

# METRO F-GAS EXIT AND SUSTAINABILITY

**ATMO**  
sphere

Business Case for  
Natural Refrigerants

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Tokyo Atmosphere Japan Conference 2019

Metro Cash & Carry Japan

**METRO**



# 1. Introduction of Metro Cash & Carry



Metro group is the leading international specialist in Wholesale, Hyper mart, Digital solutions and Food distribution.



Metro Cash & Carry is a registry wholesaler for food professionals such as restaurants and bars.



**25**countries  
**769**stores  
**100,000**employees



# 1. Introduction of Metro Cash & Carry

## METRO Cash & Carry Japan operates 10 stores, since 2002.



**One stop shopping**



**Delivery**



**Customer consultant**



**Video of store**

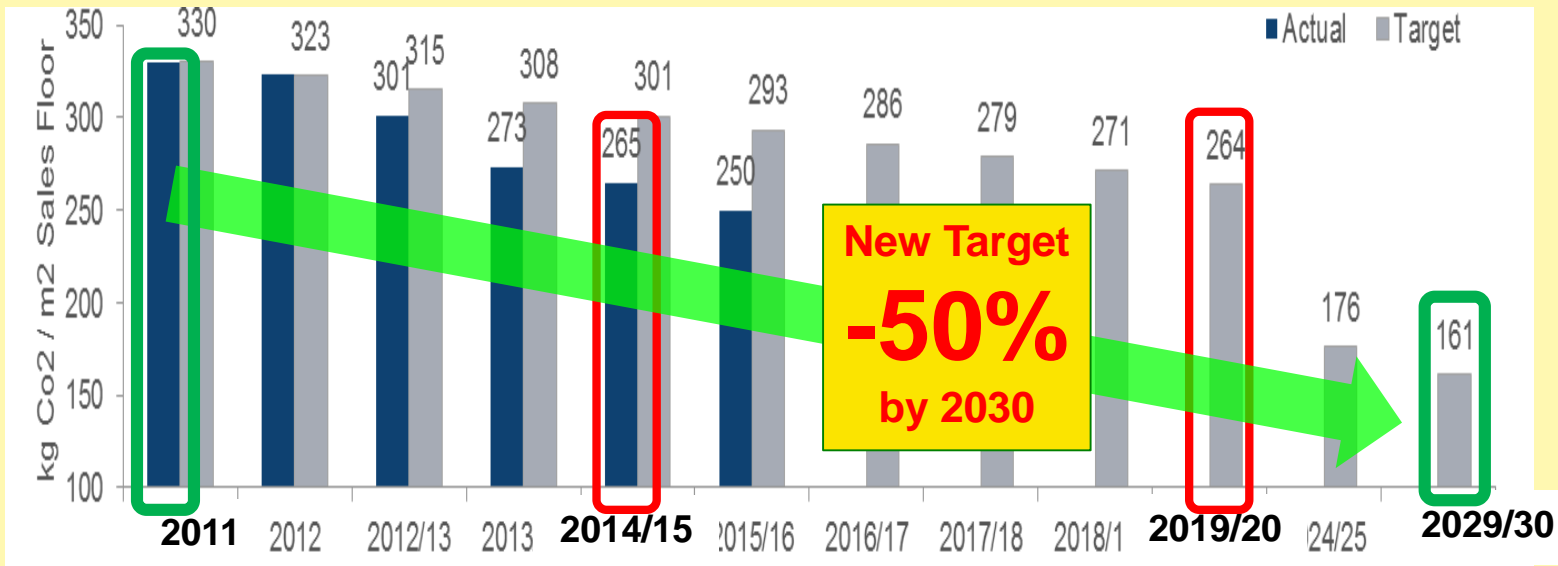
<https://www.youtube.com/watch?v=ltlhd-SxISA>



## 2. Global strategy of F-gas exit

### New reduction target of core CO2 emissions : Level by 50% by 2030 (vs. 2011)

#### METRO GROUP Performance on Climate Target



\*before demerger

Original target -20% by 2020 **Achieved in 2015**

## CO2 REDUCTION STRATEGY 2030.

- (1) Energy-Efficiency Investments & Behavior
- (2) F-Gas Exit Program**
- (3) Renewable Energy Production- Project
- (4) GREENSTORE



## F-GAS EXIT PROGRAM 2030.

- **New Store** Openings + refurbishments: **only Natural Refrigerant Gas**
- Life cycle of **existing cooling equipment (CO2, propane, ammonia)**
- So far technology-wise possible; **Repair** must be secured - otherwise **GWP <2.500**
- Tailor-made solutions for **existing equipment** in proper technical conditions  
(=drop-in's with **GWP < 2.500**)
- Benchmark: **Leakage(rate)**

The **Best-in-Sector** award for advancing natural refrigerant at **ATMOsphere Europe** in 2018



## 2. Global strategy of F-gas exit

### In other countries

CO2 transcritical system : Installed in China, Russia, Austria, Poland, Bulgaria.  
Germany, Italy, Romania, France, Belgium, Spain.

### Zero Emission Store, St. Polten in Austria

#### Zero HFC emission

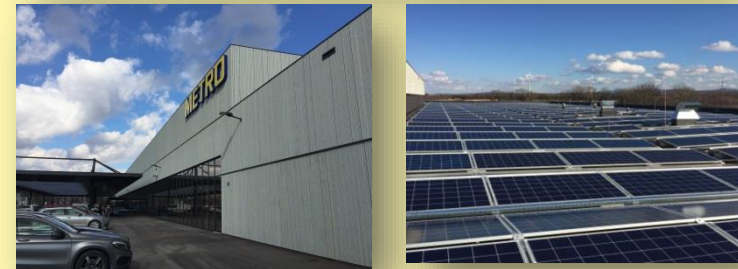
- Transcritical CO2 equipment

#### Zero energy demand

- Demand < PV power generation  
(Lighting, refrigeration, etc.)
- Electricity reduction 60%
- No heat sources, No A/C
- EHI European Retail Institute  
Energy award in 2018

#### Natural building materials

- Wooden construction
- Recycling management**
- Recyclable waste collection



<https://www.youtube.com/watch?v=wlzn9SA1Ugl>

## Our Store is like a Huge Refrigerator

**新鮮  
品質力**

メトロは、新鮮さも品質も  
逃がしません。  
その秘密のひとつが、  
きめ細やかな温度管理。  
店内は、真夏でも寒いほどです。

だから  
寒い

16-18°C
10-12°C
0-10°C
6-8°C
0-2°C
-18°C
-60°C



**Closed Chilled Room**



**Open Chilled Room**



**Frozen Cabinets**



**- 60°C Tuna stocker**

### 3. MCC Japan strategy for F-gas exit

#### Current concerns for refrigeration (Existing stores)

##### 1. Many repairs

- High risk of breakdown
  - High cost of maintenance
  - Frequent gas leakage
- Bad for environment**
- R-404A (GWP:3,920)

##### 2. Inflation of electricity

- Risk of high cost

##### 3. Open 364 days

- Can not stop store operation to replace equipment



Old freezers (16years)





### 3. MCC Japan strategy for F-gas exit Solutions



**R290 frozen plug-in-cabinets**

**Subsidy  
needed**



「脱フロン・低炭素社会の  
早期実現のための省エネ  
型自然冷媒機器導入加  
速化事業」

#### 1. Less repairs

- Less maintenance fee
- Less repair time

#### Good for environment

- R-290 (GWP:3)

#### 2. Small electricity

- -2.9M JPY/store (-58%)

#### 3. Install in a day

- Can replace 65 cabinets w/o stopping store operations



#### 4. Big capacity

- +33%
- Decrease of Linear meters -  
4%, but no risk for # of SKUS

### 3. MCC Japan strategy for F-gas exit Sustainability vs Economy?



**Already started**

- Photovoltaic power generation
- Certifying environmentally and socially responsible seafood

**Ready to start**

- R290 plug-in-cabinet

**New solutions needed**

- Other refrigeration systems





# Thank you.

