



Strengthening infrastructure and technical capacity in A5 countries to handle low-GWP refrigerants and blends in SMEs

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Structure of Presentation

1

Overview of the SME market in India

2

Industry structure on HFCs

3

Key issues/challenges in HFC phase-down in A5 Countries for SMEs

4

Suggested follow up steps/actions



Overview of the SME market in the country

- In India, Micro, Small and Medium Enterprises (MSME) are defined based on the investment criteria in plant and machinery and turnover.
- The MSME sector contributes around 30% of GDP comprising 6.11% of the manufacturing GDP and 24.63% of the GDP from service activities.
- MSMEs have 46% share in the All-India Export
- 63.4 million MSME units operate in the country and spread across the country, employing around 100 million people, with 49% in urban areas and 51% in rural areas respectively catering to wide range of products including Refrigeration and Air conditioning (RAC) products
- The number of MSMEs in the country is growing at a projected CAGR of 2.5%



HFCs Industry structure

Overview of current Indian Hydrofluorocarbons market

Production Sector

HFCs:
HFC-134a, HFC-32,
HFC-125

Blends containing HFCs

R-410A, R-407C and R-467A

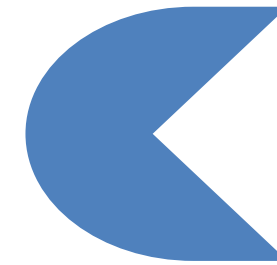
Consumption Sector

HFCs:

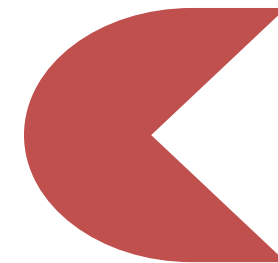
HFC-32, HFC-41, HFC-125,
HFC-134a, HFC-227ea,
HFC-152a, HFC-245fa,
HFC-236fa, HFC-365mfc,
HFC-43-10mee

Blends containing HFCs:

R-404A, R-407C, R-410A,
R-426A, R-438A, R-448A,
R-449A, R-454B, R-454C,
R-508B, R-513A, (blend of
HFC-365 mfc/HFC-227ea)



Around 80% of the HFC consuming enterprise are SMEs, including tiny/micro enterprises.



HFC Production growing at a CAGR of 20% and consumption at a CAGR of 15% respectively since 2016



Data reporting on HFCs commenced since 2021 after ratification of Kigali Amendment during September 2021. Licensing System is in place



National Strategy for HFC phase down in consultation with industry stakeholders and line Ministries/departments is under finalization



Key issues/challenges in HFC phase-down in A5 Countries in the context of SMEs



Supply Chain issues of equipment/components and low GWP refrigerants

Lack of infrastructure and capacities for:

- Equipment calibration and testing new low GWP refrigerants including emerging blends
- End-of-life safe decommissioning of equipment and destruction of refrigerants
- Quality control and testing of recovered and recycled refrigerants



Certification processes and E-based training and capacity building tools for RAC service technicians



Mechanisms for promoting use of certified service technicians including public procurement of certified technicians





Suggested follow up steps/actions



Action Plan for holistic approach integrating HCFC phase out, Implementation of Cooling Action Plans and Strategy for HFC phase down for economic growth and environmental sustainability



Establishment of Centres of excellence to enable SMEs for effective handling and adoption of low GWP energy efficient technologies



Enhanced support for SMEs for sustaining HFC phase down



Framework for promoting synergies with energy efficiency authorities, standards bodies, nodal line ministries/departments, industry associations for sustainable HFC phase down



Global outreach programmes and technology roadshows highlighting low GWP highlighting and pathways for adoption.

Additional funding support/costs for the above could be worked out by the TEAP/RTF



DISCUSSION