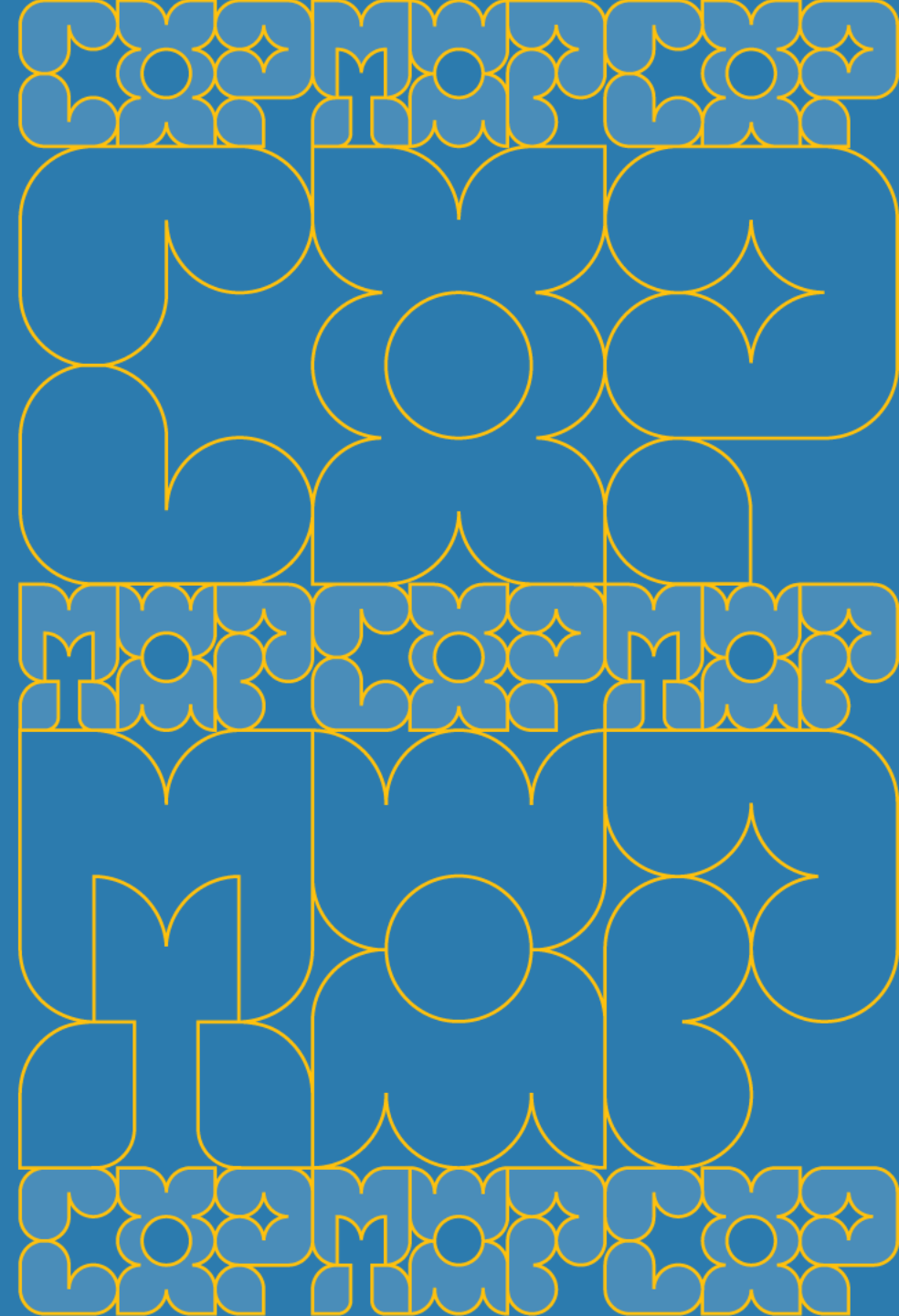


# COUNTRY EXPERIENCES WITH LIFE- CYCLE REFRIGERANT MANAGEMENT

**European Union**

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# EU's LRM Framework

- Strict legislative framework (since 2000 on ODS and 2006 on HFCs) applying in all 27 Member States of the EU!
- From production to end-of-life:
  - Emission prevention requirements on all actors during all stages (take all feasible measures incl. recapturing techniques)
  - Regular leak checks and record keeping
  - Recovery obligations (RACHP, foams etc)
  - Rules on destruction (ban on halon destruction)
  - Producer Responsibility Schemes
  - Certification requirements for technicians RACHP+ (maintenance/servicing/repair/recovery/decommissioning) also HFOs + main alternatives
  - Full ban on non-refillable containers since 2007
  - Penalties: venting is a crime
- Other EU laws complement: EU Waste Framework Directive / Waste from Electrical and Electronic Equipment Directive, Landfill Directive, Waste Shipment Regulation



# Implementation Practices in EU MS

**Enforcement (customs, market surveillance, environmental inspectors etc) is done at national level. Some EU Member States establish additional measures, beyond EU rules**

- National central registration databases for leak checks, servicing, decommissioning
- National central reporting databases for importers/exporters/operators/reclamation/destruction facilities to trace controlled substances
- Deposit refrigerant systems that incentivises the proper collection for recycling or destruction
- Governmental financial initiatives for recycling/reclamation
- Tax on HFCs (import, sales)
- Containment measures beyond RACHP, incl. mobile equipment

## **Challenges**

- Scale up the number of training centres / trainers/ certified personnel notably for alternatives; increasing the share of female technicians
- Enforcement given the many actors involved



# Results and Lessons learned

- **It works!** The 2006 F-gas Regulation clearly prevented further emission growth by containment measures only. Since the 2014 F-gas Regulation, the amounts of reclaimed HFCs have most tripled (in one MS 44% of recovered gas is recycled, others also follow with high shares). The new 2024 Regulation is already showing signs of increased reclamation activities.
- **Scarcity is KEY driver for recovery!** EU Phase-out of virgin substances incentivizes recovery for recycling or reclamation;
- **Holistic and environmentally sound approach needed:** phase-down/out - containment measures - certification - waste rules;
- Use bans on virgin substances for existing equipment incentivizes reclamation;
- Use of natural refrigerants to avoid future banks;
- Technician certification and training is important for saving emissions and for safe handling of equipment;
- **Future:** assess the introduction of LRM rules on mobile equipment (i.e. on ships).



Thank you!

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