Cour des comptes

ADAPTING CITIES TO CLIMATE CHANGE

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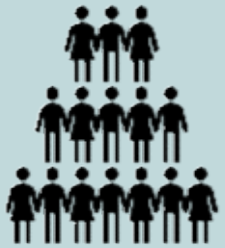
A NETWORK SURVEY FOR THE 2024 ANNUAL PUBLIC REPORT



ADAPTING CITIES TO CLIMATE CHANGE: A CHAPTER IN THE 2024 ANNUAL PUBLIC REPORT

An inter-jurisdictions panel involving the Court and seven regional chambers of Accounts

- An inter-jurisdictions panel (*« formation inter-juridictions »)* : a cooperation between the Court and regional chambers of Accounts, through the creation of an ad hoc body responsible for examining a report synthesizing joint work;

Led by the chamber of Accounts Grand Est

- Chaired by the President of the chamber of Accounts Grand Est, with a general rapporteur, responsible for the synthesis report, and a counter-rapporteur, ensuring the quality of the work, appointed within the chamber of Accounts Grand Est;

As part of the Court of Accounts 2024 annual public report:

- Since 2022, the annual public report, main publication of the Court of Accounts, is thematic and involves the regional chambers, enabling a cross-cutting analysis at central and local level of public action. After the health crisis (2022) and decentralization (2023), adaptation to climate change is a theme well appropriate to this approach.
- A requirement : a short format (25 pages) and a "general public" editorial line.

A TEAM AND NETWORK SURVEY

A sample drawn from the jurisdiction of the participating chambers

- 19 municipalities or urban inter-municipalities audited : Paris, Blois, Montpellier, Mulhouse, Orléans, Saint-Etienne, Strasbourg, etc… Each audit results in a local publication and contributes to the national synthesis.
- The central administrations concerned, mainly the Ministry of Ecological Transition, are also part of the entities surveyed.

The elaboration of a control guide

- To define a common audit grid and facilitate the appropriation of the issues identified by the team in charge of coordinating the joint work.

The use of external technical and scientific expertise

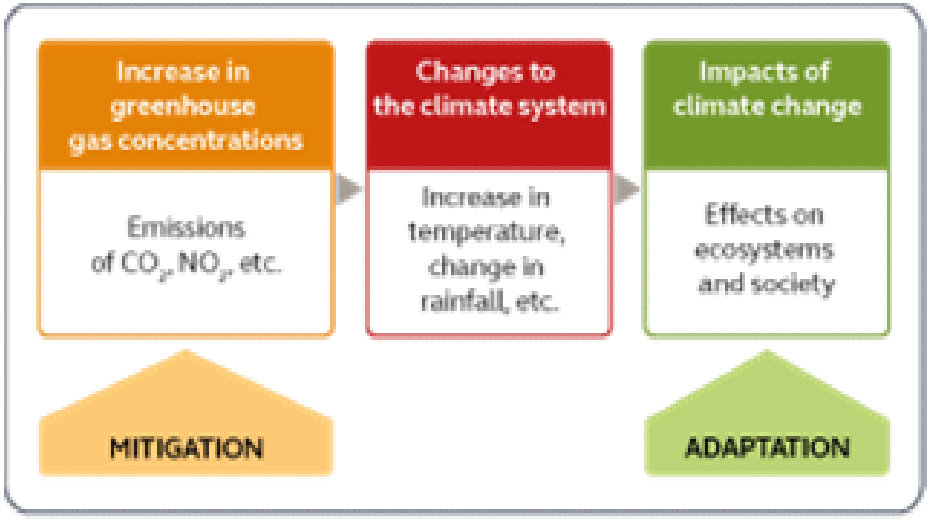
- International benchmarking, review of scientific literature and data processing.

ISSUES RELATED TO THE ADAPTATION OF CITIES TO CLIMATE CHANGE

DEFINING ADAPTATION TO CLIMATE CHANGE

- Glossary published as an appendix to the 5th IPCC report, 2014:

"The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects."



Source: ministry of energy transition / National Observatory for the Effects of Global Warming (ONERC)

THE VULNERABILITY OF CITIES TO CLIMATE CHANGE

Climate change increases the frequency of extreme weather events :

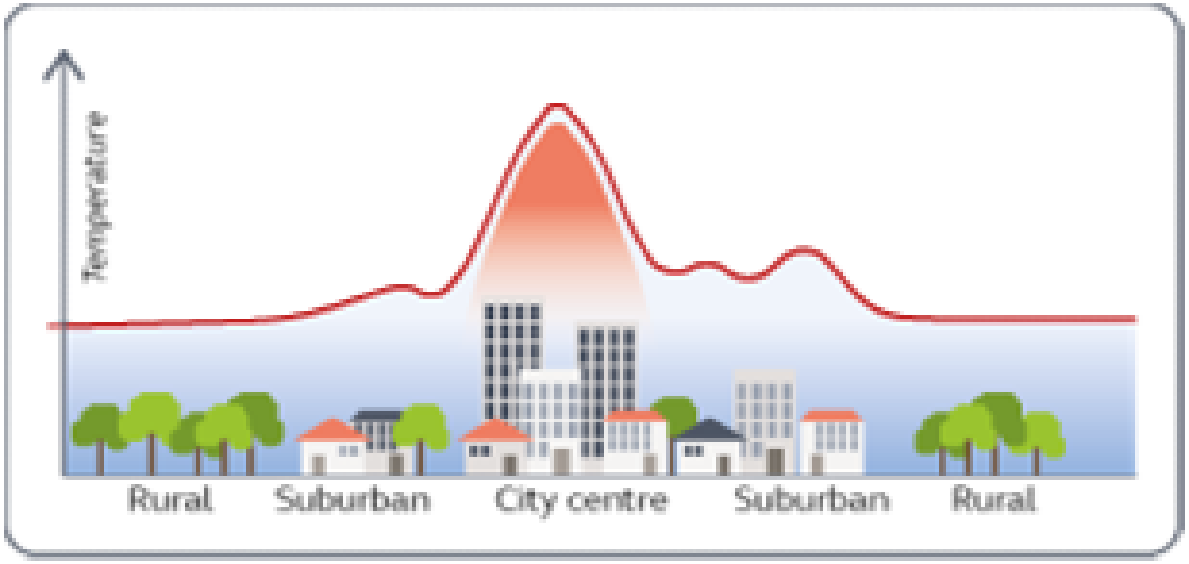
- The IPCC's sixth report highlights the correlation between the rise in average temperatures and the rise in the frequency of extreme weather events (rainfall intensity, temperature extremes, severity of droughts, etc.) ;

The vulnerability of cities to related hazards:

- The growing scarcity of water resources: a thematic report on this issue published by the Court of Accounts in July 2023;
- Managing health crises and adapting housing and networks: dedicated chapters in the annual public report;
- The risk of flooding, by overflow, mudflows or marine submersion: the option not to deal with this question was taken due to the format of the publication and the agenda of the survey;
- Urban heat islands: the theme chosen considering the Court's previous reports and the requirements in terms of agenda and length for the annual report.

THE VULNERABILITY OF CITIES TO HEAT WAVES

- **Urban heat islands :** the rise of temperatures in summer and heatwaves are amplified by urban density and form, artificialization of land, absorption and storage of heat by materials, human activities, and increasing scarcity of green spaces and water.
- The survey focuses on measures **to prevent and limit** the effects of intense heat waves in cities.



ISSUES FOR PUBLIC FINANCES

A matter of regularity: planning adaptation to climate change

- A requirement for local authorities specific in France: since 2016 urban authorities (public agencies for intermunicipal cooperation with a population of over 20,000) are obliged to adopt climate plans that include a strategy for adapting to climate change;

Controlling public spending

- How much will it cost to adapt to climate change ?

The quality of public spending

- Setting up the organization and providing the resources needed to reduce the vulnerabilities associated with intense heat episodes ;
- Avoiding “maladaptation”: a concept used to describe a change in natural or human systems in response to climate change that unintentionally increases vulnerability instead of reducing it (e.g. air conditioning instead of insulation, planting species that are not adapted to the heat);
- Giving priority to "no-regrets" measures that offer benefits for the region, whatever the future situation.

MAIN FINDINGS OF THE SURVEY

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- Urban authorities have been **late** in adopting strategies for adapting to climate change, which only partially address the identified issues, including intense heat episodes.
- Their effects on organizations remain **limited** and there are gaps in the assessment of the associated costs. **The cost of adapting to climate change in urban municipalities is not precisely identified**.
- The investment policies implemented by urban authorities give priority **to urban greening measures**, which can be effective **in the long term** but must be part of a broader approach **in the frame of adaptation pathways** in order to meet the immediate challenges.

ADAPTATION STRATEGIES THAT ONLY PARTIALLY MEET THE CHALLENGES OF CLIMATE CHANGE

- **Late and incomplete adoption of adaptation strategies**

Most of the audited local authorities adopted their climate plans more than 3 years late. In April 2023, of the 753 local authorities with more than 20,000 inhabitants required to draw up a climate plan, only 52% had adopted one, and 54 local authorities with more than 100,000 inhabitants did not have one;

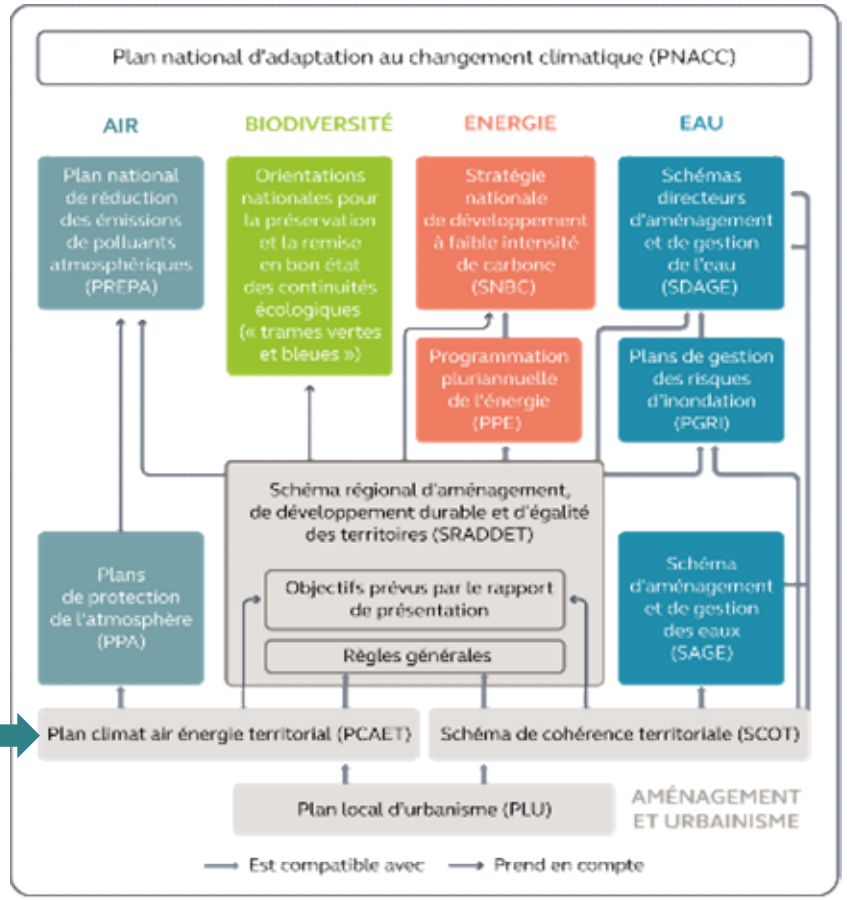
- **Insufficient consideration of the effects of climate change in cities**

Assessments of associated risks are generally inadequate or out of date, and are not based on recent scenarios of rising temperatures. Exposure to urban heat islands is not precisely identified despite its aggravating effect. The "adaptation“ part of climate plans, which give priority to the "mitigation", is often superficial.

ADAPTATION STRATEGIES THAT ONLY PARTIALLY MEET THE CHALLENGES OF CLIMATE CHANGE

- **A considerable room for improvement in the way that local plans are coordinated with other planning documents relating to adaptation to climate change.**

Local authorities climate plans



A LIMITED IMPACT ON ORGANIZATIONS AND AN INCOMPLETE EVALUATION OF THE COSTS

- **Strengthening the coordination of regional public action**

The challenge of adapting to climate change provides an illustration of the need for a rationalization of local competences between the different levels of local authorities (municipalities, inter-municipalities, “départements” and “regions”) and the territorial services of the central State.

One illustration: to implement adaptation measures, municipalities and inter-municipalities in the same area each adopt a climate plan, which contribute to the complexity of adaptation planning schemes.

- **Action programs that do not assess the costs of the required spending**

Despite regulatory provisions, climate plans are not subject to financial programming and most of them are not evaluated at mid-term. Some local authorities have experimented green budgeting on the basis of the analytical accounting that is compulsory for local authorities in France (“function-based” accounting), but their reliability needs to be improved.

- **Better preventing “maladaptation”**

Initiatives have been identified that make it possible to systematically analyze the future climate of public procurement.

URBAN GREENING, AN EMERGING SOLUTION THAT NEEDS TO BE PART OF A BROADER ADAPTATION PATHWAY

- **Urban greening, a measure promoted by local authorities to help cooling cities**

Urban greening plans are drawn up and generally implemented in line with the planned targets, in terms of tree planting to increase shade and evapotranspiration and in terms of rainwater infiltration.

These measures also benefit **to wastewater management and biodiversity.**

However, they will be fully effective only **in the long term.** Trees reach maturity only after 15 to 25 years, depending on the species.

- **The need to diversify the range of solutions**

More low-regrets "blue" or "grey" solutions could be deployed: fountains and misters, shaded areas, etc. The trade-off between increased water and energy consumption and improved thermal comfort needs to be considered in the context of **a long-term pathway**.

To prevent individual air conditioning, solutions such as **urban cooling networks**, like the one developed in Paris, have to be fully explored.

Not enough is being done to improve the thermal comfort of buildings in summer: in this area, policies are focusing on energy efficiency, with **potentially counterproductive** effects in terms of summer comfort.

URBAN GREENING, AN EMERGING SOLUTION THAT NEEDS TO BE PART OF A BROADER ADAPTATION PATHWAY

- **A limited-cost measure that involves mobilizing private land**

Since it was not possible to identify the overall cost of adapting cities, the survey attempts to assess the cost of urban greening.

Proposal for a Nature restoration law adopted by the European Commission: increasing the total national surface of urban green spaces by at least 3% by 2040 and 5% by 2050, with at least 10% urban tree cover in cities by 2050 (8.3% in 2018 in France).

Local authority expenditure in 2022

- 542m€, i.e. 2.7% of municipalities capital expenditure and 0.6% at inter-municipalities level
- 2.3bn€, i.e. 3.4% of municipal operating expenditure and 1% at inter-municipal level

Assessing the cost of the "10%" target

+ 360m€ per year between 2025 and 2035 to plant 2.4 million medium crown trees. This is a sustainable target considering the Green Fund and current investment by local authorities. It requires mobilizing private land to significantly increase the surface area of urban green spaces: real environmental obligations, subsidies, etc**.**

RECOMMENDATIONS FROM THE SURVEY

THE FOUR RECOMMENDATIONS FROM THE SURVEY

- 1. Streamline the planning documents addressing adaptation to climate change;
- 2. Involve municipalities in local planning for adaptation to climate change, by providing for the development of joint strategies at the intermunicipal level ;
- 3. Effectively implement the obligation for financial programming and for monitoring the implementation of expenditure for adaptation to climate change;
- 4. Include in local adaptation strategies measures to protect the urban natural heritage and targets for increasing the surface of green spaces and urban tree cover.