu Local Energy Center

Laying the foundation of private-led climate crisis response to realize sustainable energy transition

- Planning and management of private sector projects within the framework of local energy transition policies
- Realization of energy autonomy and decentralization by establishing a citizen-led energy transition platform



Local Energy Center



Planning a Policy Project

- Support for the establishment of local energy plans
- Planning local energy projects
- Establishment of a network of related agencies

Project Operations

- Operation of a commissioned project from the local government
- Project execution, monitoring
- Local energy statistics management

Citizen Participation and Communication

- Education of and promotion to citizens
- Prevention and coordination of conflicts

THANK YOU
