



The EPEE Gapometer
Achieving the HFC phase-down in Europe
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The EPEE GAPOMETER



MIND THE GAP

- 1. Roadmap for meeting EU HFC phase-down steps**
- 2. Monitor progress towards meeting the targets**
- 3. Define priorities for action**

1. How to meet the phase-down steps? Priorities of the EPEE Gapometer Roadmap

New
equipment



1. Actions for new equipment

- use lower GWP alternatives
- design for less refrigerant charge and low leakage

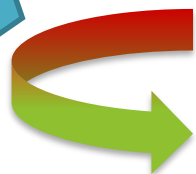
Existing
equipment



2. Actions for existing equipment

- leak prevention
- retrofit with low GWP alternatives

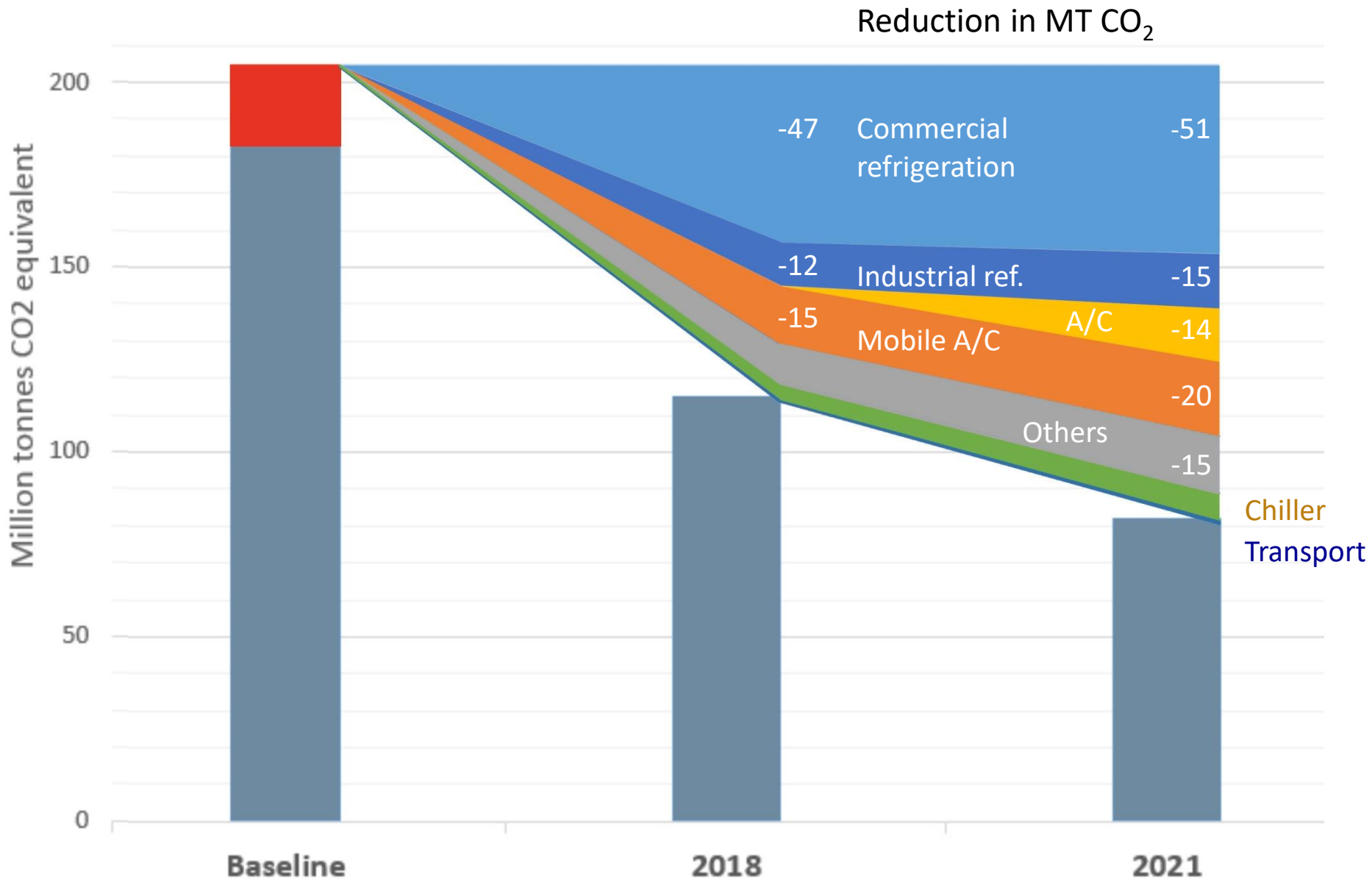
Reclaimed
refrigerant



3. Use of reclaimed refrigerant

- recovered from equipment at end-of-life
- recovered during retrofit of existing equipment

Contributions per market segment



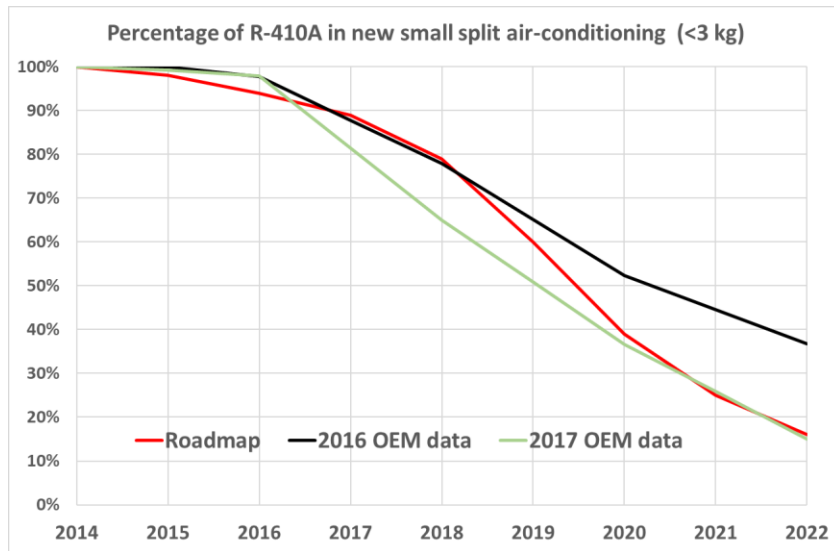
2. Monitoring progress towards meeting the targets

Roadmap and reality:

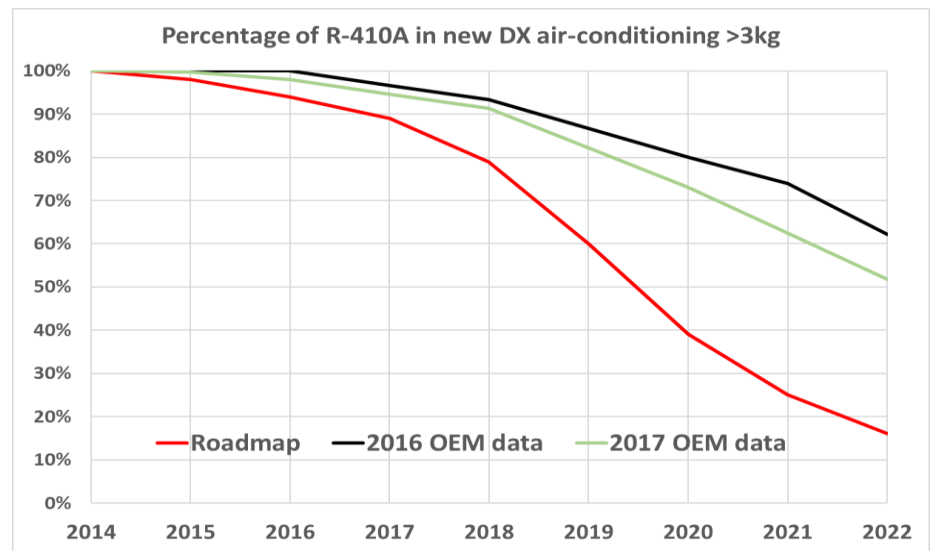
- Refrigerants in new a/c equipment
- Supermarkets and their company policies
- Reclaim & recycling of refrigerants

Refrigerants in new equipment

Example: stationary a/c equipment



In line with the roadmap:
 → R-32 broadly adopted in this application

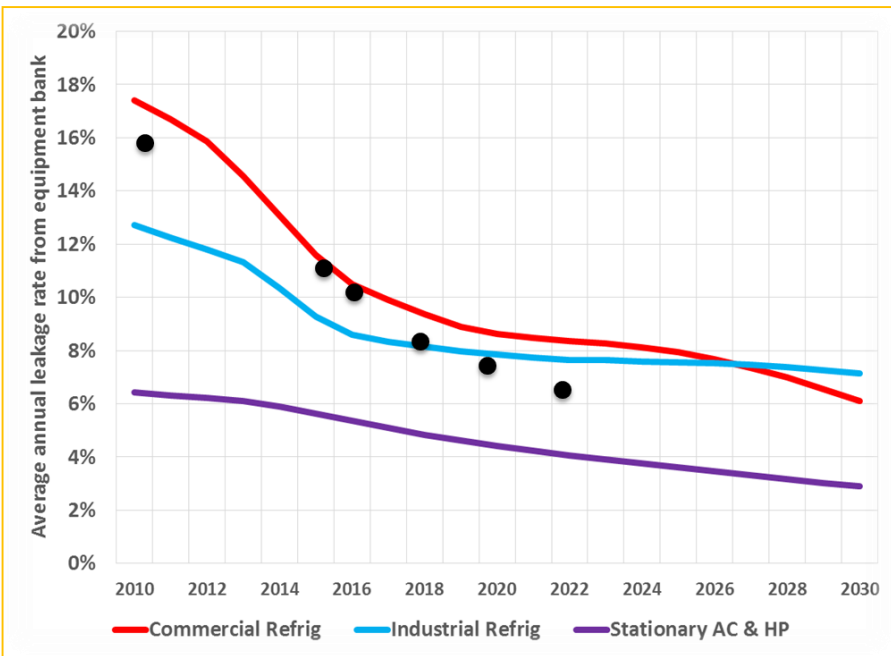


Significant gap compared to roadmap:
 → Restrictions due to building codes and standards

Good progress, but difficulties for larger equipment >3kg

Refrigerants in existing equipment

Example: Supermarkets & their company policies



- Retrofits of R-404A systems helps “kick-start” HFC cuts
- Significantly slower start to retrofits than assumed in Roadmap
- Early retrofits R-407A (GWP 2107) and R-407F (GWP 1825)
- Recent shift to R-448A and R-449A (GWP 1400)

Leakage reduction:

➔ In line with Roadmap: But are results only from good performers?

Retrofit strategies:

➔ Slower start than required

More needs to be done!

Reclaim and Recycling of refrigerants

Sources:

- From equipment reaching end-of-life
- From equipment being retrofitted

Year	HFCs re-used	
	tonnes	MT CO ₂
2015	1700	5
2016	3900	13
2017	6200	20
2018	7800	24
2019	8400	23
2020	9200	22
2021	9500	20

Reclaim of refrigerant can make a successful contribution to the phase-down as it does not fall under the quota

Stay in business:
STOP installing
R-404A / R-507A!



3. Top Priority for Action:

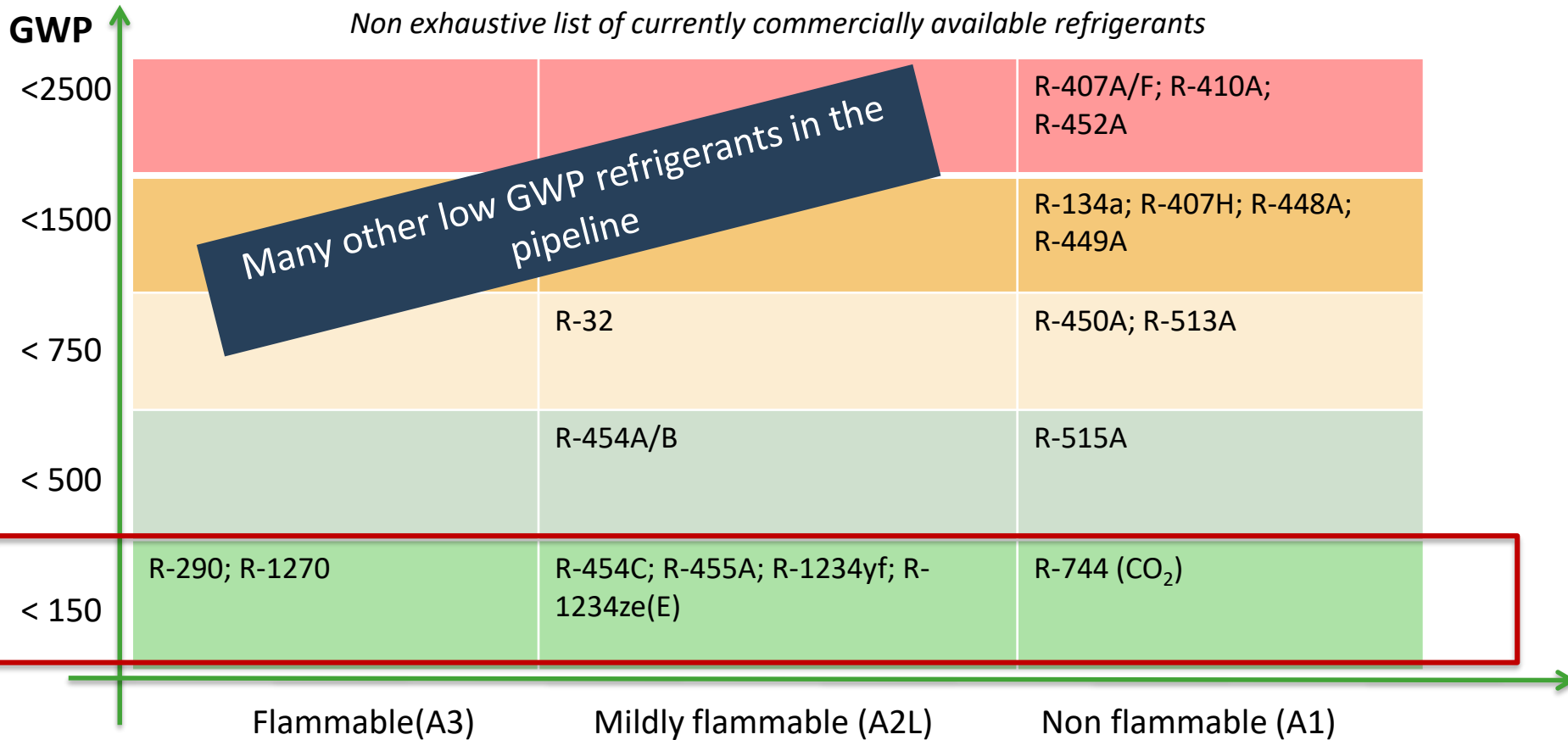
**Stop using high GWP refrigerants
in commercial refrigeration**



Translations in numerous languages
to be published soon

How to replace R-404A & R-507A?

Huge choice but restrictions apply



- Nearly all alternatives with a GWP < 150 are A2L or A3 gases
- A2L & A3, toxic and high pressures gases are not suitable for retrofit and for all equipment types
- Always seek compressor manufacturer approval before using new gases



Thank you for your attention – any questions?



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