

Local Agenda 21 and energy

Zaragoza (SP)

GENERAL ASPECTS

Zaragoza, the capital of Aragon, is a medium sized town situated in the Ebre Valley. Zaragoza is one of Spain's most populated towns with 613,433 inhabitants. The original town, Caesar Augusta, was founded in 24 B.C. by the Romans on the banks of the Ebre, on the site of Salduie, an ancient celtic "town". Its present location at the intersection of the Madrid-Barcelona and Bilbao-Valencia arteries makes it an ideal place for conferences. The main economic activities are the services (62.5%), followed by free lance activities (18.1%), building industry (12%), manufacturing (7.2%) and farming (0.2%). The population of Zaragoza has increased by 3.2% over the last ten years.



NATIONAL CONTEXT

Local government terms of reference

Spain is a decentralised sovereign state with three local levels of government, the "comunidades autonomas" (state government) (17), the "provincias" (50) and the "municipios" (8069). The terms of reference of municipalities in the area of energy is limited - traces of its recent centralised past are still manifest - and the movement of transfer of power to the regions has not been followed through down to town level.

Degree of liberalization of the energy market and assistance facilities

- 55% of the electricity market and 79% of the gas market will be opened up In 2003.
- As early as the passing of the first electricity directive transposition order, Spain introduced a scheme favouring renewable energies resulting in a rocketing wind power market.

LA21 Campaigns

- No official national campaign for LA21's. 359 Local Agenda 21's implemented many of which are in Catalonia where a campaign is rolled out. Catalonia is by far the most active LA21 region.
- Spain is currently drawing up its national strategy against climate change within the framework of the Kyoto Protocol. Two bodies were created for this: the national climate council and the Spanish office of protection against climate change.

LOCAL CONTEXT

As a signatory of the various European agreements on sustainable development, Zaragoza has put the following procedure in place to ensure the implementation of its Local Agenda 21 (LA21): complete audit of Zaragoza to detect the town's strong and weak points, setting goals with the aim of improving the situation, adopting an Action Plan defining concrete measures to reach the said goals and lastly, drawing up a set of indicators to assess Zaragoza's LA21.

The town's energy was never supplied by a municipal utility. With respect to gas, the Aragon Gas company was taken over by the national Endesa company, the country's largest, located at Zaragoza and now supplying the town with gas and electricity.

1994-1996: EBROPOLIS, the Association for the Strategic Development of Zaragoza, is concerned with the best possible development for the town. EBROPOLIS was set up in 1994 by: the municipality, the Province, the chamber of commerce, the federation of neighbourhood associations, the university, the confederation of contractors and the confederation of SME's, etc.. Membership which is fee-paying includes: more than 80 companies (including Endesa), banks, local authorities in the Zaragoza region, associations, etc. Furthermore, the partner members whose admission has to be approved by the association, assist financially for certain projects. Endesa is also a partner member of the "new technologies and environment development" Commission.

When the Charter of Aalborg was signed, EBROPOLIS had already rolled out a complete audit of the town in order to make a diagnostic and had started to work on the development of Zaragoza, in the spirit of the later Local Agenda 21. Its works greatly helped the implementation of the LA21, locally. Many specialists, neighbourhood associations and several NGO's took part in the study by putting forward their own analysis of the town's strong and weak points and of socio-economic prospects.

1996-1998: The search for a main goal for the town and breakdown of the goal by strategic field of action. Choosing, from among the consensus-achieving proposals, those that seem the most appropriate in five categories: infrastructures, training and human resources, economic structure, environment and quality of life. In July 1998, a Strategic Plan for Zaragoza and the urban district is given the go-ahead by EBROPOLIS. The main goal is broken down into 14 concrete goals linked to sub-goals along with levels of performance to be reached for each.

2000: On 24th March, the Zaragoza town council signs the Charter of Aalborg and the Declaration of Hanover.

2001: At the meeting of 27th of July 2001, the town council validates a document marking the start of the AL 21 process, confirming thereby the "Action Plan embracing sustainable development, town-specific indicators and the development of common European indicators, the principle of citizen participation and in particular, the Permanent Office and Functional Commission for implementation of the LA21".

ZARAGOZA'S AGENDA 21

Local government coordination

Two departments are charged with government coordination of Zaragoza's LA21: The Permanent LA21 Office and the Functional Commission for Municipal LA21 Coordination.

The Permanent LA21 Office is made up of the municipality's technical personnel and is chaired by the elected representative responsible for this field. His terms of reference cover the following areas:

- Technical verification of the application of the Action Plan,
- Coordination of implementation of indicators,
- Drawing up awareness-raising and distribution programmes on the LA21,
- Supporting the Commissions 21 (general public participative body),
- Supporting the sector council (general public participation body),
- Municipal representation in the sustainable towns network.

The Functional Commission for municipal LA21 coordination is made up of functional personnel from the various municipal departments and is charged with the following matters:

- Implementing initiatives set out in the Agenda 21 Plan,
- Coordinating LA21 action plans involving the various municipal departments,
- Promoting decisions,
- Going forward with planned initiatives.

Participation of socio-economic players

The search for collective solutions to the various issues involves bringing together all the players whose requirements, visions, perceptions and interests are often dissimilar. At Zaragoza, participation is conducted through the following entities: the Sector Council for the Environment and the Commissions 21.

The Sector Council for the Environment is a general public participative body with a consultative and informative role. It includes professional organizations whose members are economic players and citizens. It meets every 6 months. Its role is to:

- Propose initiatives that can be discussed by Municipal Information Commissions,
- Propose solutions to problems within the remit of the Sector Council,
- Co-operate in studies and in the drawing up of AL 21 Programmes and Projects,
- Offer advice involving the Action Plan and the associated budget,
- Inform the municipal council,
- Follow up and assess the AL 21 Action Plan,
- Contribute to the implementation of the LA21 by putting forward ideas.

The Commissions 21 offer a space for meetings and a work place for voluntary social, economic and institutional players with an occupation in the same area of activity and who wish to participate in the LA21. These mixed commissions are formed with the aim of studying, analysing, debating and discussing specific issues and are dissolved as soon as their missions are achieved and their proposals drawn up. The results of their works are sent to the Sector Council for the Environment.

One such commission is the "Bioclimatic Planning Commission 21". It is working at defining and studying the implementation of a municipal decree on bioclimatic buildings in order to urge, or even in certain cases to oblige, the use of clean or renewable energies in the building industry. The commission includes: architects, municipal technicians, university specialists of building materials, local and ecological associations, etc.

Zaragoza's goals for Agenda 21

Initiatives in Zaragoza's Local Agenda 21 are set out in detail in the LA21 Action Plan and aim at achieving goals 4, 8, 9 and 10 of Zaragoza's Strategic Plan.

Goal 4: Bringing the country into the town and urban district: this goal can be divided into three sub-goals:

- Placing the River Ebre at the centre of the town's main park,
- Creating a series of open non-built up spaces,
- Creating a green belt scheme.

Goal 8: improving the quality of air by concentrating on four aspects (sub-goals):

- Reducing dependability on fossil fuels. As a guide, overall consumption for the year 2000 within the town boundaries can be broken down as follows: 67% on liquid combustible fuels (including public transport and private vehicles), 32% on natural gas and 1% on solid fuels (coal).
- Initiatives in industry aiming at reducing atmospheric emissions by 15% and the introduction of an Environment Quality Label,
- Reducing atmospheric emissions derived from town travel and heating systems,
- Enlisting the support of government departments.



Goal 9: Promoting the development of clean technologies and setting up functional waste systems. Sub-goals:

- Promoting the use of clean technologies,
- Promoting initiatives in the area of waste recycling.

Goal 10: Improving the quality of water, reducing water wastage and encouraging research in various water fields. Sub-goals :

- Initiatives and infrastructures to economize water,
- Preventive action and research: reversal of the cost burden trend, awareness-raising campaign.

ENERGY AS A COMPONENT OF AGENDA 21

Goal 8 of the Local Agenda 21 and of Zaragoza's Strategic Plan is to "improve the quality of air" by a 35% reduction of SO₂ and NO_x emissions, a 5% reduction of volatile organic matter and a 15% reduction of CO₂ emissions by 2010.

To help achieve this objective, the following measures have been taken or should be in the near future:

- Installation of a 400 MW wind farm near Zaragoza. For the moment the power capacity is 150 MW with recently installed equipment providing 20 MW.
- Replacement of 25% of the fuels used to power municipal vehicles by bio-fuels. A plan to power buses with fuel cells is currently being considered.
- Promotion of initiatives aiming at developing energy efficiency policies in public buildings to reduce harmful effects on the quality of air. Several audits have been achieved in order to promote energy savings and energy efficiency at the town hall, in schools and other public buildings.
- Promotion of bioclimatic architecture using solar energy systems, both thermal and voltaic, and financial support for the realization of initiatives in this area. New local orders involving bioclimatic architecture are still being carefully considered. However, a bioclimatic buildings plan is gradually being put in place through the following building and development projects:
 - Building of 1,500 bioclimatic flats financed by the regional Government of Aragon and the European Commission's "Thermie" programme (European technologies for energy management). This project has been completed,
 - Second phase of Goya Park: 1,500 bioclimatic flats financially supported by the regional Government of Aragon, currently under construction,
 - Valdespartera neighbourhood (Valdespartera Ecocity): still at study stage, plans for the building of 9,000 bioclimatic subsidised housing units linked to the urban heating system,
 - Construction of 200 housing units with bioclimatic characteristics, a project supported by the Municipal Urban Rehabilitation Unit,
 - In order to be really effective, the idea of sustainable urban development has been written into urban planning regulatory documentation. The department responsible for matters environmental in association with the "Commission 21 – bioclimatic order" has been assigned the task of drafting a municipal decree for this purpose.



The following initiatives have been included in the Strategic Plan for Zaragoza and the urban district. They have not yet been implemented but are currently being studied or planned:

- Enhancement of the energy efficiency of heating systems,
- Promotion in the use of sources of ecological energy,
- 15% reduction of atmospheric emissions,
- Creation of an Environment Quality label,
- Laying out of public open spaces in the town and suburbs,

- Construction of a tramway,
- Laying of cycle tracks,
- Improvement of areas prohibited to traffic,
- Laying on public transport services to industrial plants.

EVALUATION AND PROSPECTS



In order to assess its Local Agenda 21 process, the town of Zaragoza has put in place the "10 common European indicators" and defined 24 specific to the town. The aim is to reach a general vision of sustainability towards which the 10 European indicators lean and to fine-tune this vision in the context of Zaragoza. The state and progress of these indicators (34 in number) are represented on sheets drawn up on the model of the RESPECT programme (Evaluation and monitoring core indicators for the environmental policies of local government) in which Zaragoza and 30 other towns have participated.

Since LA21 energy initiatives were included in the goal of "improving the quality of air", it was indispensable to have starting point data for the town. The first step taken in 1996 by the municipality was to make an inventory of atmospheric emissions to enable the quality of air in the town to be defined. The study revealed that the volume of CO₂ per inhabitant would be 2.2 tons / year in 1998 (study based on 1996 data).

Five indicators are more particularly aimed at energy aspects in the evaluation of the Local Agenda 21 :

- **Contribution to overall climatic changes** (indicator A2). This indicator is included in the 10 common European indicators involving CO₂ emissions and greenhouse gases (CH₄ and N₂O). This indicator, based on the CORINAIR inventory of atmospheric emissions drawn up in 1996 at Zaragoza, provides total emissions together with emission details depending on various aspects. It is brought up to date every five years.

Other indicators are specific local indicators:

- **Final energy consumption** (indicator En1). This indicator is calculated from partial data relating to electric power, liquid and solid fuels, natural gas and GPL. Data comes from various energy suppliers. Endesa helps in drawing up this indicator. It is updated every year and includes two sub-indicators: *energy consumption by area* (industry, home and transport) En1.1, and *Energy consumption by type of energy*, En1.2. Data are available for this indicator since 1998.
- **Planning permission for housing units and buildings meeting bioclimatic criteria (En2)**. The number of planning permits granted for this type of building is registered once a year and is used as an indicator of energy efficiency enhancement in new buildings. Data are available since 1998. The years 2000-2001 saw the most significant increases for this type of building (more than 100 planning permits were granted).
- **Production of renewable energies (En3)**. This indicator gives the volume of energy produced from renewable sources in MW/annum and is updated every year. The 2001 production of renewable energies doubled in comparison with 2000.

Further atmospheric indicators: **SO₂ emissions (At1)**, this relates to domestic heating systems. The indicator is based on the CORINAIR tool and updates are planned every 5 years.

Zaragoza's ecological imprint will soon be calculated using recently developed methodology within the framework of the Common European Indicators Programme.

FOR FURTHER INFORMATION

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