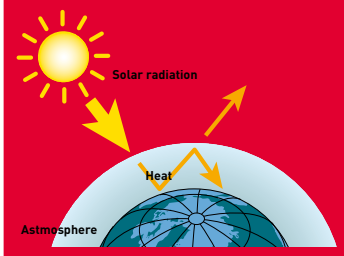
CLIMATE PLAN GREATER LYON

It's time to act now

GRANDLYON
communauté urbaine

THE GREENHOUSE EFFECT

The greenhouse effect is the beneficial process by which the sun's heat is trapped in the atmosphere, allowing Earth to maintain temperatures that make the whole planet inhabitable. The combustion of fossil fuels (petroleum products, coal etc.) emits large quantities of greenhouse gases into the atmosphere, in particular CO_2. Such gases are produced by human activity, and serve to increase the greenhouse effect. This, in turn, has a significant impact on the climate.
An increased greenhouse effect leads to global warming as it causes the Earth's climate to warm up. This has numerous consequences, such as the melting of snow and ice, and the increase in extreme weather conditions (rain, hurricanes, floods, heat waves etc).



THE GREENHOUSE EFFECT

CLIMATE VS WEATHER - WHAT'S THE DIFFERENCE?

The climate is effectively a statistical entity – it is an average of the weather conditions (temperature, precipitation, atmospheric pressure, etc.) recorded in a given region over a given period of time. Weather forecasting is concerned with predicting the meteorological conditions that will occur in a given place at a given time. Climate forecasting, on the other hand, seeks to predict the kind of weather conditions that are likely to occur in the long term.

THE CLIMATE PLAN OUR CONTRIBUTION

« THE IDEA IS FOR EACH LOCAL COUNCIL AND GOVERNMENT ADMINISTRATION TO DRAW UP ITS OWN CO_2 EMISSIONS REPORT AND DEFINE THE MEASURES IT WILL TAKE TO COMBAT GLOBAL WARMING. » SPEECH BY SERGE LEPELTIER, FRENCH ENVIRONMENT MINISTER, AT THE LAUNCH OF THE NATIONAL CLIMATE PLAN IN JUNE 2004.

THE GREATER LYON CLIMATE PLAN

The Climate Plan is a voluntary commitment pledged by Greater Lyon in response to the initiative launched by the Ministry for Ecology and Sustainable Development to combat greenhouse-gas emissions (National Climate Plan, 2004). The Lyon Urban Community has been working on reducing energy consumption for 15 years already via its two charters for urban ecology (1992-1995 and 1997-2001). It has also been working on greenhouse gases since the implementation of the Agenda 21 strategy in 2004.

As of 2005, the second strategic objective of Greater Lyon's Agenda 21 has been centred around combating greenhouse gas emissions, with six established objectives:

1. formulating, communicating and evaluating a Climate Plan;
2. making changes in response to climate change;
3. seeking to establish partnerships in order to combat climate change;
4. prioritising sustainable forms of transport;
5. making a commitment to improve energy efficiency and reduce consumption;
6. basing urban planning and housing policies on environmental criteria.

« THINK GLOBALLY, ACT LOCALLY »

Tackling the increase in greenhouse gases requires awareness and action on a worldwide scale – an area in which Europe and France are making concrete contributions. However, the targets set must be achieved at local level.

BY 2012
Stabilisation of France's greenhouse-gas emissions at 1990 levels, in compliance with the Kyoto Protocol (ratified by France).

BY 2020
A 20% reduction in France's energy consumption and greenhouse-gas emissions, and energy consumption of at least 20% from renewable sources, in compliance with the Renewable Energy Road Map published in 2007 by the European Commission.

BY 2050
A fourfold reduction in France's greenhouse-gas emissions in compliance with the targets established by the 2005 national law on future energy policy (known as the Loi POPE).

CLIMATE ACTION TIMELINE

1827
Frenchman Jean-Baptiste Fourier discovers the greenhouse effect.

1957
First continuous measurement of CO_2 in the atmosphere.

1988
IPPC (Intergovernmental Panel on Climate Change created at the request of the G7.

FIND OUT MORE

AGENDA 21
The United Nations Agenda 21 strategy serves as an overarching framework for Greater Lyon's different initiatives, bringing coherence and purpose to the sustainable development strategies and policies implemented.

SUSTAINABLE DEVELOPMENT
Development which serves current needs without compromising the ability of future generations to serve theirs. It has three dimensions: economic, social and environmental.

A SUSTAINABLE COMMITMENT

COMBATING GREENOUSE-GAS EMISSIONS REQUIRES PRE-EMPTIVE AND ADAPTATION POLICIES TO RESPOND TO CLIMATE CHANGE.



A DUAL MISSION – TO ACT AND TO INSPIRE

WORKING TOGETHER FOR A SUSTAINABLE URBAN COMMUNITY

The Lyon Urban Community has several roles. It is a producer, a consumer and a distributor of energy; it is responsible for urban planning within the urban area; and it makes decisions concerning its long-term infrastructure. In light of these responsibilities, tackling issues linked with the greenhouse effect requires Greater Lyon to intervene on two levels. First of all, to limit the direct effects of climate change by means of adaptation policies; and secondly, to prevent the future increase of these effects by means of mitigation policies. The Urban Community is therefore currently encouraging and leading partnership activities in order to involve the largest possible number of players – institutions, social structures, businesses, residents – in responsible projects and behaviour. In order to achieve this, Greater Lyon has already been rallying resource-providing structures such as ALE (Local Energy Agency), ADEME (National Agency for Environment and Energy Management, with which Greater Lyon has signed a framework agreement for 2005–2010), and the ARRA-HLM (regional union of social housing associations).

IDENTIFIED COURSES OF ACTION

Greater Lyon acts in the following capacities:

- as an owner of housing, land and public buildings;
- as a public service provider with responsibility for drinking water and sanitation, roads and highways, and refuse and cleansing services;
- via its public policies in terms of housing, transport and urban planning;
- and finally, through its ability to bring together all the socio-economic and institutional players and develop an education policy for sustainable development, it plays – and will continue to play – a central coordinating role for the urban area as a whole.




ACTION ALREADY TAKEN

- By the end of 2007, Greater Lyon will have over **290 km of cycle paths**. Between 2005 (when the Vélo'v bike hire scheme was launched) and 2007, cycle use has increased by **over 80%. 4,000 Vélo'v bikes are available to residents of Greater Lyon; so far, they have already been used to cover over 25 million km. This has greatly contributed to the growth of cycling as a realistic and practical means of transport.**
- **Renewable energy sources,** such as solar-panelled roofs, have been incorporated into some of the urban community's buildings.
- **Concerto Programme** for the construction of 680 highly energy-efficient homes (50 kWh/m²/year) in the Lyon Confluence district. **80%** of their energy consumption will come from renewable sources.
- **An environmental approach to city planning** has been developed in partnership with ADEME (National Agency for Environment and Energy Management), defining the environmental priorities to be implemented in future urban planning initiatives.
- **REAL – Lyon's Integrated Transport Network** is an ongoing project working to develop and improve connections between train, bus and coach services.
- **Greater Lyon's criteria for sustainable housing** have been developed with both national and local energy agencies (ADEME and ALE). They define, in particular, the requirements for reduced energy consumption (50 kWh/m /year) and the use of renewable sources of energy (20%) that must be implemented in the construction of all new social and private housing. There are already 3,000 such homes under construction in the urban area.

1990
The first IPCC report shows that the Earth's average temperature has increased by 0.5°C over the last hundred years, and warns that only drastic action will be able to limit this phenomenon.

1992
The Rio Declaration for the reduction of greenhouse-gas emissions is signed by 154 countries.

2002
The European Union ratifies the Kyoto Protocol (the signatory countries pledge to achieve the established emissions targets by 2012).

2003
The third hottest year on record. Heatwave in France with 15,000 deaths.

2005
Launch of Greater Lyon's Climate Plan as part of Agenda 21.

2012
France's deadline for stabilising its greenhouse-gas emissions at 1990 levels, in compliance with the terms of the Kyoto Protocol.

SETTING AN EXAMPLE

FOR SEVERAL YEARS NOW, A NUMBER OF PROJECTS HAVE BEEN DESIGNED AND REALISED BY PUBLIC AND PRIVATE DEVELOPERS, INSTITUTIONAL AND TECHNICAL PARTNERSHIPS, AND COMPANIES USING NEW PRODUCTS AND MATERIALS. THESE EXAMPLES WILL SERVE TO ENCOURAGE AND PROMOTE FUTURE SUSTAINABLE CONSTRUCTION INITIATIVES.

RESIDENTIAL

VÉNISSIEUX DARNAISE NEIGHBOURHOOD

SOLAR PANELS
Project owner: OPAC du Rhône

As part of the renovation of the Minguettes district, the tower-blocks of the Darnaise neighbourhood (eleven 16-storey towers, accommodating almost 740 homes) have been used to test a method of reducing residents' energy costs. So far, the solar panels have had a direct effect on reducing these costs. They also contribute to achieving Vénissieux's targets in terms of diversifying the energy sources used to supply the communal heating network which serves the estate.

TRANSPORT

GREATER LYON COMPANY TRANSPORT PLANS

Project owner: SYTRAL and private companies

Company and Public Service Transport Plans (PDE and PDA)

A transport plan is a package of measures adopted by a private company or public service administration to limit car use by employees travelling between the home and the workplace. Concrete measures implemented by such plans include offering employees subsidised public transport passes, limiting the number of available parking spaces, and creating car-sharing schemes. In Greater Lyon, over 90 structures have already adopted travel plans, benefiting 10,000 employees! The Greater Lyon urban transport plan has enabled a 17.8% switch (representing 78 employees) from car use to public transport use.

PUBLIC FACILITIES

VILLEURBANNE ÉTIENNE GAGNAIRE SWIMMING POOL

SOLAR HEATED WATER
Project owner: Villeurbanne Council

Renovation work has been carried out to improve the heating system and the insulation of the swimming pool roof. Almost half the surface of the roof of the Olympic-sized pool has been covered with solar panels which heat the water in the two outdoor pools as well as the indoor pool.

TERTIARY

GREATER LYON SCHOOL TRANSPORT

WALKING BUS SCHEMES
Project owner: participating schools

Walking bus schemes seek to reduce the use of cars for the school run by encouraging parents and children to walk to school. Available and willing parents take turns to accompany a group of children to school on foot. Such schemes rely on the principle of families exchanging services with one another. In the Lyon Urban Community, 66 schools operate walking buses, making savings of 80 tonnes of CO_2 emissions per year.

BUSINESS

LIMONEST ARCHIGROUP ARCHITECHTS

SOLAR PANELS CONNECTED TO THE MAINS GRID
Project owner: Archigroup Architects

Archigroup Architects built its offices in 1998 in Limonest. The building was initially fitted with an air-water heat pump, super-insulating windows and sun shades. In 2004 it was also equipped with solar panels that are connected to the mains grid

2020

The European Union's deadline for reducing its greenhouse-gas emissions and energy consumption by 20% each.

2050

France's deadline for achieving a fourfold reduction in its greenhouse-gas emissions.

HOW`S THE WEATHER TODAY?

THE CLIMATE PLAN WILL EVALUATE CURRENT GAS EMISSIONS IN THE URBAN COMMUNITY AND ESTABLISH A STRATEGY FOR THEIR REDUCTION AND FOR PRE-EMPTING THE EFFECTS OF CLIMATE CHANGE.

CO_2 EMISSIONS IN THE LYON URBAN COMMUNITY

8 million tonnes of CO_2
were emitted from the Lyon urban community in 2003.

This level of emissions represents:

2 %
of France's CO2 emissions,

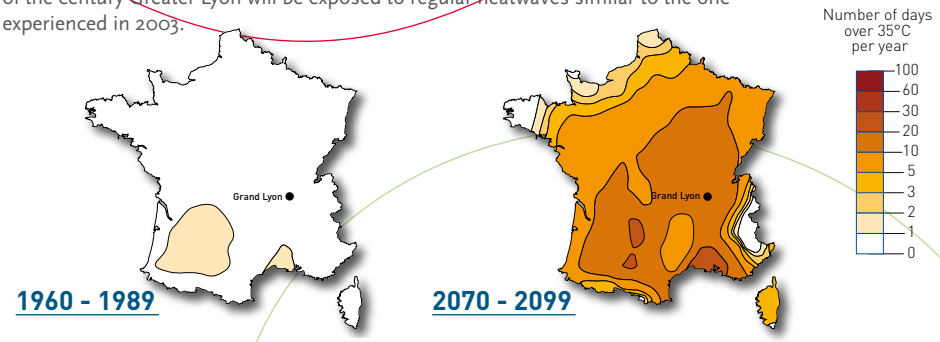
18 %
of emissions in the Rhône-Alpes region,

70 %
of emissions in the Rhône département.

GLOBAL WARMING IN GREATER LYON

Average number of days per year with a maximum temperature over 35°C
(ARPEGE model – Scenario A2) (IMFREX project, 2004)

If global emissions of greenhouse gases continue at their current rate, by the end of the century Greater Lyon will be exposed to regular heatwaves similar to the one experienced in 2003.



THE IMPACTS OF GLOBAL WARMING ON THE URBAN AREA

- **Health Impacts**
  Heatwaves and hot summers.
- **Economic Impacts**
  Plans for taxation in CO_2 emissions, leading to increased energy prices.
- **Environmental Impacts**
  Extreme weather conditions, migration and extinction of certain species.
- **Social Impacts**
  Reduced purchasing power due to increased transport and heating costs, particularly for outlying households.

SOURCES OF CO_2 EMISSIONS IN GREATER LYON

29 %
TRAVEL AND TRANSPORT

2.3 million tonnes, or 29% of emissions.

Future Trend:
Towards a large increase on a national scale (increase of more than 23% observed between 1990 and 2003).

38 %
INDUSTRY

3 million tonnes, or 38% of emissions (includes communal heating networks).

Future Trend:
Towards a progressive reduction in industrial emissions, as a result of European regulations in particular.

33 %
RESIDENTIAL AND TERTIARY SECTOR BUILDINGS (HEATING, AIR CONDITIONING, ETC.)

2.6 million tonnes, or 33% of emissions.

Future Trend:
Towards an increase.

0,5 %
AGRICULTURE

30,000 tonnes of CO_2, or 0.5% of emissions, without taking into consideration the other greenhouse gases (e.g. methane) which make up 90% of agricultural emissions.

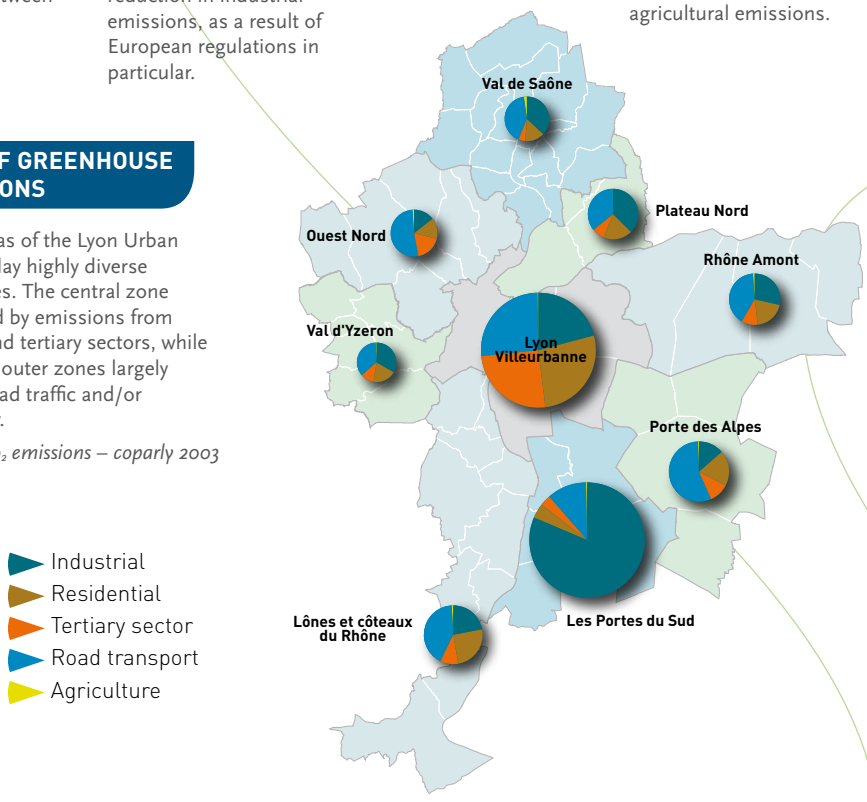
ANALYSIS

- The Lyon Urban Community does not display a typical emissions profile as its industrial emissions are concentrated in one area and originate from a limited number of sources (namely the companies operating in the so-called 'Chemical Valley').
- Car use within the agglomeration by residents is falling despite the increase in both population and average distance travelled. However, traffic entering the agglomeration has risen sharply, and the amount of traffic linked to deliveries remains unknown. A more accurate study will be conducted in order to establish overall traffic trends within the urban community.
- A closer look must also be taken at the residential and tertiary sectors in the coming years, particularly in terms of insulation: 73% of the urban community's homes were built before 1975.
- In terms of renewable energy sources, a number of measures have already been taken, but there is still plenty of scope for future development.

SOURCES OF GREENHOUSE GAS EMISSIONS

The different areas of the Lyon Urban Community display highly diverse emissions profiles. The central zone is greatly affected by emissions from the residential and tertiary sectors, while emissions in the outer zones largely emanate from road traffic and/or industrial activity.

Source: map of co_2 emissions – coparly 2003



MAIN PLAYERS AND INITIATIVES

ORGANISATIONS AND INSTITUTIONS

GIEC
Groupe d'Experts Intergouvernemental sur l'évolution du Climat (The Intergovernmental Panel on Climate Change)
www.ipcc.ch

ADEME
Agence de l'Environnement et de la Maîtrise de l'Énergie
www.ademe.fr

MIES
Mission Interministérielle de l'Effet de Serre
www.effet-de-serre.gouv.fr

ONERC
Observatoire National sur les Effets du Réchauffement Climatique
www.ecologie.gouv.fr/-ONERC-.html

ALE
Agence Locale de l'Énergie de l'agglomération lyonnaise
www.ale-lyon.org

COPARLY
Comité pour le Contrôle de la Pollution Atmosphérique dans la Région Lyonnaise
www.atmo-rhonealpes.org

HESPUL
www.hespul.org

RAEE
Agence Régionale de l'Énergie et de l'Environnement
www.raee.org

Région Rhône-Alpes
www.rhonealpes.fr

SYTRAL
Syndicat Mixte des Transports pour le Rhône et l'Agglomération Lyonnaise
www.sytral.fr

EUROPEAN INITIATIVES

RESTART

CONCERTO
http://concertoplus.eu

AMICA
www.amica-climate.net

NETWORKS AND PARTNERSHIPS

CLIMATE ALLIANCE

ENERGIE CITE

EUROCITÉS

PLAN CLIMAT GRAND LYON

aimons l'avenir

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MÉDIACITÉ

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