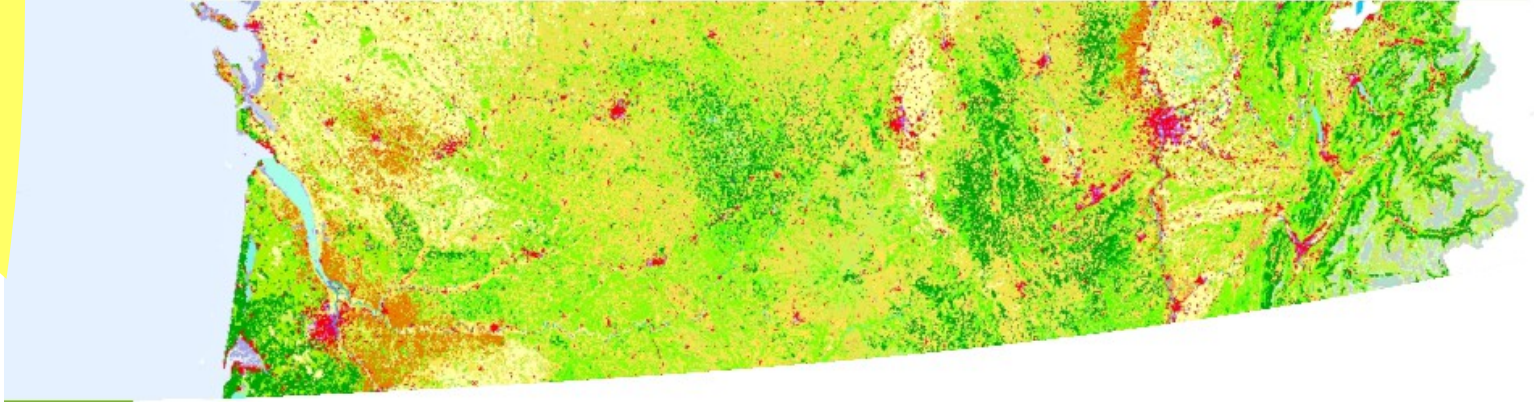
Conseil économique pour le développement durable



Non-ETS Climate Change Policy at the Member State Level:The French Case

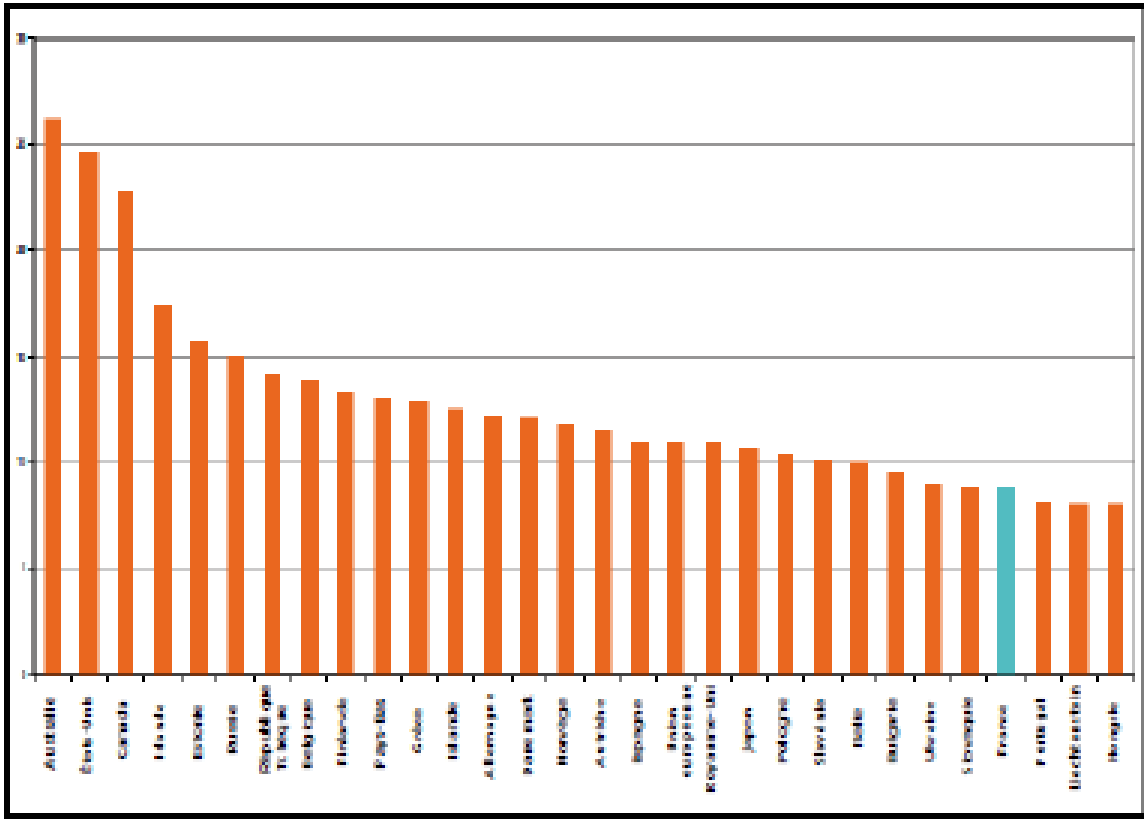
Dominique Bureau

1. The French CC Policy: from Grenelle Environment to Environmental Conferences
2. Establishing a domestic carbon price: how many times must we try…?
3. Concluding remarks

RÉPUBLIQUE FRANÇAISE

1- The French CC Policy: general overview

Performance



A Multi-level Policy

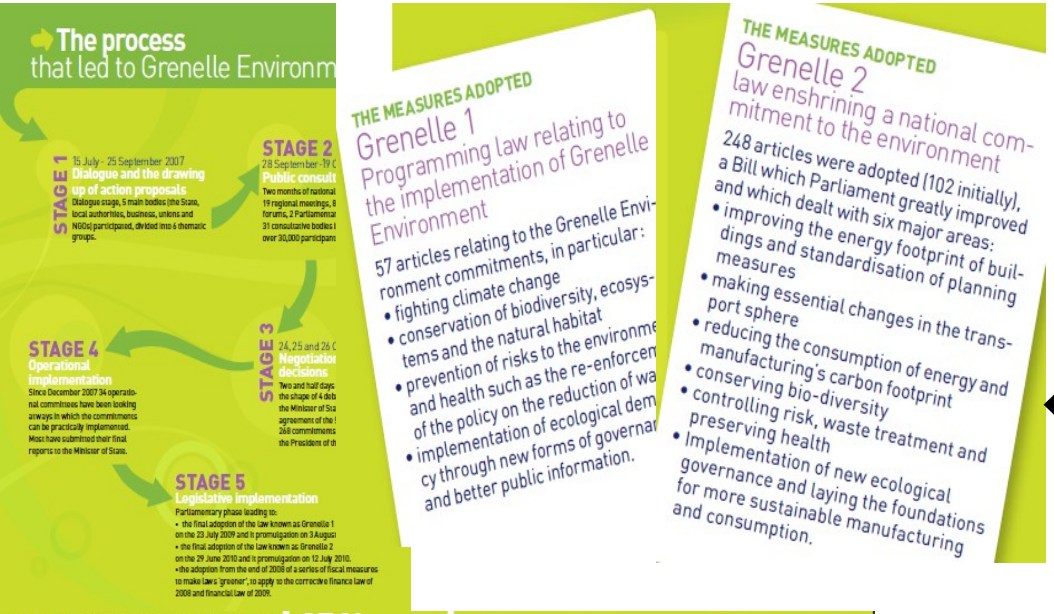
- Levels :
  - Global : UNFCCC; Kyoto Protocol
  - EU : ETS; climate-energy package; energy-use efficiency directives…
  - National
  - Regional and local : local plans for mitigation (infrastructures; urban planning; public transport…), and progressively adaptation

- Actors :
  - Governments (regulation)
  - « private actors » : firms; households; local authorities; public sector

« EU 3 (global/ETS/non ETS) * 20 » Context and National non- ETS Objectives

	Changement concernant les émissions des secteurs ne relevant pas du SCEQE (par rapport à 2005)	Part des énergies renouvelables dans la demande énergétique finale en 2020
AT	-16,0 %	34 %
BE	-15,0 %	13 %
BG	20,0 %	16 %
CY	-5,0 %	13 %
CZ	9,0 %	13 %
DK	-20,0 %	30 %
EE	11,0 %	25 %
FI	-16,0 %	38 %
FR	-14,0 %	23 %
DE	-14,0 %	18 %
EL	-4,0 %	18 %
HU	10,0 %	13 %
IE	-20,0 %	16 %
IT	-13,0 %	17 %
LV	17,0 %	40 %
LT	15,0 %	23 %
LU	-20,0 %	11 %
MT	5,0 %	10 %
NL	-16,0 %	14 %
PL	14,0 %	15 %
PT	1,0 %	31 %
RO	19,0 %	24 %
SK	13,0 %	14 %
SI	4,0 %	25 %
ES	-10,0 %	20 %
SE	-17,0 %	49 %
UK	-16,0 %	15 %

Grenelle environment (2007-2012)



Origin and Motivation

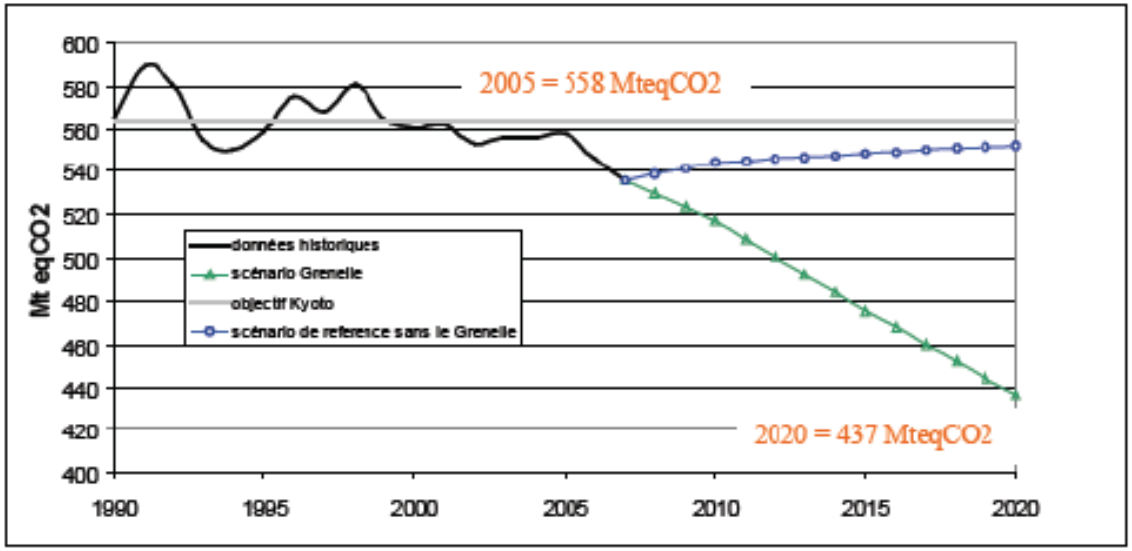
- Sarkozy's support of FNH Ecological Pact
- Need to anticipate structural changes of our economy (energy prices, resources scarcity, competitiveness issues)
- Lack of shared vision between stackholders and among policy makers (controversies, ignorance…)

But a declining priority…

- Economic crisis
- Skeptics lobbying
- CNUCC Blues
- Financial and Budget constraints
- … and numerous barriers to break

Grenelle objectives

Figure 1- Projections d'émissions de la France à l'horizon 2020 dans le cadre d'un scénario sans Grenelle et d'un scénario avec Grenelle.



Lecture de la figure : le scénario avec mesures existantes prend en compte l'ensemble des mesures décidées avant le 1er janvier 2008 et le scénario Grenelle, l'ensemble des engagements du Grenelle Environnement
Source : Inventaire CCNUCC, CITEPA, soumission 2009 et projections d'émissions, étude CITEPA, mars 2009

Grenelle main topics

1 Improving the energy footprint of buildings and standardisation of planning measures

Promote urban planning that minimises the use of land and energy resources

- Reinforce planning regulations to ensure they promote sustainable land use and development and ensure they fight urban sprawl through simplification and greening of planning support from DTADD[1], SCOT[2] and PLU[3] and other bodies).
- Authorise an increase in COS[4] to 30% if buildings under consideration are particularly energy efficient.
- Roll SCOTs out nationwide by 2017 so that regional development is on the right scale with planning documents that reflect local priorities.
- Reform rules on advertising to contain it and limit its impact on the landscape especially at the entrances to towns.
- Widen the scope for assessing the environmental impact to sector and local plans, to allow works to be undertaken in Natura 2000 zones, and to development frameworks.

[1] **DTA** : directive territoriale d'aménagement (Planning policy statements)
[2] **SCOT** : schéma de cohérence territoriale (Regional Spatial Strategy)
[3] **PLU** : plan local d'urbanisme (Local development framework)
[4] **COS** : coefficient d'occupation des sols (Housing density)

THE OBJECTIVE OF THE BUILDING PLAN

To reduce energy consumption by 38%.

- **By 2012,** all new-builds will be low-energy.
- **By 2020,** they will all be energy positive; individual houses and blocks of flats will all produce more energy than they consume.
- **Grenelle 1 has set a refurbishment rate** of 400,000 homes a year from 2013 and 800,000 social housing units consuming the highest levels of energy by 2020.
- **All buildings belonging to the State** and other public buildings will made more energy efficient before the end of 2012 with the aim of reducing their energy consumption by 40% before 2020 and greenhouse gasses by 50%.

Transport

2 Making essential changes in the transports sphere

OBJECTIVE To ensure consistency over the whole range of transport policies, for both travellers and goods while complying with ecological commitments. To achieve this it will be necessary to change transport infrastructures and behaviours. In particular this means developing alternative solutions to roads, above all, by building a little over 1,500 km of urban public transport and putting in place new rolling highways and motorways of the sea.

11 PROJECTS IN THE RACE TO FIND THE CARS OF TOMORROW

In June 2009 eleven research projects aiming to lower the carbon emissions of cars were chosen as part of a first call for expressions of interest in the demonstration fund that the Ademe are supporting with 57m euros. This research effort is preparing the way for the emergence of low CO2 cars. The aim is to go beyond the threshold of 100,000 electric vehicles purchased in the next five years. Among the projects is the EDF/Toyata project. Together, on 18 March 2009, they launched a large scale demonstration of hybrid re-chargeable cars in Strasbourg. This was a new stage in their joint hybrid car project which is road testing cars in France in conjunction with innovative charging facilities...

[1] The demonstration fund was put in place in 2008 to finance research projects examining ideas linked to new energy technologies.

SUSTAINABLE URBAN TRANSPORT

The state is investing 800m euros in 50 public transport projects for bus lanes in 36 towns outside the Paris region. TThe transport projects reflected a variety of different situations and resulted in made to measure transport solutions; there were two extensions to the metro in Lyons and in Marseille, extensions to the tram systems in the regional capitals, bus services with high levels of service, a funicular railway in Grasse among projet de funiculaire à Grasse...

Energy

3 reducing energy consumption and manufacturing's carbon footprint

OBJECTIVE The third action area, which concerns energy, is pursuing radical reductions in greenhouse gas emissions. The measures are aimed at making energy-carbon performance information widely available and maintaining France as one of the world leaders in the production of renewable energy and the development of new, plant based fuels.

Promoting the development of renewable energies

- Encourage heating from renewables and by energy capture.
- For renewable energy share costs of connection to the grid among members.
- Create regional plans for wind farms to organise wind farm development zones.
- Simplify administrative procedures for wind farms at sea.
- Authorise all legal entities to install solar panels on buildings and sell the electricity produced at the purchase price.
- Develop sustainable hydro-electricity that is both higher performing in energy terms and more environmentally friendly.
- Establish a regional plan for renewable energy to connect into the national grid (in order to speed up the connection of all renewable energy into the national grid).

Reducing energy consumption and preventing green house gasses

- Establish regional level plans for the climate, air and energy. The aim is to describe the way forward so as to reduce the effects of climate change and adapt to it, to enhance the value of regional renewable energy, to develop energy efficiency and to preserve air quality.
- Oblige firms with more than 500 employees and towns of more than 50.000 inhabitants to establish, before the 31 December 2012, greenhouse gas balance sheet.
- Oblige towns of more than 50.000 inhabitants to adopt an energy-climate plan by the 31 December 2012.
- Control support research into geological sites for the storing of carbon dioxide.
- Extend company obligations to save energy to those companies who supply fuel for cars.
- Extend the installation of individual energy computers in buildings heated collectively or by heat exchange networks..

Renewable electricity : feed – in- tariffs and calls for projects

Les arrêtés d'obligation d'achat

Filière	Arrêtés	Durée des contrats	Exemple de tarifs pour les nouvelles installations [a]
Hydraulique	1er mars 2007	20 ans	6,07 c€ par kWh + prime comprise entre 0,5 et 2,3 pour les petites installations + prime comprise entre 0 et 1,68 c€ par kWh en hiver selon la régularité de la production
Biogaz et méthanisation	10 juillet 2006	15 ans	entre 7,5 et 9 c€ par kWh selon la puissance + prime à l'efficacité énergétique comprise entre 0 et 2 c€ par kWh + prime à la méthanisation de 2 c€ par kWh
Énergie éolienne	13 décembre 2008	15 ans (terrestre) 20 ans (en mer)	- éolien terrestre : 8,2 c€ par kWh pendant 10 ans, puis entre 2,8 et 8,2 c€ par kWh pendant 5 ans selon les sites - éolien en mer : 13 c€ par kWh pendant 10 ans, puis entre 3 et 13 c€ par kWh pendant 10 ans selon les sites
Énergie photovoltaïque [b]	10 juillet 2006	20 ans	- métropole : 30 c€ par kWh + prime d'intégration au bâti de 25 c€ par kWh - Corse, DOM, Mayotte : 40 c€ par kWh + prime d'intégration au bâti de 15 c€ par kWh
Géothermie [c]	10 juillet 2006	15 ans	- métropole : 12 c€ par kWh + prime à l'efficacité énergétique comprise entre 0 et 3 c€ par kWh - DOM : 30 c€ par kWh + prime à l'efficacité énergétique comprise entre 0 et 5 c€ par kWh

Répartition de la puissance éolienne fin 2008

Source : observatoire de l'énergie

Bonus-Malus for new cars

Le "bonus écologique"

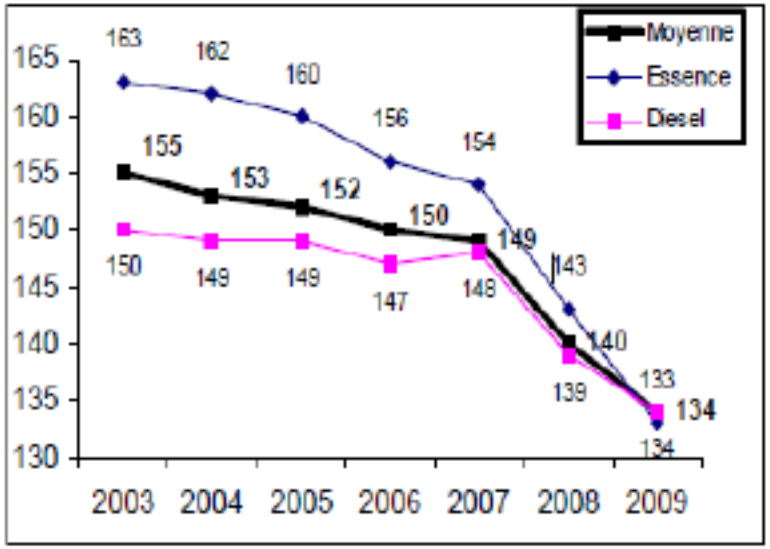
Le dispositif prévoit un Bonus en 2011 :

Taux de CO2/km	Montant du bonus en 2011
60g et moins	5000 €
entre 61 et 90g compris	800 €
entre 91 et 110g compris	400 €
entre 111 et 150g compris	0 €

Le "malus écologique"

Taux de CO2/km	Montant du malus 2011
entre 151 et 155 g CO2/km	200 €
entre 156 et 190 g CO2/km	750 €
entre 191 et 240 g CO2/km	1 600 €
à partir de 241 g CO2/km	2 600 €

Émissions moyennes des véhicules particuliers neufs depuis 2003, en gCO2/km



Source : FCA - Calculs CGDD

White Certificates

Ce dispositif repose sur une obligation de réalisation d'économies d'énergie imposée par les pouvoirs publics aux vendeurs d'énergie appelés les « obligés » (électricité, gaz, chaleur, froid, fioul domestique et nouvellement les carburants pour automobiles). Ceux-ci sont ainsi incités à promouvoir activement l'efficacité énergétique auprès de leurs clients : ménages, collectivités territoriales ou professionnels.

Un objectif triennal est défini et réparti entre les opérateurs en fonction de leurs volumes de ventes. En fin de période, les vendeurs d'énergie obligés doivent justifier de l'accomplissement de leurs obligations par la détention d'un montant de certificats équivalent à ces obligations. Les certificats sont obtenus à la suite d'actions entreprises en propre par les opérateurs ou par l'achat à d'autres acteurs ayant mené des opérations d'économies d'énergie.

Hypothèses de calcul de l'impact des CEE

Identifiant de l'opération	Libellé de l'opération	Économies d'énergie en kWh cumulés et actualisés	Durée de vie	Économies d'énergie en kWh par an	facteur d'émission	Réduction d'émissions par an en MtCO2
BAR-TH-06	Chaudière individuelle de type Condensation	5 247 514 523	16	423 000 858	0,22	0,095
BAR-TH-08	Chaudière individuelle de type Basse température	3 894 513 724	16	328 734 004,5	0,22	0,072
BAR-TH-07	Chaudière collective de type Condensation	3 732 869 792	21	253 631 823,3	0,22	0,056
BAR-TH-29	Pompe à chaleur de type air/ air	3 329 898 400	16	274 918 652	0,18	0,049
BAR-EN-01	Isolation de combles ou de toitures	2 434 677 986	36	124 429 468,5	0,21	0,026
BAR-EN-04	Fenêtre ou porte fenêtre complète avec vitrage isolant	2 284 562 571	36	117 668 824,4	0,21	0,025
BAR-TH-09	Chaudière collective de type Basse température	1 420 804 684	21	97 366 777,4	0,22	0,021
IND-UT-02	Système de variateur électronique de vitesse sur un moteur	1 287 319 625	10	152 510 940	0,055	0,008
BAR-TH-04	Pompe à chaleur de type air/ eau	1 274 965 400	16	106 206 045,6	0,18	0,019
BAR-TH-24	Chauffe-eau solaire individuel (DOM)	1 271 781 000	12	130 294 666,1	0,26	0,034
Total		35 368 808 084		2 021 057 360		0,407

Grenelle five years after, whithout apology

Global assessment

-catalyst for awareness : long-term issues; need for early action and structural changes ; assignment of instruments; importance of infrastructures, R-D and innovation ; links between the three pillars (green-jobs; fuel poverty…)

- Framework for policy-making (ex : 3*20, transport infrastructures planning, renewables, biodiversity strategy; importance of buildings stock modernisation…)

- Good points :

- **Commitment**
- **Comprehensive process** (from climate change to « Sea Grenelle »)
- **Ecological Democracy** (« five parties » permanent dialogue)
- **Information requirements** to support policy analysis and this gouvernance at five; and to monitor progress.

Grenelle five years after:problems

- **Budgetary cost**
  - Tax credits
  - Feed-in tariffs
  - Rail infrastructures
- **Rationale of detailed quantitative objectives**
- **Failure of the project of a carbon tax**

  →Economic efficiency of the package?

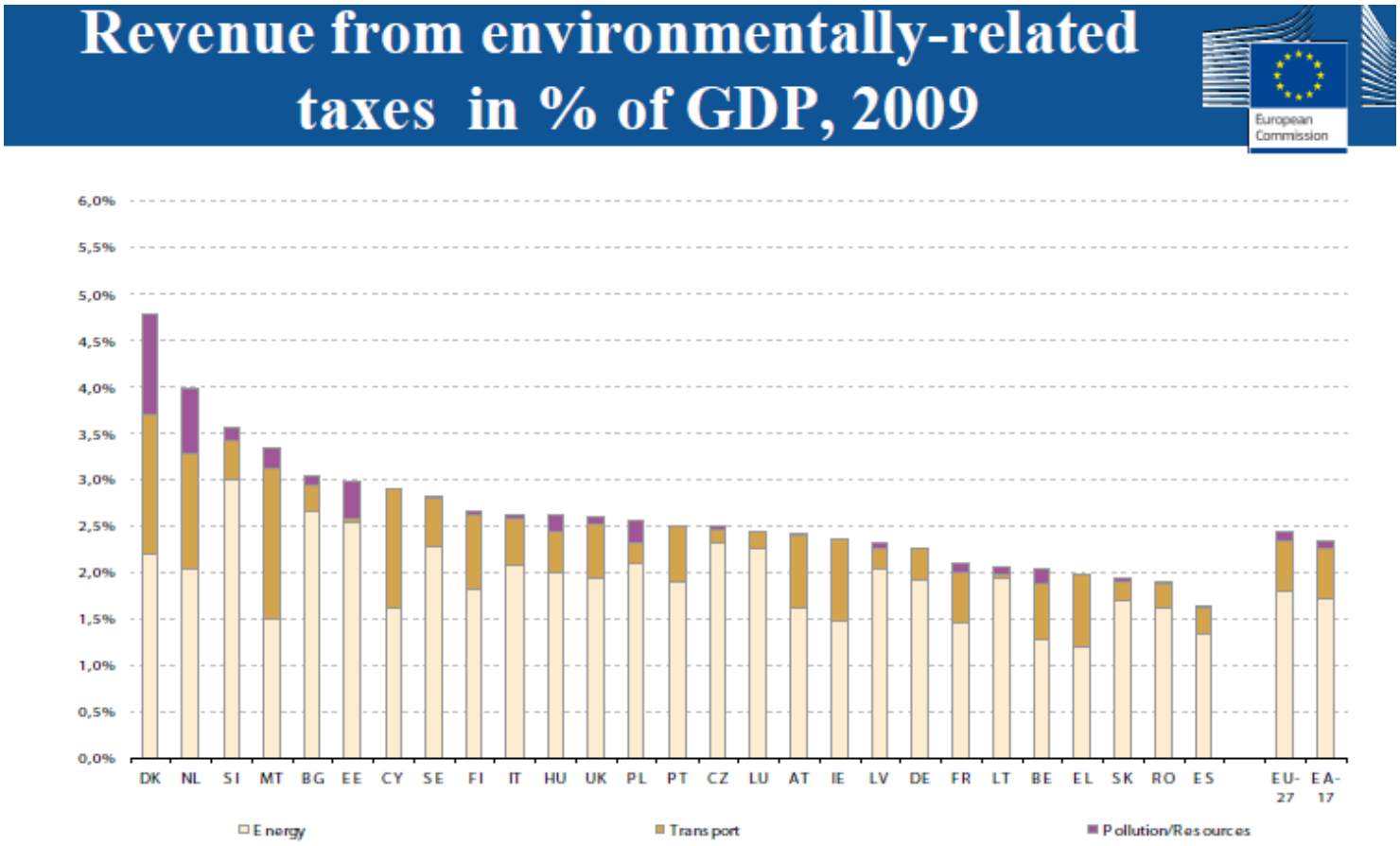
The Environmental Conference (Sept. 2012)

- **Context**
  - **Left-Green Government: from specific measures (Fessenheim plant closing; shale gas ban) to a global project**
  - **Need to adjust diverse policies (unrealistic objectives; excessive costs): housing; renewables**
- **Topics: energy; biodiversity; Health-environment; financing and environmental taxation; governance (local Authorities)**
- **Decisions**
  - **Launch of a public debate about energy**
  - **Permanent Green Tax Commission (C.de Perthuis)**
  - **Bank for Public Investments**
  - **Biodiversity Agency**

National Debate for Energy Transition and Green Tax Committee Recent Recommendations (2013)

- Maintained factor 4 commitment, importance of international negociations, EU roadmap, energy efficiency, sustainable mobility, smart grids …
- Priority to reduce energy precarity: from social tariffs extension to energy vouchers?
- Optimized strategy for better housing energy performances (targeting of tax-credits, priority to social housing, administrative costs and access to public support)
- Renewables: quantitative objectives and public tenders
- Still controversial: nuclear policy; shale gaz; and demand scenarios
- Fiscal reform: towards a carbon base?

2- Attempts to establish a domestic carbon price



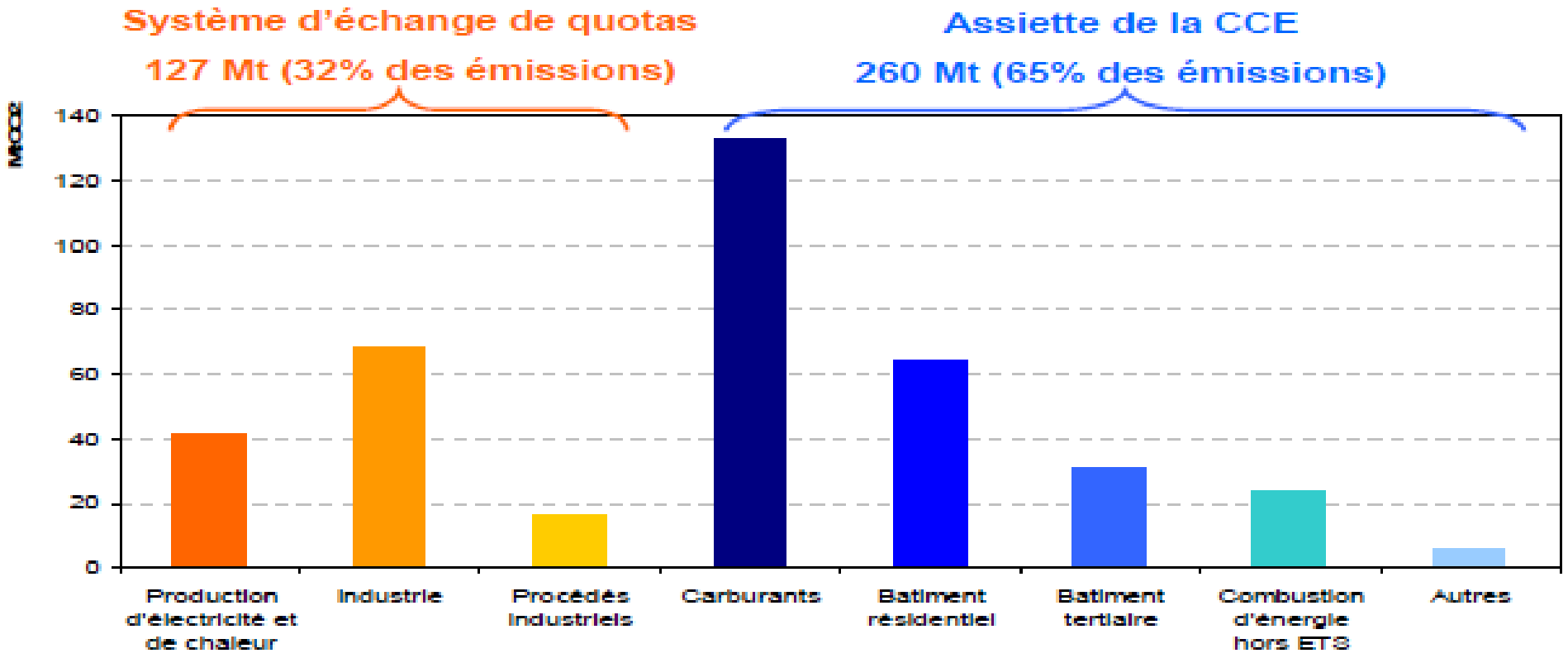
Brief history

- **1997-2002 Chirac-Jospin (+Greens):**
  - **GTAP(1999) but carbon tax on intensive sectors cancelled by the Supreme Court(CC)**
- **2002-2007 Chirac**
  - **Environmental Charter (esp. art.3)**
  - **Landau Report**
- **2007-2012 Sarkozy**
  - **Rocard Commission**
  - **2009 Project for diffuse emissions cancelled by CC**
- **2013- Hollande**
  - **Permanent Green Tax Commission**

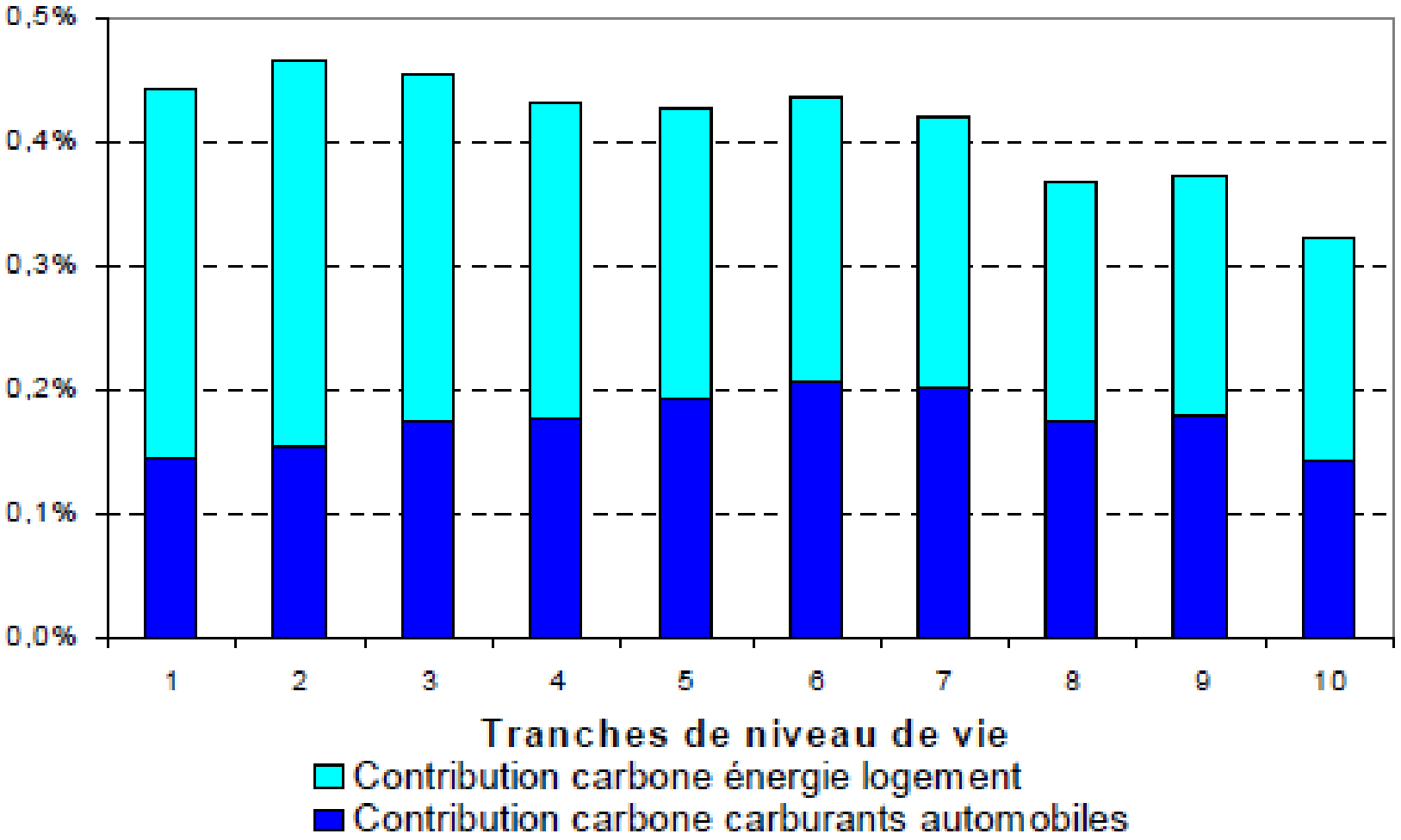
2009 French carbon tax : reminder…

- Existing excise duties on fossil fuels :
  - Rather high level of tax on transportation fuels (well above usual carbon price)
  - Rather low level of tax on heating fuels
  - Several sectoral exemptions or reductions
- The carbon tax :
  - an additional tax at 17 €/t CO2 on the *consumption* of natural gas, coal, domestic fuel oil, gasoline and diesel
  - Expected revenues ~= 4,5 Mds € (~= 0,2% GDP)
  - Annual process to review the tax and the level of the tax rate

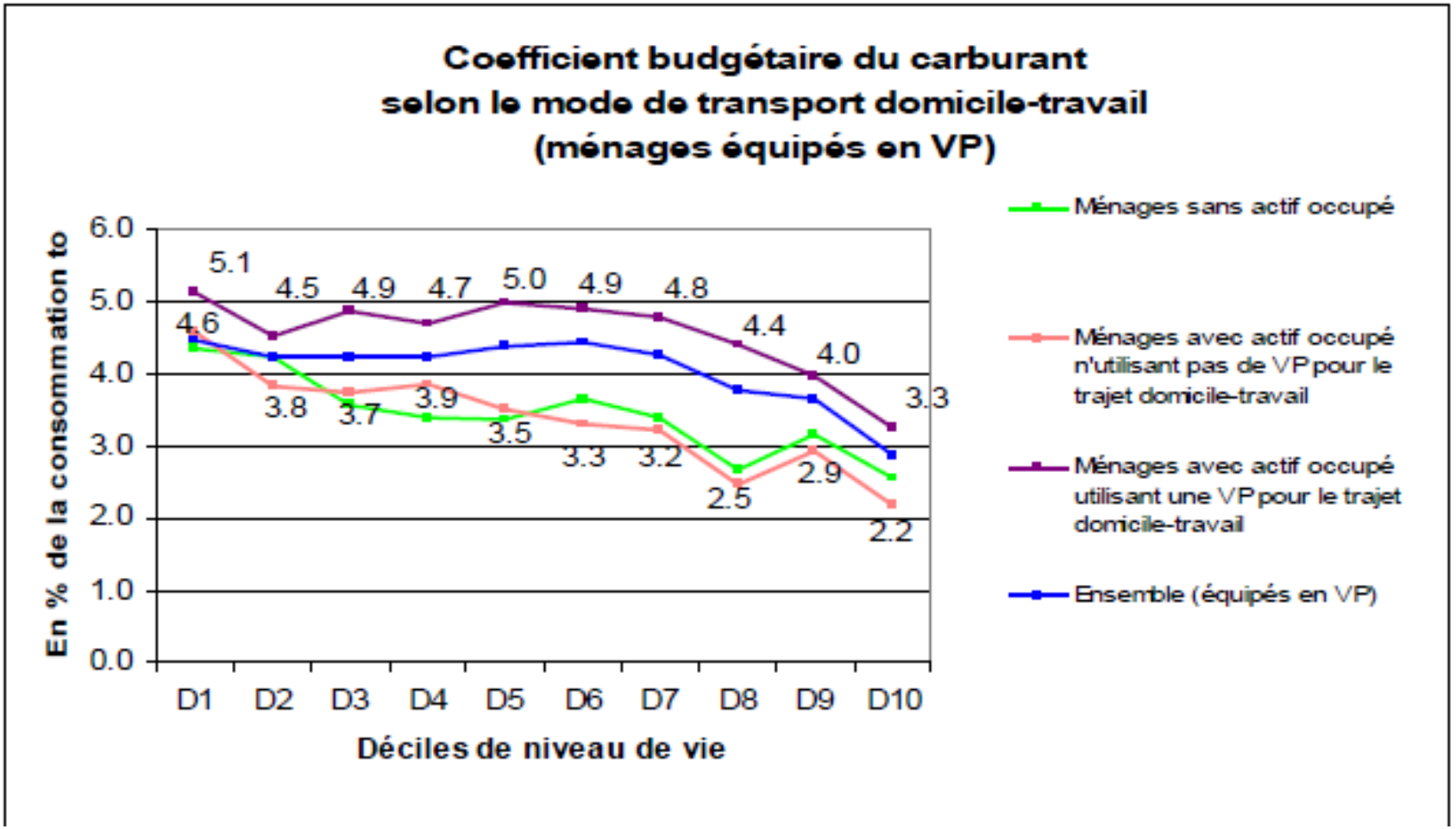
L'articulation ETS/ fiscalité carbone



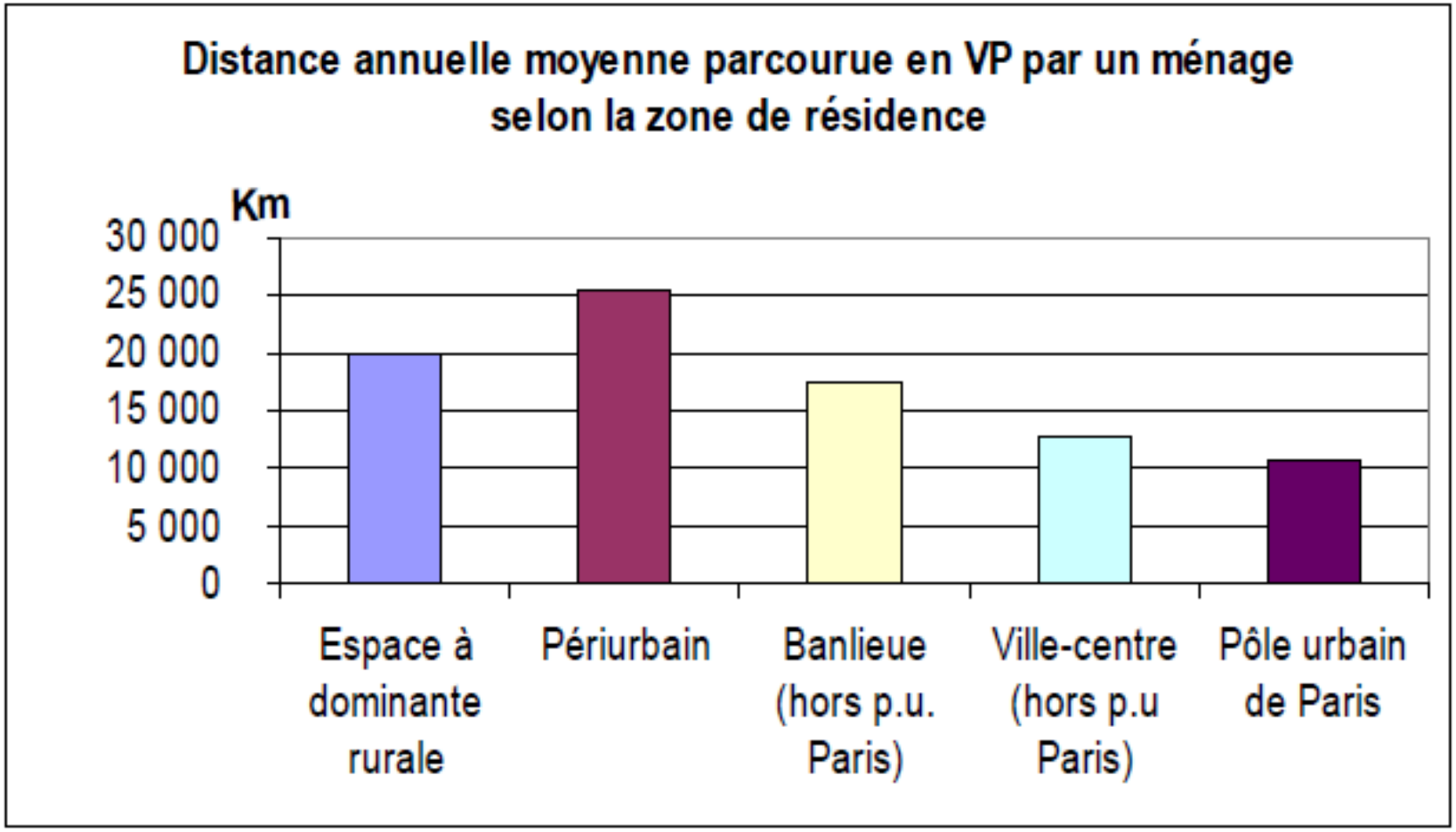
Part d'une contribution carbone à 17€/tCO2 dans les dépenses des ménages selon le niveau de vie*



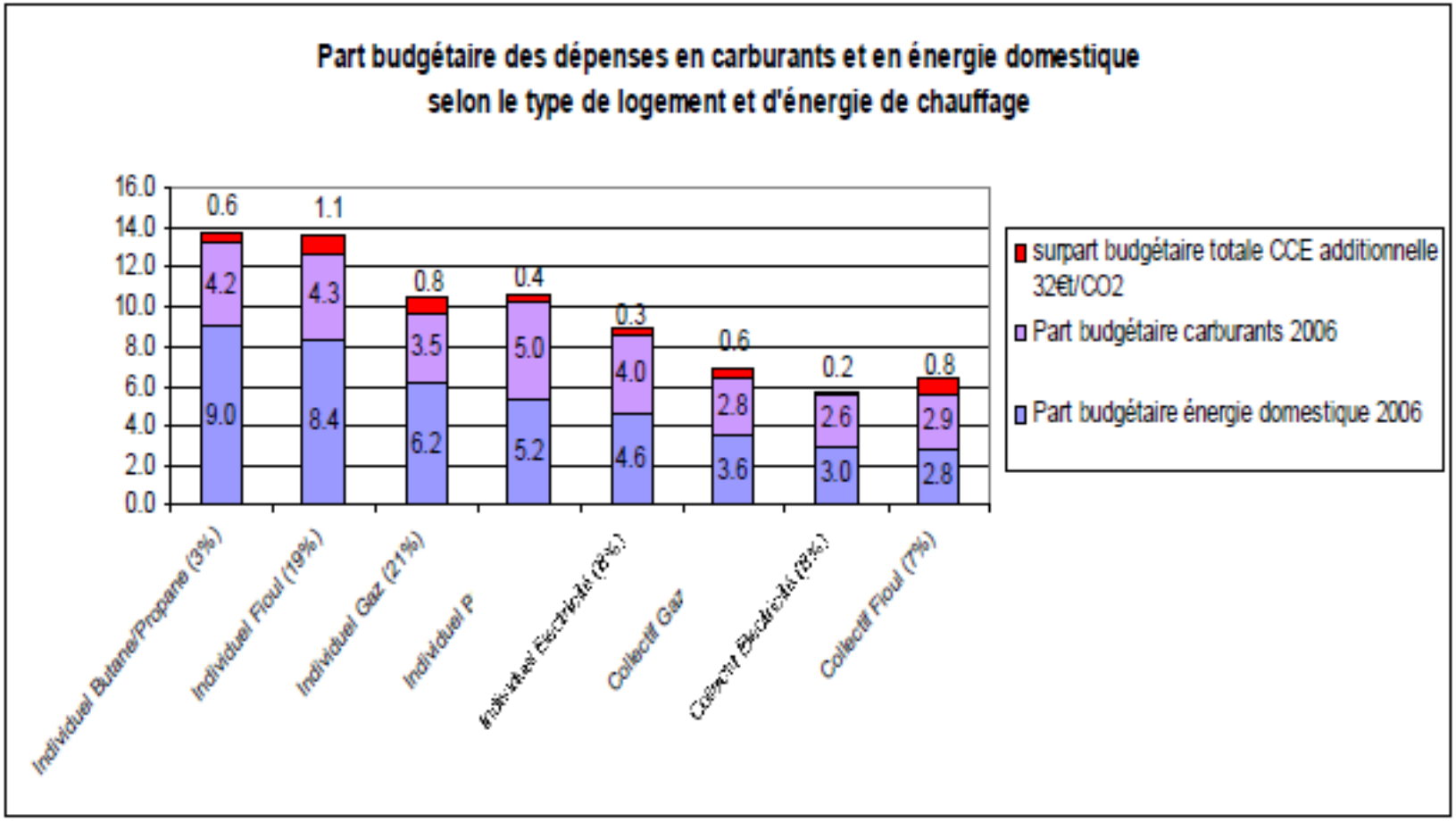
A niveau de vie donné : des écarts importants liés à l'usage de la voiture pour les déplacement domicile-travai



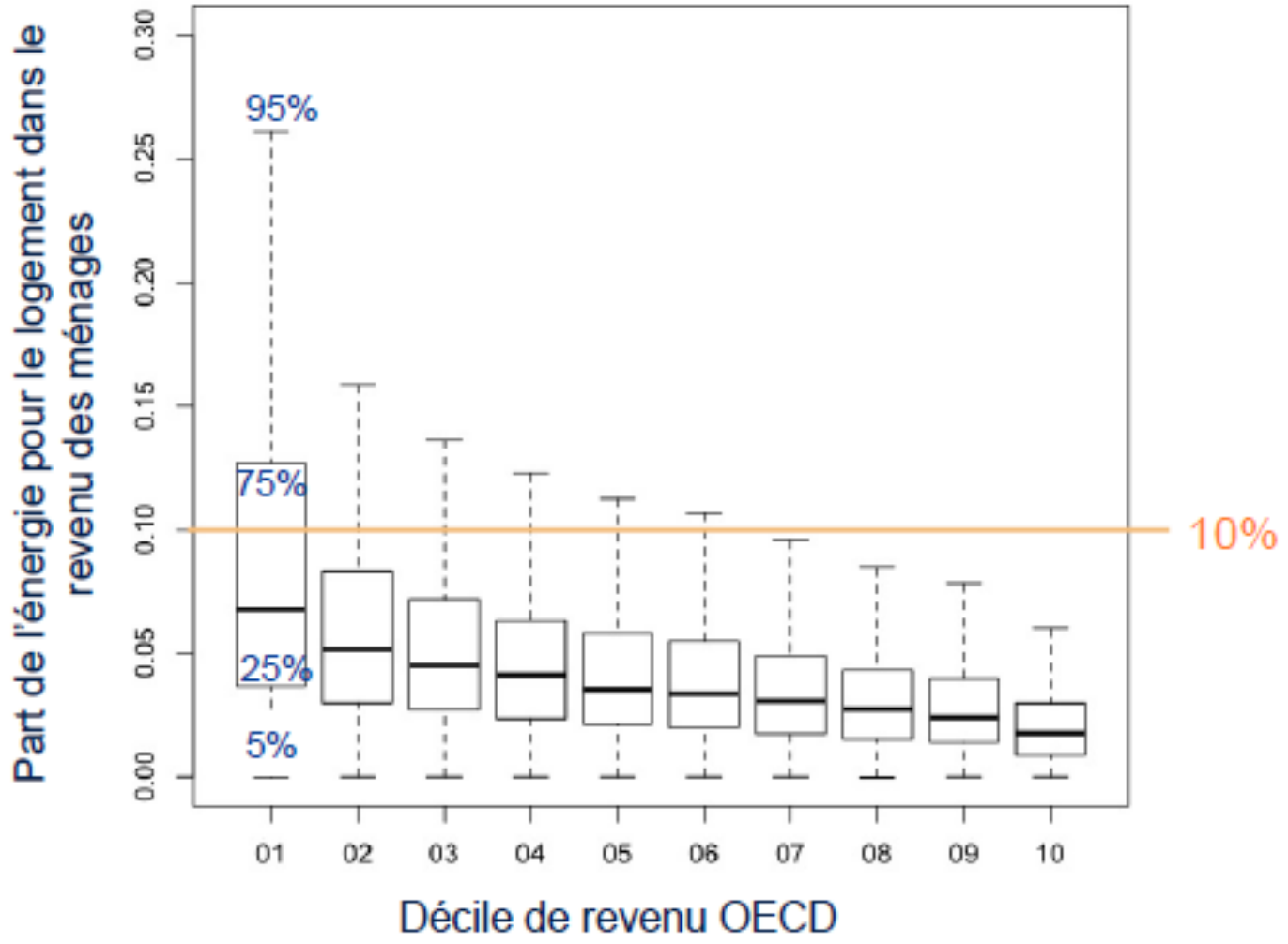
La localisation comme déterminant principal



Poorest or vulnerable?



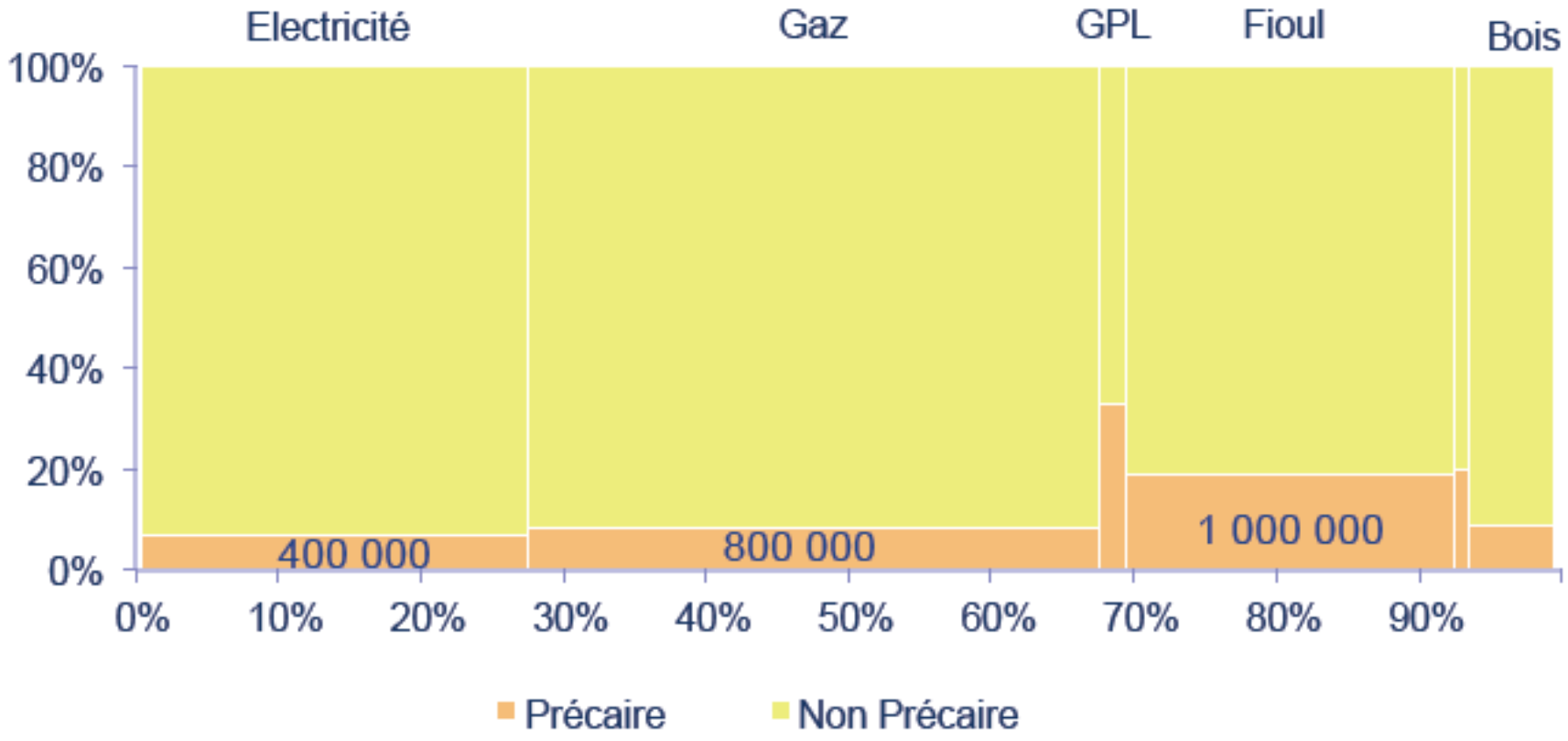
La précarité énergétique dans les classes les plus pauvres, mais pas que !



Etat des lieux

Qui sont les précaires? *par type d'énergie*

Une forte surreprésentation des ménages chauffés au fioul, charbon et GPL



Ajustement par la demande : des élasticités-prix significatives

	Modestes	Intermédiaires	Aisés		Ruraux	Urbains
Elasticité-prix (€/km)	-0,72	-0,73	-0,57		-0,70	-0,79

Purchasing power and distributional issues…

- **Moderate impacts :**
  - +4,11c€ (0,526 $) per liter of petrol (= +1,96€ to fill up with 40 liters of petrol)
  - +4,52 c€ (0,578 $) per liter of diesel oil
  - +4,52 c€ per liter of domestic fuel oil
  - 0,31 c€ (0,396$) per KWh of natural gas (= +30€ / year for a 8 000 KWh yearly cons.)

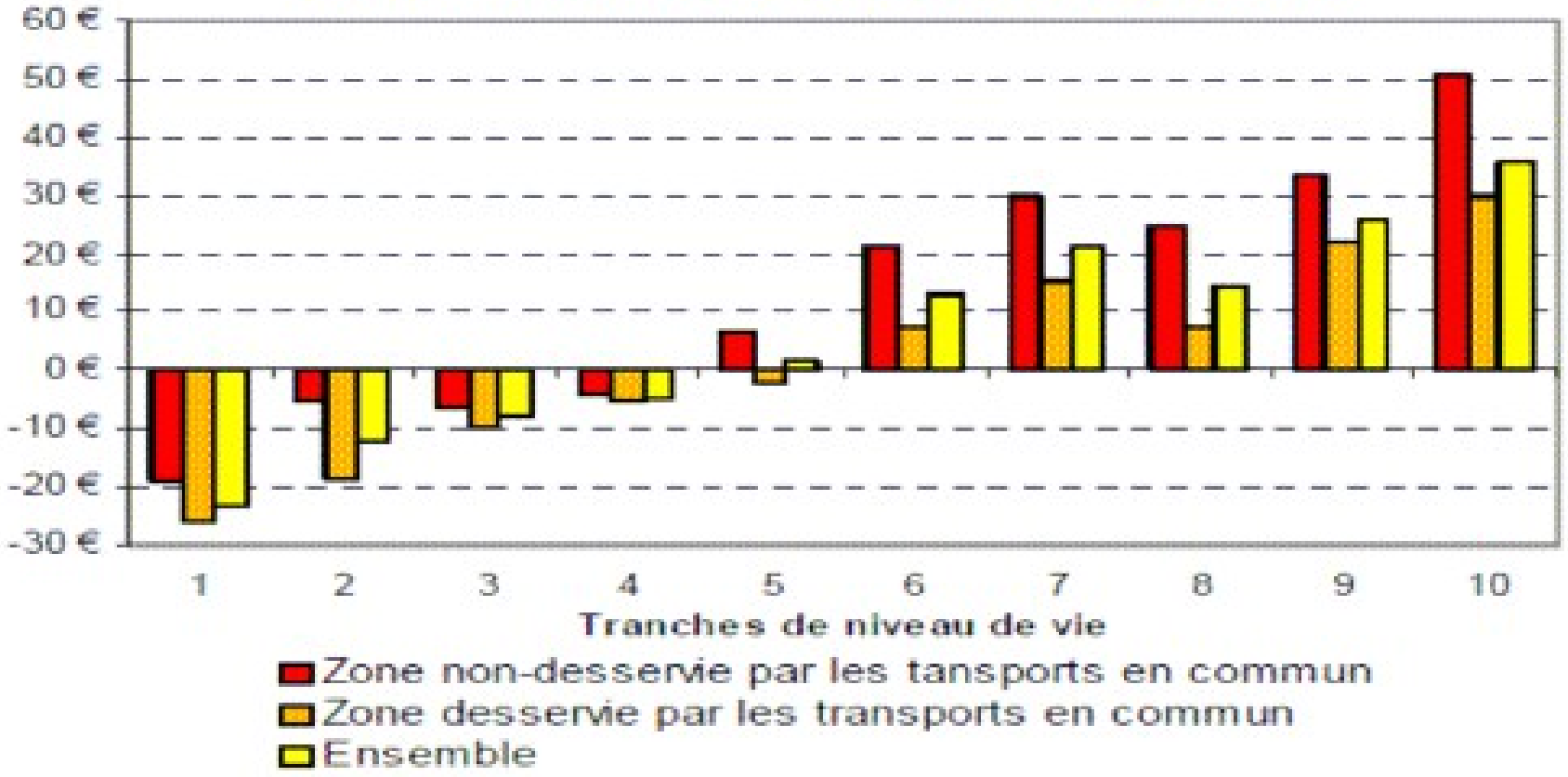
- **Compensation scheme to households through a lump-sum (or so) tax credit on income.**

- **The tax credit was set at 46 € per adult (92€ for a couple), with extra 10€ per person in the household.**

- **The credit was uplifted to 61€ for households without access to public transport**

Coût annuel d'une taxe carbone à 17 € / t de CO_2 net du crédit d'impôt

Selon la zone de résidence et le niveau de vie



Source : Enquête « budgets de famille » 2006 de l'INSEE, Calculs CGDD

About legal issues

- **A jurisprudence which reflects:**
  - **A bad past experience with (theoritically) incentive levies from the 1964 Water Act, which had become earmarked contributive taxes, decided by poorly-controlled Agencies**
  - **A general problem with the equity assessment of fiscal incentives by CC (already met with EITC)**
  - **A misunderstanding of the articulation with the EU-ETS**
  - **A lack of lisibility of the project (11 additional taxes!; multiple exemptions!)**

C.de Perthuis's proposal (July 2013)

- **Diagnosis: lack of strong support**
- **Need to minimize legal (national and UE) risks**

∀ **→ creation of the « instrument »**

  - **With accompanying measures for poor households**
  - **Other receipts being used to finance a (already) decided labour tax-subsidy (LCTC)**

- **…but at a (too) low level of incentives (7€/t for 2014; 20€ in 2020)**

Concluding remarks

- **Overlapping instruments (at every level and between them! Hetrerogeneity of shadow carbon prices between policies or sectors)**
- **Need for carbon pricing. Possible at MS level for domestic sectors …but easier if:**
  - **the national competitiveness and budgetary strategies are well-established**
  - **if the project has clear (and public supported) incentive objectives**