

# Cities and global warming

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# Climate Change Issue : The role of Cities

*50 % of world population  
70 % of GHG emissions*



- **INFLUENCE toward** international negotiations, national legislation, networking and sharing of experiences
- **LOCAL ACTION** : build the « post-oil City » in interaction with neighboring territories, pursue ambitious objectives concerning lifestyle (transport, consumption, food, ...)

## 2 priorities to face climate change...

- **Limiting the scope of crises → Soberness**  
(in the field of energy, consumption, land development and mobility...)
- **Adapting to unavoidable effects → economic & social robustness ...** (thinking and anticipating the city at +2°)

**Reducing our dependence on and vulnerability  
to fossil resources**

# **Many tools of action for « post oil » cities**

**Adapt to crises and reduce their impact**

- **Urban development**
- **Travels - Transportation – sustainable mobility**
- **Thermal retrofit of existing buildings**
- **Control of consumptions**
- **Energy // Renewable energies**
- **Waste**
- **Responsible procurements**
- **Animation and mobilization of the territory**



# The Paris Climate Change Plan

- Voted unanimously by Paris City Council on October 1, 2007
  
- 75% drop in GHG in 2050 compared with 2004
  - **25% reduction of GHG emissions on the territory in 2020**
  - **25% reduction of energy consumption on the territory**
  - **25% energy consumption of the territory from renewable energies.**





# Actions of Paris Climate Plan

- **Consumption** : Energy sobriety and efficiency
  - ▶ **Thermal insulation of buildings**
  - ▶ **Renovation of street lighting**
  - ▶ **Green and efficient transports**
- **Production** : Relocate energy production with **renewables**
- **Distribution** : **smart grid** ,development of district heating and cooling network

# Priority to public transport and sustainable mobilities

**Objectives** : to reduce the environmental impact of travels and improve the mobility of the Parisians and the Ile de France population

- Expanding **PT offer**
- Bicycle plan, **Vélib'**
- **Better sharing of public spaces** in favour of soft transportation means
- Charter on « **goods in the city** »



# Sustainable mobilities : concrete results

Evolution 2001/2008



- **Public transport offer : + 14%**
- **Car traffic : - 25%**
- **Air quality :**
  - **32 % NOx** emissions
  - **9% CO2** emissions
- **Road safety : 200 deaths** avoided





# Thermal renovation of public schools

- Thermal refurbishment of **600 public** schools in the Paris area
- Energy Performance Contracts
- Partnership: **European Investment Bank** and others investors
- **Budget** : 53,4M Euros over 10 years



# Thermal insulation of social dwellings 220,000 flats

- Thermal retrofit of **4,500 social housing units** per year.
  - ▶ Energy Saving : **34.4 GWh**
- **50 KWh/sqm** in new flats :
  - ▶ **5500 new social housings in 2011**



# Private housings

## 1,000,000 flats & houses

### 🔥 **COC : all the joint ownerships**

finance 70 % diagnosis cost /

+ 20 % national incentive

- 2009 :**
- ▶ 520 joint ownerships contacted
  - ▶ 12,000 flats in diagnosis
  - ▶ 2,300 flats : work

### 🔥 **2 sectors of Paris :**

- ▶ City pays energy efficiency diagnosis
- ▶ City pays an assistant to help joint ownership to make work sheet.

**First sector :** 328 housings, 24,000 flats.

**Next sector :** 600 housings, 11,000 flats.



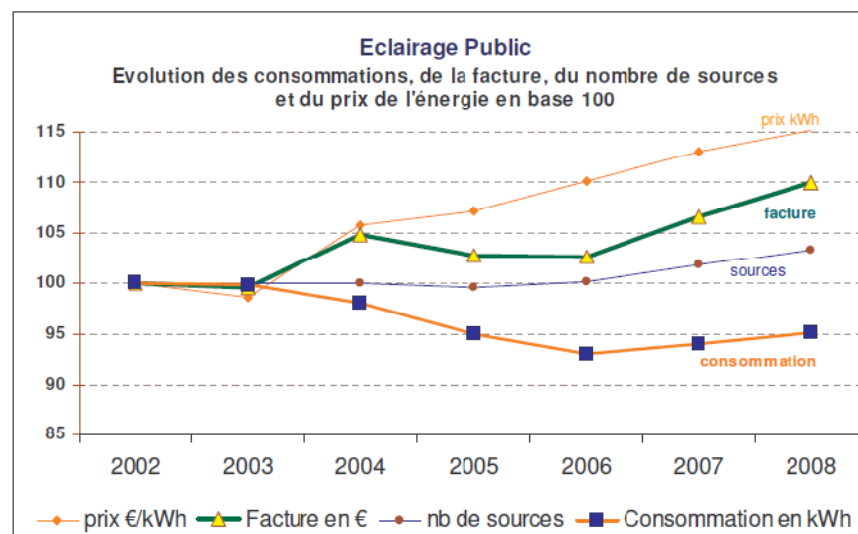
**BUILDING Insulation Campaign**

# Public lighting

- **149 Gwh in 2010**
- **30% reduction** of energy consumption by 2020



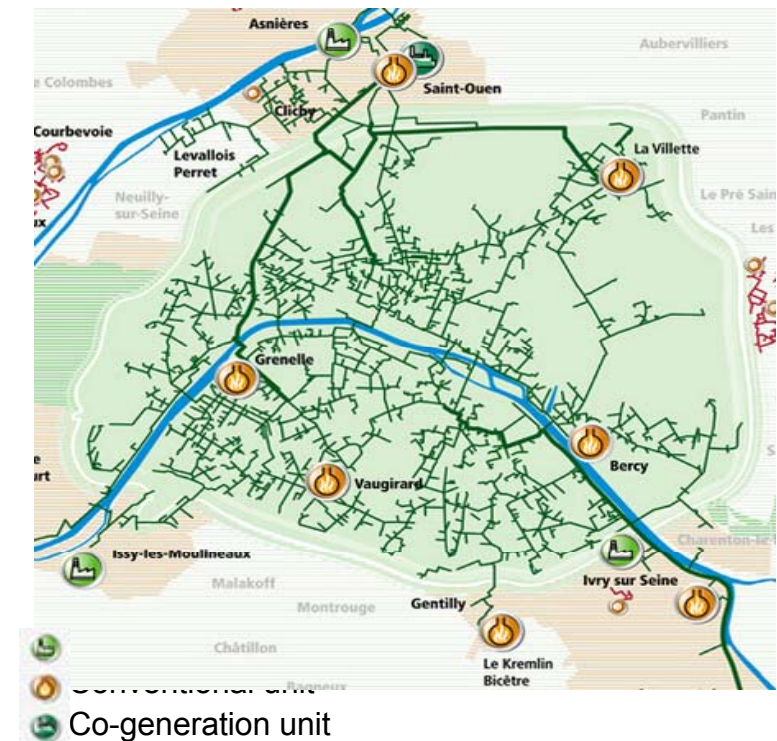
- Energy performance contracting :
  - **Guaranteed results**
  - **Servicing, maintenance and operation**
  - **900M euros over 10 years**





# District heating network : massive RES supplier

- ▶ **2<sup>nd</sup> largest network in Europe** (1<sup>st</sup>=Moscow)
- ▶ **5,500 GWh/y** (16% of Paris energy needs)
- **Geothermy** : heat recovery from ground (60°C)
  - ▶ North East Paris Sector (will cover 50,000 housing by 2011)
- **Replace coal and oil fuel by wood or sludges**
  - ▶ 200MW unit by 2014
- **Methane from waste**
  - ▶ 3 new plants



# Renewable energy

- **Solar energy : 200,000m<sup>2</sup> plan by 2014**



- **Recover lost energies : heat from sewers waters, Metro and train stations**
- **Micro-hydraulic on the river Seine : Research program**
- **Micro wind system above the buildings roofs**

# Developping a strategy of adaptation to climate change



- **Greening plan, green and blue network**
- **Wind corridors, heat islands, etc...** are taken into account in urban planning
- **Risk management plan** for floods etc...



# Creation of structures dedicated

- **Local operators** (public / private) for RES development and third financing
- **Paris's Climate Agency** : Mobilization of 2 millions Parisians, 100,000 buildings, 300,000 companies
  - ▶ **Single Location information** on climate change and energy efficiency
  - ▶ **Partnership** : Region, energy companies, banks, transport company
  - ▶ Center of **technical** and **financial** expertises



## To Do More

1. ***Engage*** : *Covenant of Mayors*
2. ***Empower*** : *European Directives, National Laws, ...*
3. ***Ressources*** :  
*Structural Fund,*  
*Community instrument « URBAN sustainable energy »*