

ENERGY AND CLIMATE CHANGE: POLICIES OF THE GOVERNMENT OF CATALONIA

Mr. Frederic Ximeno Roca
Direcció General de Polítiques Ambientals i Sostenibilitat - DMAH
Av. Diagonal 525, 08029 Barcelona (Spain)
Phone +34 93 444 50 00 Fax: +34 93 419 75 47
fximeno@gencat.net <http://mediambient.gencat.net>

1. THE ENERGY IN CATALONIA

Catalonia has adopted a new energetic model because it has opted for progress and sustainable development and because the role of the energy will be decisive for reaching this kind of development. Hence, the Plan on the Energy in Catalonia: 2006-2015 was approved on the 11th October of 2005.

1.1. THE PLAN ON THE ENERGY IN CATALONIA

The Plan on the Energy in Catalonia: 2006-2015 has to correct the persistent trend upward of the demand of energy. Its final goal is promoting the transition towards a not based on the consumption of fossil energetic resources economy. Saving and efficiency in energy, renewable energies as well as environmental assessment of mobility are the protagonist vectors.

The **approach** of the Plan pays attention to different periods:

- **Long-term analysis period (2030).** The Plan has to orientate the performance of the government and the society, taking into account the predictable evolution of the implied variables: depletion of resources, technological evolution, climate change, etc.

- Improvement of infrastructures.
- Rise in competitiveness and transparency of supply.
- Reduction in environmental impact.
- Improvement of international collaboration.
- Promotion of R+D.
- Reduction of the impact of eventualities, crises and contingencies.
- Distribution of the use of renewable energies.

The Plan contains the Strategy for Energetic Efficiency, the Plan on Infrastructures, the Plan for R+D+I and the Plan for Renewable Energies.

The **Plan for Renewable Energies** guesses a total consumption of renewable energies in year 2015 of 2.949 kToe (8,4% of the energy consumption primary) in the Intensive in Energetic Efficiency scenario (IER). Moreover, it considers that approximately the $\frac{3}{4}$ parts of the renewable energy will come from biofuel, the wind energy and the hydro energy.

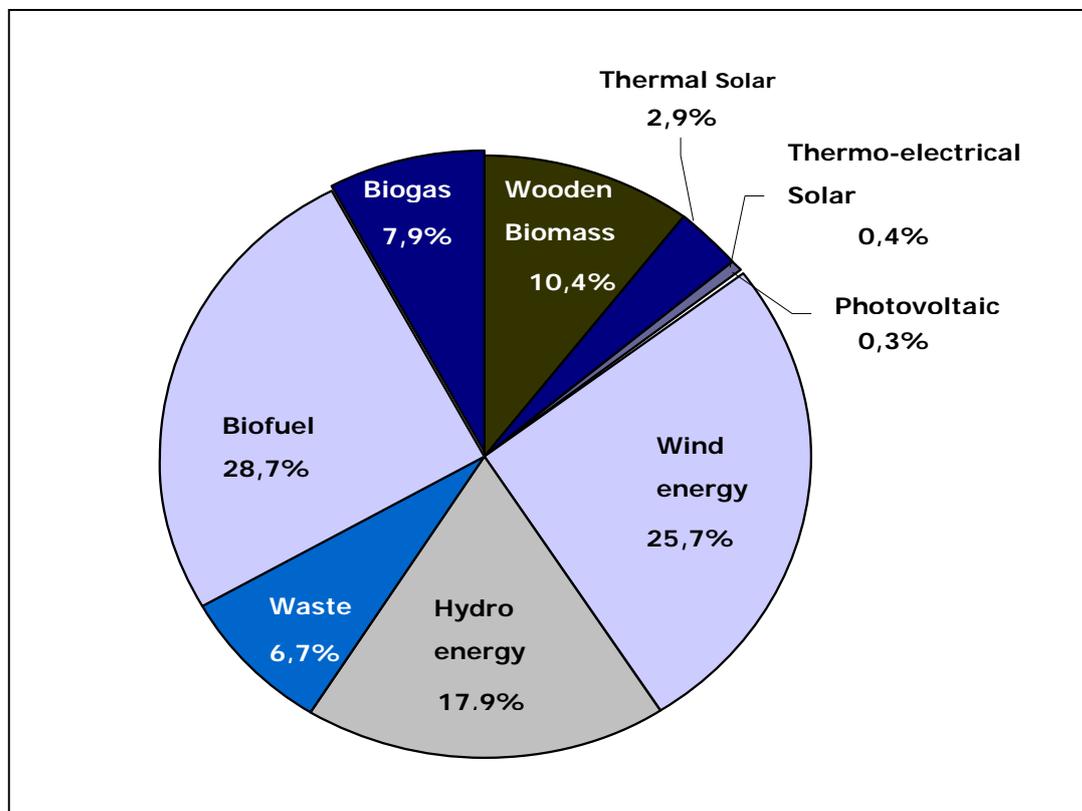


Figure 2: Foreseen distribution of consumption of renewable energies in the year 2015 in the Intensive Energetic Efficiency scenario (IER).

1.2. The Action Plan

The Action Plan 2006-2010, approved on the 12th April of 2006, starts off the first 140 measures of the Plan on the Energy in Catalonia. It is expected that the measures of the plan save 1,9 Million Toe and they reduce 3,1 Million tons of CO₂ emissions in Catalonia. Its **budget** is exposed in the two following tables.

Table 1: Budget by big concepts of the Action Plan

Chapter	Measures	Budget
Saving and Energetic Efficiency	52	48.853.389 €
Renewable energies	22	5.614.000 €
Energetic infrastructures	3	15.100.000 €
Transversal actions	63	3.038.000 €
Total	140	72.605.389 €

Table 2: Budget for the renewable energies in the Action Plan according to typology

Thermal solar	2.469.500 €
Woody biomass	1.332.000 €
Biogas	1.086.000 €
Photovoltaic	301.321 €
Biofuel	227.000 €
Wind	148.000 €
Waste	24.000 €
Other	26.179 €
Total	5.614.821 €

The measures on **BIOFUEL** had a budget of 227.000 € in the year 2006. The measures are:

- Intensification of monitoring for assuring the quality of the commercialized biodiesel in Catalonia.
- Introduction of biodiesel in fleets of collective urban transport.
- Quintuplicating the capacity of the oldest plant of biodiesel in Catalonia and starting the works of the third plant, this will allow placing the ceiling of production five times above the current one.
- Coordination with the Ministry of Agriculture of the Catalan Government for promoting the cultivation of fields with energetic crops, especially oleaginous crops.
- Beginning a strategy for the complementary supply of raw materials to produce biofuel in Catalonia by means of international contracts (with South America and Asia).

In year 2006, the measures on **THERMAL SOLAR energy** consisted mainly in the concession of 2.450.000 € of grants for thermal solar facilities, which helped to 8.000 - 12.000 m² of thermal solar panels were installed.

The year 2006, the measures on **PHOTOVOLTAIC SOLAR energy** consisted mainly in the concession of 272.921 € of grants for photovoltaic solar isolated devices, which allowed to electrify from 100 to 150 isolated buildings with a total power of 150 kWp.

The destined budget in 2006 for the promotion of the **WIND energy** was 148.000 €. The measures that are contemplated are the following ones:

- Impulse to the procedure and construction of wind farms to attain 1.500 MW authorized at the end of this legislature (year 2010).
- Change of the procedure of authorization of wind farms from the current individualized model to a model of planned expansion across the territory.
- Elaboration of a new decree of wind energy implantation.
- Definition of the zones of wind implantation, which combine the highest wind potentials with the lowest environmental impacts and, even, the consensus of the communities.

In the year 2006, the applied measure about **WOODEN BIOMASS** was the concession of 1.300.000 € of grants for installing biomass energy facilities in public buildings. This grant provided support near 100 facilities with a yearly total power of almost 6.000 kW and a yearly consumption of 2.000 tons of biomass.

The budget for **BIOGAS** was 1.100.000 € in 2006. The main measure consisted of 600.000 € grants for the setting up of energetic exploitation facilities of biogas; generally thermal and electrical applications and predominantly in the agricultural sector (crops and livestock). It allowed increasing near 20% the previous capacity of biodigestion in Catalonia.

In 2006, 24.000 € were destined to the energetic exploitation of **WASTES**. Characterization of wastes that are susceptible of being used as fuel was made, mainly on fuels of organic origin like sludge from treatment plant. It has been tested too its use in big ovens, for instance the ovens of cement plants.

1.3. The environmental assessment of mobility

The transport of persons and goods supposes a very important energetic consumption. In order to improve this consumption, the environmental evaluation of mobility has been set with the application of the following criteria:

- Considering strategies for users' deviation into more sustainable transports as well as strategies to rationalize the use of private vehicles.
- Prioritizing measures of management and optimization of the existing infrastructures before constructing new infrastructures.
- Considering the interdependence of the different types of transport (road, train, tramcar, bicycle, bus and on foot) as one only system, which has to serve to the needs of mobility of our society.

The environmental assessment has been applied to the **Plan on Infrastructures of Transport of Catalonia**. This procedure has driven to the agreement of the following changes:

- Incorporation of new chapters.
- Increase of the inversions, especially to railway.
- New proposals for train performances.
- Modification of the proposed road net.
- Environmental improvements.

2. THE ANSWER OF THE GOVERNMENT TO CLIMATE CHANGE

The Government of Catalonia has created two organizations that are specifically destined to the fight against climate change: The Interdepartmental Commission on Climate Change and the Catalan Office of Climate Change. They work together and they both are linked to the Ministry of the Environment and Housing (DMAH).

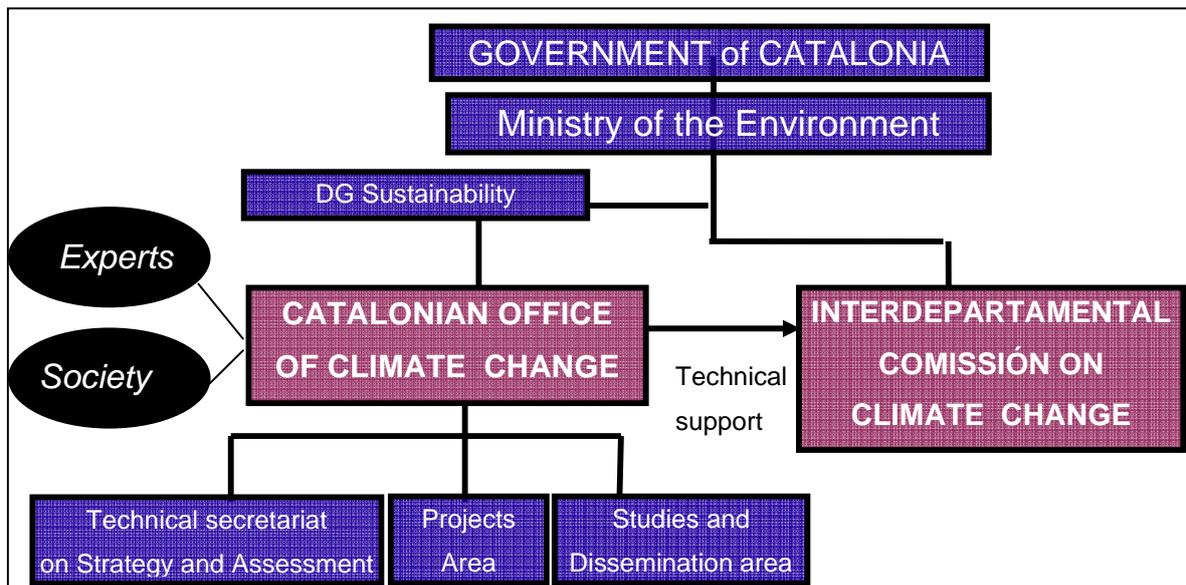


Figure 3: Integration of the organs of fight against the climate change into the Government of the Generalitat de Catalonia

2.1. Interdepartmental Commission on Climate Change

On the 13th February of 2007, the Government of Catalonia created this inter-departmental commission for attaining the following tasks:

- Coordinating the performance of the Government of Catalonia in the fight against climate change.
- Promoting performances of transversal nature between the different ministries to favour the adaptation to the climate change in order to reduce its effects in Catalonia.
- Promoting performances of transversal nature between the different ministries to reduce the emissions of greenhouse gases.
- Making the monitoring and the evaluation of the former performances.

The Interdepartmental Commission is presided by the Minister of Environment and Housing, it also has 11 permanent members. The members, who have level of

General Secretary, represent **11 ministries of the Catalan Government**. Other ministries can be invited when the commission deals with subjects of their competence.

The aim of the Commission is describing and applying measures for reducing the emissions of greenhouse gases in Catalonia; thus contributing, from Catalonia, to the fulfillment of the goals of the Kyoto Protocol in Spain. The reduction measures must be applied to the companies affected by the National Plan of Assignment of Emission Rights (in accordance with the European Directive), but also to the not affected by the National Plan of Assignment of Emission Rights sectors, called diffuse sectors.

2.2. The Catalan Office of Climate Change

The Catalan Office of Climate Change is the main instrument of the Government of Catalonia to incorporate the policies of fight against climate change. It has the grade of General Subdirectorate-General and depends on the Directorate-General for Environmental Policies and Sustainability. Its main **mission** is to implant the policies of fight against climate change in order of mitigating its effects and searching the most suitable ways of adaptation.

The specific **goals** of the Office are the following ones:

- Promoting and developing the Action Plan for Adaptation and Mitigation of Climate Change. This will be linked to the Catalan Strategy for the sustainable development.
- Invigorating and coordinating, involving the town councils, all the public policies for the reduction of emissions of greenhouse gases in Catalonia.
- Developing and executing the policies of reduction of emissions from the diffuse sectors (transport and mobility; agriculture, cattle raising and forest;

institutional, residential and services buildings; and industrial and domestic waste).

- Projecting, in collaboration with the Meteorological Service of Catalonia, the future climate scenarios.
- Supporting the policies of reduction in the diffuse sectors and to continue assisting the reduction of emissions in installations submitted to the Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading, and furthermore the use of the mechanisms of flexibility of the Kyoto Protocol, whether they are possible.
- Promoting policies of adaptation to climate change
- Promoting the policies for developing the CO₂ sink potential (capture and stock) of the Catalan forests.
- Spreading, sensitizing and forming the public opinion and the society.
- Providing support to the Catalan scientific community for the research, the study and the understanding of climate change in Catalonia, following the guidelines by United Nations and European Union.

The Office has **three main lines of work**: strategy and evaluation, projects, and studies and broadcast.

