



Unwrapping emerging sectors under the MLF

Adopting trans-critical CO₂ in Chilean supermarkets starting with an end-user project supported by the MLF

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Half-day session on strategic approaches to Kigali Amendment implementation for sustainable HFC phase-down and contribution of activities supported by the MLF to sustainable cooling
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How it all began

Supermarkets: the **major** users of HCFCs in commercial refrigeration in Chile



(63-ExCom; Apr. 2011)

MLF / HPMP-I / no-HCFC

Centralized system
ODP = 0
Minimal GWP
High EE
Surface: 500 - 1000 m²
Co-funding & replicability

No experience

No trust in HC & CO₂
Experts looking for business
High co-funding

- Workshops with experts (NAT & INT)
- Febrava (Brazil) & Cool Training GIZ

Build local capacity
Trust in the technology

(Oct. 2014)

CCAC / Transcritical CO₂

(2015-2017)

1st and 2nd bidding
processes

- Study tour in Italy (Assofrigoristi)

(Jumbo Valdivia – CCAC)
& (Tottus Alderete - HPMP)

3rd bidding
process

(Tottus Parque Arauco - HPMP)

4th and 5th bidding
processes

Considerations of Board of Directors of the SM

NOU / Government & UNDP / UN
Economic sustainability indexes
“Green image”
Local expert committed

Trust

Economic benefit

Empathy with their
customers

Study on energy
efficiency (10-
30% in savings)

Other
requirements
(HPMP)

(2nd bidding process)

Recovered refs

Technicians

End-users

Start-up of the RRR pilot plant

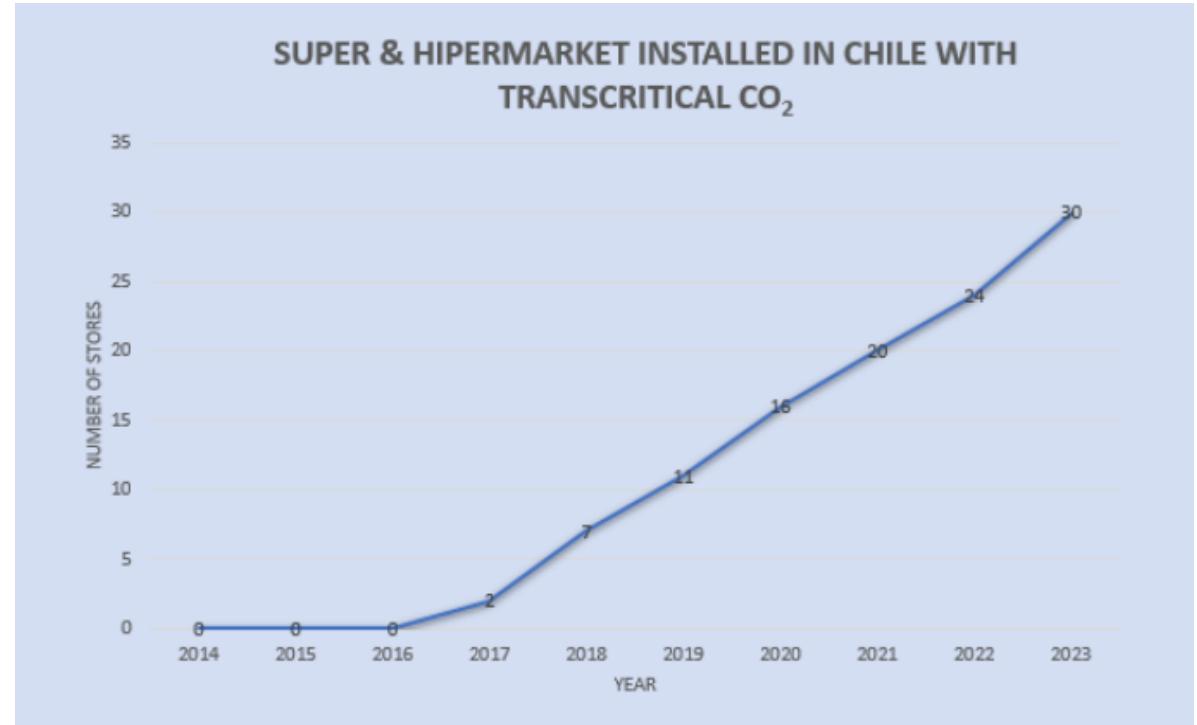
Trainings & certification on BRP

Dissemination campaigns

How is it going

Good experience on natural alternatives in commercial refrigeration in Chile

3 co-funded by MLF & CCAC (14-17%)
- 2 by MLF
- 1 by CCAC



35 supermarkets (Cencosud/Jumbo: company policy)
10 logistic centres and chambers of food industry

Ref. Pier Zecchetto, CO₂ expert

But...

How could we involve other sectors?

How can we replicate this technology?

How can we ensure the RRR refrigerants' quality?

How can we train all technicians?

How can we support the RRR pilot centre?

How can we increase the visibility of female technicians?

How could we "protect" a converted company?

How could we reduce leakages?

Could we have an emission standard?

What if we join efforts with Mitigation to Climate Change and Energy Efficiency?

What if we have a registry of cold installations?

Do we have to create or update the MEPS?

How can we avoid losing the "technological" momentum?

How can we increase our dissemination?

What if we try social media?

What if we join efforts with Clean Production Agreements?

What is Climate Change doing about HFCs?

What if we cannot co-fund more projects?

Synergies

MLF

Climate Change

Energy efficiency

Refrigerants management

Implemented



BRP courses & certification

Supermarkets: model for all new demo projects

Clean Production Agreement (RAC sector)

Chilean standards NCh:3241 & :3301

Quota reduction
due to conversions

Only HCFC and
HFC of baselines

Ongoing



Registry of cold
installations –
Refrigerant carbon
footprint-HuellaChile

(Prep) Emission
standard for
HFCs (Min. Env.)

MEPS for cold cabinets (KCEP-LBNL)

Demo project on EE (KCEP)

Female technicians
in RACHP & Awards
(HPMP & KIP)

Planned



Zero leaks
programme

(Impl) Emission
standard for HFCs
(MoEnv & NOU)

MEPS: appliances (update), HP (new)

Training centre of CO₂

Pilot project: CO₂ in heat pumps / industrial refrigeration

Challenges



Certification
of companies
converted

Control of
products and of
equipment (PRTR)

Rule on
refrigerants
management

Cost of releases vs.
3R vs destruction

Destruction (wastes,
decommissioning)

Lessons learned

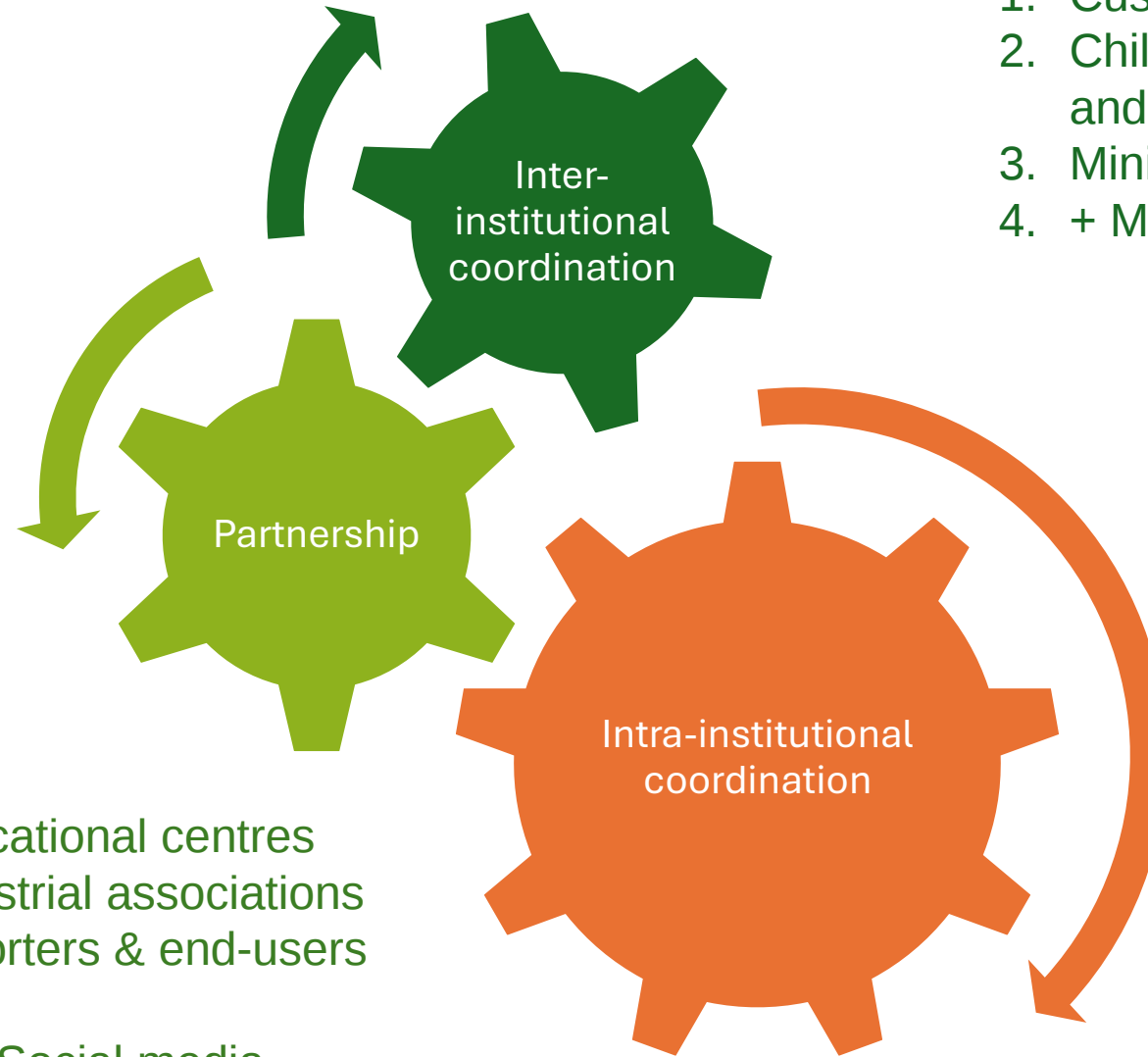


Ozone Unit:
Involvement and
responsibility in all
projects & its
technical role

Regulations
TA & Investment projects
Trainings
Dissemination

1. Educational centres
2. Industrial associations
3. Importers & end-users

& Social media



1. Customs Service ★
2. Chilean Agency of Sustainability and Climate Change
3. Ministry of Energy
4. + Meteorological Service

- Mitigation & HuellaChile
- Climate Change Law
- Communications
- Education
- Legal
- PRTR & Env. information
- Wastes: EPR / Electrical and electronic equipment

Thank you very
much for your
kind attention!



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