



Enhancing Energy Efficiency in Cooling Systems

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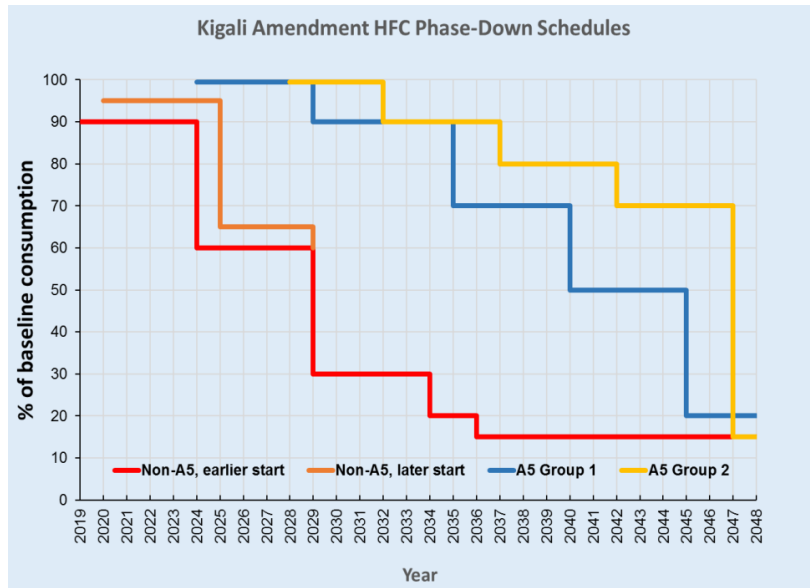
The Cool Up programme

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Kigali Amendment & Energy Efficiency

Key facts:

- Kigali Amendment to the Montreal Protocol was agreed in 2016
- The Kigali Amendment requires Montreal Protocol Parties to gradually phase down HFC substances in production and use



Source: UNEP. OzonAction Kigali Fact Sheet No. 5 - HFC Baselines and Phase-down Timetable

Role of Energy Efficiency in Kigali Amendment:

- Potential to align HFC phase-down (in CO₂eq) from high-GWP refrigerant (R-410A) with transformation of the AC sector to more efficient AC

Significant potential to improve RACHP efficiency

Cooling Load Reduction (30 to 60%)

Operation and Control (15 to 30%)

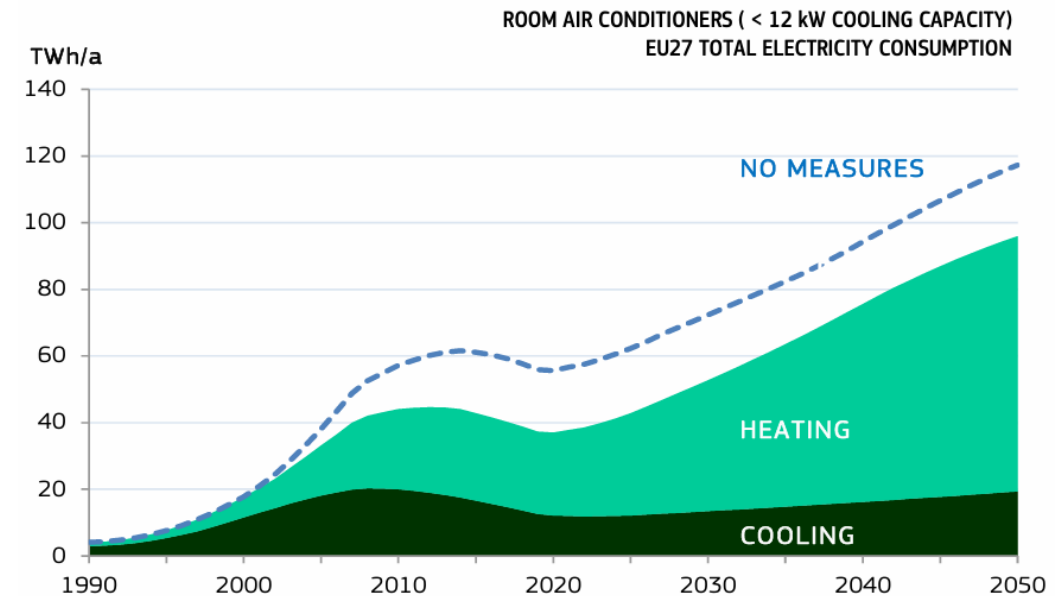
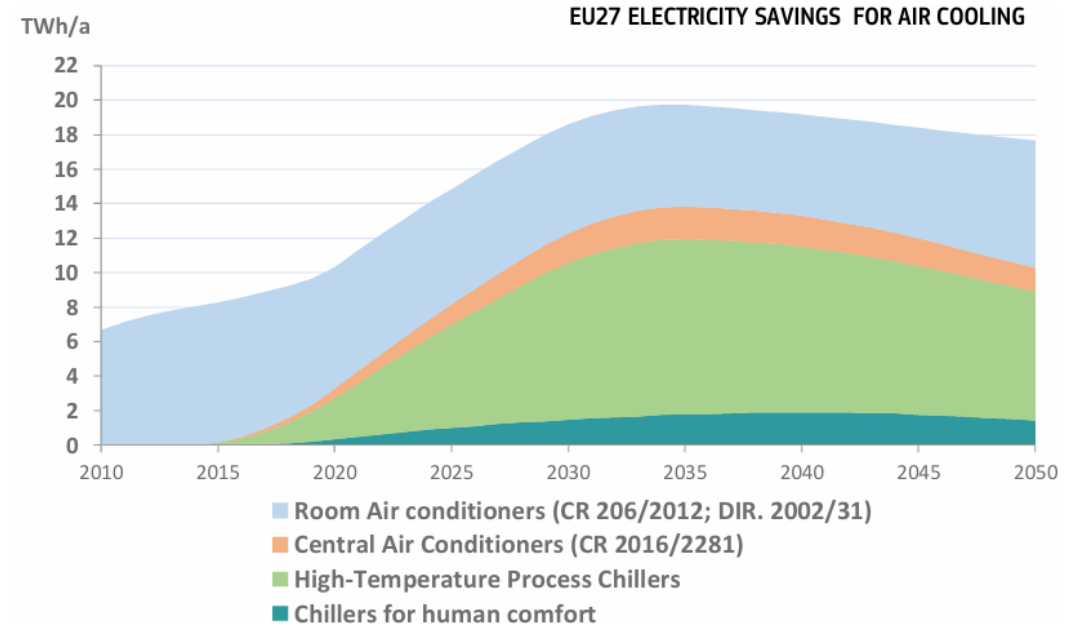
New Equipment Design (40 to 75%)

Refrigerant selection (5 to 10%)

By Ray Gluckman, TEAP Senior Expert. MOP35, Nairobi

Ways for enhancing energy efficiency

- Energy efficiency can be enhanced by:
 - Advances in Cooling Technology
 - Optimizing System Design and Maintenance
 - Harnessing Natural Cooling Methods
 - Smart Energy Management and Controls
- Challenges in Promoting Energy Efficiency:
 - Lack of awareness
 - Infrastructure
- Successful Policies and Initiatives:
 - Example: EU Ecodesign proves the success of energy efficiency measures implementation



Source: Ecodesign Impact Accounting Overview Report, 2023

Disclaimer:

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