



F-GAS EXIT PROGRAM 2030.

Olaf Schulze | © METRO AG 2016

METRO GROUP
ZUM HANDELN GESCHAFFEN.

MADE FOR SUCCESS: METRO GROUP AT A GLANCE.

- One of the world's leading retail and wholesale companies
- Successful stock-listed company
- Presence in more than 2,000 locations in 29 countries
- More than 220,000 employees from 171 nations
- Three sales lines with leading positions:



METRO
makro

A leading international player
in cash-and-carry wholesale trade



MediaMarkt
SATURN
redcoon.de

Europe's No. 1 consumer electronics retailer;
one of the largest discount providers in
German-language online sites



real

One of the leading operators
of hypermarkets in Germany

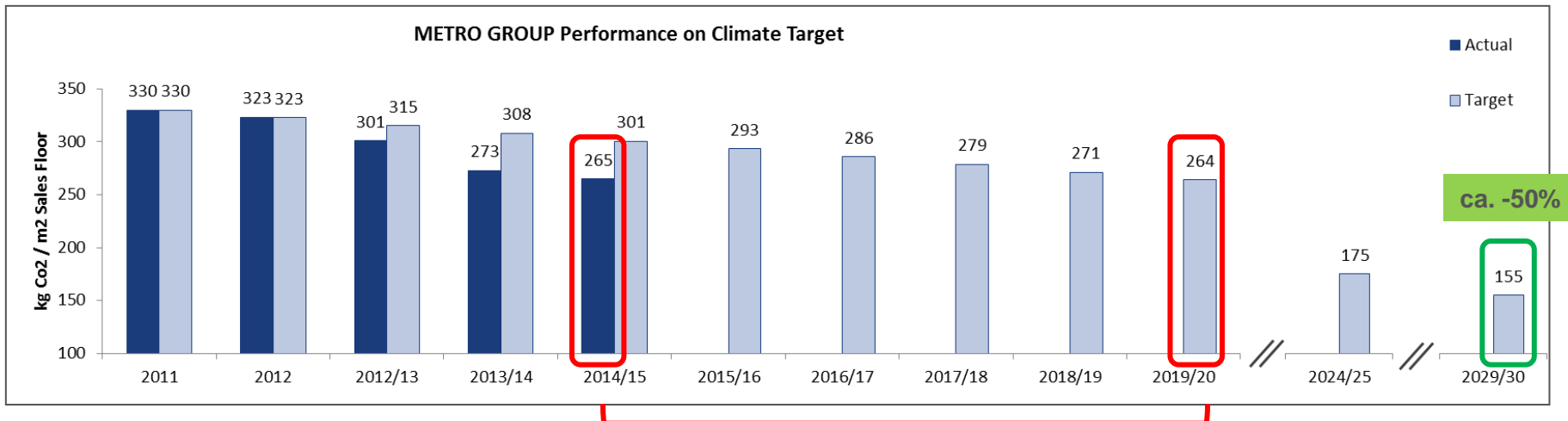
- All sales lines are closely linked to online shops
- Geared towards sustainable positive earnings development



METRO GROUP + MCC – CARBON FOOTPRINT REDUCTION



- Climate protection target 2020 already achieved in 2015:
Reduction of GHG emissions on group level by 20% vs. 2011.
 - New climate protection target for 2030:
Reduction of GHG emissions on group level by 50% vs. 2011.
- The target is mainly driven by investments in the energy saving programs, F-Gas exit program and green energy production.



METRO GROUP COMMITMENT.

AT THE CONSUMER GOODS FORUM IN ACAPULCO (2010).

- **Voluntary commitment on starting implementation of natural refrigerants from 2013 on:**
 - 07/2013 Decision of the METRO AG Sustainability Board
 - In new stores as well as in remodeling natural refrigerants are to be used where technically possible; otherwise at least refrigerants with a GWP < 2500 are to be used
 - Natural refrigerants: CO₂, Propan, Propen, Amonia
 - No limitations: all sales lines and worldwide
- **F-Gas Exit Program METRO Cash & Carry:**
 - F-Gas-Exit program separated from general M&R-budget
 - Targeted execution until 2025; 2026-2030 time buffer
 - Technical concept for different geographical regions (different climate and availability conditions)
 - Tailored solutions for existing systems in proper condition (e.g. only change of refrigerants, so called “drop in”)



F-GAS EXIT PROGRAM.

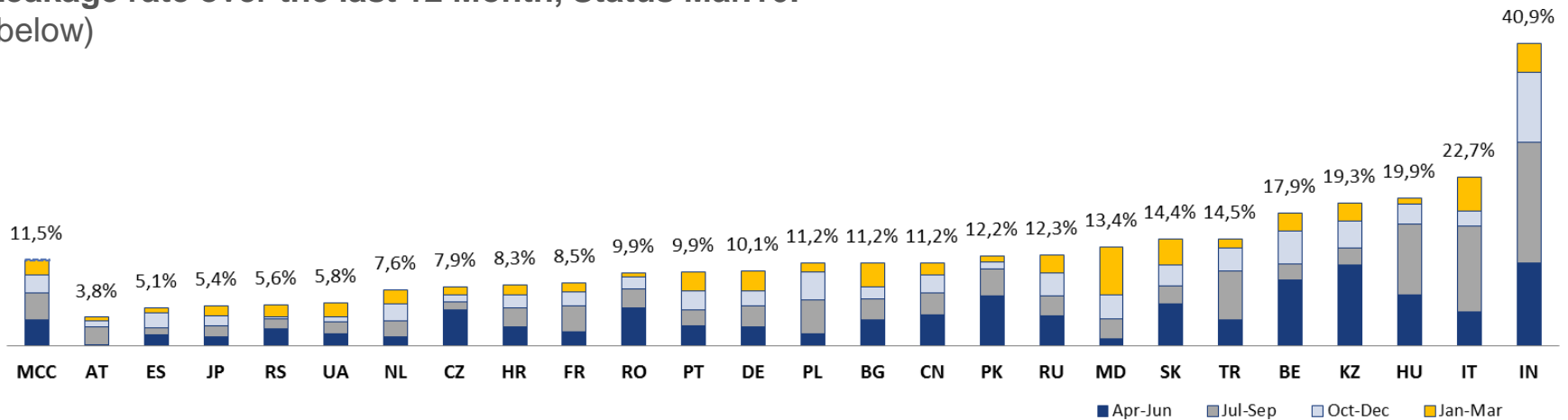
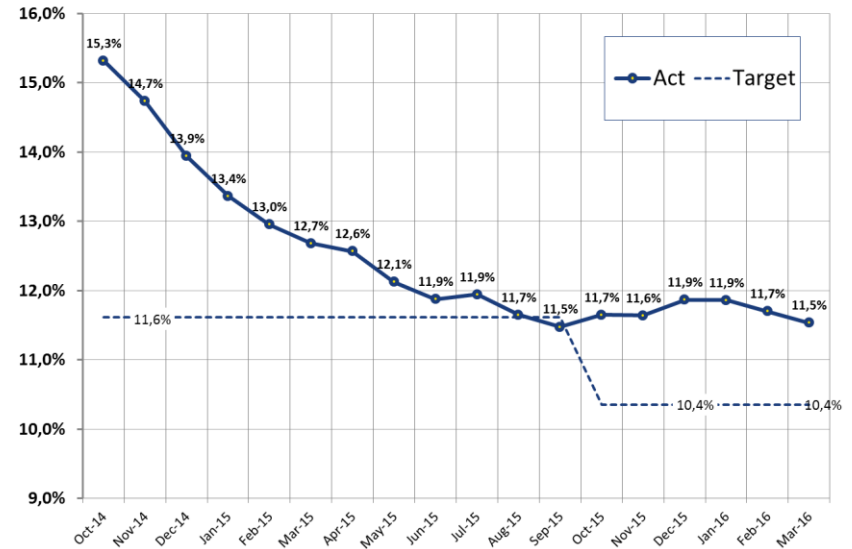
- **Already equipped stores and storages with CO₂ neutral cooling equipment:**

- CO₂ transcritical: 40 stores
- CO₂ subcritical: 58 stores
- 2016 planning additional 52 stores

- **Total investment for F-Gas Exit: ~800m€**

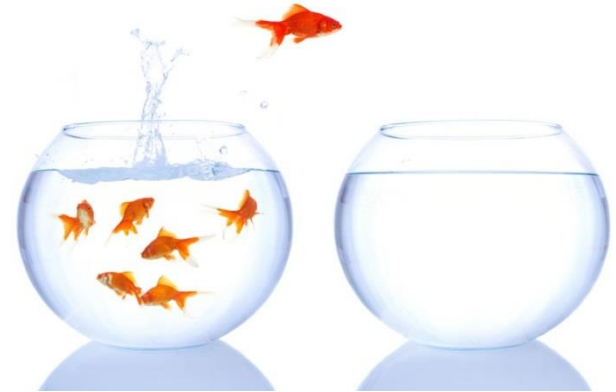
- **Development of the Leakage rate MCC worldwide: (right side)**

- **Leakage rate over the last 12 Month, Status Mar.16: (below)**



PROBLEMS & CHALLENGES.

- Different climate zones worldwide – the preferred transcritical CO₂ systems are (current) not always technical possible in overall efficiency.
- Repair & Maintenance services for CO₂ systems not satisfactorily available in all countries/regions.
- New technologies, such as ejector technic are in focus.



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