

***“Buildings Energy Efficiency Policies
The bumpy road to effective implementation”***

*Implementation of buildings energy efficiency :
Feedback from a local perspective*

A french experience

PARIS CLIMATE AGENCY



THE CITY OF PARIS : SOME FIGURES



2.2 million inhabitants

- More than 1.2 millions dwellings and 47 000 co-owned buildings



1.7 million jobs

- Industry is marginal



20 000 Vélib'



The highest density in Europe



26 million tourists/year



PARIS CLIMATE PROTECTION PLAN

1ST climate protection actions plan of Paris

adopted 1st October 2007 unanimously

Objectives : **-75% GHG emissions by 2050 compared to 2004**

Local administration :

- -30% emissions by 2020 compared to 2004
- -30% energy consumption (buildings and street lighting)
- 30% of renewable energy in supply by 2020

Territory :

- -25% emissions by 2020 compare to 2004
- -25% energy consumption by 2020
- 25% of renewable energy in supply by 2020

Main goals for buildings

- 50 kWh/m²/y for new buildings
- from 320 – 270 kWh/m²/y to 80 kWh/m²/y for refurbishment



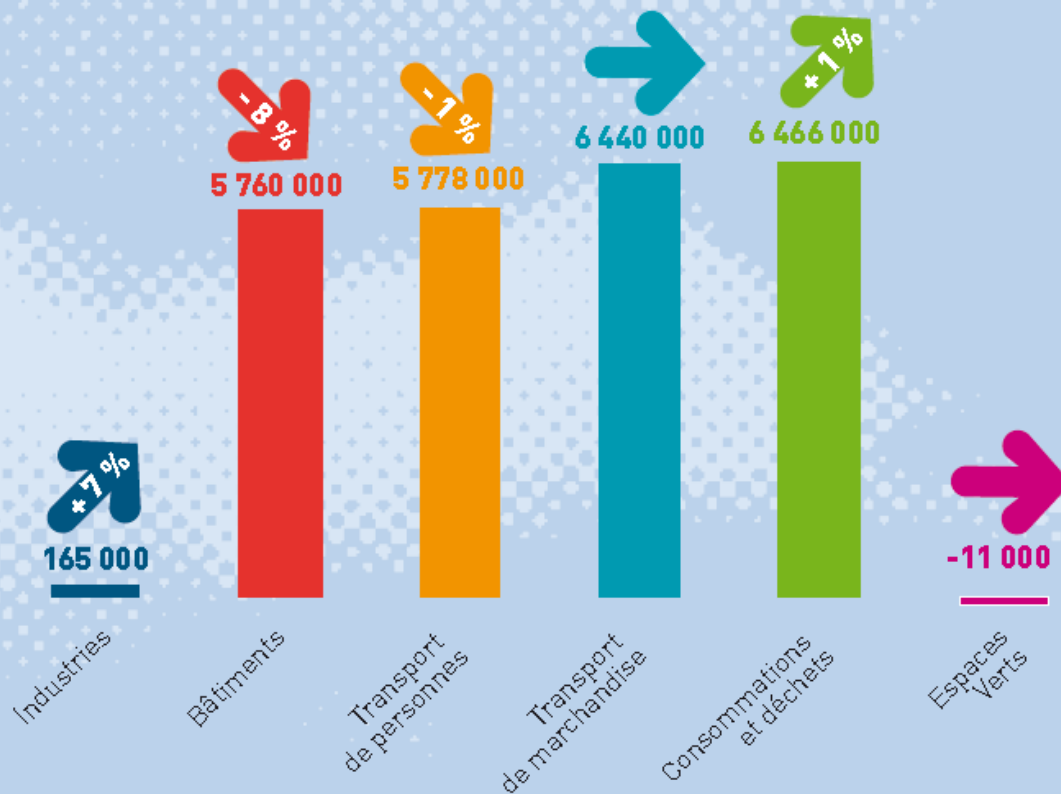
Bilan CarboneTM, the five-year indicator of the plan.

THE BILAN CARBONE® OF PARIS (TERRITORY) - 2009

BILAN CARBONE®
DE PARIS
ÉDITION 2009

24,6 millions
tonnes eq. CO₂

- 2 %
depuis
2004



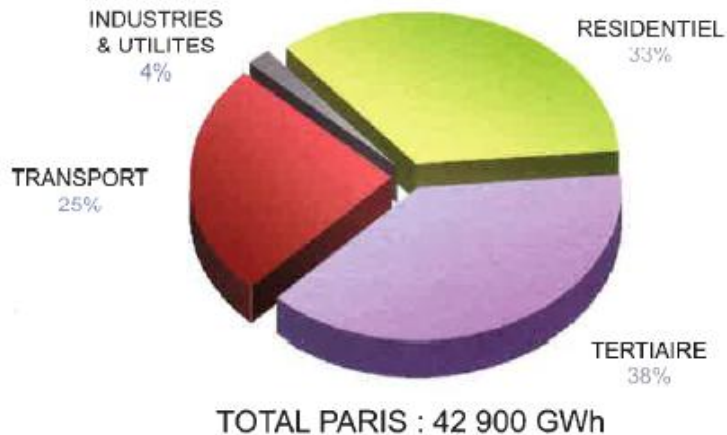
Quel temps fait-on demain ?

PLAN PARISIEN
de lutte contre
le dérèglement
climatique

ENERGY CONSUMPTION

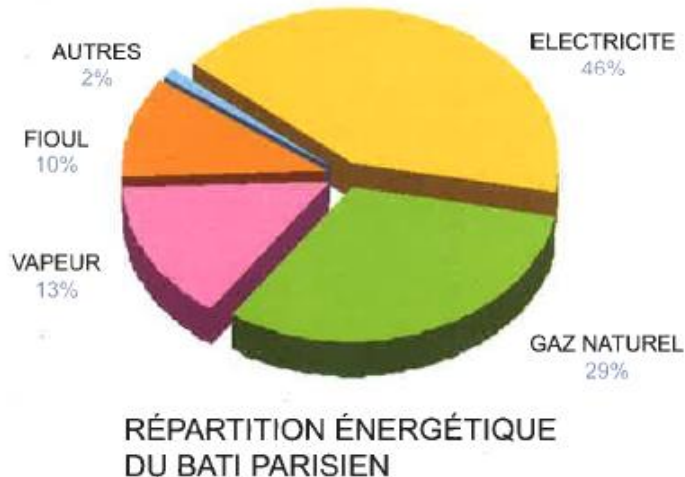
In 2009, Parisian territory consumes **42.9 TWh of final energy**

- A decrease of 6% since 2004
- The non residential sector is the leading sector with almost 40% of final consumption, followed by residential sector (33%) and transportation sector (25%).



Buildings sector

➔ **71%** of the final energy consumption

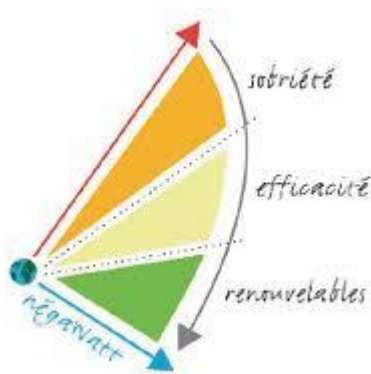


Paris buildings stock

- 100 000 buildings
- 120 million m²
- ~30 600 GWh/y
- 85% buildings constructed before 1975
- 5.8 million tons eq. CO₂

THE NEED IS TO MOBILIZE THE WHOLE TERRITORY

- We know where to go but we don't know how to go there !
- Local authorities and territories are the right level to act efficiently : implementation is done at local level
- But it means that the whole territory has to be mobilized

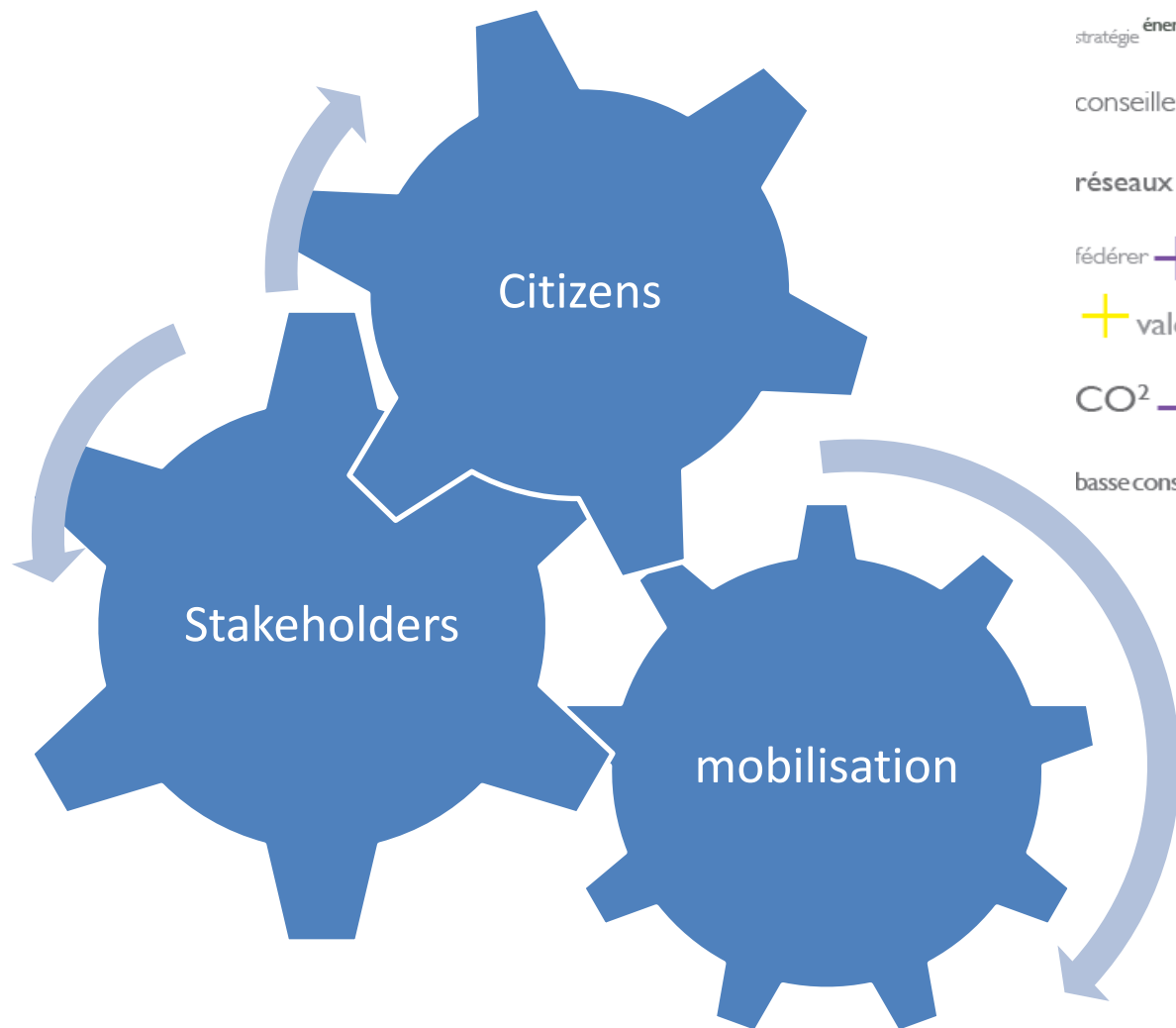


Trajectoires 2020 - 2050
vers une économie sobre en carbone
Rapport du Comité présidé par Christian de Perthuis



➡ There is a strong need to design the path for energy transition **collectively**

MOBILISATION FOR ACTION



stratégie énergétique territoriale + décarboner le territoire + confort thermique
 conseiller + adaptation du territoire + conseiller info-énergie climat
 réseaux + sobriété énergétique + efficacité énergétique + carbone
 fédérer + énergie renouvelable + expertise technique + accompagner
 + valoriser + climat + mobilisation des parisiens
 CO² + mutualiser + indicateurs de qualité de vie +
 basse consommation + agence + information + cieci

Raise Public awareness



Involve main stakeholders

Change Management:

- independent advice and information
- clearance of scientific facts, comprehensive and understandable information and documentation accessible to everyone

Build strong partnerships
with representative stakeholders
from energy companies, professional
associations, financial institutions ...



TWO PRIMARY CONDITIONS

A strong local policy

- Strong political commitment included in the Climate Protection Plan and reflected in various policies of the city
- An annual review and monitoring of progress of the Climate Protection Plan conducted by the City : The “BLEU Climat”



L'ENGAGEMENT DE LA COLLECTIVITE PARISIENNE
EN MATIERE DE LUTTE CONTRE
LES EMISSIONS DE GAZ À EFFET DE SERRE
ET D'EFFICACITE ENERGETIQUE

BLEU Climat 2012



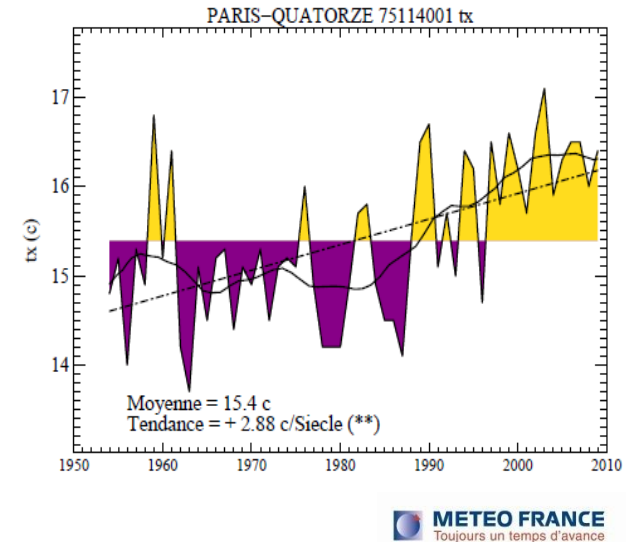
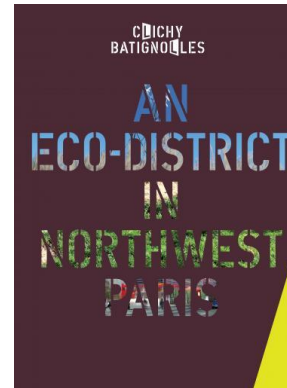
A common vision for a positive future

- There is a strong necessity for citizens and stakeholders to project themselves in the future, and to see a positive evolution and a real progression in the quality of life and activities



🌐 A shared knowledge-based on climate change at local level

🌐 A high visibility of good practices



🌐 A credible and understandable involvement of all partners

Operational



Prospective



Partnerships





PARTNERSHIPS

With founders and ADEME :

 companies

- SNCF, Accenture ..

 energy distributors

- ERDF, GRDF ..

 Eau de Paris

- To develop a specific axis “water”

 public-private joint ventures and social landlords in Paris

 smaller companies, consultants and architects

 professional associations ...

 Caisse des Dépôts as a funding partner of the work program

O PERATIONAL



As part of ADEME's device ..

- General public advice
- Various themes: Building / Mobility / Consumption...



A media-related and events approach

- Information, current events: newsletter & website, publishing articles and answers to requests from journalists.
- Energy and climate change best practices in Paris: online mapping and site visits.
- Conferences / Stands / information
- A privileged exchange with District Town Halls.

Targets :

- General public
- Professionals

PROSPECTIVE



The dimensions of the Prospective Project



- Setting up a watchdog on public policies aimed at members
- Consolidation of work in creating a common base of knowledge on climate and energy issues in Paris
- Q & A's sessions with academics, experts on topics of current interest in the energy sector and various other sectors, starting with the building sector
- Publication 2012 – 2013 in prospect

IMPLEMENTATION IN BUILDINGS

The Grenelle Building Plan helps for the implementation and deployment of measures to reduce energy consumption and greenhouse gases emissions in the buildings sector in France.



Ambitious goals :

to reduce energy consumption by 38% and emissions of greenhouse gases by 50% by 2020.

Objectives :

- 2012:

Build low energy consumption buildings (BBC)

A first mandatory by the updated buildings energy code (RT2012)

- 2020:

Build positive energy buildings

- Reduce energy consumption of existing buildings

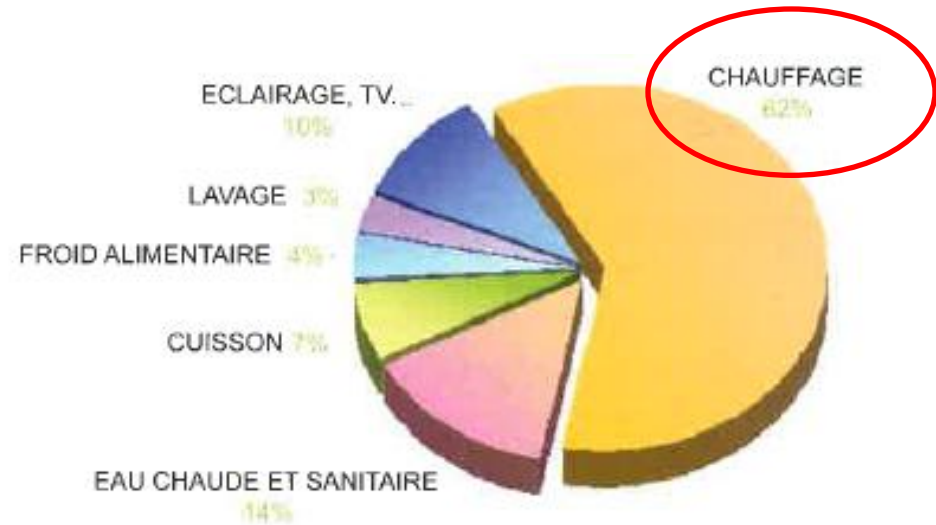
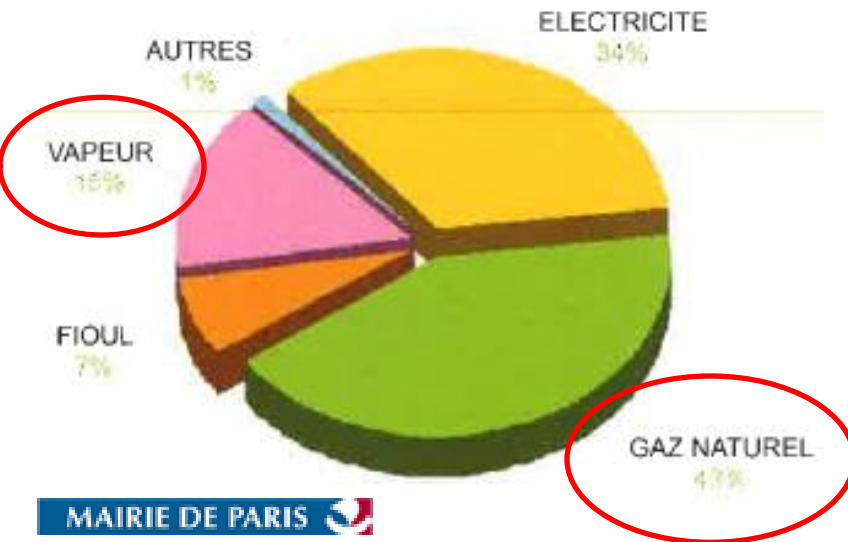
RESIDENTIAL



RESIDENTIAL IN PARIS

Some figures

- 1 340 000 flats
- 78 million m²
- 14 254 GWh/y
- ~240 kWh/m²/y



- Two Parisian particularities : **gas and district heating, Heating**, remains the first end-use for final energy consumption in dwellings
- Significant increase in electricity consumption related to **specific end-uses** (+20% since 2004)

85% Parisian buildings constructed before 1975 → refurbishment issue

EXAMPLE FOR RESIDENTIAL SECTOR



Paris Climate Protection Plan - Strong local objectives for buildings
50 kWh/m²/y for new building
from 320 – 270 kWh/m²/Y to 80 kWh/m²/y for refurbishment

Professional
mobilisation

Pilot projects on
selected areas



new financial
innovative
tools

Specific tools
levers for action
Coach copro ©

Agence
Parisienne du
Climat



Pilot projects
for a limited
numbers of
buildings

THE CONDOMINIUM PROJECT

The territory of Paris:
Paris Climate Protection
Plan and 3x25

1, 1 million of private dwellings
(84% parisian dwellings)

20 000 collective ownerships units
adressed by APC for advices

10 000 pilot condominium units
(~100 condominiums)



Contribution to Parisian devices (OPATB,
OPAH-DD ...)

Mobilizing APC's Partnerships especially
in the construction sector

New tools, copro Coach ©

Reflection on the financial models



Info Advice



Detailed « coaching » of pilot
condominiums

- A profession of accompanying for private multi-family buildings (different owners)

➡ Essential and recognized



- Animation of professionals of this sector

NON RESIDENTIAL SECTOR



RÉPARTITION DES SURFACES CHAUFFÉES DU TERTIAIRE

- Bureaux et Administration
- Commerce
- Enseignement, Recherche
- Cafés, Hôtels, Restaurants
- Santé, Action sociale
- Sport, Loisir et Culture
- Habitat communautaire
(maison de retraite, auberge de jeunesse,
lieux de culte...)
- Bâtiments du transport
(gare, station de métro...)



Some figures

- 300,000 companies
- 58 million m²
- 16,423 GWh/y (-3,2% since 2004)
- ~320 kWh/m²/y

- Specificity of Paris : a concentration of **private and government offices**, including headquarters
- decrease in heating consumption and increase in **cooling consumption**



PERSPECTIVES AND QUESTIONS TO SHARE

PERSPECTIVES AND QUESTIONS TO SHARE

- How to ensure the mobilization of partners and citizens in the long term?
- How to prove efforts among all partners ?
- How to get coherent ressources to finance free and independent advices and activities?
- How to design the “path” for energy transition ?
- What kind of recognition by stakeholders for their involvement in a relevant local energy and climate change policy ?



QUESTIONS TO SHARE

- What funding needs for which investment strategies?
 - How to move from short term investment instruments to long term ?
 - How to strengthen the mobilization for funds in an economic crisis context ?
- How to test and secure new funding devices ?
- Which professional organization and how to raise professional skills ?
- Which technologies - including the building envelope – are available for massive retrofitting ?



Merci

Thank you

More information about Bilan Carbone®
and energy consumption of Paris

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