



Refrigerant Recovery for Recycling, Reclamation or Destruction

Facts about Refrigerants

- Refrigerants are contained and not consumed by the Refrigeration System
- Due to their stability refrigerants are especially suitable for Recycling and Reclamation
- The Refrigerant itself is a valuable material

Some Definitions

Recovery

Removal of refrigerant from a system into a closed vessel

for

Recycling

Reuse of the same refrigerant in the same refrigeration system

Reclamation

Cleaning of refrigerant to meet official standard specification

Destruction

Destruction/Separation by thermal cracking of the molecules



Reuse

Refrigerant is reused after maintenance or repairs

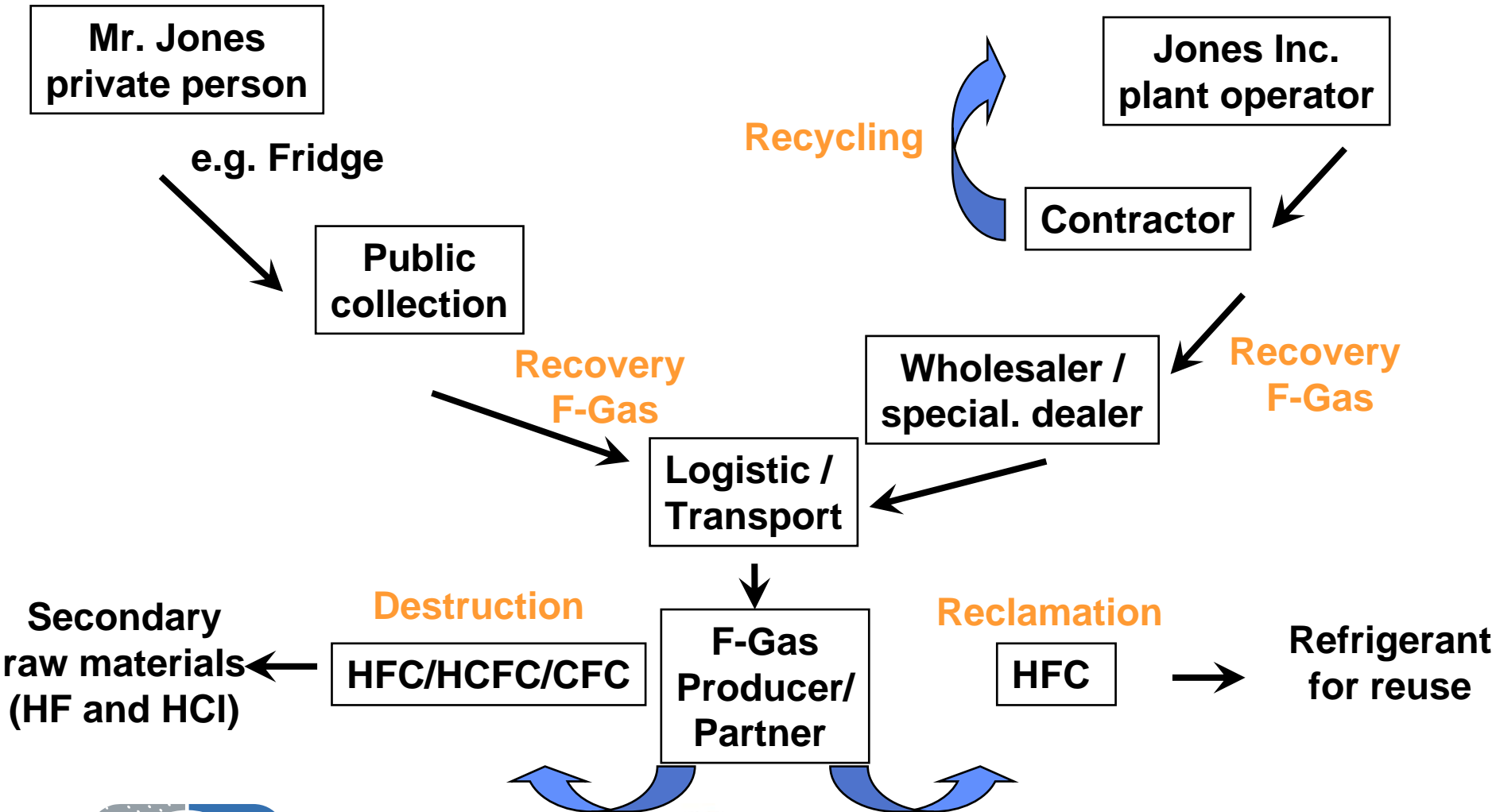
Reuse

Refrigerant can be used like virgin material

Reuse

HCl and HF can be recovered and reused as raw material

Overview Recycling Systems



Recycling -available machines-

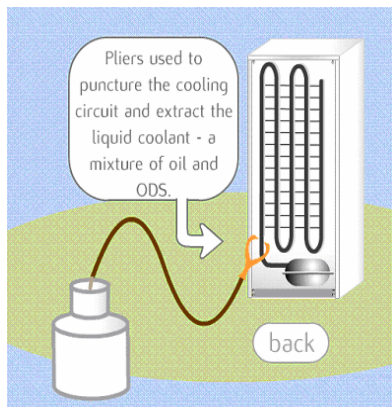
Recovery / Recycling

Reclamation



Example: Recovery for destruction purpose

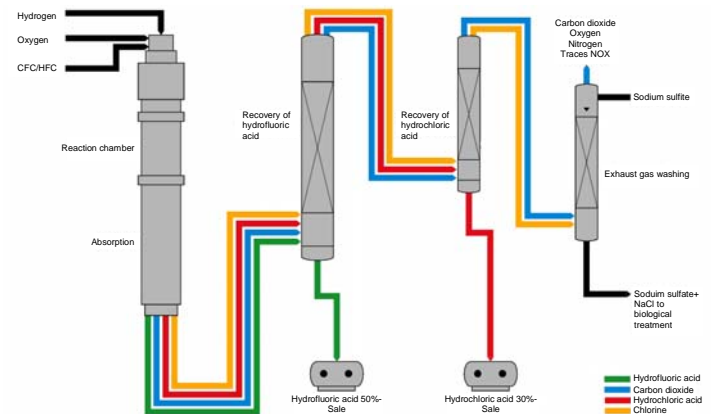
**Step 1:
Recovery of
Refrigerant / Oil**



**Step 2:
Refilling / Transport
of cylinders**



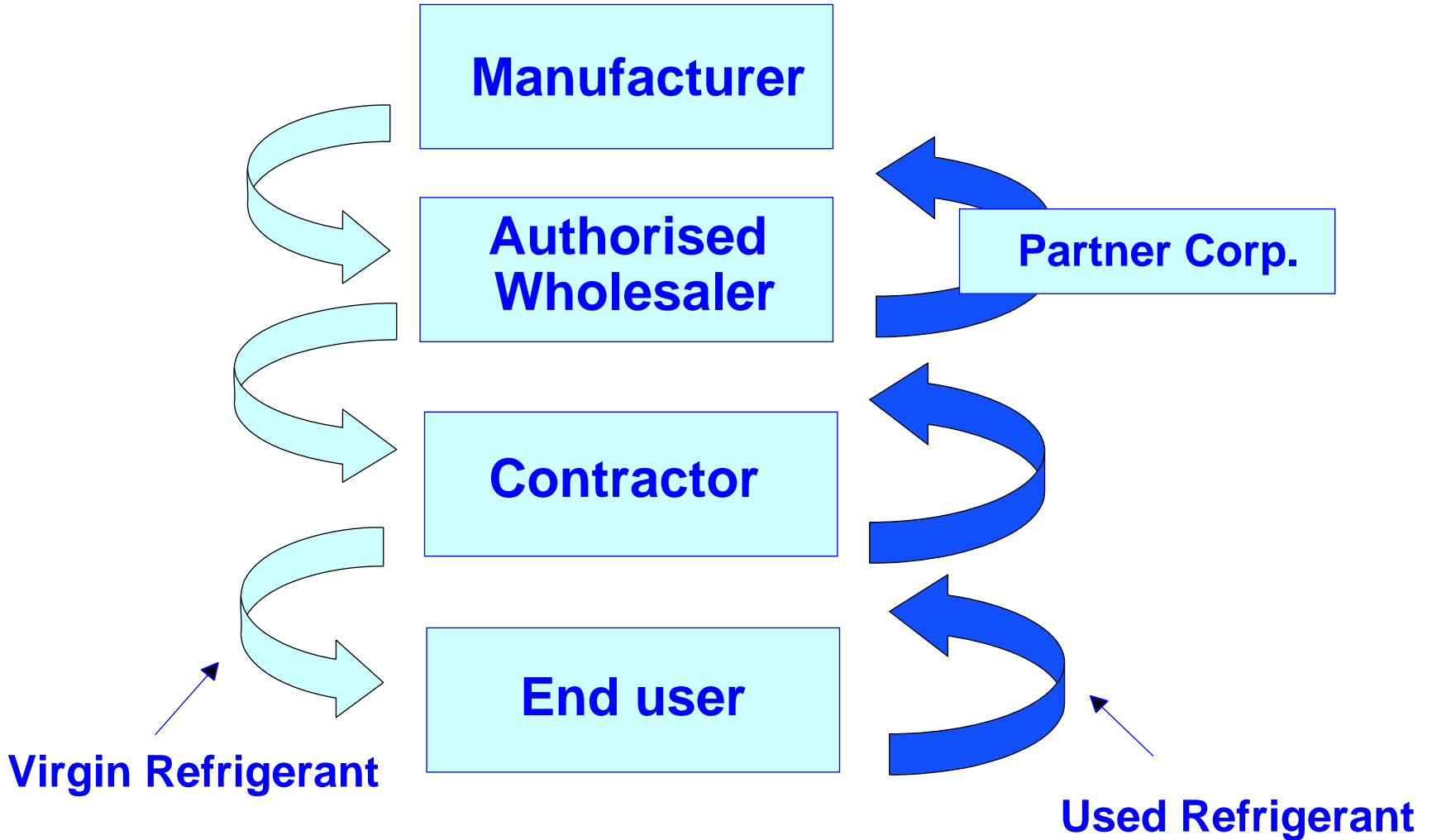
**Step 3:
Thermal destruction
/ separation**



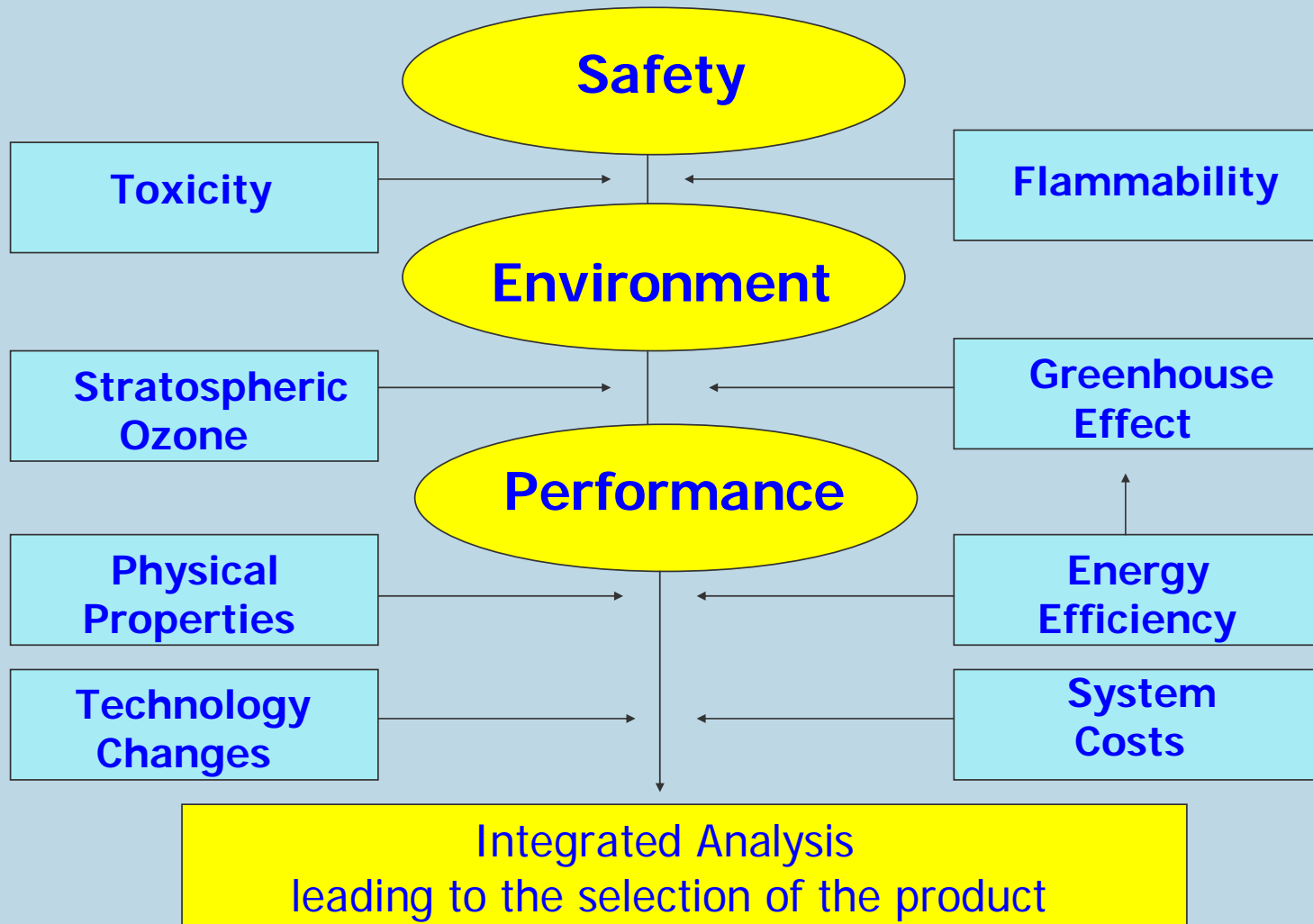
CONCLUSIONS

- Professional End of life management is key
- Recycling, reclamation and destruction are already operational today
- Reduction of bureaucratic hurdles regarding handling and cross-border transport of used refrigerants is essential

LOGISTICS



An Integrated Approach: Factors to Consider



Producer Responsible Use Principles

- Minimize HFC emissions during manufacture
- Produce, transport, handle and use HFCs to assure worker and community safety
- Design HFC producing plants with a goal of zero HFC emissions
- Provide HFCs where societal value justifies their environmental impact or if applications have favorable LCCP/TEWI
- Engineer, operate and maintain HFC-using systems that minimize emissions
- Recover, recycle and destroy HFCs after use where feasible

Producer Responsible Use Principles

- Cooperate with governments to ensure accurate accounting of HFC emissions
- Apply principles globally