



ATMO  
sphere

solutions for europe  
natural refrigerants

19 & 20 April, 2016 – Barcelona



# SPANISH POLICY AND MEASURES ON FLUORINATED GREENHOUSE GASES

Guillermo Martínez López

Spanish Climate Change Office

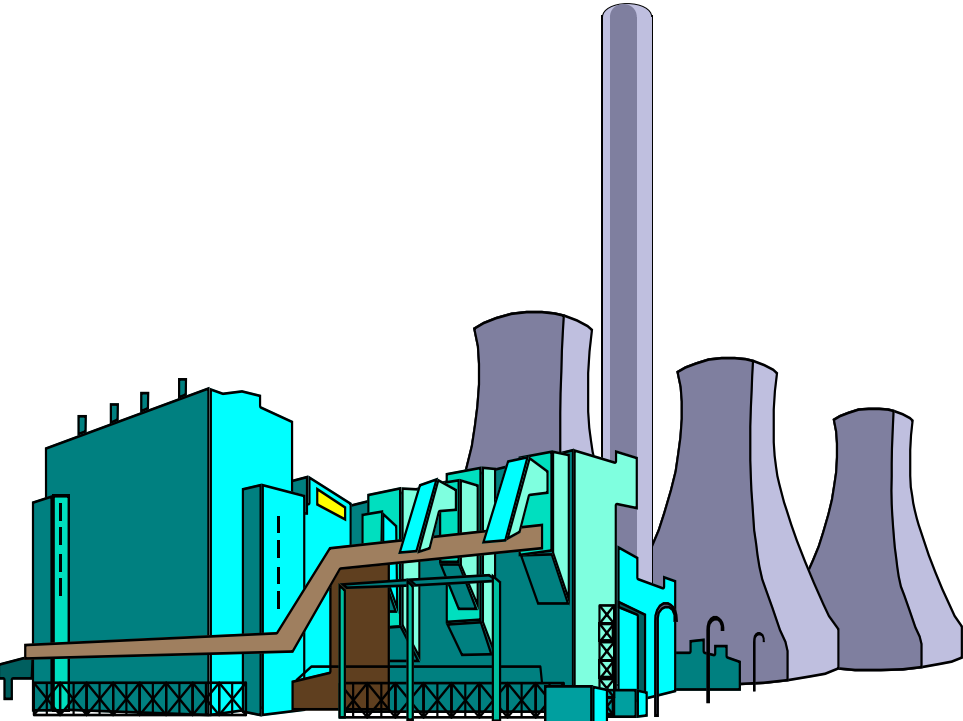
## Introduction

- i. This presentation explains the main measures that have been developed by Spain on fluorinated greenhouse gases in the refrigeration sector in the last years
- ii. Especially, it is focused in the Spanish tax on fluorinated greenhouse gases. Some details about this tax are given: characteristics, structure, legal basis and results
- iii. In addition , other measures are presented: commercial refrigeration working group and the modification of Royal Decree 795/2010 about certification of professionals who work with fluorinated gases

## Spanish domestic tax: main characteristics

- National fluorinated greenhouse gases tax has been created by law 16/2013
- Its main characteristics are:
  - Its quantity depends on the Global Warming Potential of each fluorinated gas
  - It only applies to those fluorinated gases used to replace leakages
  - It has a special treatment for certain applications: medical aerosols, fire extinction equipments and isolation foams
  - In case of proper management of these gases in the end of life the equipments which contain them it is possible to recover the tax
  - It has a progressive application and flexible structure (6 €/ton CO<sub>2</sub>-ew in 2014, 13 €/ ton CO<sub>2</sub>-eq in 2015 and 2016 )
- Main goals of this tax are: the use of low GWP in new installations and better containment and recovery of these gases in existing installations
- This tax has been recognized as an example of good practice by some international institutions: OECD and UNFCCC

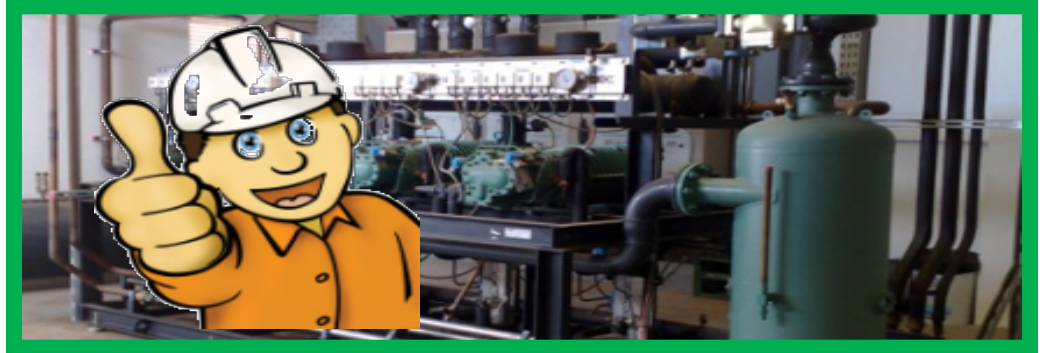
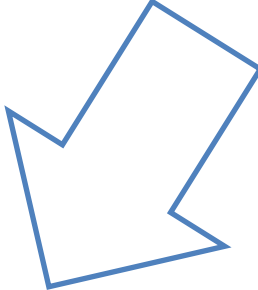
TAX STRUCTURE



**HFC FACTORY**



**PACKING PLANT**



**INSTALLER >3Kg**

**INSTALLER <3Kg  
SELF MAINTAIN  
THERMAL CONFORT  
VEHICLES**



**DISTRIBUTOR**



**USER**



**OWNER OF THE INSTALATION**



## Spanish national tax: legal basis

- Law 16/2013: its article 5 creates this tax

<https://www.boe.es/boe/dias/2013/10/30/pdfs/BOE-A-2013-11331.pdf>

- Ley 28/2014 : creates new exemptions

<https://www.boe.es/boe/dias/2014/11/28/pdfs/BOE-A-2014-12329.pdf>

- Ley 48/2015: its article 73 establishes the same tax for the 2016 than 2015 (13 euros / ton CO<sub>2</sub>-eq)

<https://www.boe.es/boe/dias/2015/10/30/pdfs/BOE-A-2015-11644.pdf>

- Royal Decree 1042/2013 and Royal Decree 1074/2014: these regulations develop the legal procedure to apply this tax

<https://www.boe.es/buscar/pdf/2013/BOE-A-2013-13759-consolidado.pdf>

- **Orden HAP/685/2014** : it contains the formal format for the tax payment

<https://www.boe.es/boe/dias/2014/05/01/pdfs/BOE-A-2014-4625.pdf>

## Spanish domestic tax: main results

- This tax starts in 2014
- We still do not have information for 2015 but according to the provisional data provided by Spanish Tax Agency we expect an important emissions reduction
- Main results according to the studies carried out by Spanish Climate Change Office:
  - HFCs alternative technologies in new installations in the refrigeration sector
  - Especially, retrofit of HFCs of high Global Potential Warming (R404A and R507A) by others (R407F o R450A) in the existing installations
- This results shows the effectiveness of this tax in the climate change mitigation
- The information of this tax has been used to improve the Spanish Emissions National Inventory

## Working Group on commercial refrigeration

- In 2014 a Working Group to deal with the prohibition on commercial refrigeration of Rg 517/2014 and its consequences in Spain was created
- This Working Group are compromised by all stakeholders: supermarkets, installers, fluorinated gases producers and sellers, NGOs, universities, other departments of Spanish Government, and it is coordinated by Spanish Climate Change Office
- Up to now, the WG had four meetings
- First report on HFCs alternative in the commercial refrigeration was made in 2015 based on the questionnaire fulfilled by supermarkets.

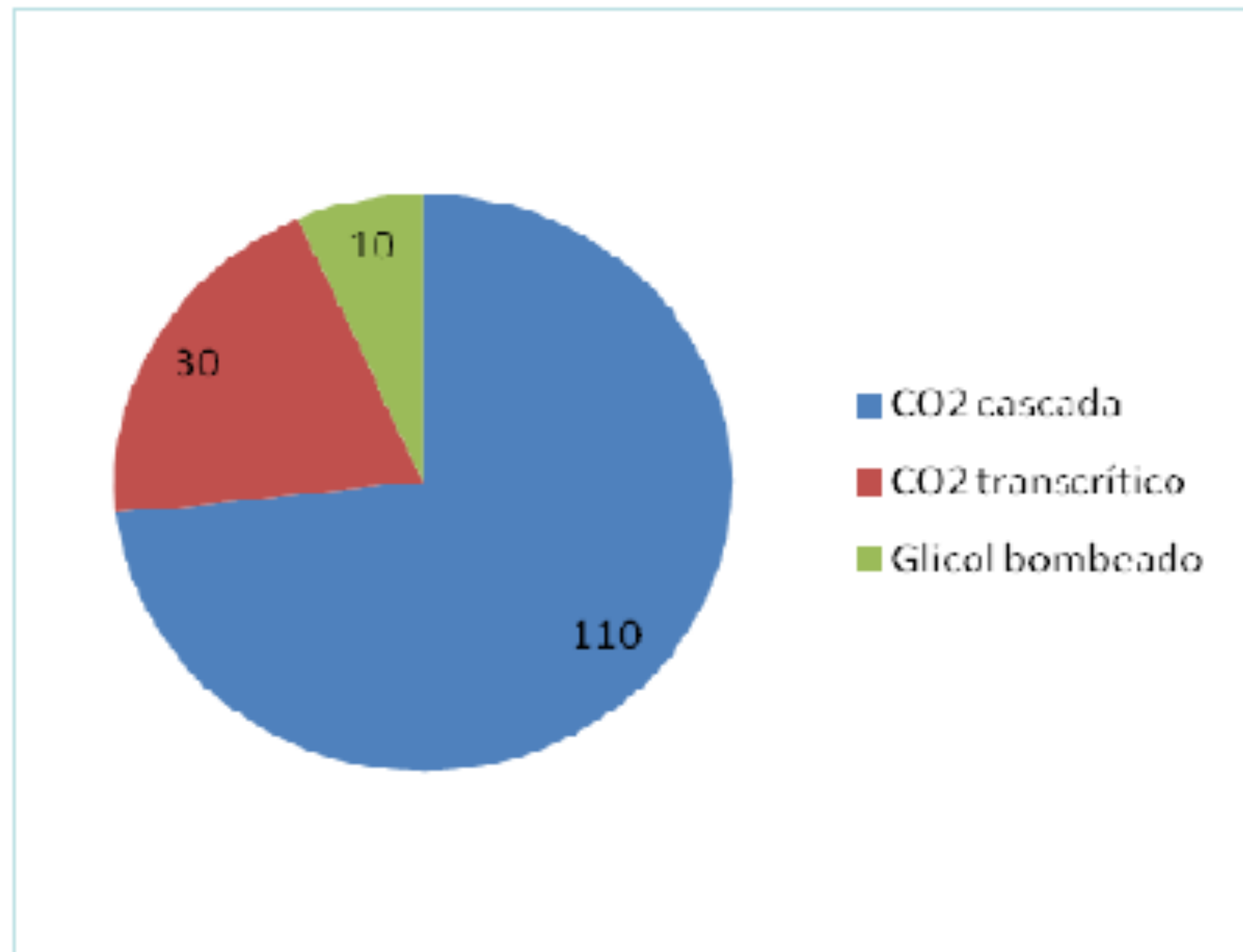
[http://www.magrama.gob.es/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/informe-alternativas-hfcs-refrigeracion-comercial\\_tcm7-410998.pdf](http://www.magrama.gob.es/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/informe-alternativas-hfcs-refrigeracion-comercial_tcm7-410998.pdf)



## Report about HFCs alternative technologies in Spain: Main conclusions

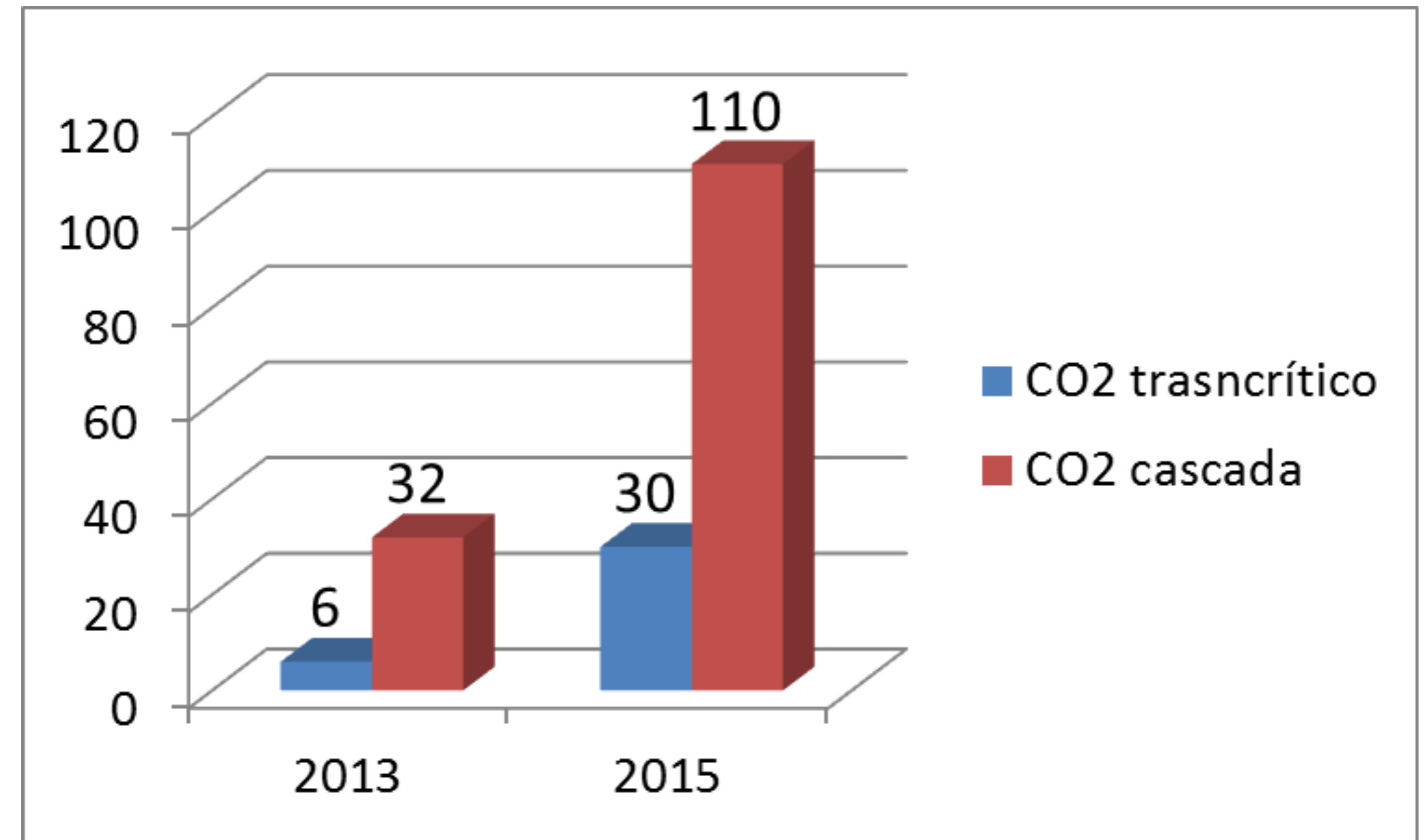
- Up to now, the main alternative technology in Spain is subcritical CO<sub>2</sub> (HFC 134/CO<sub>2</sub>) but is planned to be prohibited by 2022
- It has been an important increase in the HFCs alternative technologies in the last two years: it estimates an increase about 300% especially by the implementation of the tax
- Main concerns from the Spanish supermarket sector:
  - Main alternative subcritical CO<sub>2</sub> (HFC 134/CO<sub>2</sub>) is going to be prohibited
  - There are few professionals who know how to use these technologies (especially transcritical CO<sub>2</sub>)
  - efficiency of the new technologies (especially transcritical CO<sub>2</sub>)
  - Higher investment costs
  - Other: location of some supermarkets in the ground floors building, local regulations, etc

# HFCs alternative technologies report: Current situation in Spain



**Estimated distribution of HFCs alternatives on commercial refrigeration in Spain (2015)**

This graph reflects an estimation of cumulative numbers of HFC alternative technologies



**Evolution of HFCs alternatives on commercial refrigeration in Spain 2013 and 2015**

This graph reflects an estimation of the numbers of installations of two technologies: transcritic CO2 and CO2 subcritic, both 2013 and 2015

## Royal Decree 795/2010

- This Royal Decree establishes the *certification national system* for the professionals who work with fluorinated gases in all applications: refrigeration and air conditioning sectors, fire extinction, electrical equipments, solvents, etc
- This Royal Decree is being modified in order to reflect the new requirements of the Rg 517/2014 and its implemented acts, especially the *training in the HFCs alternative technologies* in the courses for obtaining certificates
- Other important new legal requirement in the refrigeration sector of this new regulation, it is the implementation of a system to assure the installation of *HFCs precharge equipments* by certified professionals
- All the *legal processing* for the approval of this new regulation has been done (lack formal approval by Spanish Government)

## Next steps

- This year, we will approve the Royal Decree which modifies Royal Decree 795/2010 in order to implement the training in the HFCs alternative technologies in our certification national system. This is very important because the lack of technicians prepared to work with these alternative technologies is one of the main barrier for their implementation
- We will continue with the implementation of our Spanish national tax which it is being very effective in the reduction of fluorinated gases emissions in Spain.
- Furthermore, we will continue working in our Working Group on commercial refrigeration and this year we will try to make a new report about alternative technologies in Spain and one of its goal is to assess the energy efficiency of transcritical systems in different installations during the summer season
- Also, we use different systems of Spanish Climate Change Office like CLIMATE PROYECTS and PIMA EMPRESA which provide financial support to projects that reduce emissions by purchasing carbon credits non ETS sectors, in the implementation of the HFCs alternatives technologies in the refrigeration sector
- Finally, we are assessing the implementation in the next years of the new measures in the commercial refrigeration sector related to the energy efficiency



solutions for europe  
**natural refrigerants**

19 & 20 April, 2016 – Barcelona

Thank you very much!

Guillermo Martínez López  
gmartinezl@magrama.es