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EU policy update - F-Gas Regulation, HFC taxes & fiscal incentives for natural refrigerants



ATMO
sphere
technology & innovation
natural refrigerants
3 - 5 February 2014 in Tokyo

Tokyo, 3 February 2014

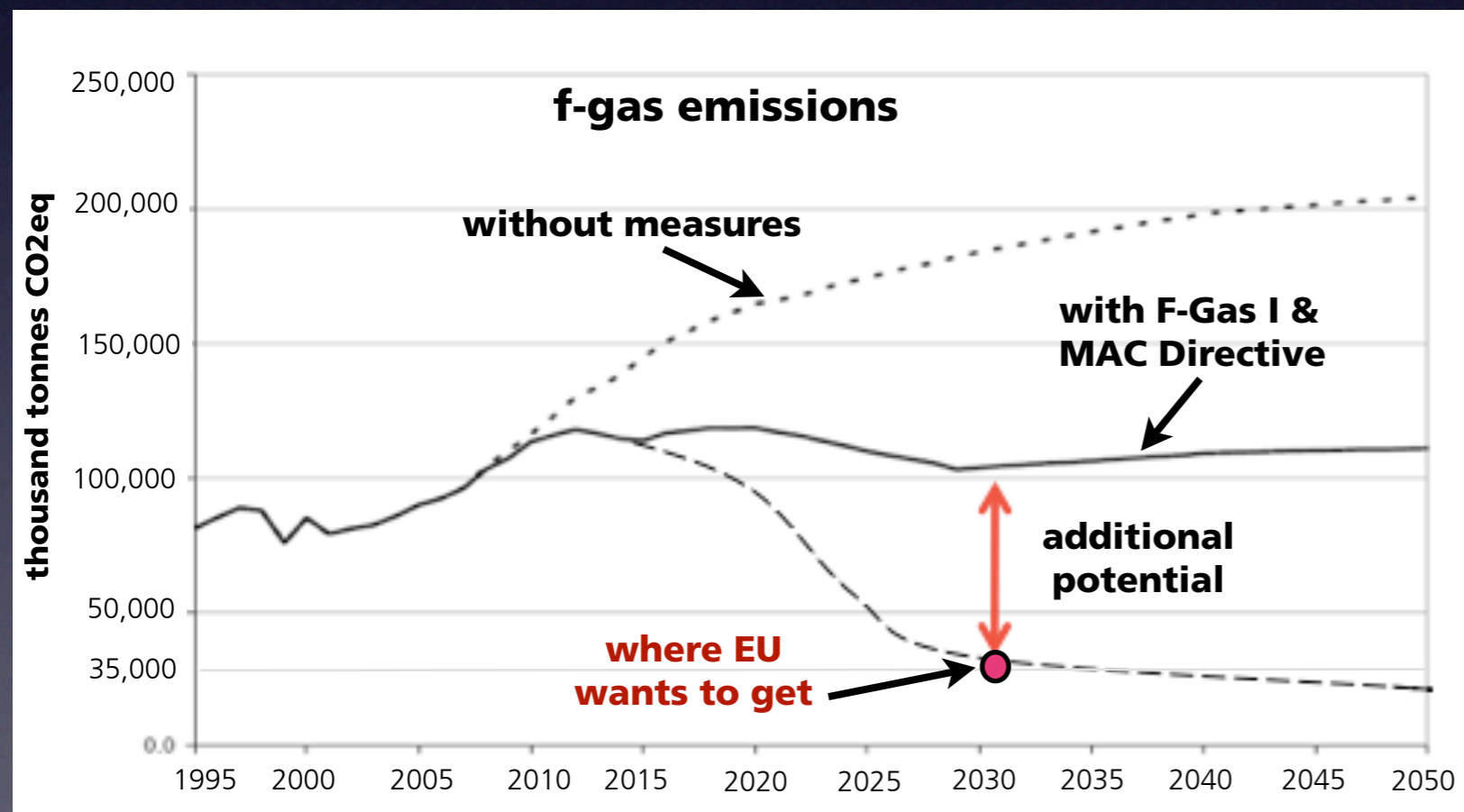
Alexandra Maratou

shecco Japan株式会社

F-Gas II - the new EU F-Gas Regulation

EU F-Gas II - background & rationale

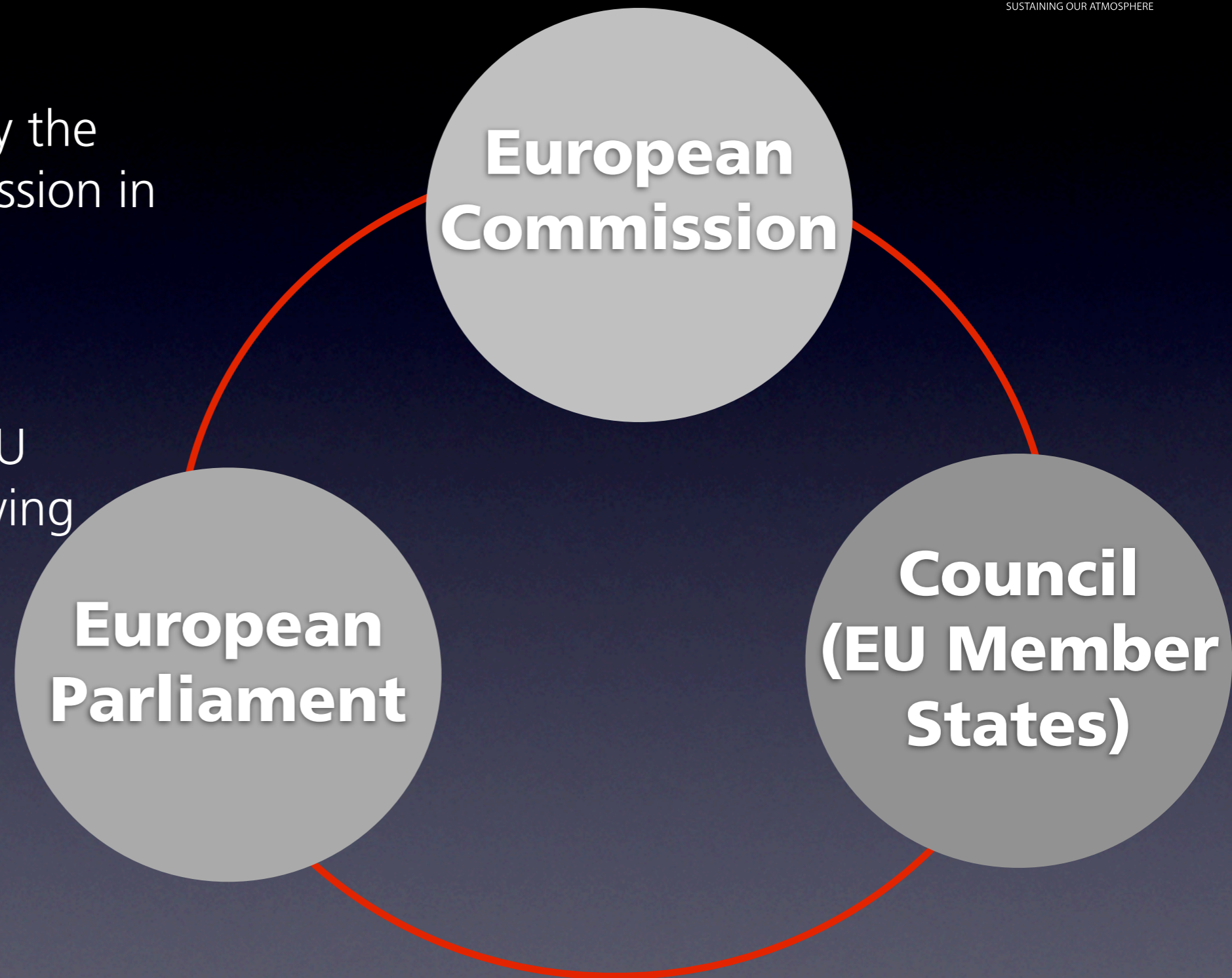
- More action on f-gases needed to achieve EU's long-term emission reduction targets
- EU F-Gas I Regulation which relies on HFC containment & recovery not adequate



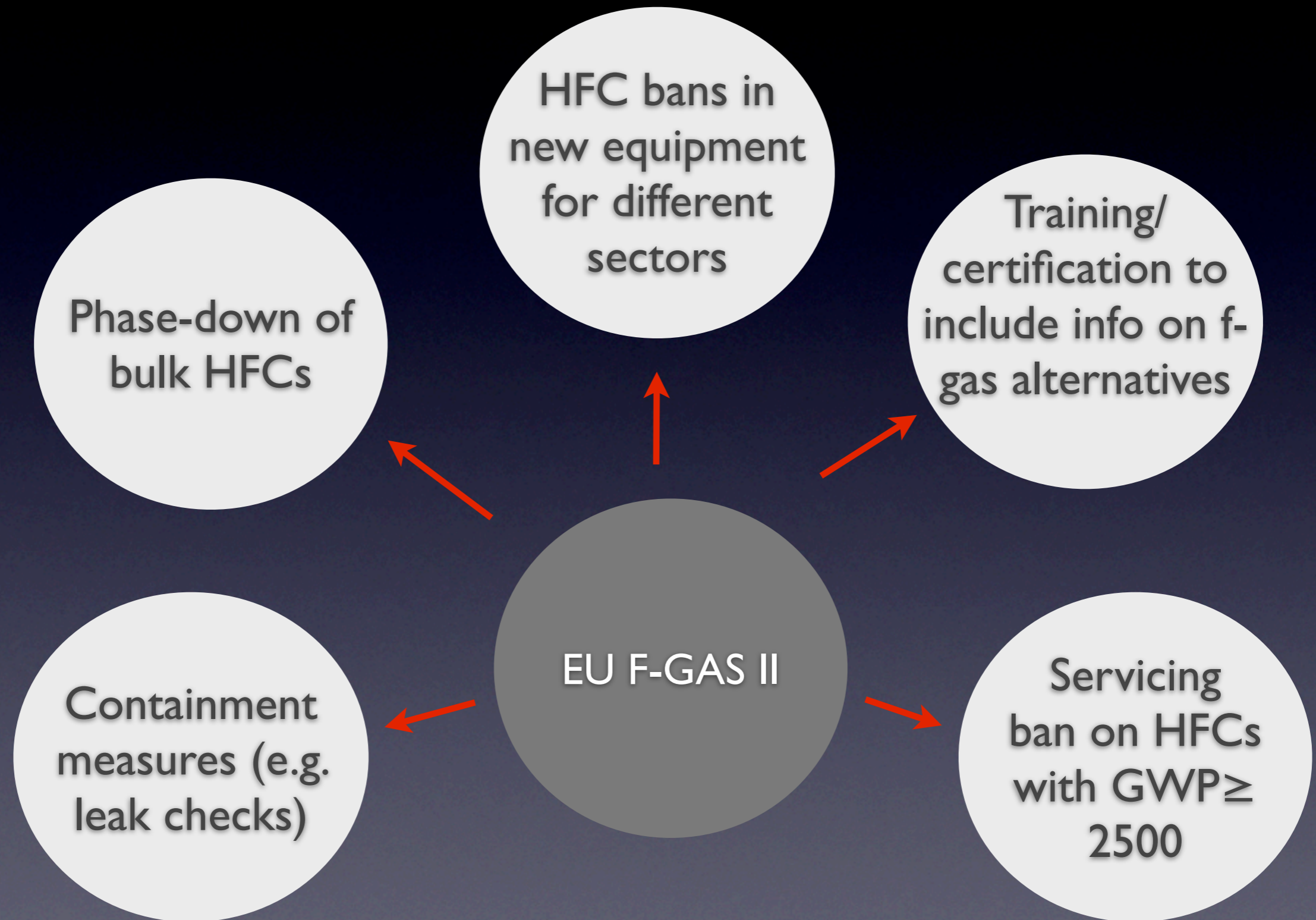
“the overall EU objective to cut emissions by 80–95 % by 2050, the stabilisation of F-gas emissions at today's levels is not adequate. Our studies show that low-GWP technologies are technically feasible and can be cost-effective in many application areas”.

EU F-Gas II - the process

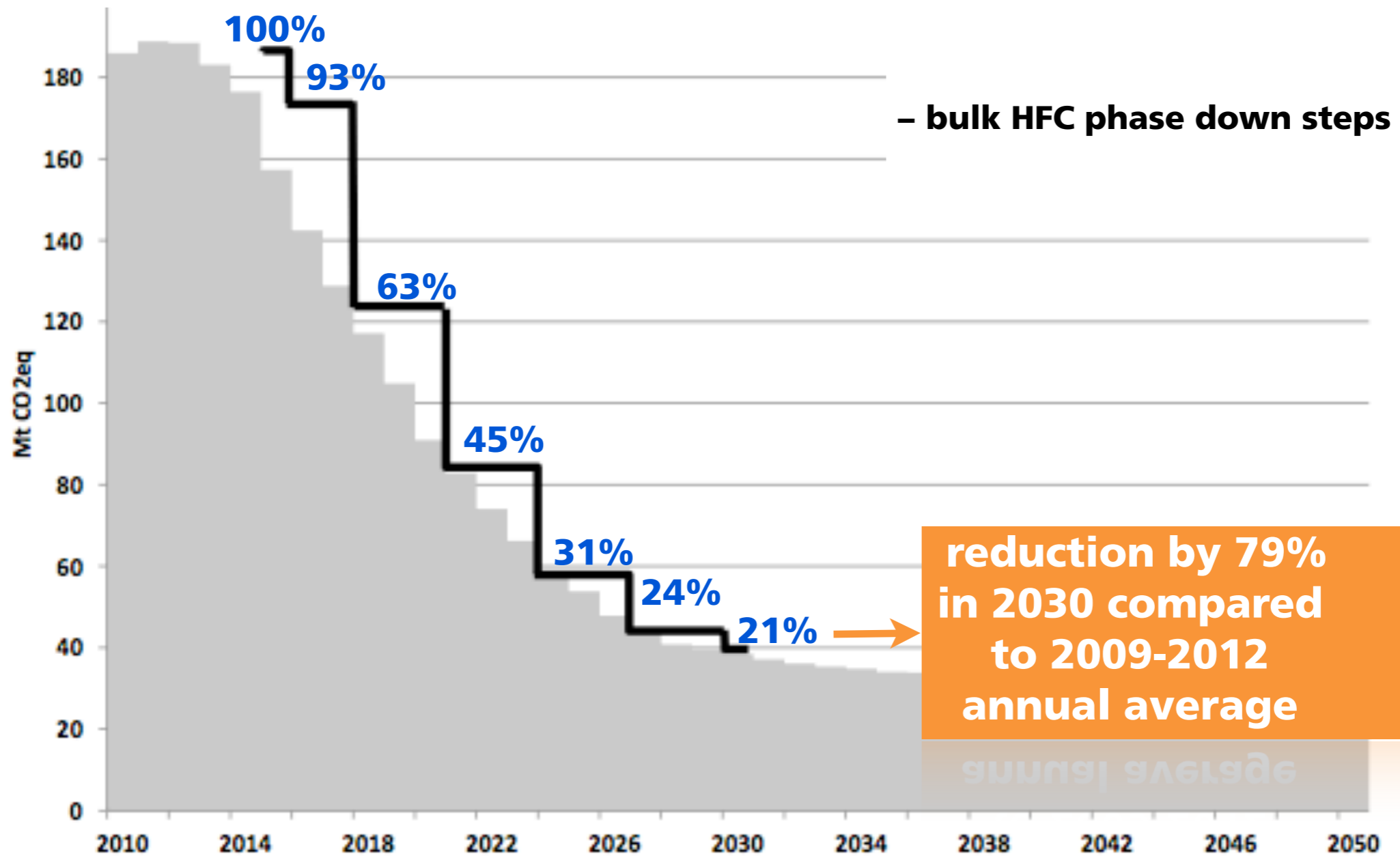
- Proposal issued by the European Commission in November 2012
- > 1 year of negotiations by EU institutions following the proposal publication



Informal deal on F-Gas II reached by EU Institutions in Dec. 2013 - main elements



EU F-Gas II - bulk HFC phase-down steps



HFC bans in
new equipment
for different
sectors

HFC bans in F-Gas II - Informal deal vs. original proposal



SECTOR (SUB-SECTOR)		informal F-Gas deal (Dec 2013)	
		GWP limit	As of (year)
1	Domestic refrigeration	150	2015
2	Refrigerators and freezers (hermetically sealed) for commercial use	2.500	2020
		150	2022
3	Movable room AC (hermetically sealed)	150	2020
4	Stationary refrigeration, except equipment intended for application design to cool products to temperatures below -50°C	2.500	2020
5	Multipack centralised commercial refrigeration systems with capacity $\geq 40\text{kW}$ that contain f-gases with $\text{GWP} \geq 150$, except in the primary refrigerant circuit of cascade systems where f-gases with a $\text{GWP} < 1500$ may be used	150	2022
6	Single split AC systems containing less than 3kg of f-gases	750	2025

F-Gas II - short message by Member of European Parliament leading negotiations



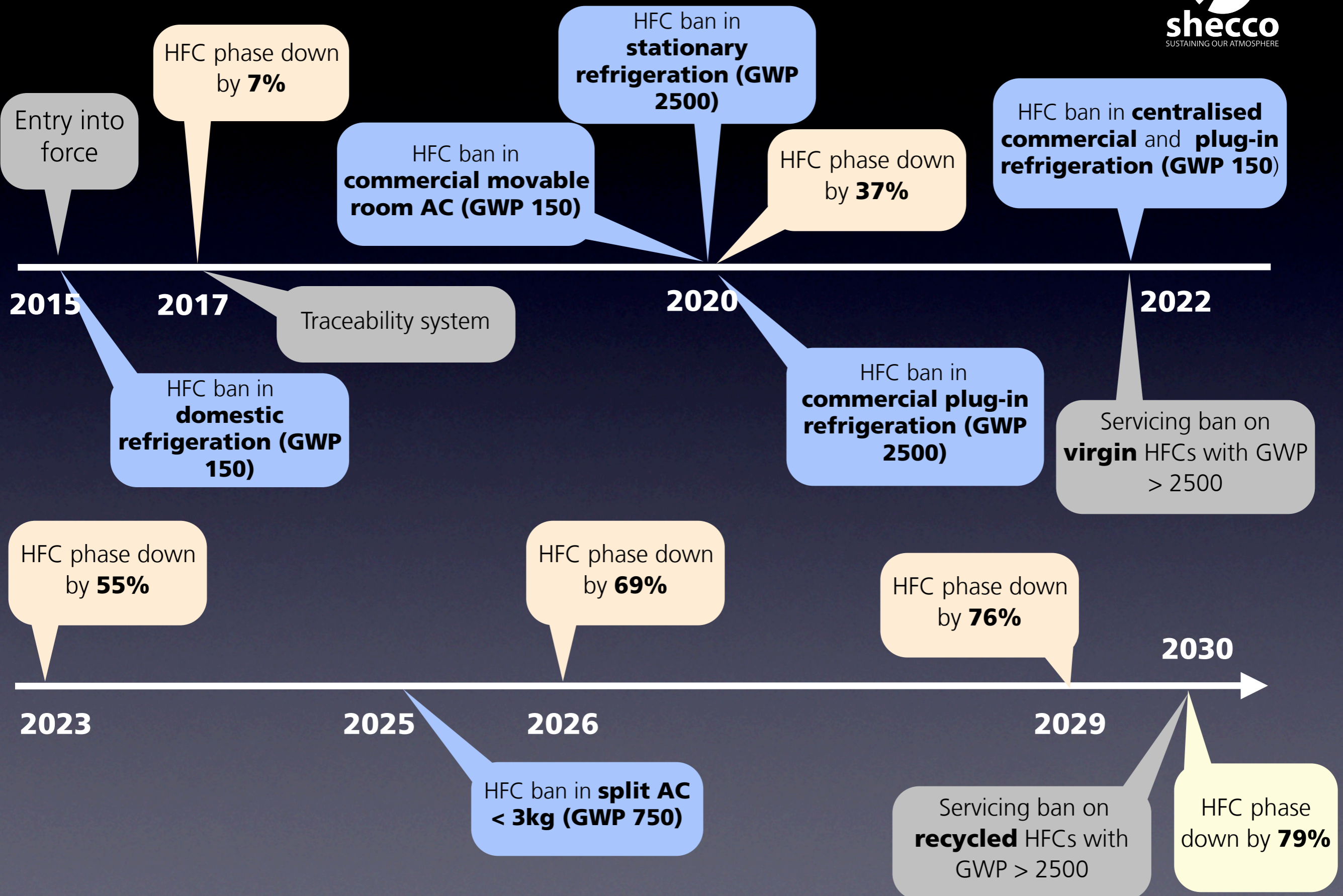
Statement by Bas Eickhout, Member of European Parliament leading F-Gas II negotiations, 30 January 2014

"It was interesting to see in the negotiations that on one hand you have the industry who depends and relies a lot on these F-gases saying 'oh, we cannot do that, it's going too quick, so please, legislators do a bit slow' and on the other hand you have the industry working on alternatives who said 'we have the alternatives available so please work for it and give us legislation'.

An example of an alternative is CO₂, which is of course a greenhouse gas but is much less harmful than an F-gas. And for example in supermarkets, in those refrigeration systems, you can work with a CO₂ alternative where no F-gases are needed and especially this regulation is now forcing the supermarkets to go to those alternatives".

Source: European Parliament / Audiovisual Services for Media, <http://audiovisual.europarl.europa.eu/AssetDetail.aspx?id=c1a2622c-033d-496b-93aa-a28c00b6683b>

Timeline of (some) F-Gas II measures



F-Gas II - what next?



The December 2013 compromise deal has to be formally endorsed by the EU institutions:

- ✓ **30 January 2014:** Environment Committee of European Parliament voted in favour of the deal
- ✓ **March 2014:** vote in Plenary of European Parliament
- ✓ **Q2 2014:** vote by the Council of the EU
- ✓ **June 2014:** likely publication of Regulation in EU Official Journal
- ✓ **January 2015:** New Regulation enters into force






HFC taxes & fiscal incentives for natural refrigerants in Europe

HFC taxes, investment grants & tax relief schemes for natural refrigerants

→ At least 13 European countries have adopted or considered fiscal measures

→ At least 10 European countries with fiscal measures in place

with fiscal measures in place

	HFC tax schemes
	HFC tax schemes - considered
	Investment grants
	Accelerated tax relief
	



HFC taxation - growing appetite in Europe

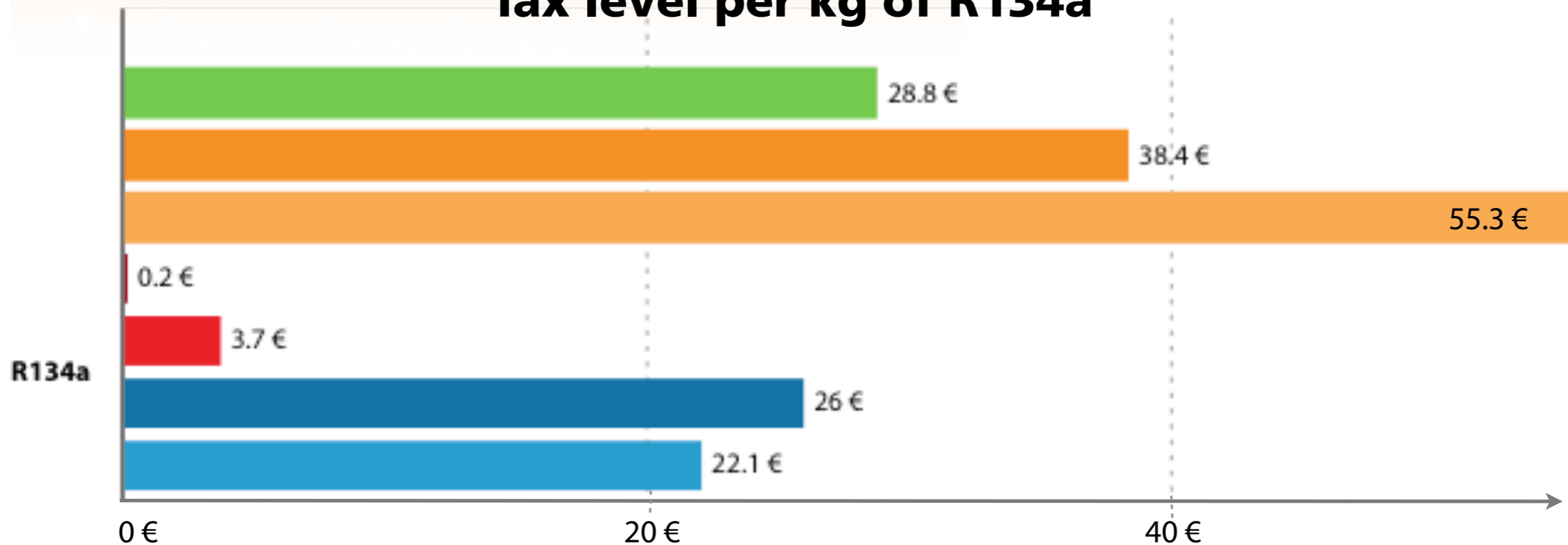
→ Tax levels can vary significantly

- by country
- first charge vs. servicing,
- virgin vs. recycled HFCs

→ Norway leads the way

- Denmark 2013/4
- Norway 2013
- Norway 2014
- Slovenia 2014, first charge
- Slovenia 2014, servicing
- Spain 2016 - virgin HFCs
- Spain 2016 - recycled HFCs

Tax level per kg of R134a



HFC taxation - Spain



October 2013 - Spain adopts HFC tax that:





- ➔ will be phased in gradually from 2014 to reach eventually a level of €20/tCO₂eq in 2016
- ➔ will apply to gases with GWP > 150 and
- ➔ will not apply to the 1st refrigerant charge of new equipment
- ➔ has differentiated rate for "virgin" versus "recycled" HFCs

Tax per 1kg of refrigerant

Refrigerant	2014		2015		2016	
	Virgin HFCs (€/kg)	Recycled HFCs (€/kg)	Virgin HFCs (€/kg)	Recycled HFCs (€/kg)	Virgin HFCs (€/kg)	Recycled HFCs (€/kg)
R134a	8.58	7.29	17.16	14.59	26.00	22.10
R410A	13.04	11.08	26.07	22.16	39.50	33.58

UK: accelerated tax relief for investing in CO2 heat pump water heaters (HPWHs)



-  **Enhanced Capital Allowance (ECA)** scheme for Energy Saving Technologies: **100% first year capital allowance** on investments against taxable profits
-  **Q3 2013:** new product category for **CO2 heat pumps for domestic hot water (air-, ground-, water-source)**
-  **Who can apply:** businesses (technology end-users) that invest in CO2 HPWH products included in list of eligible products (ECA Energy Technology Product List)
-  **Manufacturers** of CO2 HPWHs that comply with general criteria, can apply for including their product in the ECA Energy Technology Product List

UK: accelerated tax relief for investing in CO2 heat pump water heaters

Claim can include

- actual costs of buying the equipment, but also
- other direct costs: e.g. installation cost, transport of equipment



Savings calculation - example

- ➔ For a company **investing €10000** for an eligible project the scheme reduces taxable profit by 100% of the investment costs, which is €10000.
- ➔ Assuming a 25% corporate tax rate, the **scheme reduces the amount of tax to be paid by the company by €2500** ($=25\% * 10000$).
- ➔ In contrast, for every €10000 spent, the generally available capital allowance (18%) for spending on plant and machinery would reduce the business's tax bill in the year of purchase by €450 ($= (18\% * 10000 * 25\%)$).
- ➔ For every €10000 spent, ECA can provide a **cash flow boost of €2050** in the year of purchase.

GERMANY: investment grants in commercial / industrial refrigeration & AC - equipment covered



New rules as of January 2014, cover:

- ✓ Compression refrigeration systems with 5 to 150 kW of electrical power
- ✓ Compression air conditioners with 10 to 150 kW of electrical power
- ✓ Sorption systems with 5 to 500 kW cooling capacity (use of waste heat or heat from CHP plant is one of the eligibility requirements)

GERMANY: investment grants in commercial / industrial refrigeration & AC - grant types



Basic grant - up to €100,000

- ✓ Grant rate level depends on whether the installation concerns EXISTING or NEW plants



Bonus grant for the use of waste heat for process / space heating - up to €50,000 for investing in:

- ✓ heat exchangers or
- ✓ heat pumps



Combined grant - up to €100,000 (basic + bonus)

GERMANY: investment grants in commercial / industrial refrigeration & AC - refrigerants



Use of natural refrigerants in compression systems:

- ✓ Required for new plants to receive the grant
- ✓ Higher grant rate for the use of non-halogenated refrigerants in existing refrigeration plants
- ✓ Grant rate of 20% of net investment costs for NEW and EXISTING plants, up to a maximum grant of €100,000
- ✓ Additional ("bonus") grant possible: 25% of net investment costs for natural refrigerant heat pumps using waste heat for process/space heating up to €50,000

GUIDE+ HFC taxes & fiscal incentives for natural refrigerants in Europe

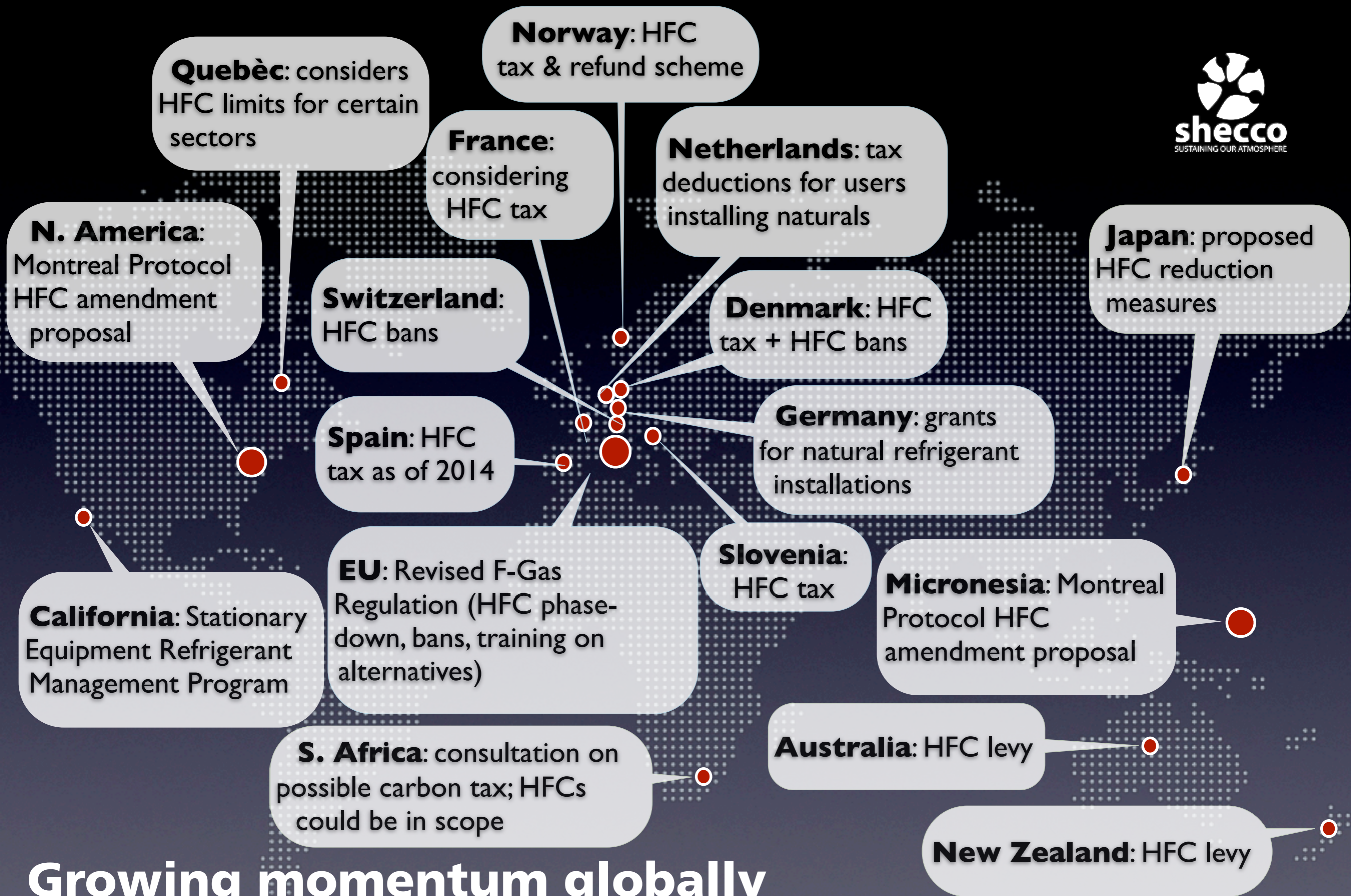


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Available from:

<http://publications.shecco.com>

- Tax levels and trends, comparative analysis of incentives, trends and expectations ...
- Geographical scope: Measures in 13 European countries (e.g. Denmark, France, Germany, Norway, Poland, Slovenia, Spain ...)
- Version 1.1 NOW available with updates from January 2014



Growing momentum globally towards HFC taxation & other measures



thank you

contact: alexandra.maratou@shecco.com



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