



**ATMO**  
sphere

Business Case for  
Natural Refrigerants

12/02/2019  
TOKYO

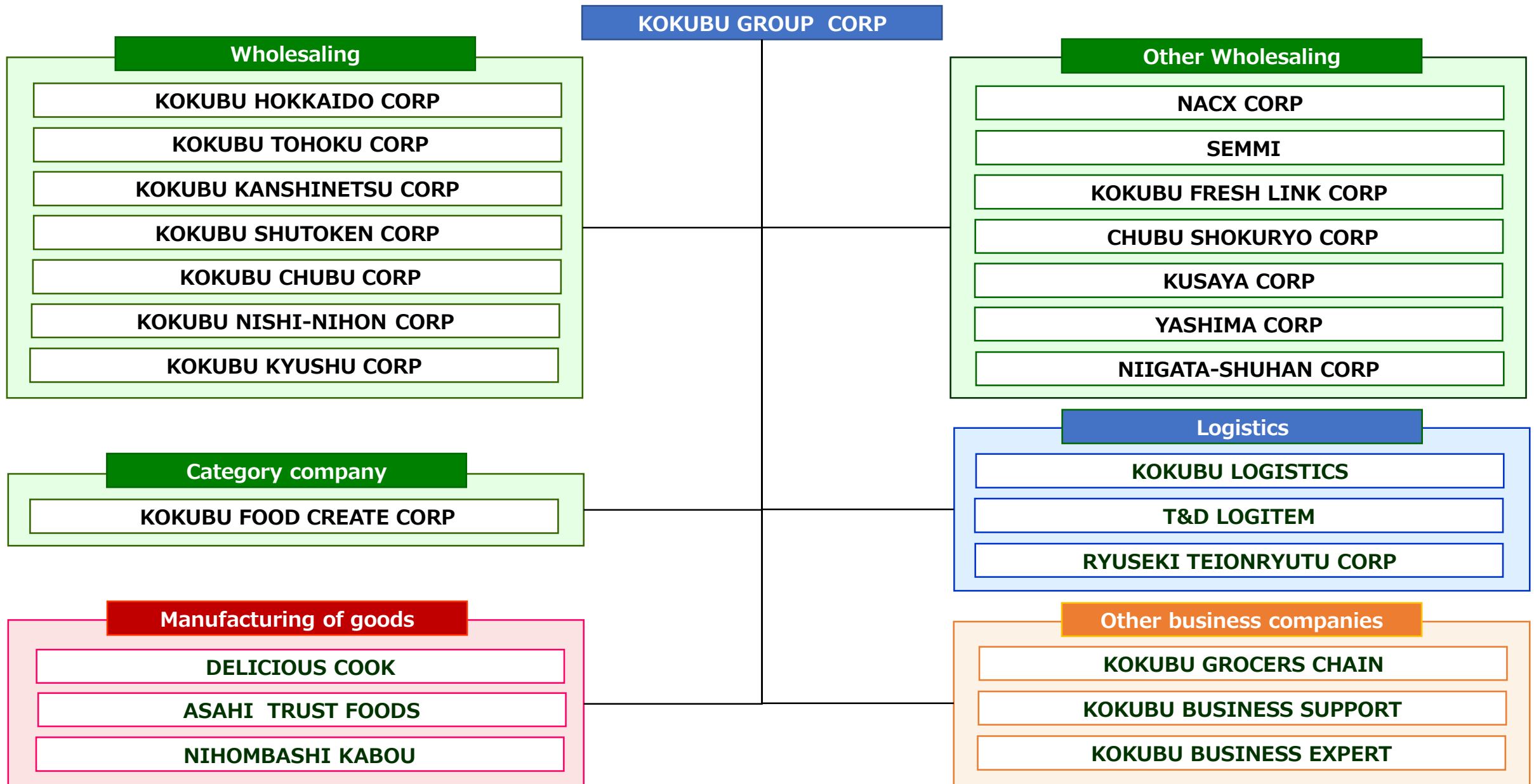


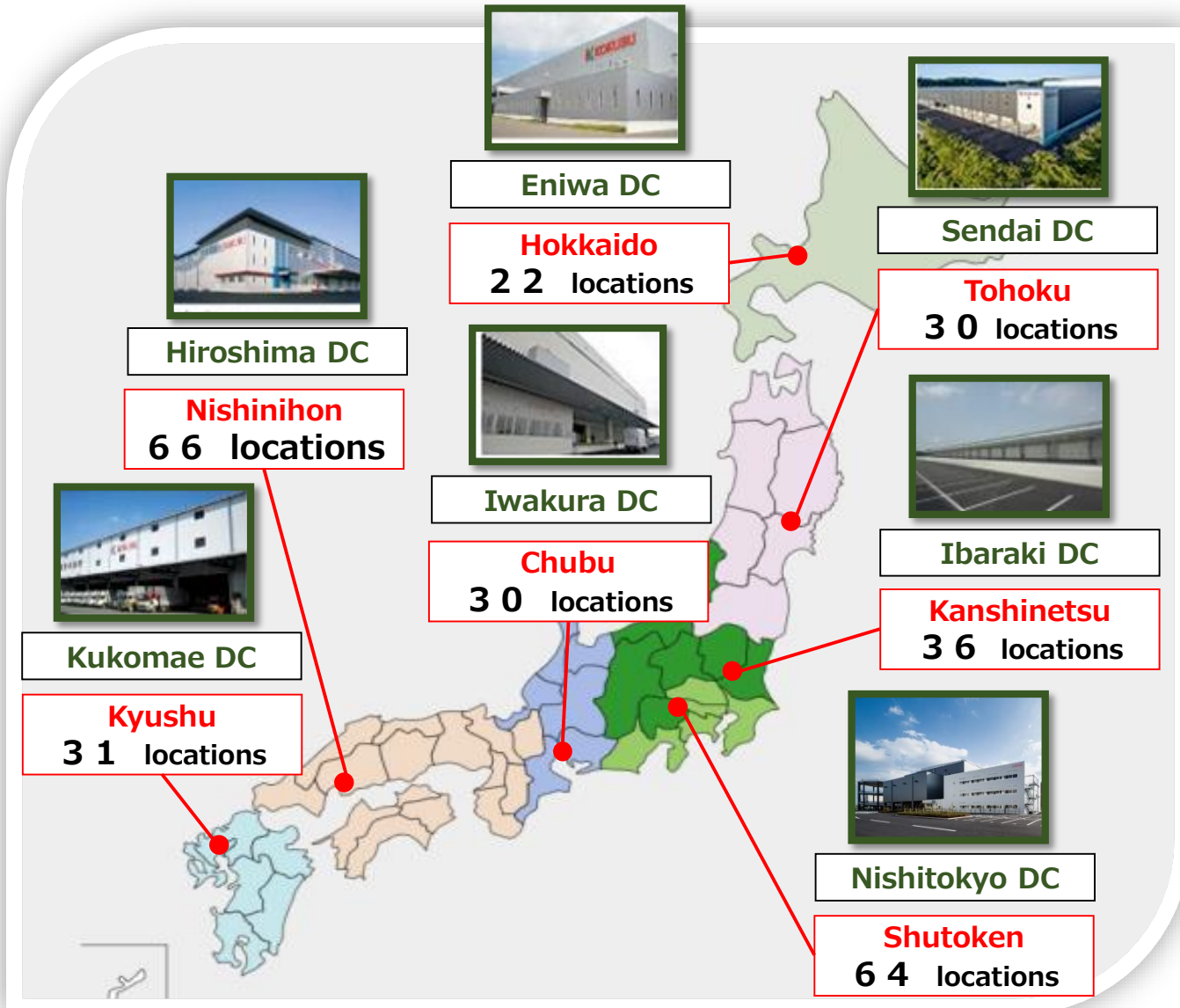
# Initiatives for natural refrigerants

KOKUBU GROUP CORP  
Logistics Group



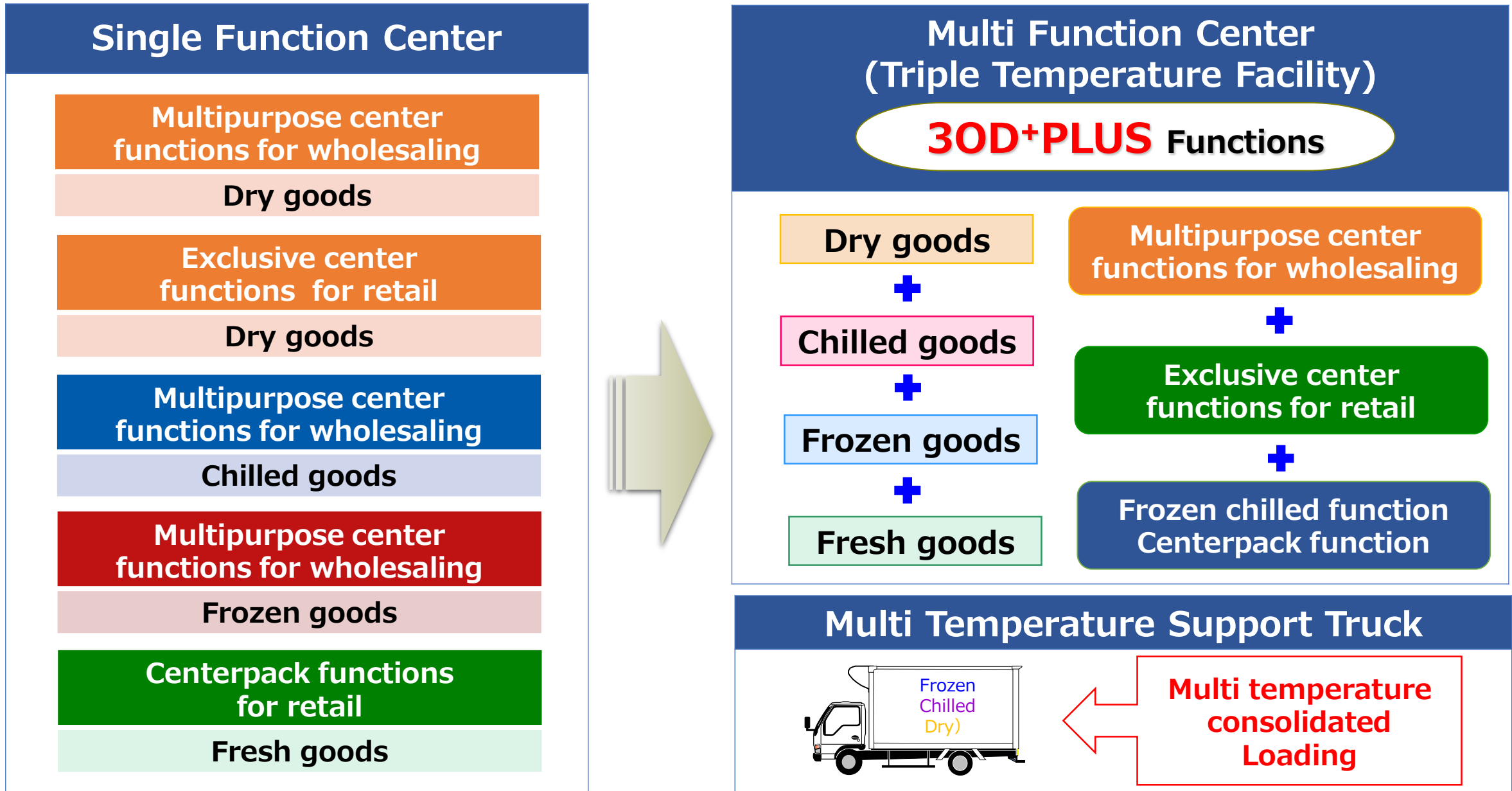
<b>Establishment</b>	<b>1712</b>
<b>Capital</b>	<b>JPY 3,500,000,000</b>
<b>Headquarters Location</b>	<b>1-1-1 Nihombashi, Chuo-ku, Tokyo 103-8241, Japan</b>
<b>Main Business Areas</b>	<b>Wholesaling business (liquor products, food products, consumer related goods and materials), distribution business; import/export business; food manufacturing business; real estate leasing etc.</b>
<b>Annual Sales</b>	<b>JPY 1,879,718,000,000 (consolidated, fiscal year ended December 31, 2017)</b>
<b>Number of employees</b>	<b>5,152(consolidated, as of December 31, 2017)</b>





【Locations by area】

Area	Dry	Frozen Chilled	Total
Hokkaido	1 3	9	2 2
Tohoku	2 2	8	3 0
Kanshinetsu	2 8	8	3 6
Shutoken	4 1	2 3	6 4
Chubu	1 6	1 4	3 0
Nishinihon	3 7	2 9	6 6
Kyushu	2 3	8	3 1
Total	1 8 0	9 9	2 7 9
Multipurpose Center	1 2 3	6 2	1 8 5
Exclusive Center(Retail)	5 7	3 7	9 4



## Environmental policy

### 1 We value the grace from the earth and aim to realize a sustainable society.

- ① We will make an effort prevention pollution of the global environment and reduce the global environment burden.
- ② We will strive to reduce food loss.
- ③ We will promote the usage of environmentally friendly equipment and materials.
- ④ We will do proper treatment of waste thoroughly.
- ⑤ We will promote 3R (reduce, reuse, recycle).

### 2 We promote energy conservation in business activities and We will strive to curb greenhouse gas emissions.

- ① We will promote energy conservation on logistics.
- ② We will promote energy conservation at offices, logistics facilities, factories, and stores.
- ③ We will regularly manage fluorocarbons.



廃棄物の処理現場視察

### 3 We will work actively on environmental communication.

- ① We will strive to communicate with society and disclose environmental information.
- ② Through environmental activities, we aim to increase corporate value.



東京都埋立処分場の見学会

### 4 Each employee acts with consideration for the environment.

- ① We share informations on the environment throughout the group and employees will raise their knowledge themselves.
- ② Foster environmental awareness (Eco-heart), conduct a higher level of actions and fulfill more trusted trade.

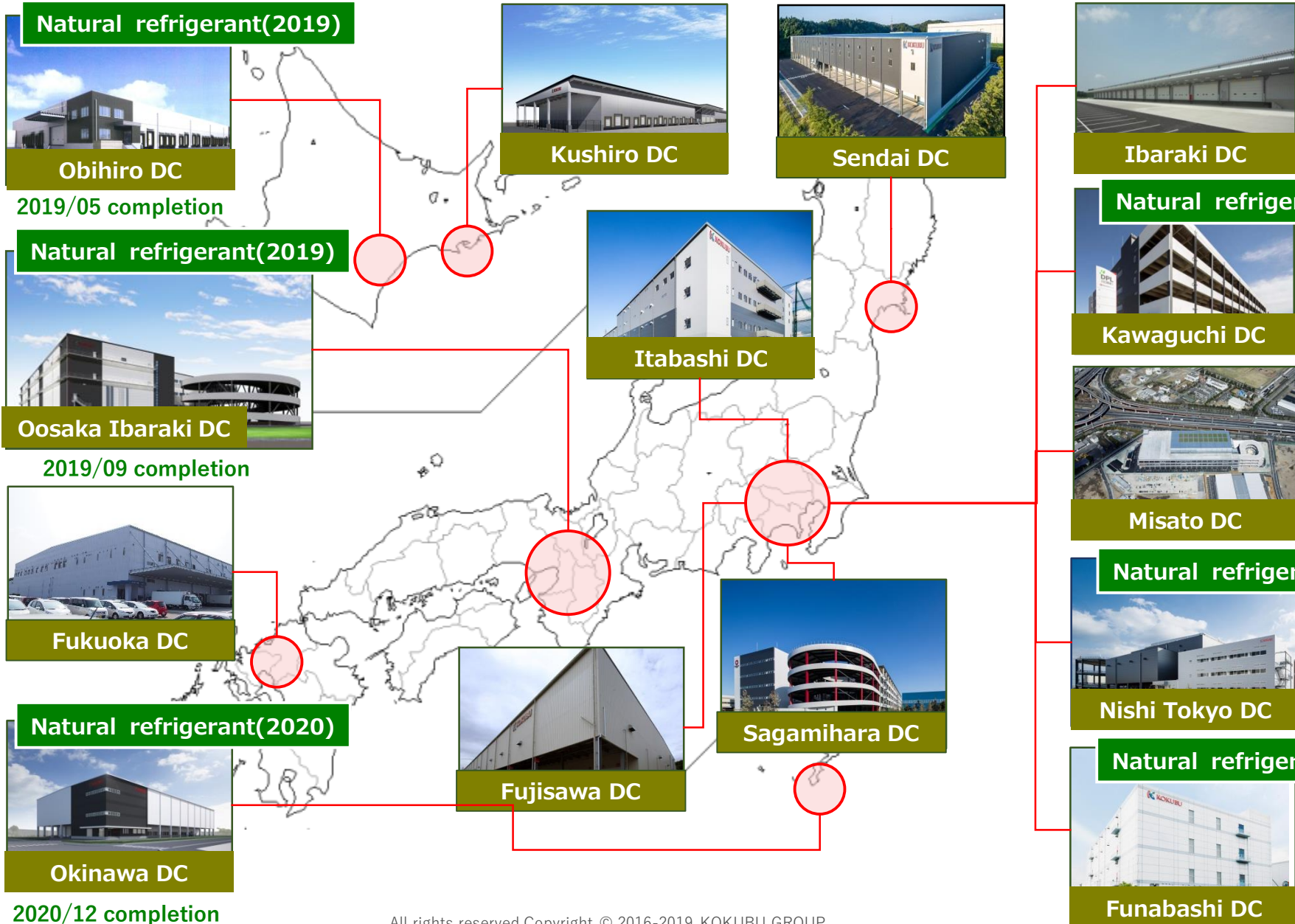
### 5 We will establish an environmental management system and comply with laws and regulations.

- ① We will prepare Kokubu Group environmental management system.
- ② We will conduct employee training and educational activities to raise the understanding of laws and ordinances.

- Natural refrigerant has high initial cost.
- Therefore it is difficult to recover investment without subsidies.

		Freon	NH <sup>3</sup> +CO <sup>2</sup>	CO <sup>2</sup>
Environmental policy		—	Agreement	Agreement
Risk to neighborhood		•There is a risk of generating noise complaints.	•There is a risk of leakage. (Pungent odor)	No risk
Future Prospect		•Poses risk from continuous usage	No risk	No risk
Initial cost (Investment cost)		Low cost	High cost	High cost
Running cost	Electricity fees	High cost	Low cost	Low cost
	Maintenance cost	High cost	High cost	Low cost
Subsidy system		—	◎	◎





**CO<sub>2</sub>**  
Frozen 2,190m<sup>2</sup>  
Chilled 3,060m<sup>2</sup>

**Natural refrigerant(2019)**  
**Obihiro DC**  
2019/05 completion

**Kushiro DC**

**Sendai DC**

**Ibaraki DC**

**CO<sub>2</sub>**  
Frozen 10,600m<sup>2</sup>  
Chilled 11,000m<sup>2</sup>

**Natural refrigerant(2019)**  
**Oosaka Ibaraki DC**  
2019/09 completion

**Itabashi DC**

**Natural refrigerant(2018)**  
**Kawaguchi DC**

**CO<sub>2</sub>**  
Frozen 4,490m<sup>2</sup>  
Chilled 5,170m<sup>2</sup>

**Fukuoka DC**

**Misato DC**

**Natural refrigerant(2016)**  
**Nishi Tokyo DC**

**NH<sub>3</sub>+CO<sub>2</sub>**  
Frozen 9,070m<sup>2</sup>  
Chilled 7,650m<sup>2</sup>

**Natural refrigerant(2020)**  
**Okinawa DC**  
2020/12 completion

**Fujisawa DC**

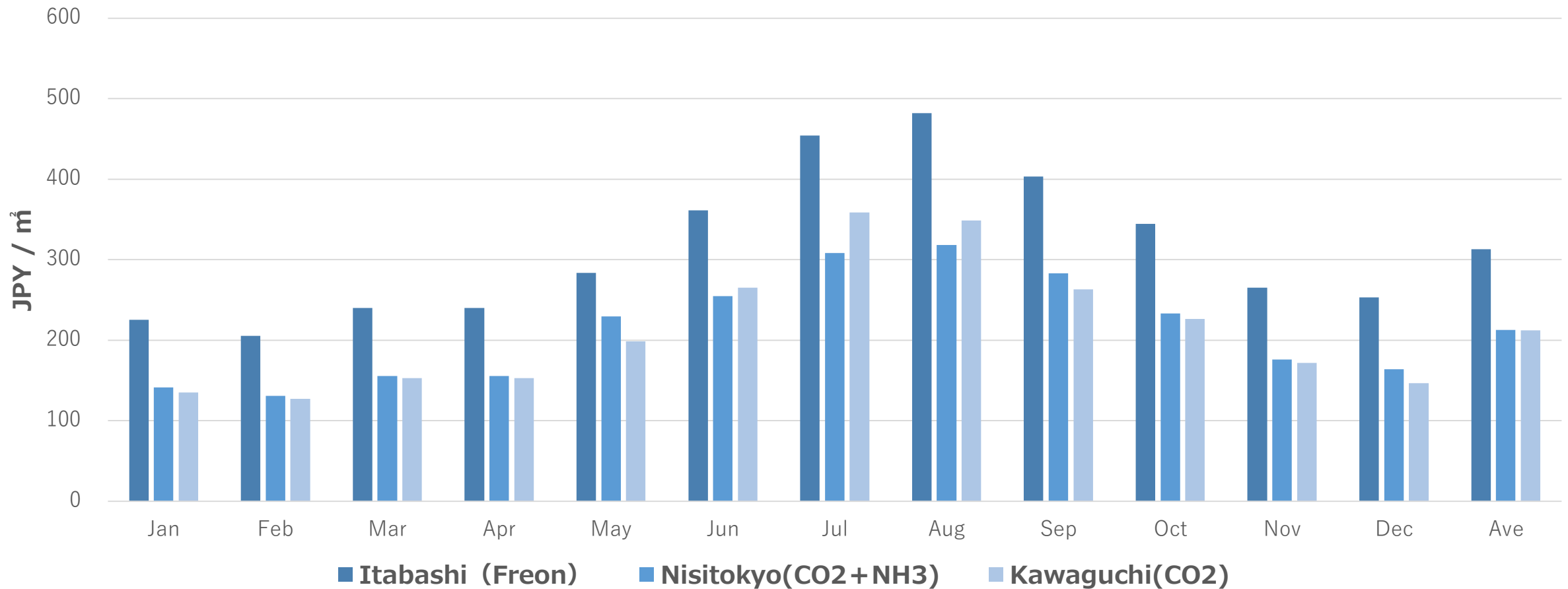
**Sagamihara DC**

**Natural refrigerant(2018)**  
**Funabashi DC**

**CO<sub>2</sub>**  
Frozen 3,580m<sup>2</sup>  
Chilled 1,450m<sup>2</sup>

The electricity consumption per square meter of refrigerated warehouse space is reduced by about 30% when using natural refrigerants versus using freon.

Electricity charge per m<sup>2</sup> (Including cooling water cost)



※ January - May of Kawaguchi Center assumed

**Thank you for  
your listening**