



# **Rethinking cities in a post carbon society**

**French Ministry of Sustainable Development & ADEME**

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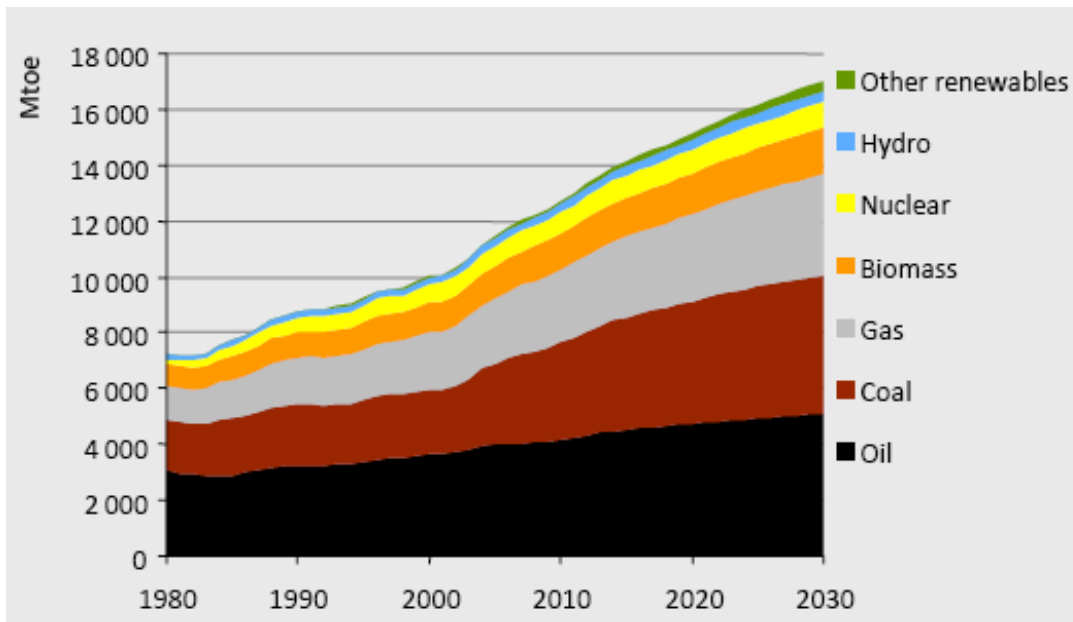
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# **Why cities can be a topic in the post carbon transition?**

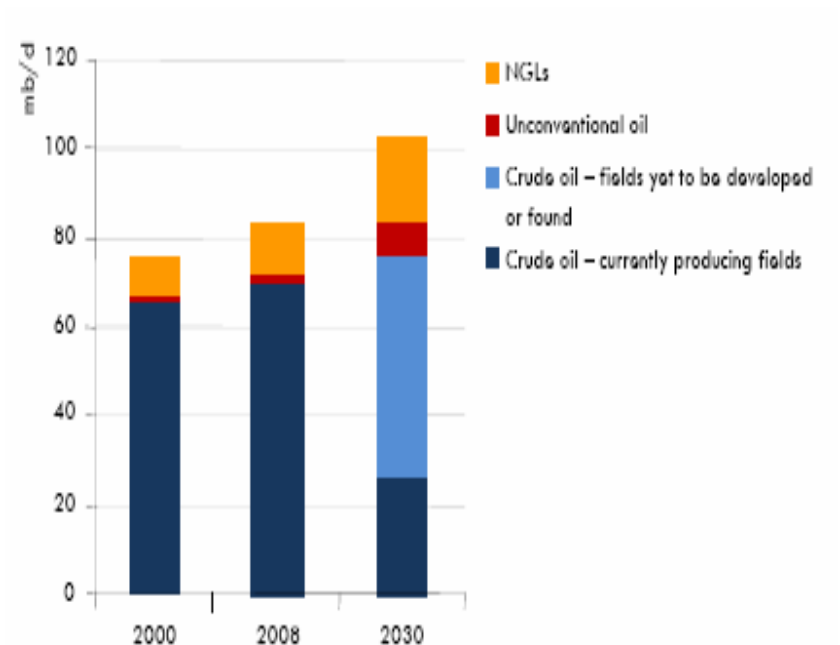
- 1 Lessons from economic and technological foresight**
- 2 Opportunities and limits of territory's integration in classical foresight**
- 3 The research program "Rethinking cities in a post carbon society"**

# 1. What does energy foresight say ?

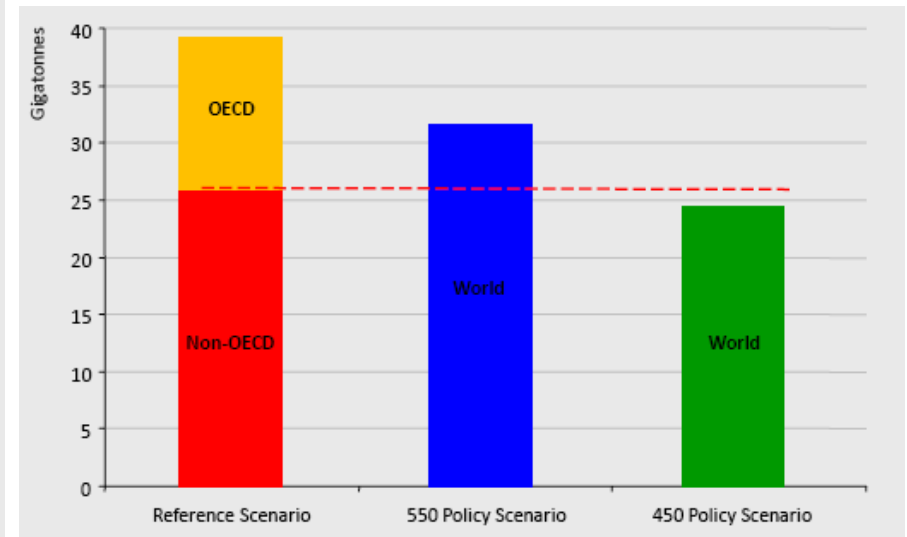
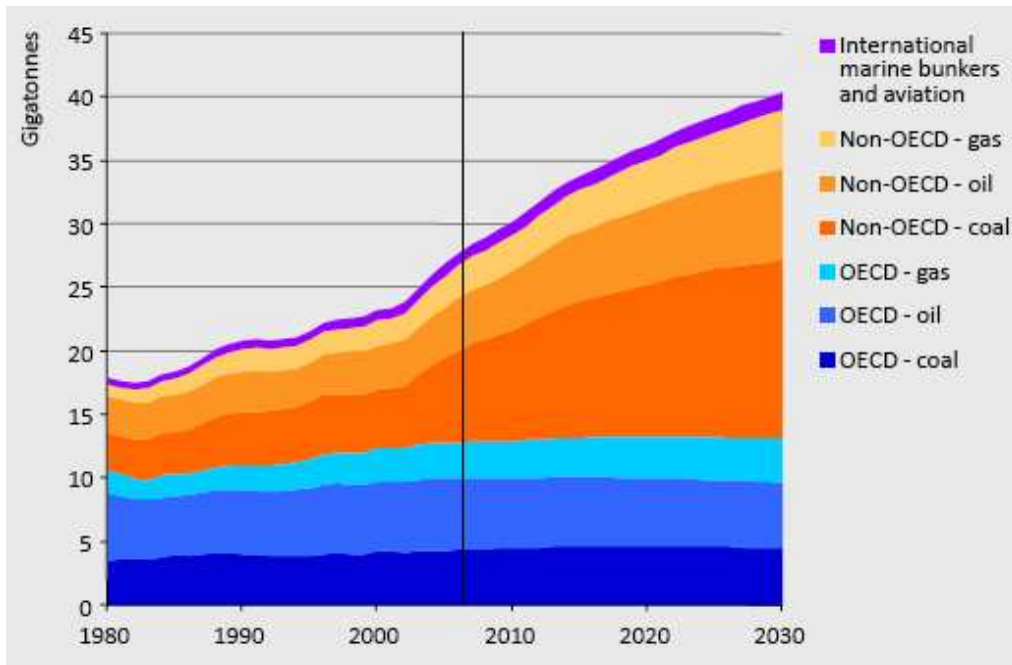
**Energy stakes : huge demand planned  
 and need to developed or found much fields**



Source : IEA, WEO 2008 & 2009



## Climate stakes

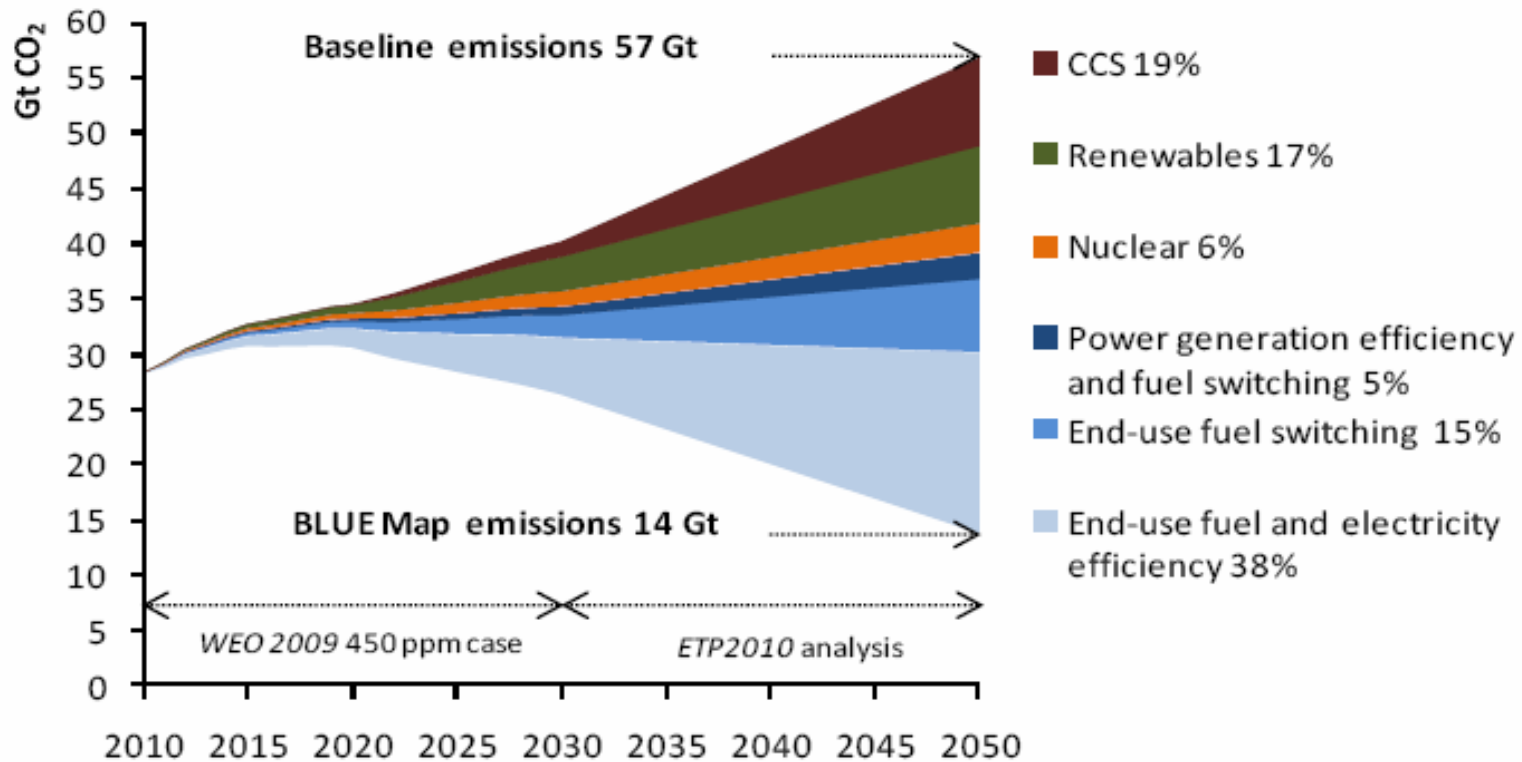


Source : IEA, WEO 2008



# Need to act !

## A mix of policies, measures, and technologies



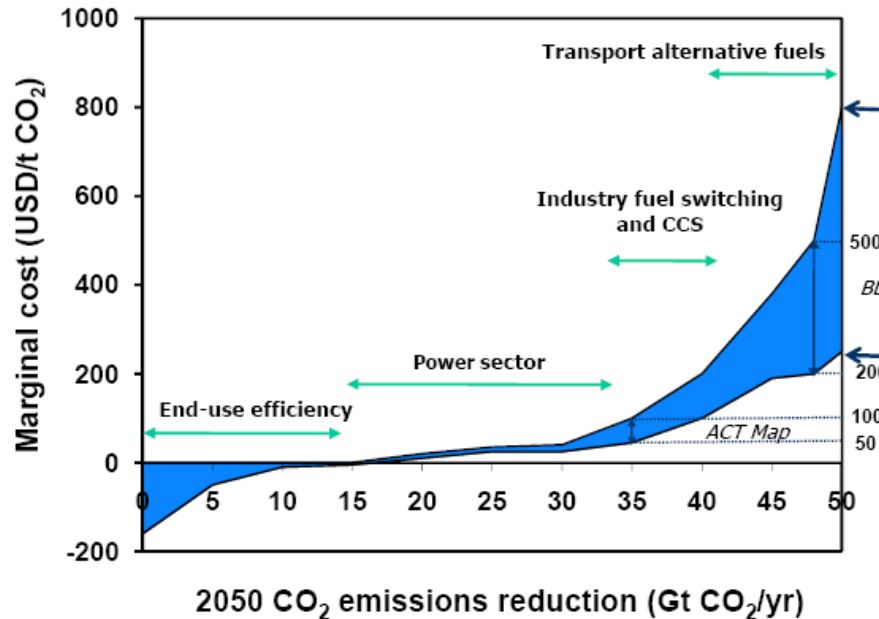
Source : IEA, ETP 2010

# How much does the transition cost ? It seems quite expensive...

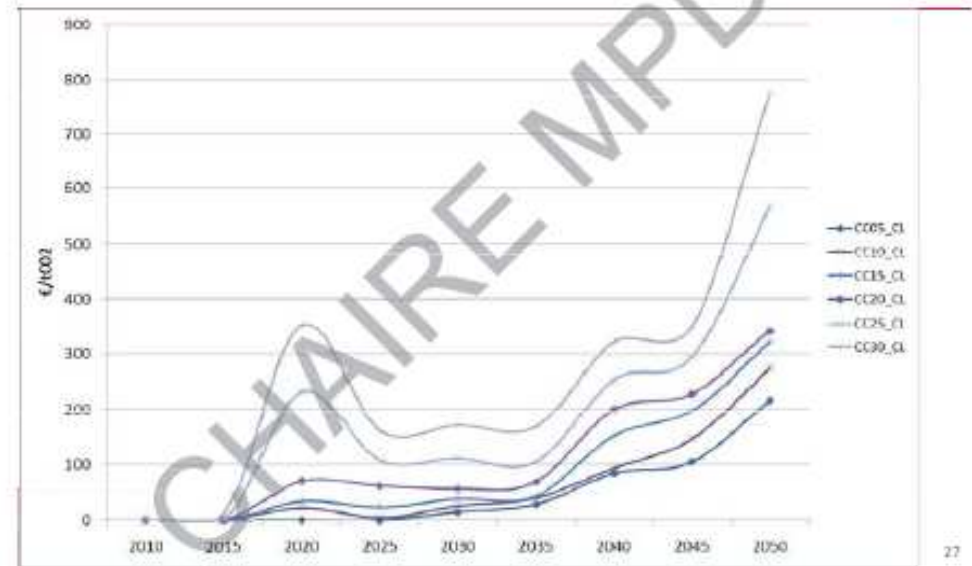
**At international scale**

**In France**

Valeur carbone : scénarios  
 taxés avec crise



Source : IEA, ETP 2008

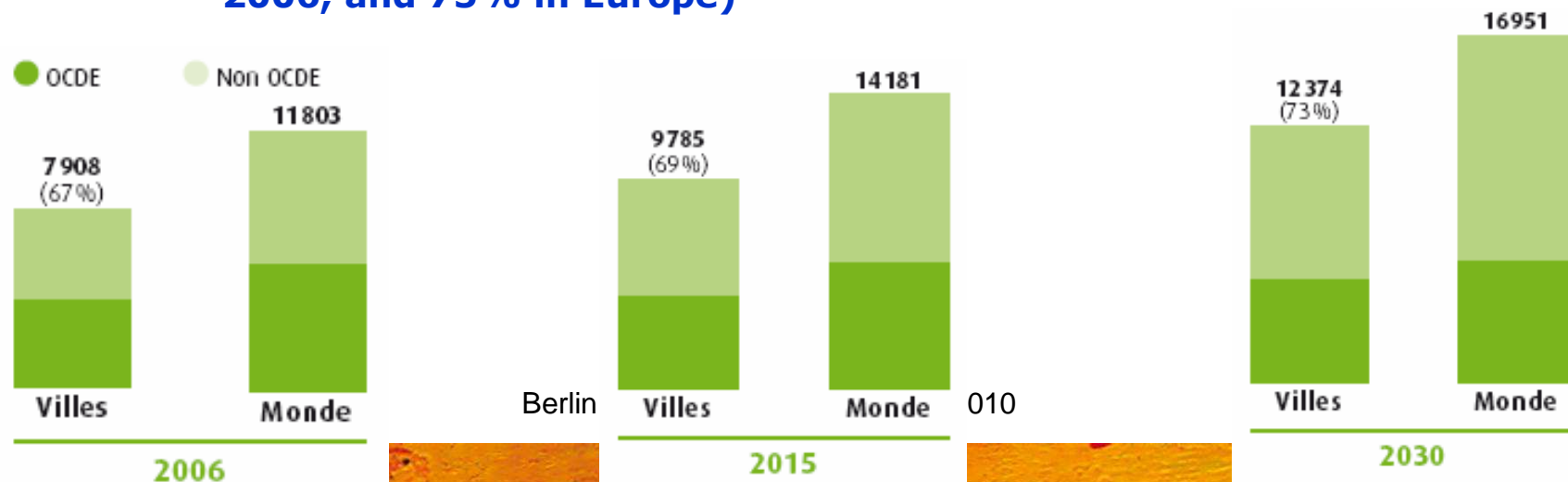


Source : Chaire modélisation prospective (CMA CIRED) 2009

# 2. First apparition of the Territory (city) in a global forecast

## One Chapter in the World Energy Outlook 2008

- **Statement**
  - 2/3 of energy is consumed in city (around 8Gtoe in 2006)...and only 50% of the world population live in towns
  - Difference between Urban and Rural residents is lower in OECD countries than in non OECD countries (example : urban resume two times more in Chine than national average)
  - “Urban inhabitant” consume more coal, gas and electricity than “rural inhabitant”... and less oil
- **Worrying tendencies in urban territories**
  - Rise from 8Gtoe to 12,4Gtoe in 2030 in reference scenario
  - 87% of energy will be consumed in city in USA in 2030 (80% in 2006, and 75% in Europe)



## **Vision of spatial problematic in foresight works**

- **At international scale, evaluation of responsibility of cities in the World Energy Outlook 2008 from IEA**
- **At the French scale, integration of « spatial dimensions » (density, urban policies...) in some specific (economic, technological...) models from specialized laboratories in foresight (LEPII, CIRED, CMA...)**



## **And local initiatives are important and need to be considered in global transition**

### **Network of cities (more than 1500 at global scale)**

- **Energies cities**
- **ICLEI...**

### **Local initiatives and policies**

- **Subsidies for renewable energies**
- **Local laws**
- **Local plan for**
- **Local energy producers**
- **Short distance distribution for food**
- **Public transports**
- **Low emissions zones**
- **Domestic projects for GHG reductions...and maybe exchange on ETS tomorrow...**

### **National Strategies for cities**

- **Cities climate strategy (77 in France)**
- **Scenarios of low carbon transition at local scales (Scandinavian cities, US, transition towns)**

### **3. The research program**

## **“Rethinking cities in post carbon society”**

## **A question of means rather than objectives**

- Consensus on objectives :
  - 75% of GHG reduction by 2050
  - Ability of cities to act in order adapt on climate change
  - Autonomous considering fossil energies
- Controversies about responsibilities and opportunities to act at their scales
- Different scenarios of getting to low carbon society which depend on actors' representations of urban inertia : different transitions possible

## **The main parts of the program**

# **“Rethinking cities in post carbon society”**

- **Three calls for proposals have been launched in 2008, 2009 and 2010. The first call for proposal was about transition to low carbon cities and scenarios by 2030-2050. A second one was launched to complete the first one with some thematic works about inequalities, lifestyle, and governance in low carbon cities. Furthermore, some local researches on low carbon transition has been selected. On these territories (Tours, Mulhouse, Plaine de France...), the objective was to test different scenarios about low carbon transition (at least a reduction of 75% of GHG). The third call for proposals allowed to complete the program with others local examples (smaller city has been selected) and a global work started about the importance of cities consumptions, emissions and policies in France in a global low carbon transitions.**
- **A foresight taskforce has been created, composed by researchers, representatives from institutions, ministry, town planning agencies, companies and different experts with the objective to elaborate different scenarios. This workshop integrates intermediate results from the thematic and local researches. The scenarios can constitute a concept reference for the work with the local authorities to elaborate some contrasted scenarios. The different scenarios have to be quantified by a specific research which has just started.**
- **Every two months, a « stakeholders – researchers » seminary is organised about a specific topic (buildings, biomass, networks of cities, local production of energy, transports...). It is the possibility to present the partial results of the program and to invite some experts from other research programs and to link different researches.**

## **From the taskforce : 6 transition scenarios to test on local territories**

Reactivity to price signals and intelligent use of external opportunities

- 1- intelligent "wait-and-see"
- 2- carbon creativity

Massive renewal of urban and energy infrastructures

- 3- New climate and energy infrastructures
- 4- Bio city

Substantial reconfiguration of urban areas and lifestyles under climate and energy constraints

- 5- compact city
- 6- voluntary sobriety



## Ten dimensions considered

- 1- International context and governance
- 2- Economy
- 3- Urban Demography (and relations between rural and urban territories)
- 4- Institutions et national governance
- 5- National policies (energy, climate, taxes...)
- 6- Local finances and policies
- 7- Energy Production et distribution
- 8- Buildings
- 9- Mobility and means of transport
- 10- Values, lifestyles, acceptability

## **Next steps**

- **Researches on progress**
- **Thematic seminars on progress (next one November 2010)**
- **Construction of scenarios with focus on transitions**
- **Synthesis report and international symposium in 2011 about the research program**