

## Non-CO<sub>2</sub> Greenhouse Gases: High-GWP Gases

**Source/Sectors:** Substitution of ODS/Refrigerated Transport

**Technology:** Refrigerant recovery/recycling (C.1.1.7)

### Description of the Technology:

Practicing refrigerant recovery for reuse or destruction can significantly reduce HFCs emissions. Recovery options apply a refrigerant recovery device that transfers refrigerant into a storage container prior to servicing or disposing equipment. After the recovery process, the refrigerant contained in the storage container either is recharged back into the source equipment, cleaned through the use of recycling devices, purified for resale at a reclamation facilities, or disposed safely in an environmentally-safe manner (IEA, 2003, USEPA, 2001).

These practices are already in baseline in many refrigeration systems because of the cost efficiency yielded by the reuse and re-sold processes; however, small equipments such as refrigerated transport has less recoverable charges, thus being less cost effective. Yet, refrigerant recovery/recycling is believed to be the most feasible option to reduce HFC emissions from refrigerated transport systems (IEA, 2003).

**Effectiveness:** It can reduce total emissions by 95% (USEPA, 2001).

**Implementability:** Technically applicable in all regions

**Reliability:** No risk and uncertainty associated with this option is recognized (IEA, 2003).

**Maturity:** Well developed

**Environmental Benefits:** HFCs emission reduction

### Cost Effectiveness:

Technology	Lifetime (yrs)	MP (%)	RE (%)	TA (%)	Capital cost	Annual cost	Benefits
Refrigerant recovery/recycling <sup>1</sup>	10	10	95	10	\$26.19	\$3.40	\$1.69

Note: MP: market penetration; RE: reduction efficiency; TA: technical applicability; costs are in year 2000 US\$/MT<sub>CO<sub>2</sub>-Eq.</sub>  
1: IEA (2003) & USEPA (2001)

**Industry Acceptance Level:** Widely practiced in developed countries.

**Limitations:** Proper equipment instructions must be implemented to minimize the refrigerant release into the atmosphere as well as safety risk for technicians. Similarly, reduction efficiency is uncertain because it may vary depending on technician technique and equipment type (IEA, 2003).

### Sources of Information:

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