



Session7 : Finding New Solution through Building Smart Cities

Smart City Projects

Challenging Zero Energy Town



エコ・ファースト企業
環境大臣認定

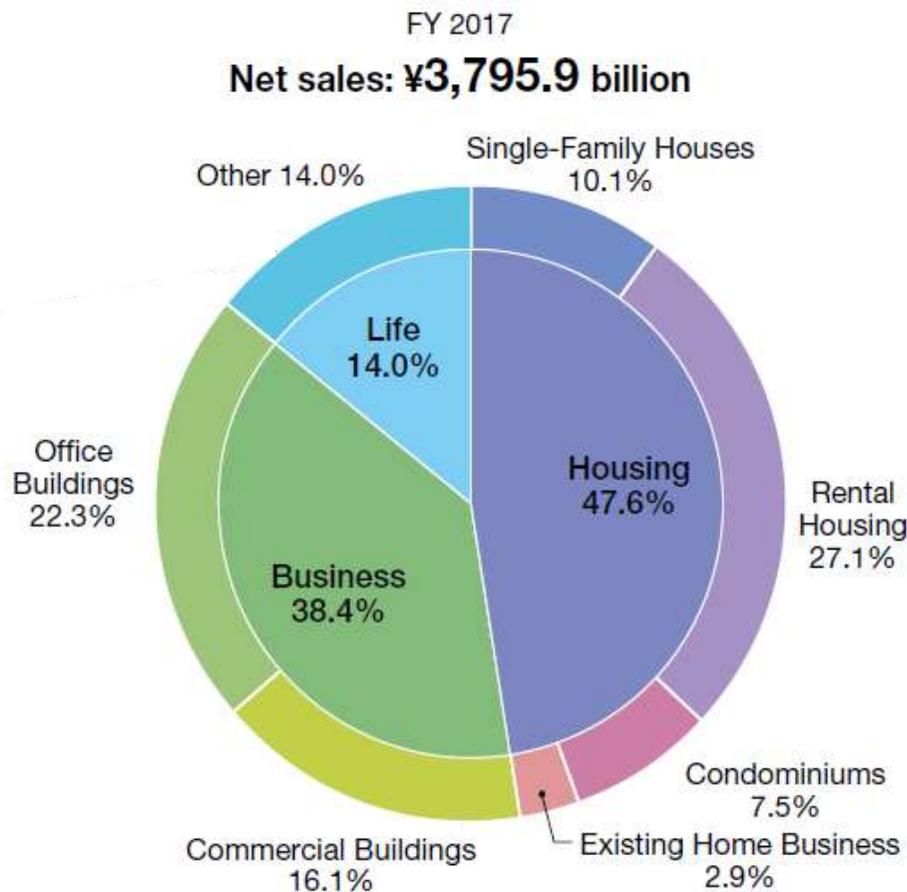
 We Build ECO
Daiwa House Group®

Daiwa House Industry Co., Ltd.
Department of Environment
February 16, 2019

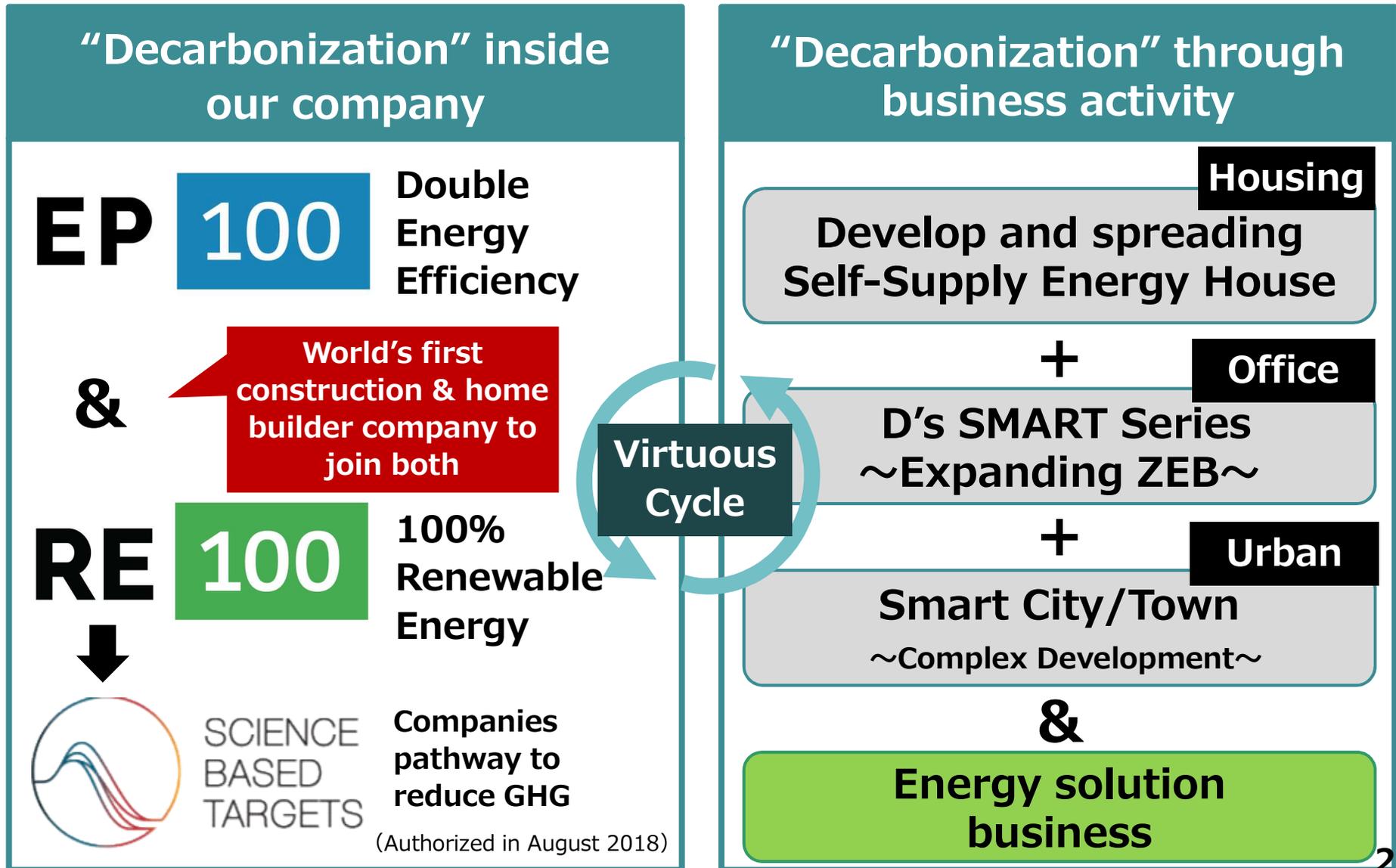
Daiwa House
Group

Introduction – Our Company –

| Established | Employee |
|--------------------|-------------------|
| April 5, 1955 | 39,770 |
| Net Sales (FY2017) | Number of Company |
| 3,795 Billion Yen | 304 |



“Reduce, Produce, Store Energy” for competitiveness



【 Vision 】

Community value into the future

【 Mission 】

Design & Management

【 Value 】

8 H E A R T S

-Eight values for people and regions-

For the benefit of “people”



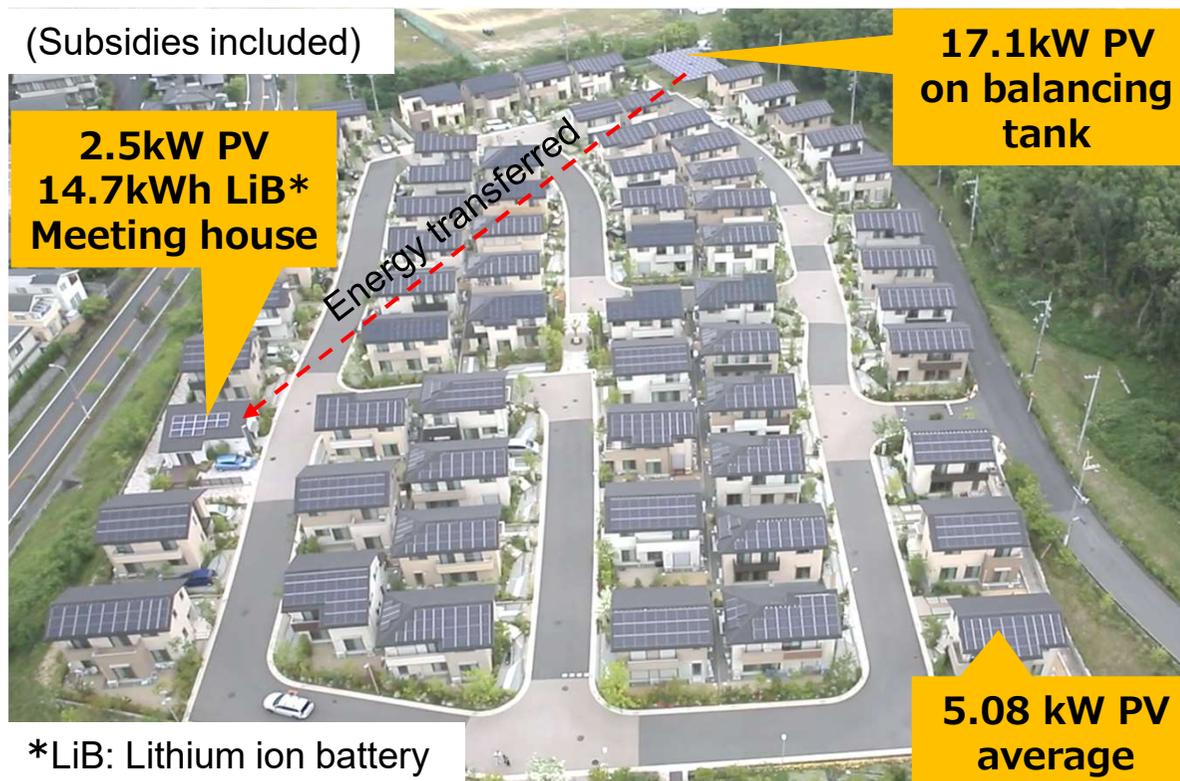
For the benefit of “region”



POINT

Japan's first Net Zero Energy Town (FY 2013)

- Accomplished **Net Zero Energy Town** by producing more energy by PV (3,803GJ/year) than the amount of energy consumed (3,461GJ/year) . 111% greater energy produced by PV.
- This smart city includes **PV + Li-Ion Battery, Fuel Cell or CO₂ Heat pump water heater** for ZEH.



- All houses include
 - 5.0kW photovoltaic power system
 - Li-ion battery system
 - Fuel cell system or CO₂ Heat pump water heater
 - D-HEMS system
- Net Zero Energy House (ZEH)

POINT

Safest Storage Battery installed in houses

- Daiwa House is the largest stakeholder.
- Top priority of this battery is **"safety"**.
- Eliiy power battery cell is the only company certified by world widely known organization **"TÜV Rheinland"**.
- Long service life is guaranteed, boasting an **80.1% capacity retention** after repeated use for 10 years.



● Storage battery product



For Houses



Power YILLE 3



Power iE5 Link

For commercial and office



Power Storager 10

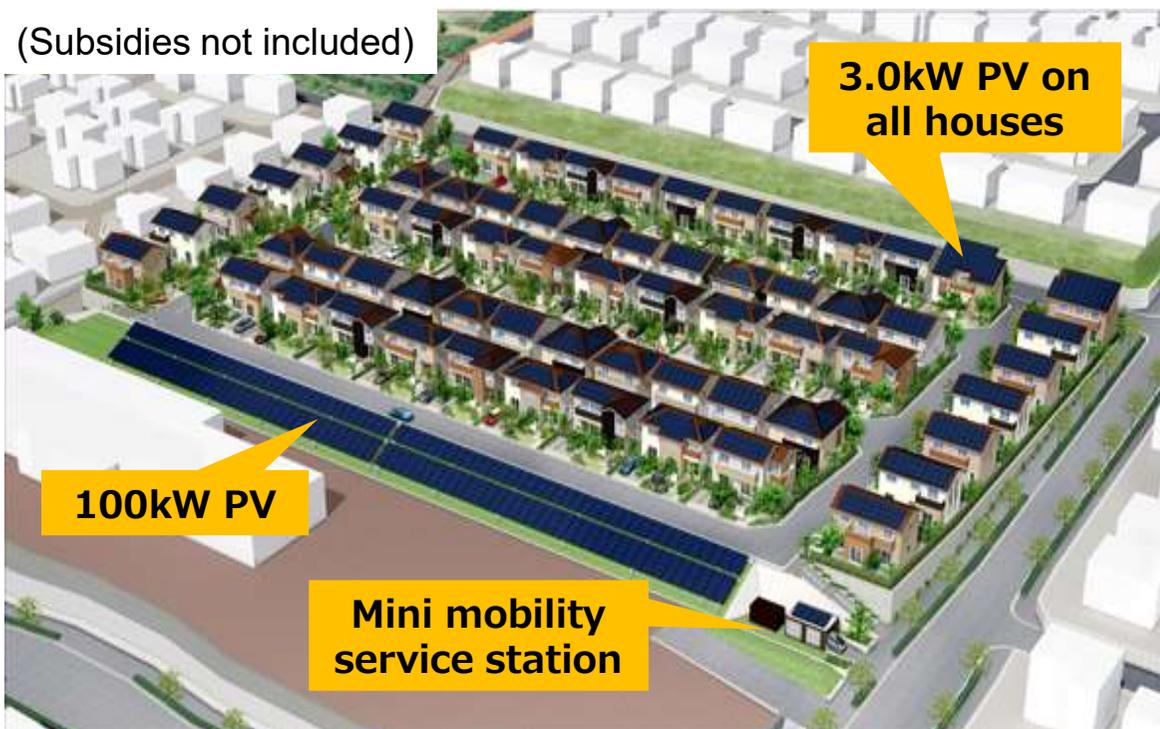


Hidamarino Oka Project (Mie Prefecture) Daiwa House Group™

POINT

Second Net Zero Energy Town (FY 2014)

- First in Japan to use electric power **revenue from PV** for management of the town.
- Achieving Net Zero Energy Town by installing **100kW PV** on the slope of the town **reducing the initial cost by minimizing the PV** on each houses.



100kW PV on the slope of the town



Free electric mobility rental service

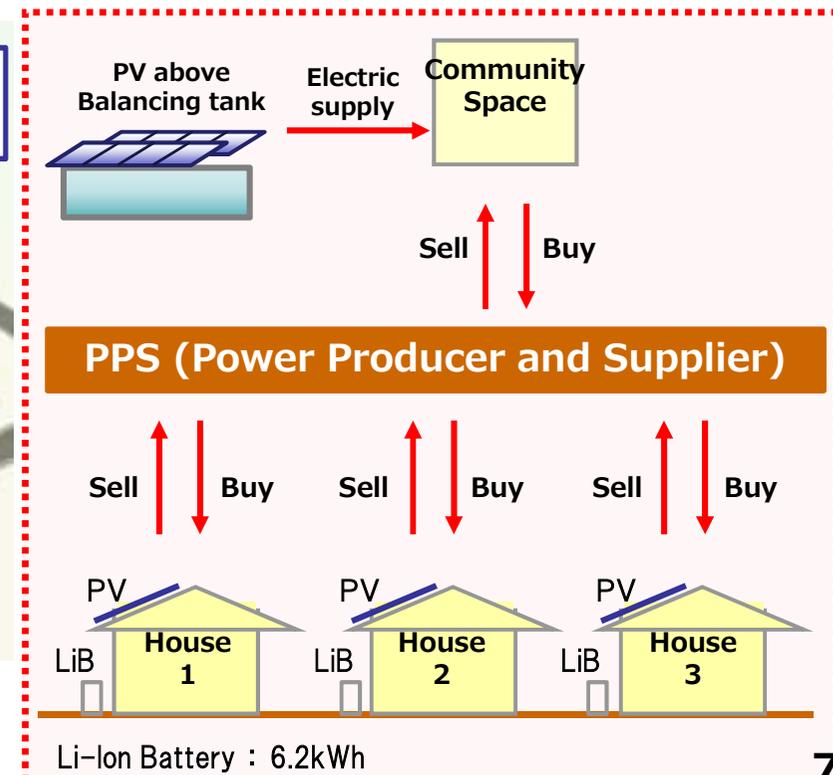
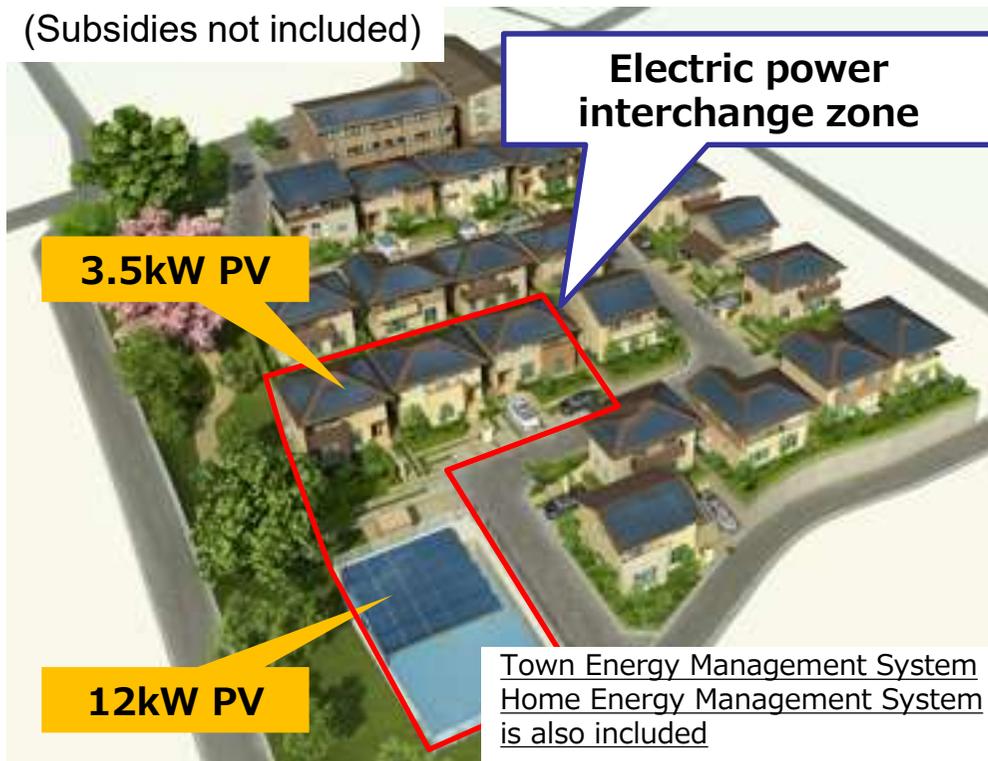
Toyota Kakimoto Project (Aichi Prefecture)

POINT

Electric power interchange in town (FY 2015)

- Aimed to accomplish **electric power interchange** between 3 houses.
- Designed to increase the self-consumption rate by producing and consuming the energy at the same site.
- By interchanging electric power, self-consumption of PV in this town has increased compared to Harumidai.

(Subsidies not included)



SakuLa City Hachioji Takao Project (Tokyo Prefecture)

POINT

Energy efficiency in complex development (FY 2017)

- Focused on “**energy**” for the town development.
- Organized energy **visualization system** between houses, condominiums and commercial stores.
- Enforced the “**Cool Share**” and in case of earth quake, electricity will be supplied from commercial store to condominium.



PV, fuel cell, storage battery is installed in 80% of the houses



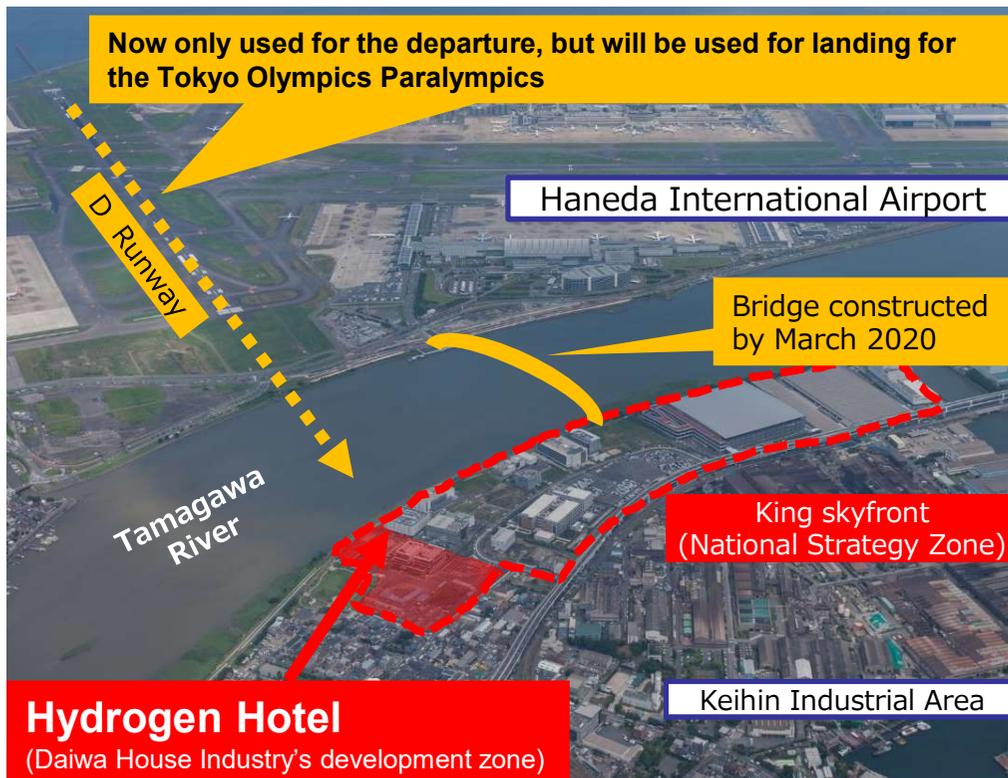
Visualization system

King Skyfront Project (Kanagawa Prefecture)

POINT

World's first Hydrogen Hotel (FY 2018)

- Operated by using the **hydrogen** originated from **wasted plastic** from neighborhood facility.
- Hydrogen originated from waste plastic is **non CO₂ emitting energy**.
- This experiment will affect the future of infrastructure weather **delivering hydrogen by pipeline** is possible.



Daiwa House Industry's development zone



External appearance of hydrogen hotel

Our goal in developing smart cities are to **expand the use of renewable energy** and **efficiently use energy**.

PV Self-Consumption Percentage

Harumidai



<

Toyota
Kakimoto



<

Now
Planning



- **Daiwa House's long term Environmental Vision**
 - Co-creating value for **individuals, communities,** and **lifestyles.**
 - Trying to make **zero environmental impacts** within our group, globally, and through supply chains.





Daiwa House®

大和ハウスグループ

Thank you.