Logistics Real Estate Series Report

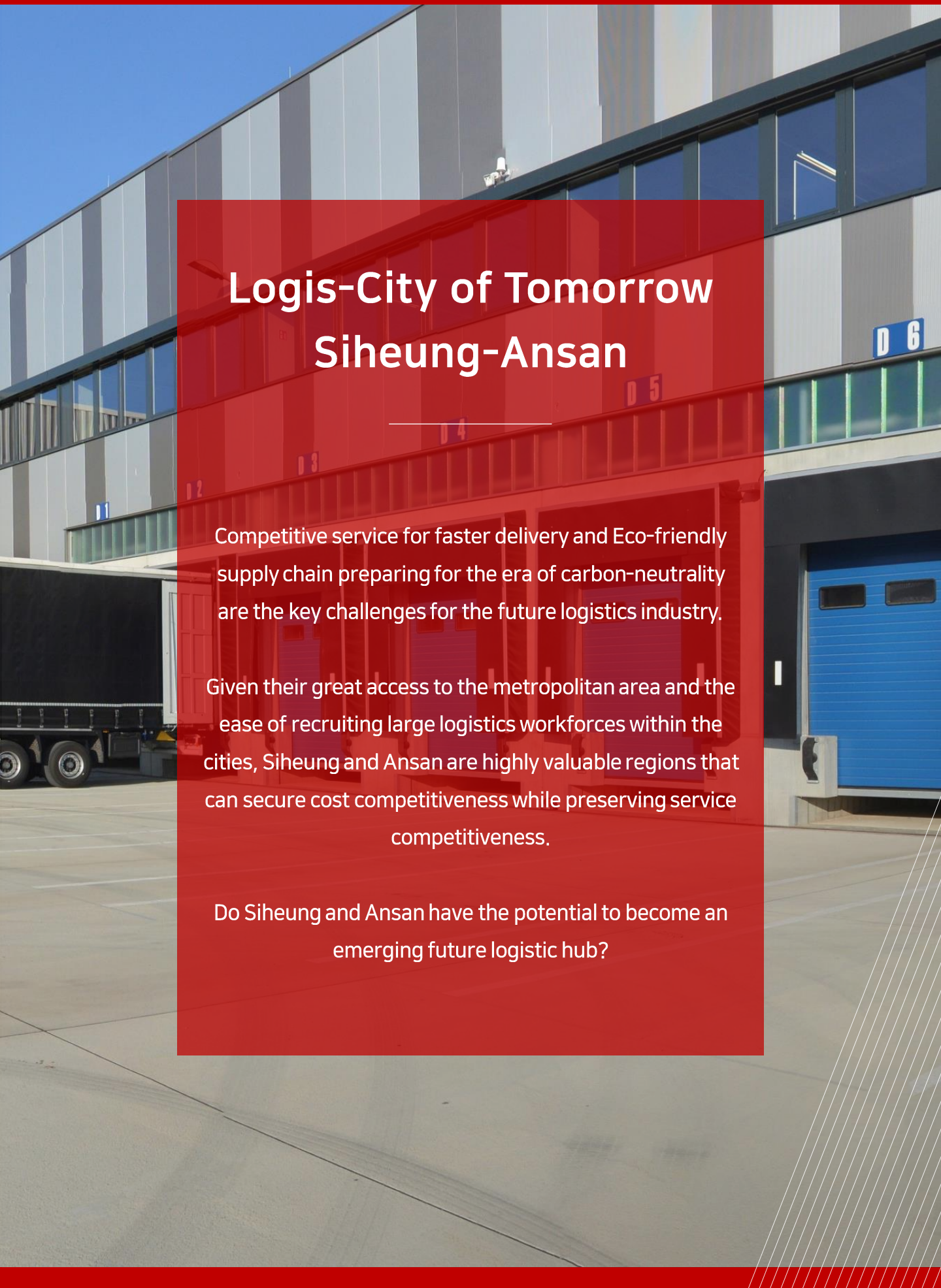
Warehouse tenant analysis by region

Logistics Tenant Profile

Siheung·Ansan

Feb 2017

CUSHMAN & WAKEFIELD



Logis-City of Tomorrow Siheung-Ansan

Competitive service for faster delivery and Eco-friendly supply chain preparing for the era of carbon-neutrality are the key challenges for the future logistics industry.

Given their great access to the metropolitan area and the ease of recruiting large logistics workforces within the cities, Siheung and Ansan are highly valuable regions that can secure cost competitiveness while preserving service competitiveness.

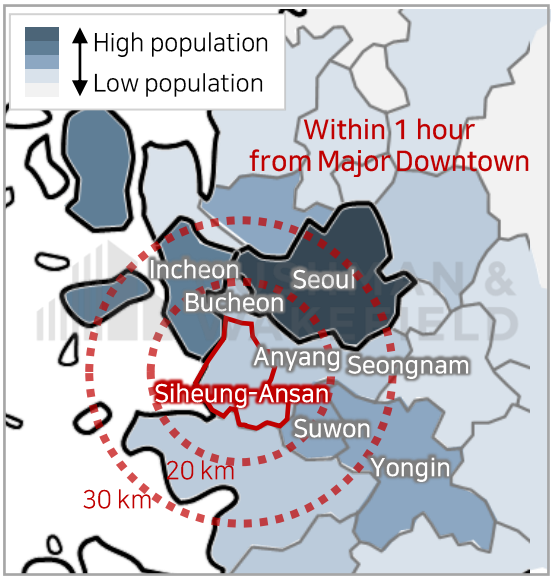
Do Siheung and Ansan have the potential to become an emerging future logistic hub?

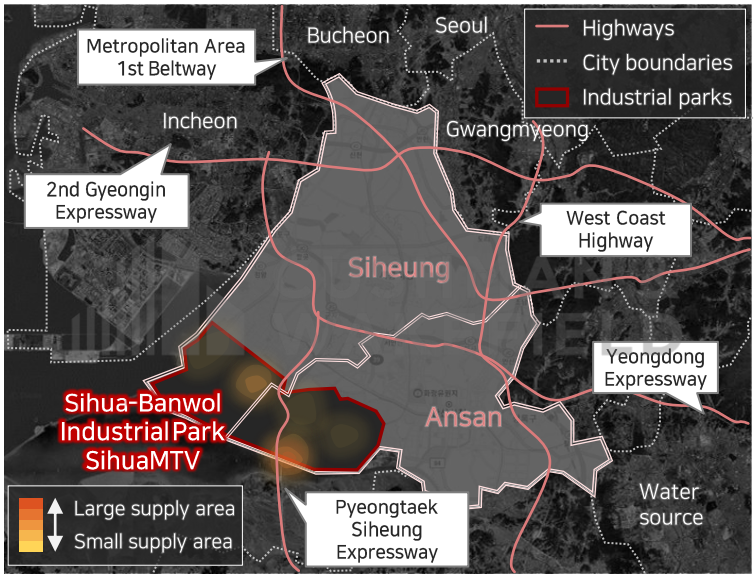
Emerging urban logistics hubs

A. Supply status of distribution centers in Siheung-Ansan area

- Siheung and Ansan areas can access major cities such as Seoul, Incheon, and Suwon, a densely populated area within one hour by taking advantage of the wide-area transportation network. It is emerging as a logistic base for e-commerce retailers.
- Since 2019, the supply of new logistics centers has increased rapidly, especially in industrial complexes (Sihwa-Banwol, Sihwa MTV). In particular, by absorbing 'import, processing, distribution' warehouse demands, it is widely used as a logistics base for manufacturing companies such as Hanssem and Korea Paper.

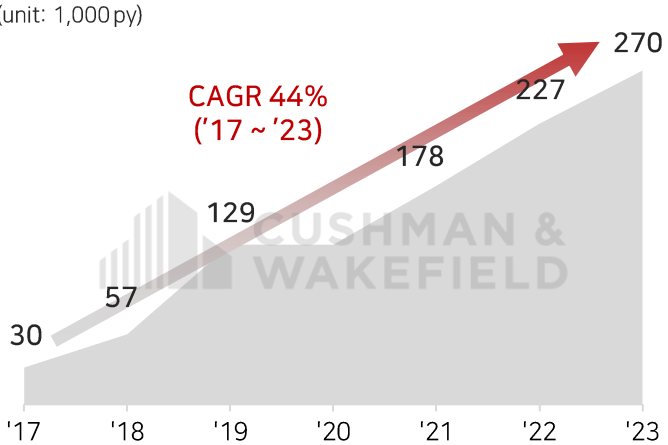
Status of Warehouse



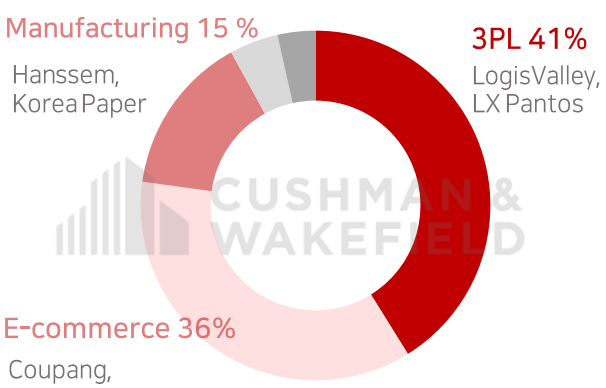


*Cumulative quantities of Warehouse

(unit: 1,000 py)



*Percentage of warehouse tenant by industry



Note1: Scale of 5,000 py+ in the Siheung-Ansan area, as of November 2023

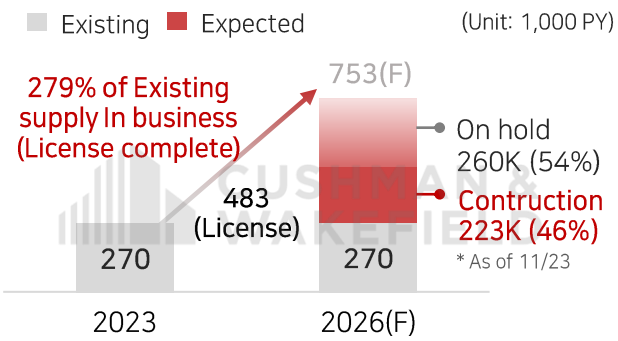
Source: C&W Research

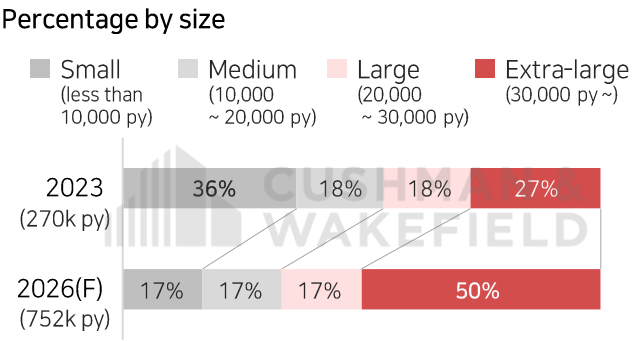
Emerging urban logistics hubs

A. Supply status of distribution centers in Siheung-Ansan area

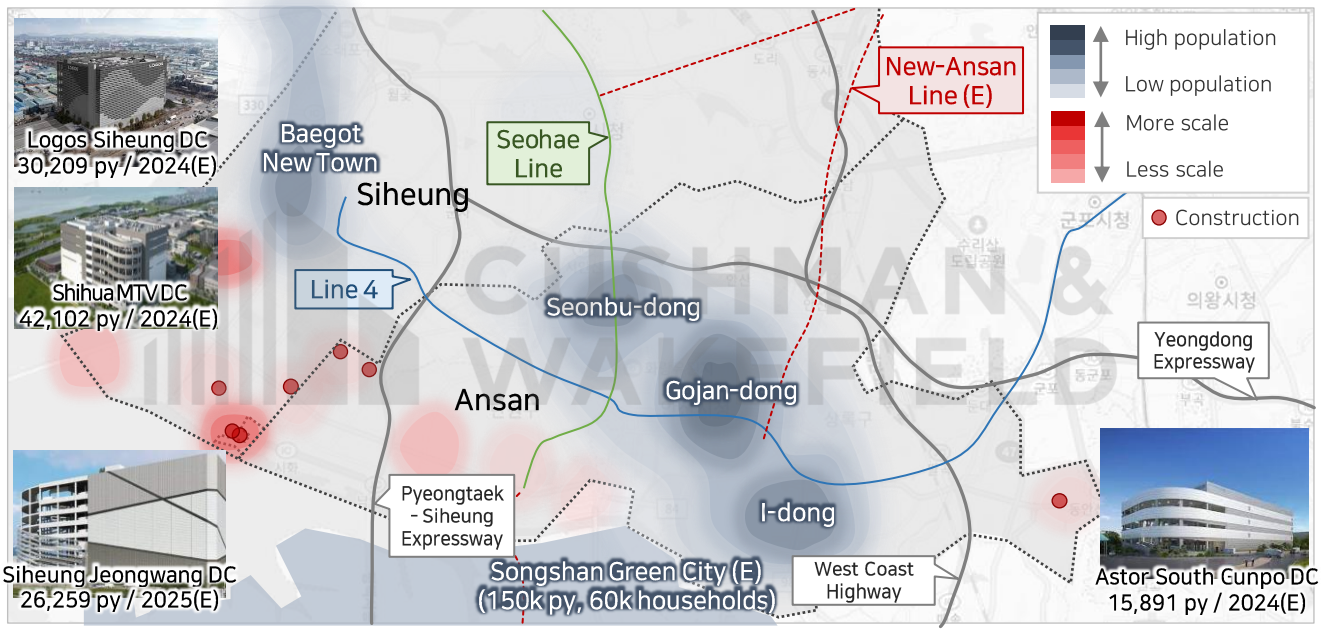
- It is planned to supply a large-scale logistics center of 483,000py by 2026, which is about 2.8 times more than the existing supply. **Due to the worsening investment environment, only about 46% of construction has begun**, and construction that has not started appears to bump into a completion delay or project cancellation. Therefore, **supply is likely to sharply decrease than expected.**
- **The development of new large-sized distribution logistics centers** to perform fulfillment functions **is steadily increasing. Abundant residential demands and improvements in transportation infrastructure have led to active population growth.** Thus, the location value as a fulfillment center is expected to increase further.

New supplies[2]





Major New Supplies



Note2: Scale of 5,000 py+ in the Siheung-Ansan area, as of November 2023

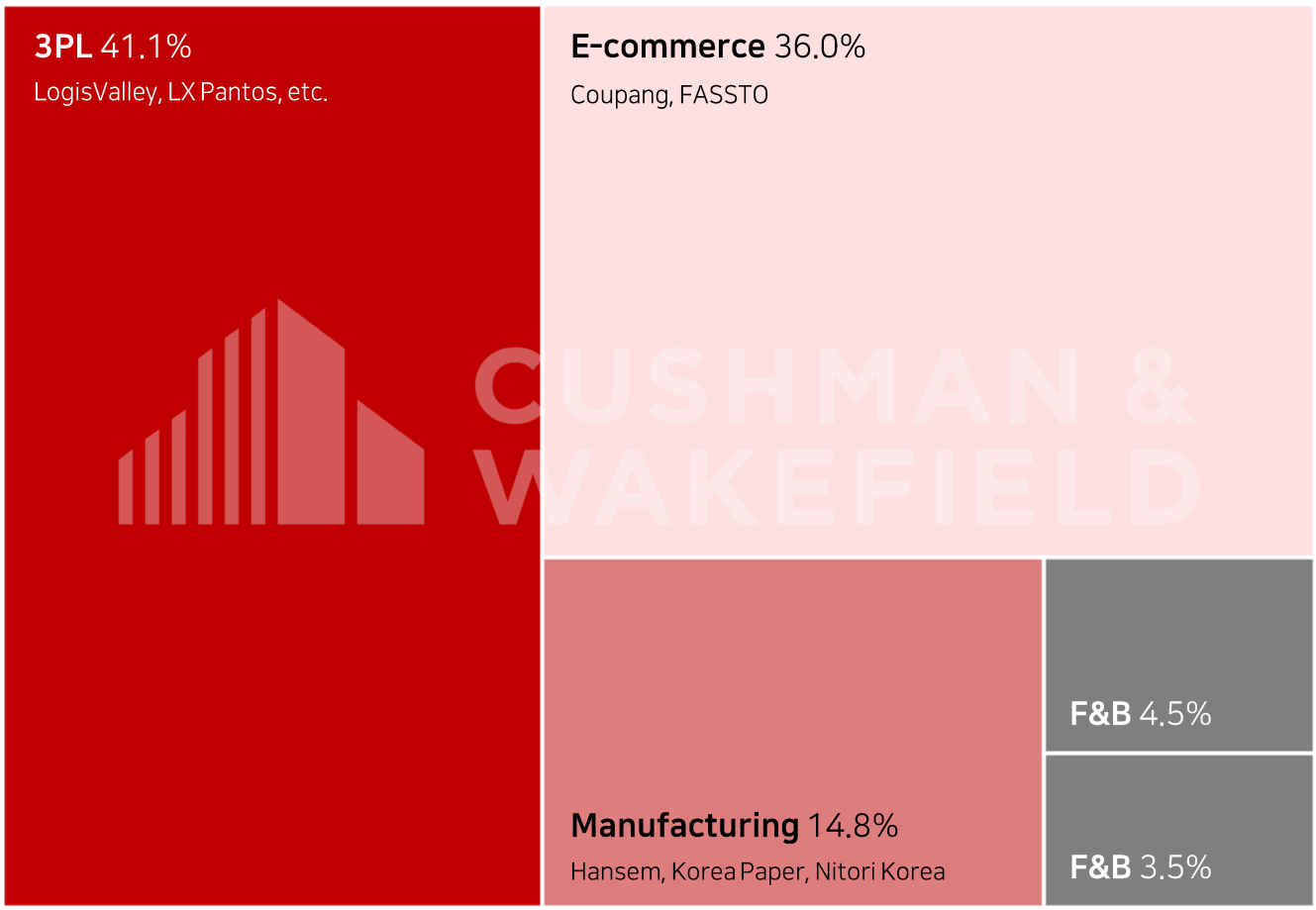
Source: C&W Research

Who is the primary tenant?

B. Proportion of tenants by Industries (by GFA)

- 3PL logistics companies occupy the largest area, followed by e-commerce, manufacturing, F&B, and distribution.
- In Siheung and Ansan, **Logis Valley**, which carries out logistics center development and rental business, and **LX Pantos** Logistics Center, which mainly carries out pan-LG affiliates, are located. Recently, fulfillment centers for e-commerce companies such as **Coupang and FASSTO** have been running. Additionally, manufacturing companies such as **Hanssem and Korea Paper** are occupying this area.

Tenant Proportion [3]



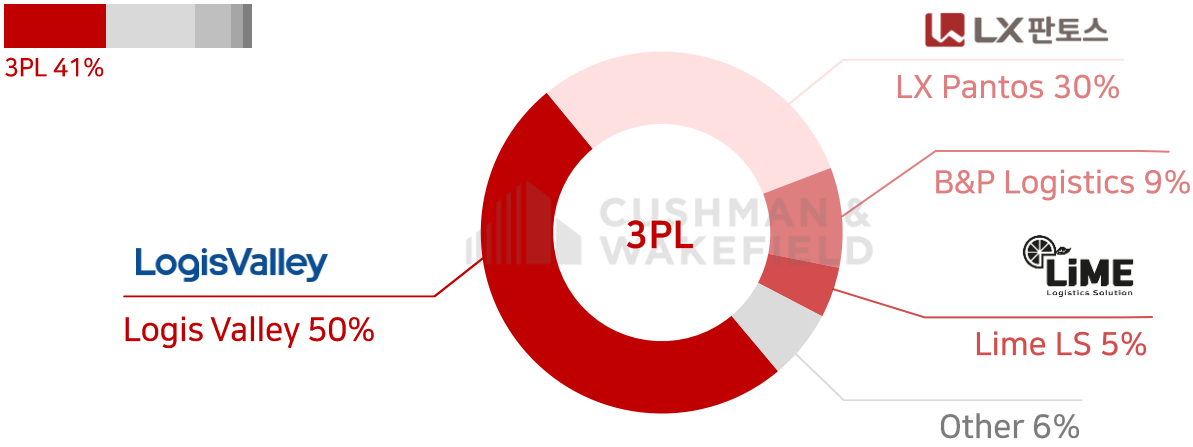
Note3 Scale of 5,000 py+ in the Siheung-Ansan area, as of November 2023

Source: C&W Research

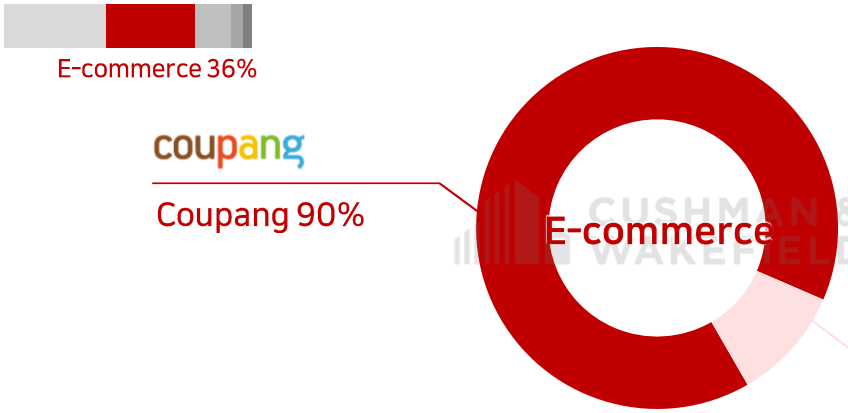
Who is the primary tenant?

B. Proportion of tenants by Industries (by GFA)

Proportion of 3PL companies



Proportion of e-commerce companies



Proportion of manufacturing companies

Source: C&W Research

Environmental policy changes

C. Changes due to strengthened restrictions on diesel

- Following the Seoul announcement of 'Cleaner Seoul 2030' to improve air quality, **class 4 vehicles will be restricted in all areas of Seoul from 2030, and all internal combustion engine vehicles will be restricted from 2050.** It is **now possible to apply for a license exclusively for courier delivery with eco-friendly fuel trucks** (LPG, electric vehicles).
- Considering that approximately 90% of delivery vehicles are currently diesel vehicles, **acceleration of the transition to eco-friendly vehicles is inevitable.** Leading to the rise of transportation costs, **the value of urban logistics hubs capable of multi-rotation transport in a short distance will further increase.**

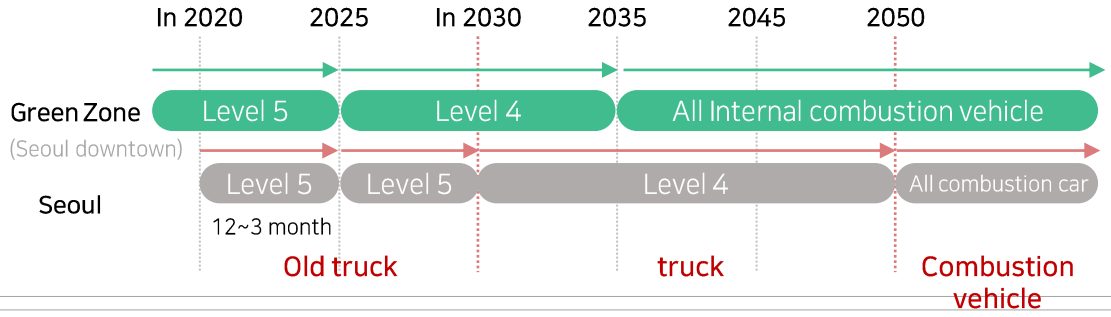
Eco-friendly transition

Dissel Res-tric-tions

'Cleaner Seoul 2030' Announcement to improve air quality

- Restrictions on driving diesel vehicles in green transportation zones from 2025, All diesel vehicles will be banned from entering Seoul from 2030, Restrictions on driving all internal combustion engine vehicles from 2050.
- Starting in 2026, All Delivery trucks and village buses will be replaced with electric vehicles.

*Operational restrictions phased implementation plan



Eco shift

Implementation of the 'Air Quality Management Area Act'

- From January 1, 2024, new diesel vehicles cannot be issued for delivery business.
- Only eco-friendly fuel trucks (LPG, electric vehicles) can apply for delivery license plates (no new diesel vehicles)

Dissel truck share 90%

▶ Used diesel trucks 10~15 million won < LPG Trucks 20~30 million won | Electric trucks Over 40million won

The burden of purchasing vehicles is expected to increase in the delivery business.

Source: Korea Living Logistics Courier Service Association, Survey of delivery workers

Source: C&W Research

Environmental policy changes

D. Changes due to carbon tax imposition

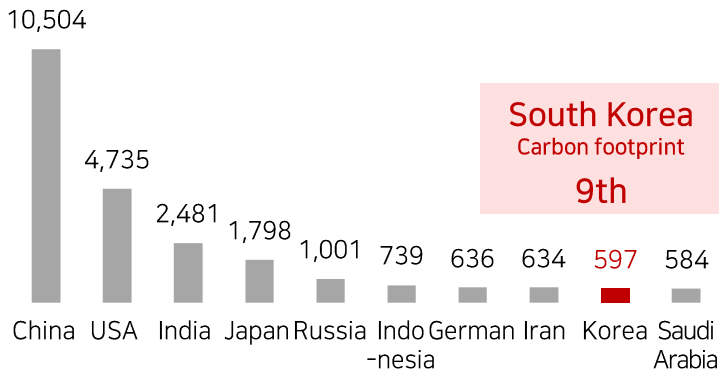
- To prevent global warming and the climate crisis, **imposing a carbon tax has become prevalent across the nation.** Korea is also likely to impose a carbon tax shortly.
- **When a carbon tax is imposed, it is expected to cost at least 3 to 5 million won per freight vehicle every year, which brings about further increase in transportation costs.**

Carbon tax

Continuation of movement on imposing a carbon tax to prevent the climate crisis

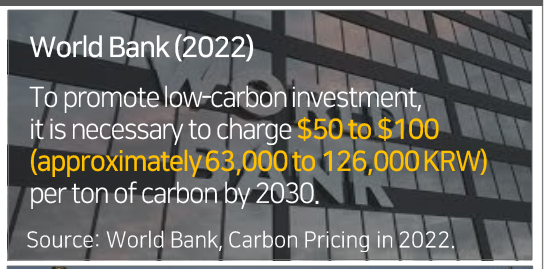
▌Carbon dioxide emissions by country (2022)

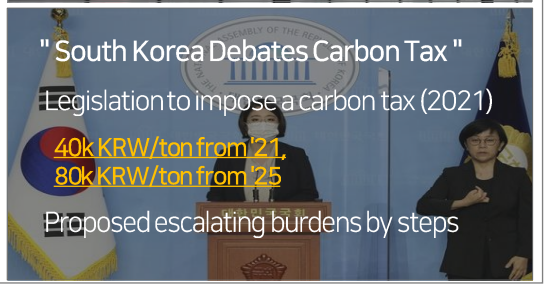
(Unit: $MtCO_2$)



South Korea
Carbon footprint
9th

Source: Enerdata





How a carbon tax could change the logistics landscape

▌Number of commercial trucks and CO_2 emissions (2020)

12 tons or less

CO_2 emissions
321,993 tCO_2

÷

Number of truck
7,575 units

=

CO_2 emissions per unit
42.5 tCO_2

Source: Korea Transportation Research Institute

▌Estimating the amount of carbon taxes per vehicle[4]

CO_2 emissions	Carbon taxes	Carbon Tax Amount
42.5/tCO_2	80,000 KRW/tCO_2	3,401,035 KRW/year
	120,000 KRW/tCO_2	5,101,553 KRW/year

+ 3-5 million won per year

Expected 7-11% decline in net income

Source 4: Yong Hae-in lawmaker's proposal.
Source 5: Transportation Research Institute, 2021

Eco-friendly logistics companies

E. Status of eco-friendly delivery system

- In response to a tendency to restrict diesel and impose carbon taxes, distribution and logistics companies are also focusing their efforts on establishing green delivery systems.
- In addition to **introducing eco-friendly vehicles such as electric and hydrogen vehicles**, they are **building delivery centers equipped with charging solutions and optimizing logistics networks**.

Examples of building eco-friendly delivery systems

CJ Logistics

Introducing eco-friendly vehicles

- Operated roughly 1,600 electric trucks since 2020.
- Through technical cooperation with Kia Motors, plan to introduce purpose-based mobility (PBV) exclusively for logistics in 2025 and replace all vehicles with electric ones by 2030.

Coupang

Building an electric vehicle delivery center with charging solutions

- Introduced ceiling-type medium-speed charging system, charging available 24 hours, 365 days/year at any time.
- Established in 5 regions of the metropolitan area, planned to gradually expand nationwide.

IKEA Korea

Introducing electric trucks and optimizing the logistics network

- Plan to convert 100% of furniture delivery vehicles to electric trucks by 2025.
- Use store as a hub by expanding the delivery space in it and facilitate online and offline delivery.
- Minimize unnecessary vehicle operations by optimizing delivery routes.

Source: C&W Research

Fast delivery services like rocket, shooting, super delivery,
Rapid Transition to sustainable eco-friendly logistics system

Building a supply chain that can reduce carbon
while providing fast delivery services to customers
is becoming a necessity, not an option.

Siheung and Ansan
emerging as future e-commerce logistics clusters
from the manufacturing center of the industrialization era.

'Cushman & Wakefield',
which offers a quick strategy
for changing commercial real estate in Korea,
promises success in the future.

CUSHMAN & WAKEFIELD

Disclaimer

The data used in the analysis was calculated and analyzed based on our logistics real estate DB, and are source data that are not available to other companies.
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- Market Due Diligence & Feasibility Study
- Logistics Leaseing
- Acquisition & Disposition

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- Logistics Real Estate Feasibility Analysis Report
- Warehouse Design Consulting
- Big data-driven Logistics Advisory

Logistics Leasing

- Leasing Advisory
- Logistics Center Marketing
- Logistics Center Due Diligence Representation

Acquisition & Disposition

- Disposition/Acquisition Advisory
- BUILD-TO-SUIT(BTS) Advisory
- Logistics Development Advisory

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