



Implementation of Energy Efficiency Policies and Promotion of Renewable Energies in France

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Content

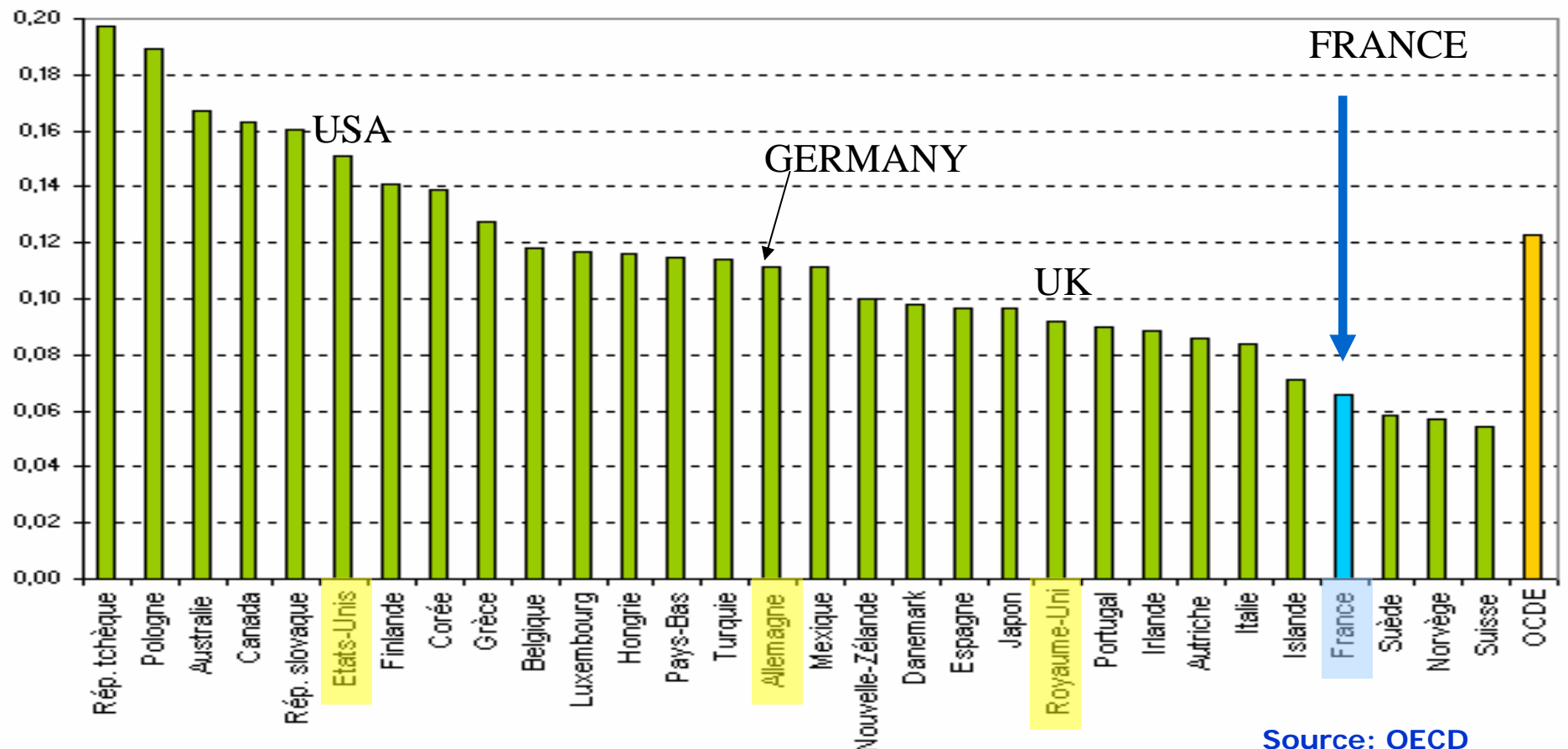
- ▶ The context
- ▶ Measures in favour of Energy Efficiency
 - ▶ In Building Sector
 - ▶ In Transportation Sector
 - ▶ In Industry Sector
- ▶ Measures in favour of Renewable Energies



FRANCE's Carbon Balance

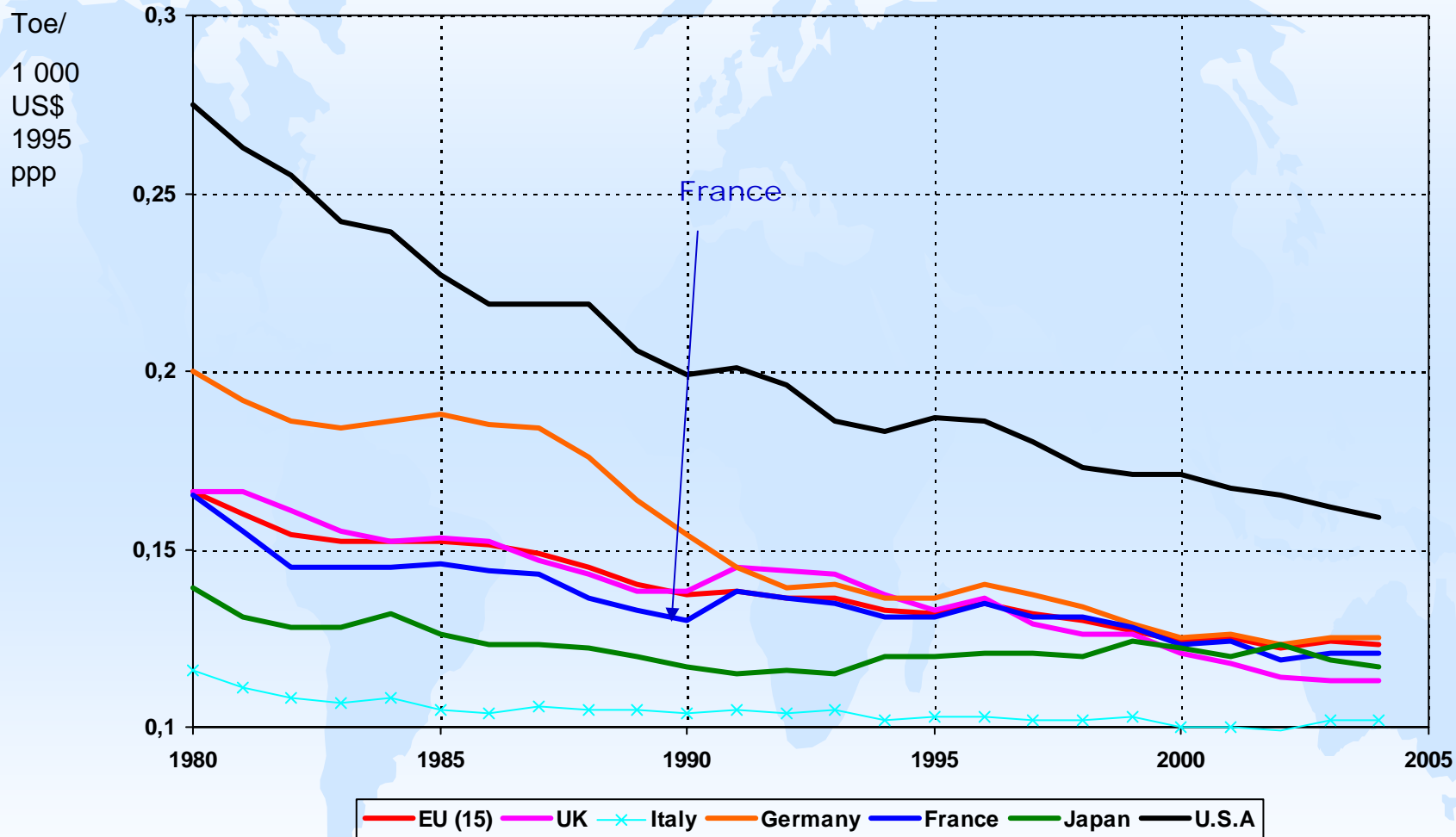
Carbon Performance: 4th best OECD country for carbon intensity (ratios 2005)

(CO₂ emission per unit of GDP, expressed in ton of carbon per 1000 US dollars)





Final energy intensity in OECD countries: a quite regular decrease



France slightly better than the average EU15



Main EU targets for 2020: triple -20%

- Reduction of CO₂ emissions by at least 20% (base 1990) , by up to 30% if an international binding agreement is decided
- Saving 20% of the EU energy consumption against the projections B-a-U for year 2020, that is – 13% compared to 2005
- Mandatory target of 20% of renewable energies within the EU final energy consumption (currently at approx. 9% of the final energy consumption)



France : the objectives of energy efficiency and renewable energies policies

- **Security of supply and national independence**, through the diversification of energy resources and the decrease of needs
- **Fighting climate change** : energy consumption is the main source of greenhouse gases effect emissions in France
- **Economic competitiveness**: efficient use of energy in a expensive energy context is a strong condition of the economic competitiveness, for both processes & products
- **Jobs Creation**: particularly in building & renewable energies sectors



France' Public Policy mix : very diversified tools

- **Support to R&D** (net energy producing buildings, efficient vehicles, ecotechnologies ...)
- **Information / raising awareness** of territorial collectivities, enterprises, general public : information campaign, "energy info centres" network, promotion of best practices...
- **Laws & regulations** (building, cars ...)
- **Financial incentives** (purchasing tariff for renewable electricity, tax deductions or bonus, subsidies to exemplary demonstration projects...)
- **Innovative tools** combining obligations & market mechanisms:
 - Energy saving certificates
 - Quotas of CO₂ emissions



The «Grenelle de l'environnement »

- **Shared statements,**
 - A high emergency - there is no miracle to be expected - there is no single path for improvement - the use of all the available means will be necessary
- **A collective process**
 - 6 working groups ,(Climate change and energy management - Biodiversity and natural resources - Health and environnement - Sustainable production and consumption - building of an ecologic democracy - Promotion of an ecologic path favouring employment and competitiveness)
 - 5 categories of participants: State, local authorities, NGO's, employers and employees
 - regional forums (15 000 people) and contributions through Internet
 - 4 final round tables (fight against climate change - health and environment,- biodiversity and natural resources preservation, Agricultural practices - Establishment of an ecologic democracy)
- **An arbitration at the highest level**
- **Resulting in clear priorities :**
 - Transport , building sector, energy, agriculture
 - Use of economic tools

A PROGRAMATIC LAW IS EXPECTED FOR 2008



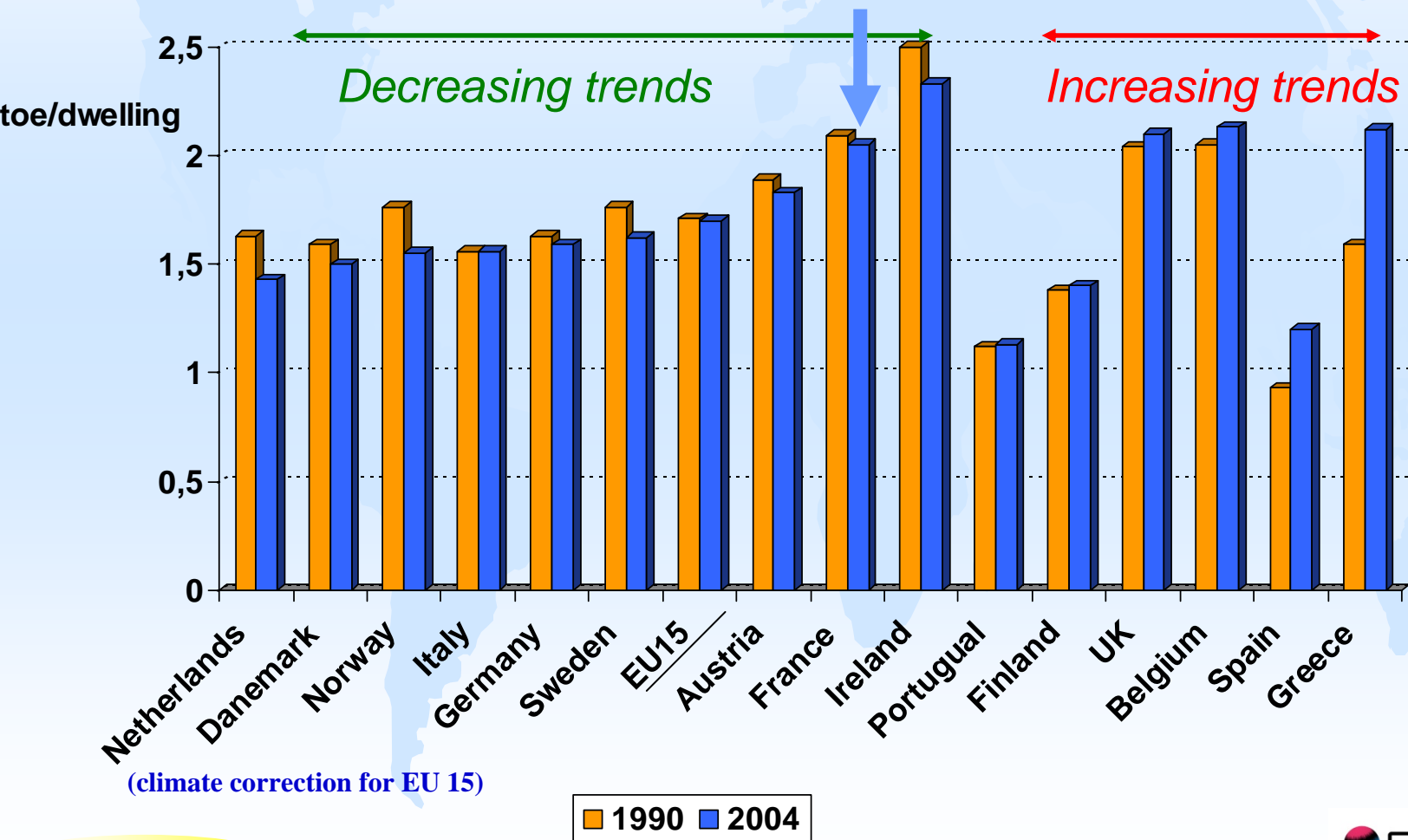
Buildings sector

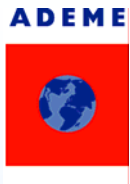
Stakes

- **The most energy consuming sector :**
 - 42,5 % of the total final energy and..
 - 23% of national greenhouse gases emissions
- **Grenelle : energy savings in this sector could reach 40% by 2020**



Average consumption per household is above the European average, but decreasing





Building : a large energy saving potential (1/2)

New Constructions :

- Thermal Regulation : requirements - 15% of consumption between 2000 & 2005 (from 80 to 120 kWh/m²/year according to zones)
- Grenelle : 2012 : « low consumption » label for < 50 kWh/m², 2020: net energy producing building

Existing buildings :

- 2007 : Regulation for major rehabilitations
Banning the least efficient materials
- Information : energy performance certificate for dwellings offered to sale or rent
- Financing:
 - Tax credit for efficient equipments (25% to 40%) and renewables (50%) : approximately cost 1,9 Billion euros in 2007
 - Energy saving Certificates, lower interest rate loans...
- Grenelle : The consumption of the buildings stock must decrease from 240 to 150 kWh/m²/year in 2020, suppressing by steps the least efficient buildings & realising 400 000 « heavy » thermal renovations every year



Buildings : a large energy saving potential (2/2)

Transverse actions

- support to research and innovation
- initial and continuous professional training plan
- new jobs creation

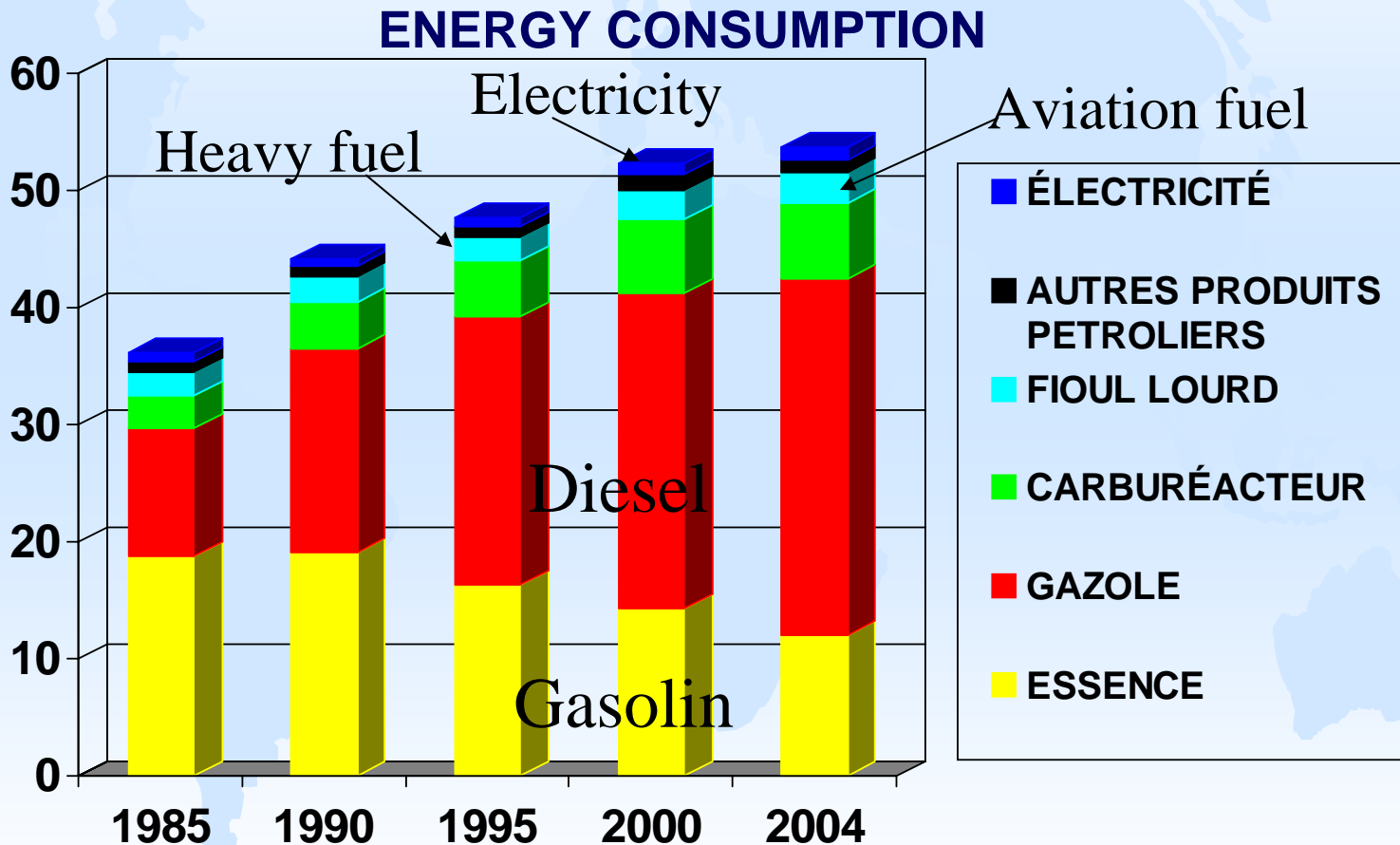
More efficient equipments

- Labelling : lighting, electrical home appliances ...
- Grenelle :
 - Extension of energy labelling to all electrical appliances of mass market
 - Gradually strenghtening energy performance requirements of appliances, notably 'stand by' devices
 - Removal from the market of most consuming appliances before 2010, notably incandescent lamps



Transport sector

Stakes (1)



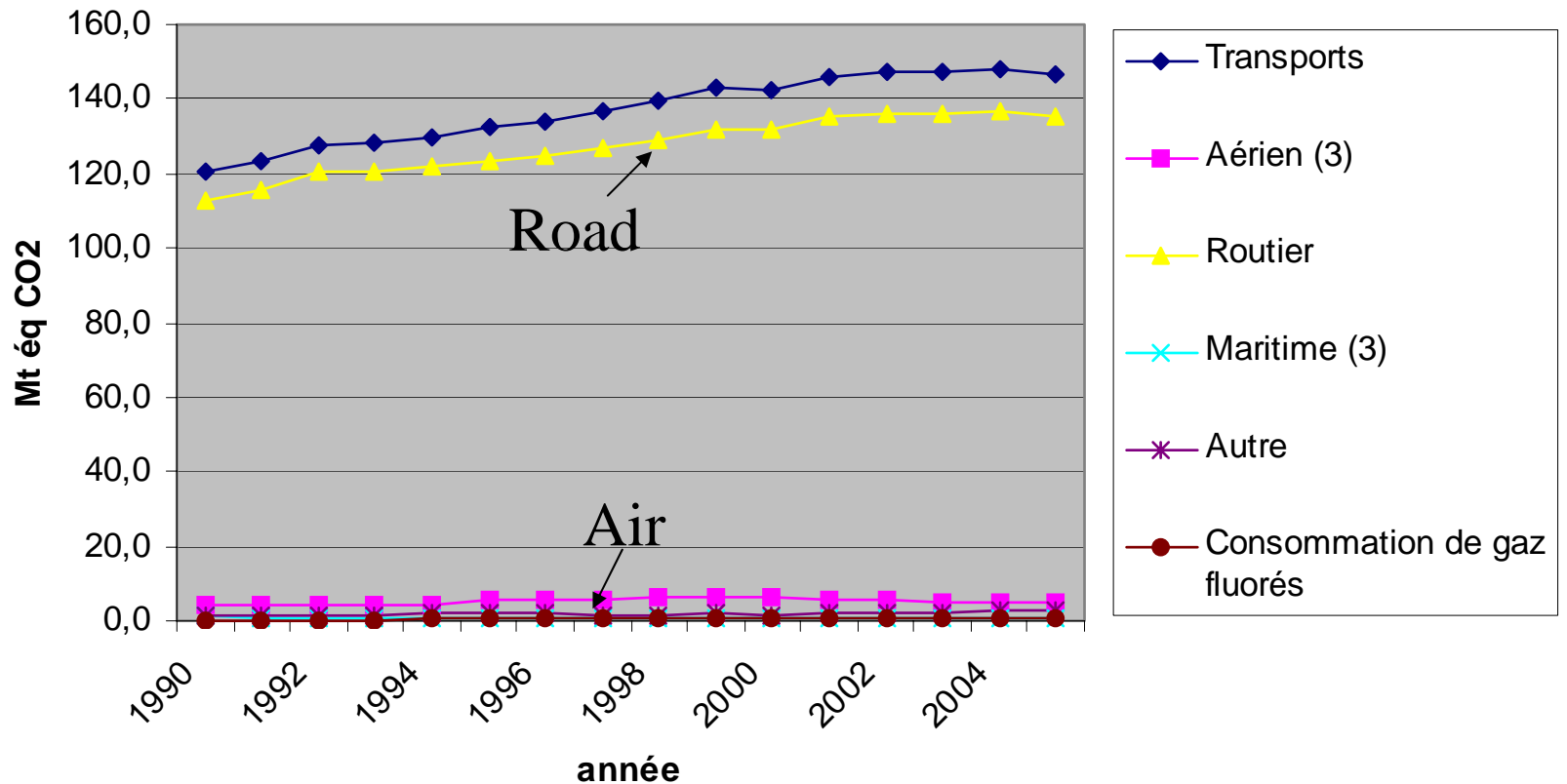
(2006 updated datas of Energy Observatory)



Transportation

Emissions de GES directs au format PNLCC en France
(MT+DOM)

GHG Emissions Mton_{eq} CO₂





Transportation

Stakes (2)

CO₂ Emissions : +18% compared to 1990 :139,5 Mt CO₂ in 2005

Road : 80% CO₂ emissions of the transportation sector
86% of freight transportation and 83% of passengers transportation

Objectives

Biofuels

- Incorporation of 5,75% in 2008, of 7% in 2010, 10% in 2015 (EU : 10% in 2020)
- At present : average incorporation rate of 1,77 % in 2006 (0,96% in 2005)
- Grenelle : environmental appraisal of this sector, from seeds to tanks

Reduction of emissions

20% in 2020 (back to the level of 1990)

Emissions of vehicle stock

Reduction from 176 gCO₂ to 130 gCO₂/km in 2020



Transportation: the most critical and problematic sector

Development of R&D

Technology : electrical vehicle, hybrid, hydrogen, biofuels 2nd generation, railways...

Organisation of transportation modes : sustainable city

Development of infrastructures

Grenelle : massive investment policy targeted to urban mobility, railway and ship

- 2000 Km of high speed lines by 2020
- 1500 Km of new tramway and bus lines
- 2 main lines of railways carrying freight, trucks
- Sea motorways (Atlantic and mediterranean coasts)



Transportation: the most critical and problematic sector

New Mechanisms

Information

2006 : Energy label on new cars

Tax policy

- 2006 : Purchase tax on cars producing the most CO2
- 2006 : Tax on company cars calculated according to CO2 emissions
- Tax on the trucks crossing the country, allocated to the financing of public transportation
- Yearly tax on the most CO2 producing cars, for the removal of old cars and development of less polluting cars

Financial Incentives

- Financial support to combined transport (rail/road)
- Tax credit for clean cars



Industry

➤ Stakes:

Approximately 20% of CO₂ emissions

Decrease of CO₂ emissions from 1990 to 2004 : -21,6%

➤ Main tool: National CO₂ Allocation Plan 2008-2012

- 132,8 Mt of yearly quotas (150,7 Mt/year in 2005-2007)
- 1 145 industrial companies get a quota
- Approximately 80% of industrial emissions



Industry

➤ ➤ ➤ Objective 2012 :

- Achievement of a potential of 2 Mtoe in “industrial utilities” (7Mtoe at present) with adopting the most efficient technologies
- Diagnosis and promotion of best practices to SMEs/SMIs

➤ ➤ ➤ Objective 2020 :

- Decrease of 20% energy consumption comparing to 2007 (38 -> 30 Mtoe)
- Additional saving of 2Mtoe in utilities
- Process: new generation innovative technologies (capture & storage of CO₂, carbon free energies : renewables, hydrogen & fuel cells...) toward CO2 reduction by a factor 4 in 2050



Renewable energies :

An accelerating development

- Installed power multiplied by **10** for wind-generation (from 151 to 1602 MWe) in 4 years (2002 to 2006)
- Installed power multiplied by **2,6** for solar **photovoltaic** (from 17,2 to 44 MWp) in 4 years
- Installed areas of **solar thermal** collectors multiplied by **1,8** (from 658 000 m² to 1 160 000 m²) in 4 years
- **Wood energy** : France is 1st producer & consumer in Europe (in 2006 : +600 MWth for collective heating, increase of individual heating appliances sales of +33%)



Objectives of renewable energies generation

	Objectives	In which ways?	Wich tools ?
Electricity	2006: 13% 2010: 21% of the national consumption	<ul style="list-style-type: none"> - keeping hydroelectricity - development of wind generation - photovoltaic : non significant 	<ul style="list-style-type: none"> - purchase obligation of renewable electricity at a specific tariff adapted to the generation cost of these renewable energies - research on photovoltaic and geothermal
Heat	2006: 10 Mtoe 2010: 15 Mtoe	<ul style="list-style-type: none"> - « wood energy » plan - solar thermal - geothermal 	<ul style="list-style-type: none"> - Individuals: tax credit - Companies and collective projects: subsidies
Biofuels	2006 : 1,8% 2010 : 7% of fuel consumption	<ul style="list-style-type: none"> - biofuels plan : biodiesel and bioethanol 	<ul style="list-style-type: none"> - minimisation of tax burden - research on the use of ligno-cellulosic fibres (2nd generation)

Grenelle : RES = at least 20% of the final energy consumption in 2020 (9% in 2006), that is + 25Mtoe (at present: 16Mtoe), notably with a better use of biomass (wood-energy)



A dynamic communication strategy



Relayed at national and local levels :

26 regional delegations of ADEME, 200 Energy Info Centers & 350 advisers (1 100 000 visits per year an), 1 information call center (100 000 calls in 2007), web site www.ademe.fr (more than 14 millions visits per year)

Mobilisation of many partners: Winning Planet Club, (6500 actions with 100 national partners and 200 regional partners), Challenge for the Earth with Nicolas Hulot Foundation

Multimedia campaign extended over 3 years.



The "*Grenelle*" Round for Environment

What is probable :

A systematic indication of CO₂ content through the labelling of products by the distribution sector and the generalisation of comparison tools among transports modes for CO₂ emissions.

What is possible :

An « energy climate » tax as well as reduced VAT on products respecting the climate and biodiversity.



Conclusion

Very ambitious objectives...

...that give a strong priority to both energy efficiency and the promotion of renewable energies...

...that require the mobilisation of all sectors, all actors

...

... and the use of all public policy tools

**ECONOMIES D'ENERGIE
FAISONS VITE
ÇA CHAUFFE**



Thank you for your attention

(Translation from French to English by Kadriye Baysal & Bernard Cornut in Ankara)

For more information

www.ademe.fr