

# Domestic Carbon Initiatives in Europe

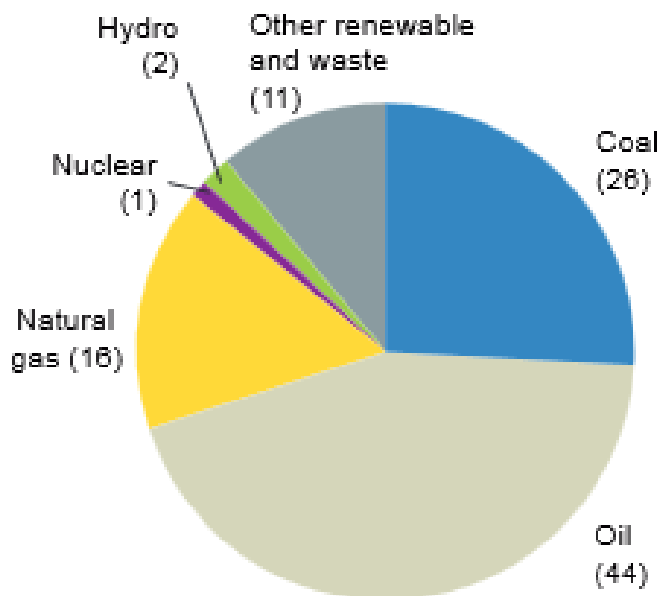
France

Jean-Claude Gazeau

2015 June 19th

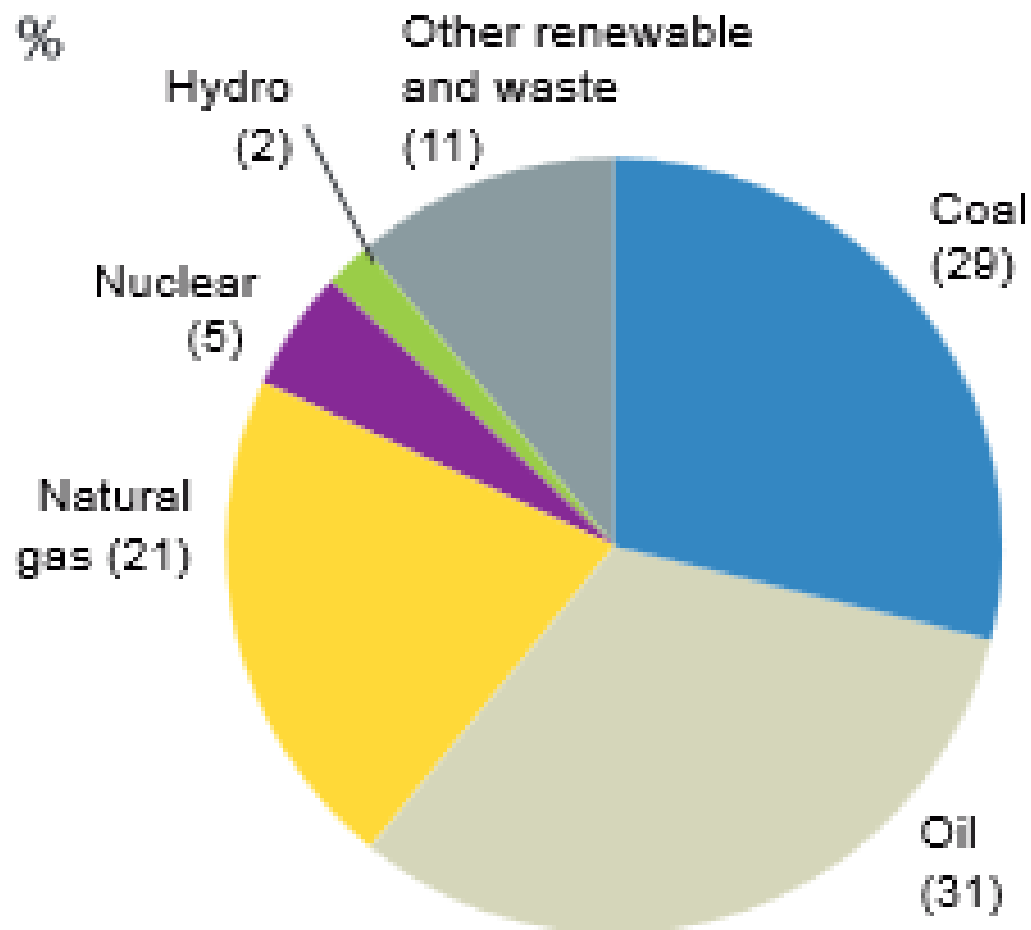
# GLOBAL PRIMARY ENERGY MIX

in 1971 (5 528 Mtep)



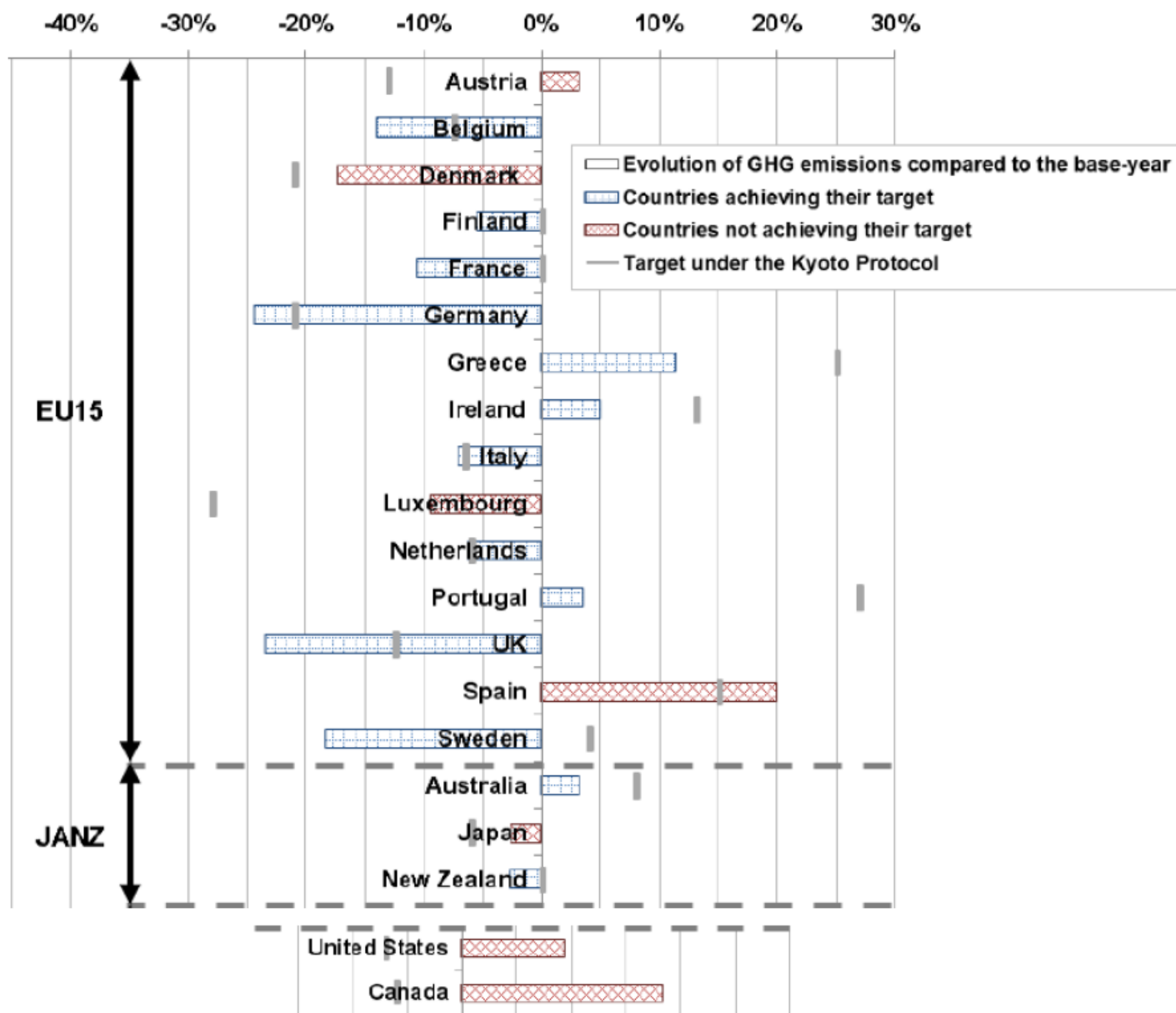
in 2012 (13 371 Mtep)

In %



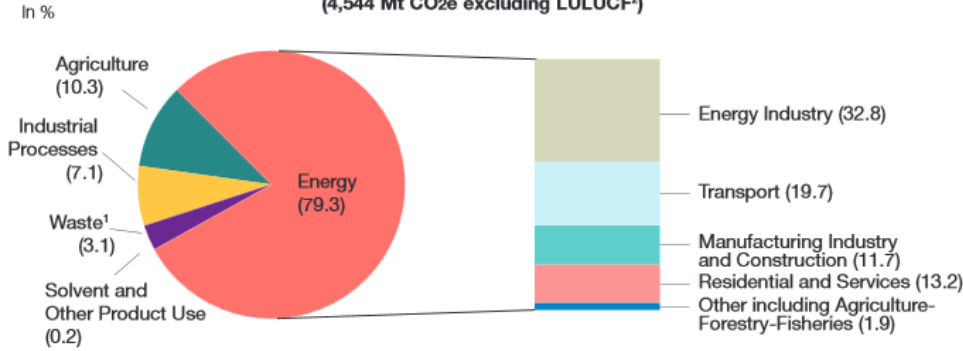
mid 2014 :  
an interministerial mission  
on Domestic Offset Projects

## 2008-2012 emissions compared with targets under the Kyoto Protocol by country



Source : CDC Climat Recherche à partir des inventaires nationaux transmis à la CCNUCC (date : 2013).

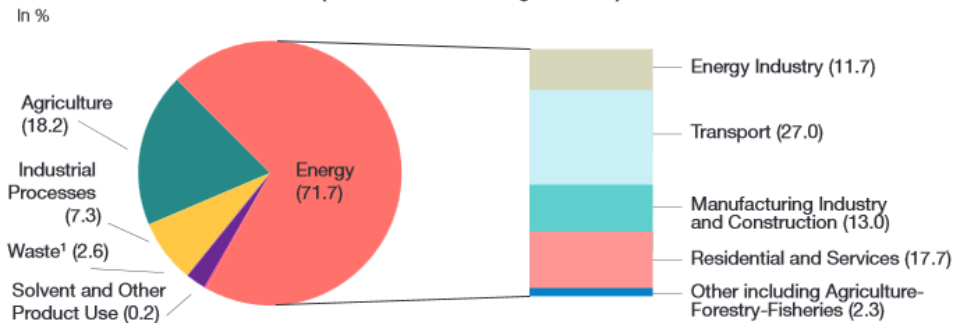
**Distribution by sources of GHG emissions in the EU in 2012**  
(4,544 Mt CO<sub>2</sub>e excluding LULUCF<sup>2</sup>)



Source: European Environment Agency (EEA), June 2014

1. Excluding the incineration of waste with recuperation of heat (included in "Energy Industry").
2. Land Use, Land Use Change and Forestry.

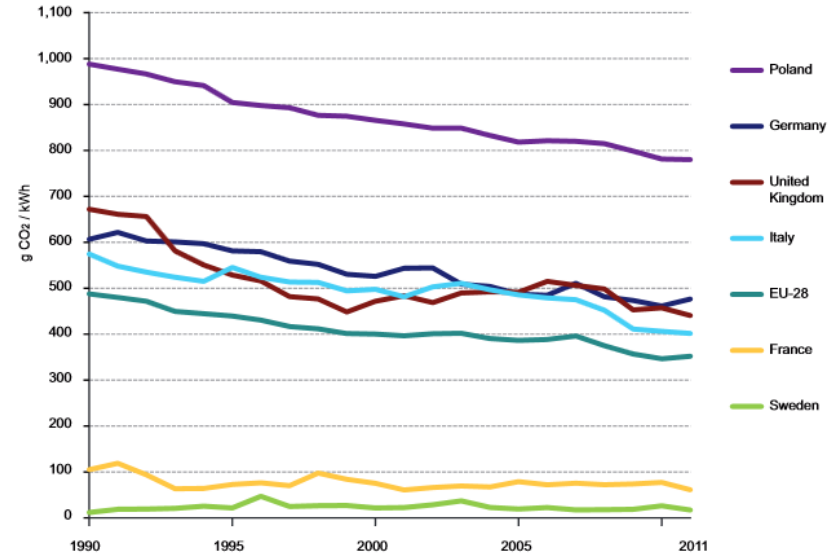
**Distribution by sources of GHG emissions in France in 2012**  
(490 Mt CO<sub>2</sub>e excluding LULUCF<sup>2</sup>)



Source: European Environment Agency (EEA), June 2014

1. Excluding the incineration of waste with recuperation of heat (included in "Energy Industry").
2. Land Use, Land Use Change and Forestry.

## CO<sub>2</sub> Emissions per kWh of Electricity in the EU



Source: International Energy Agency (IEA), March 2014

# The initiative of DOP in France

- 2005 : a report by Caisse des Dépôts et Consignations on DOP feasibility
- 2006 : technical work on methodologies
- Dec 2006 : official launch of the initiative
- 2007 : a regulatory framework is developed
- 2007 : first methodologies are approved
- 2007 : CdC launched a call for projects
- 2008-2012 : projects are emerging

# The objectives

- To lower the global cost of GHG reduction
- Specificity of french energy mix with a large part of nuclear electricity → a large part of GHG emissions outside EU ETS and electricity consumption
- Enlarge market liquidity of EU ETS by adding ERUs coming from DOP

# The 2008-2012 story

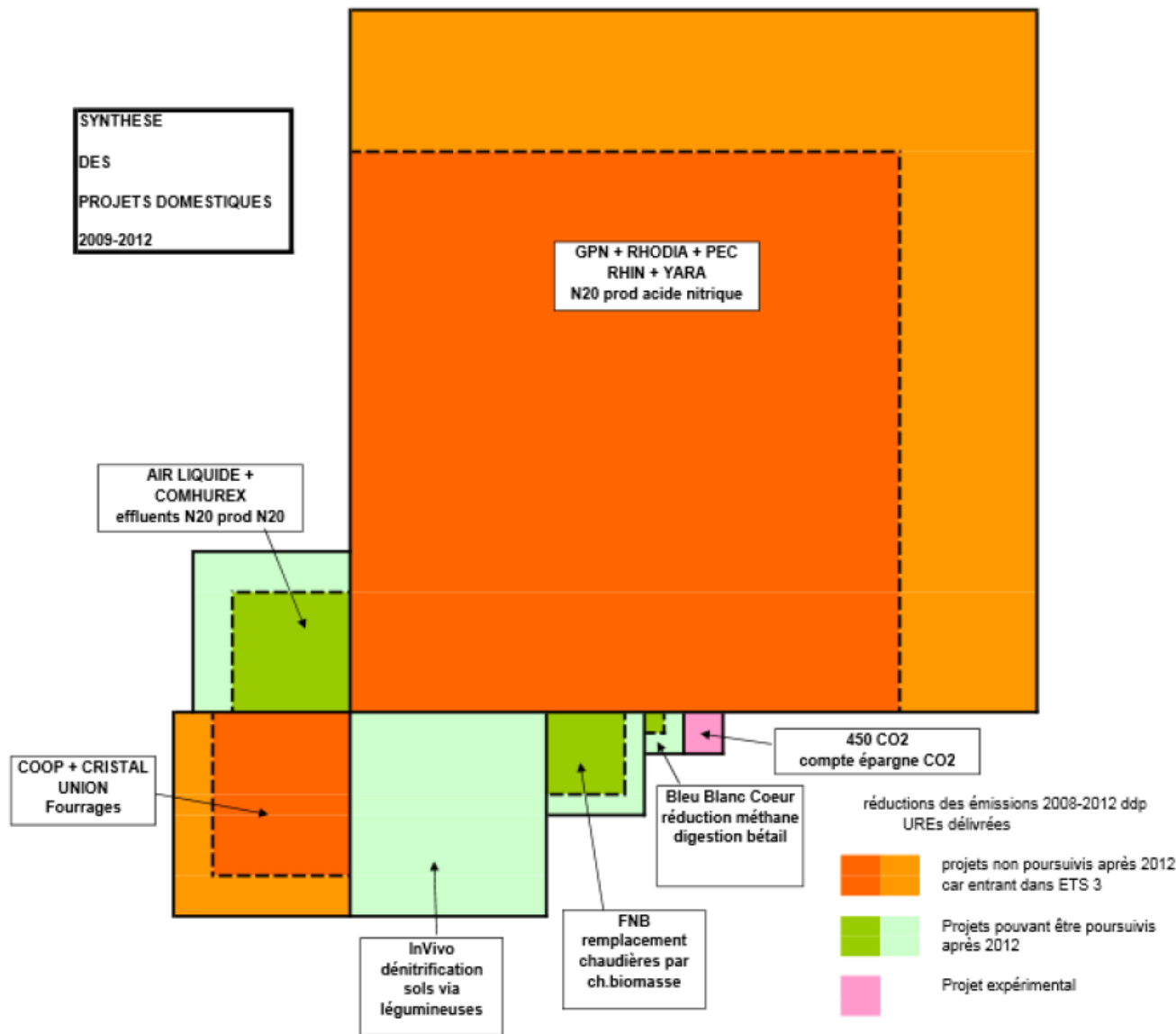
- **Mainly two kind of projects :**
- **Projects which are intended to integrate EU ETS**
  - Industrial Projects which were due to reduce N20 emissions have integrated EU ETS on 2013 1st january
- **Smaller projects, often innovative but generating small GHG reductions :**
  - 5 projects outside EU ETS domains could theoretically continue after 2012
  - Among these five projects three (the smallest ones) were programmatic project ; reductions are in their case generated by changes in organisation ou in actors's behaviour



# Effective CO<sub>2</sub>e reductions

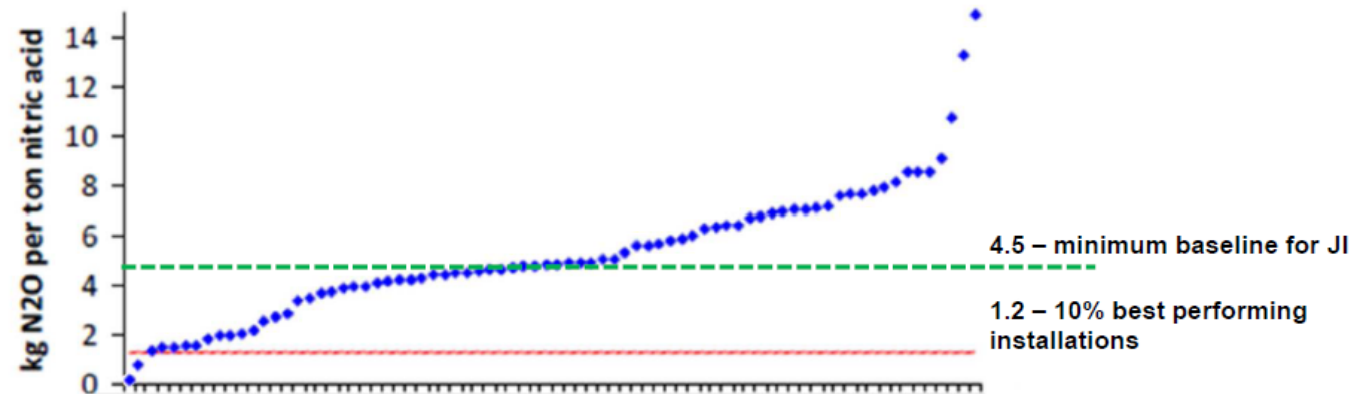
- At the end of 2012, after 10% refaction of ERU for french country, a total of **8.6 Mt CO<sub>2</sub>e** have been delivered :
  - with a broad range of size (60% of the amount has been delivered to one project)
  - Covering a wide variety of GHG : 14 projects about N<sub>2</sub>O, 3 on CO<sub>2</sub>, one on CH<sub>4</sub> and one on HFC (one was jointly on CO<sub>2</sub> and N<sub>2</sub>O)
  - Three methods had been referenced about SF<sub>6</sub>

## Poids comparé des différents projets domestiques



# Impact in industrial sectors

- During 2008-2012 DOP has functioned for industrial project as an « ante-room » for EU ETS preparing an inclusion of the process (with respect to reglementation!)
- No criticism about this strategy (countries which had industries already renovated used the opt-in)
- **JIs helps government to collect datas**
- **Benchmark setting thanks to top-performing JI projects**



# Other remarks

- Investigation and instruction procedures are very slow
- This affects particularly the smallest projects, often programmatic projects, which both are sophisticated (due to additionality) and must be as easy to understand for the ordinary citizen
- It is presumed that it will be majority of upcoming projects ...

So what could be recommended for  
the future ?

# 2013-2020 : a gap of uncertainty

## The post-2020 period

- Debates focused on EU ETS and 2030 Energy package
- **BUT non-ETS sectors** (mainly buildings, agriculture, transport, waste, light industries) accounted for 60% of EU emissions in 2012
- There is an urgent need for post-2020 policy tools for non ETS sectors and all member states must reduce their emissions in these sectors even lower-income member States.

ARE DOP NECESSARY AMONG DIFFERENT EXISTING TOOLS ?



A look to current french landscape in 2015

**DOP « between » CCE (carbon taxation) & ETS**

- **ETS for major emitters**
- **CCE for diffuse emissions :**
  - France has introduced (April 2014) a carbon tax on energy products calculated on the basis of 7€/CO<sub>2</sub>t en 2014, 14,5€/t in 2015 and 22 in 2016 (+3,4 cts/l for gasoline 4cts/l for diesel)
  - but poor visibility for consumers of the aim pursued in the mix of taxes affecting fuel

and « between »...

- **DOP for « innovative » projects**

# Conditions for the future

- There is a place for innovative projects concerning diffuse emissions
- We must take advantage of the intermediate period 2013-2020 elaborating adequate methodologies



WHY a long period for instruction ?  
 Suitable methodologies

# Uncertainties affecting data collected vs the inventory

**Adapted methodologies linkable when  
 necessary to national Inventory**

Calcul d'incertitude sur les émissions des GES en France

## METHODE TIER 1 DU GIEC (\*)

				Gaz à effet de serre direct	CO <sub>2</sub> équivalent (Gg) 1990	CO <sub>2</sub> équivalent (Gg) 2012
<b>Émissions totales hors UTCF</b>				<b>PRG</b>	560 384	496 221
<b>Incertitude sur les émissions totales hors UTCF</b>				<b>PRG</b>		
<b>Pour l'année 2012 : 16,7 % et sur l'évolution : 2,3 %</b>						
<i>Émissions totales nettes</i>				<i>PRG</i>	531 764	451 967
<i>Incertitude sur les émissions totales nettes</i>				<i>PRG</i>		
<i>Pour l'année 2012 : 19,2 % et sur l'évolution : 3,1 %</i>						
UTCFC : Utilisation des terres, leur changement et la forêt ("Land-Use Change and Forestry").						
(*) Calcul d'incertitudes selon les bonnes pratiques du GIEC (cf. "IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories", chap.6)						
(**) Les activités sont supposées non corrélées d'une année sur l'autre, sauf pour l'UTCFC, et les émissions des décharges ("Solid Waste Disposal on Land")						

Source : CITEPA/format CCNUCC (mise à jour 20/02/2014).

# But there is necessity to work precisely on methodologies...

- As considered previously, question of uncertainty is pregnant for managing (MRV) diffuse emitters
- An example of methodology in USA

## Agricultural carbon offsetting: reducing MRV costs for GHG emissions using a local approach

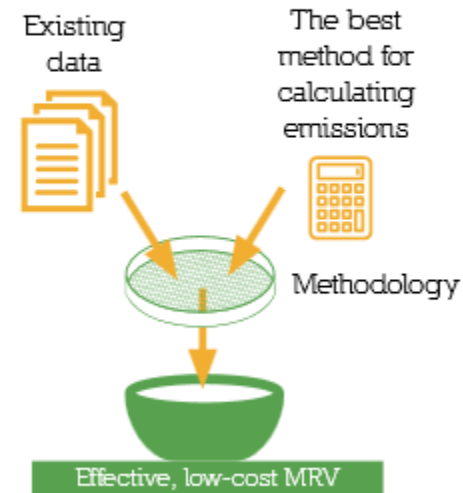
In the United States, in 2012, Michigan State University (MSU) and the Electric Power Research Institute (EPRI), developed a methodology to account for the GHG savings resulting from the reduction of nitrous oxide (N<sub>2</sub>O) levels released through agriculture, adapted to the requirements and standards set by three different voluntary carbon accreditation bodies (ACR, CAR and VCS<sup>1</sup>). The methodology quantifies reductions in nitrous oxide emissions achieved through better management of nitrogen inputs on farmland. This will eventually help to assess mitigation potential of nitrogen in agriculture in the United States and the credits generated will be able to be used by the sectors covered by the California Compliance Offset Program.

Agricultural emissions come in many forms, implying high MRV costs, which can act as a barrier to the development of carbon projects. The methodology proposes two levers to reduce these costs:

- Use of existing activity data collected through agricultural regulations, to limit the additional cost of collecting new data.
- Establishment of a sampling method during the verification process, grouping several farmers within a single project, to reduce reporting and verification costs.

This methodology for calculating the reduction in nitrogen fertilisation highlights the compromise needed between accuracy of measurement and reduction in MRV costs. Such a compromise is only possible through a bottom-up approach, taking into account each project's specific local context (regulations, available data, structure of the sector, type of agricultural system, etc.), which therefore limits the ability to replicate an agricultural MRV methodology from one region to the next.

A calculation methodology resulting in cost effective MRV



Source : CDC Climat Research

# Dilema : secure AAQs vs promote reduction projects

## Can we avoid double counting

- CDM vs JI : CDM (under art 12 of KP) generate new credits CERUs but JIs (under art 6 of KP) don't generate new credits : the reductions (ERU generated) are deducted from AAQs of the host country)
- The attractiveness of tools like DOP still remains (changes in consumers behaviour) and is not always dictated by physical AAQ but search of reality of GHG reductions
- ***It could therefore be imagined the co-existence of two methods : one linked as in the past to AAQ and the other under somewhat french label, verifications of additionality still done by administration***

# Need for money

- Need for public or private financing:
- Going further than finance institutions, possibilities could exist through crowdfunding where financial motivations is not always the most important criteria but what prevails is the long-term sustainability of the programme.
- A national label could in that case be the suitable answer to ensure credibility of the tool

# Non-ETS sector : a coherent plan and targeted actions leading to concrete results.

At EU level, in 2020 climate Package, non-ETS sectors are treated by the EU's « Effort Sharing Decision (ESD) »

Each member states has their own sector's specificities and different GDP/capita level

**It's important to have a coherent and efficient approach adapted to all revenue levels of member states**

Recently the idea was expressed of a central clearinghouse which would collect the demand schedules and meet demand by issuing calls to business and local government.

This idea seems attractive, it could potentially by a better earmarking of prior sectors and visibility of demand generate transaction costs reduced and robust methodologies >> for WG this afternoon

# Sectors to investigate :

## Agriculture

- Agriculture is a big emitter (21%) in France with huge potential but there is equally huge uncertainties in reduction evaluations
- Methodologies must be developed in coherence with public policies (PAC,...)
- Promote global integrate vision : datas collected by farmer in a single way

# Forestry

- Context : stagnation of plantations due to the extinction of government subsidies for planting trees
- Potential is essentially in forestry : government should play a proactive role in order to boost this activity
- Methodologies to be developed in order to rise CO<sub>2</sub> capture and storage and voluntary compensations (as it has been decided in **United Kingdom with Woodland Carbon Code**) :
- one difficulty in boosting forestry is that before sequestering, the project generates a carbon debt as you must cut the coppice before replantation

# Sectors : building

- EWE AG Active Climate Protection – CO2 Bonus natural gas (Allemagne) • Mesures d'EE pour réduire la consommation domestique de gaz naturel • 28 000 participants (objectif)
- Programmatic projects for buildings energy passeport



# And transport... ?

- It was the first sector to be investigated in 2006 (car sharing, CH<sub>4</sub> ex waste for bus fleets, ...)
- A great difficulty for demonstrating additionality due to quick changes in consumer 's behaviour...

# In short :

- A french label could be created
- A better mutual information on JIs in Europe with exchanges on methodologies on the same sector
- Work on methodologies for small projects and linkage with national GHG inventory
- Crowdfunding : a tool to motivate and generate money
- Call for projects on chosen sectors

# Generic observations

- a relative uncertainty about tools connected to EU ETS
- But a relative optimism about domestic projects due to a growing attractiveness of projects developed in the country itself because of scarcity of financial resources
- And a relative optimism about the MOC (JI) considering the fact that many countries (California with Quebec ; Australia ; China ...) continue to manage “quasi MOC”
- But a huge effort to make in adapted methodologies

Thank you for your attention

*Jean-Claude Gazeau*