



Energy consumption & GHG emissions in urban areas -

Vila Nova de Gaia - Portugal

This project consisted in the quantification of energy consumption and Greenhouse Gas (GHG) emissions of Vila Nova de Gaia Municipality. The project has as main objective to support and start a strategy definition process and an energy policy to Gaia region.

Target Groups	Sector	Field
<ul style="list-style-type: none"> - Local authority - Decision makers - Energy utilities 	<ul style="list-style-type: none"> - Buildings (including municipal properties) - Transport 	<ul style="list-style-type: none"> - Monitoring & Management - Information

ANALYSIS

The existence of data able to define reality is one of the most important steps in urban energy planning process. The work developed allowed to characterise in an understandable form the energy consumption and its evolution trends, allowing the development of initiatives with well supported goals and supported by reliable data.

On the other hand, emissions of gas with greenhouse effect are beginning to concern Local Authorities and they are finding that local energy and environment policies could perform an important role in a near future.

For this reason, together with energy consumption accounting, ENERGAIA developed a study to the quantification of emissions.

Previously to the accomplishment of this project, the existing data was dispersed by several sources and inaccessible for local decision bodies. The work consisted in gathering and analysis of data and development of methodologies that had allowed the quantification of inexistent data.

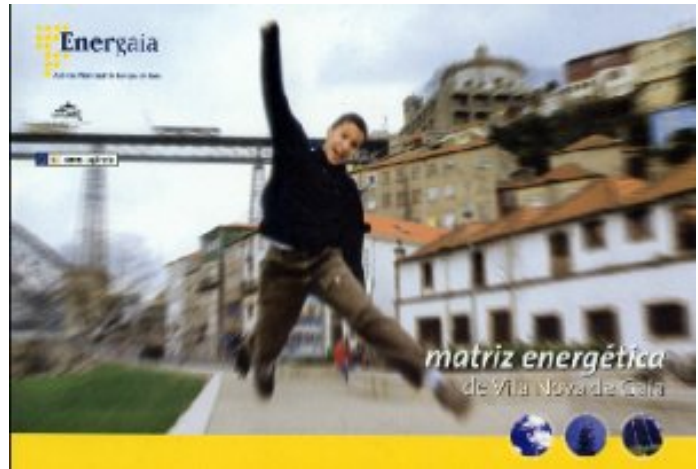
The problematic sectors in terms of energy consumption and emission of gases with greenhouse effect had been identified and the main intervention guidelines in energy area were established.

The data and main conclusions of the work developed had been compiled and published in a document that was produced for public distribution (5000 units). Beyond these data, the document includes general information about the region, renewable energies and awareness information for the citizen.

A web page was developed in order to disseminate all the available information, with the particularity and advantage of being easily updated with last available data.

The Project consisted in the development of the following activities:

- Quantification of energy consumption in Gaia Municipality;
- Quantification of gases with greenhouse effect resulting from energy consumption;
- Publication of 5000 units of a brochure;
- Development of a Web page;
- Public presentation of the project.



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Cover of the Brochure "Matriz Energética de Vila Nova de Gaia"

COST AND BENEFITS

As strategic, this project comprised tasks deeply related to the acquisition/gathering of fundamental data to support the work to be developed by the Energy Agency. In line with this, it is not easy to quantify the direct benefits resulting from the implementation of this project. The project had a total cost of €19.000,00, from which 47% financed by own capital and the remaining 53% financed by sponsorships from entities associated to ENERGAIA.

Costs:

Study and data analysis: €8.500,00

Brochure (5000 copies): €8.000,00

Web page and hosting: €1.000,00

Public presentation: €1.500,00

Total: €19.000,00

Financing:

Own Capitals/resources: €9.000,00

Sponsorships from associated entities: €10.000,00

The main benefit achieved with the accomplishment of this project was a bigger integration between the Municipality and competent entities in energy field. These organisations worked in perfect cooperation in the search of a new strategy and an energy policy oriented to the action.

The distribution of 5000 units of the brochure "Matriz Energética de Vila Nova de Gaia" and the development of a Web version had contributed to disseminate information related to energy, facilitating the population awareness.

PARTNERSHIP

Although this project was exclusively developed by ENERGAIA, in the data acquisition phase the project counted with the participation of the following organisations:

- Direcção Geral de Energia (DGE): with the supply of data related to oil products and electricity consumption;
- Portgás, SA: with the supply of data related to natural gas consumption;
- EDP Distribuição, SA: with the supply of data related to electricity consumption.

The main beneficiaries of this project were the City council of Vila Nova de Gaia, as main partner intervening in the process of definition of an energy policy. Through the publication of the information in a web page, the citizen has also the opportunity to benefit from this important information of their City.

Energy Agencies will also benefit with this study, since methodologies, difficulties to overcome, were identified, allowing them to carry similar projects in an effective way.

RECOMMENDATIONS

One of the project phases that offered more obstacles was data acquisition. Consequence of this difficulty, additional care was taken during the analysis phase in order to prevent eventual mistakes.

Determination of oil products consumption was one of the most problematic difficulties, mainly because two reasons:

- Inexistence of updated data related to the consumption of oil products (last years was 1998);
- The consumption by activity sector was only available at NUT III level.

There is thus the need to establish contacts with the several energy suppliers in order to access more updated data. It is worth to mention, as an example, that through the contact with Portgás, data of natural gas can be monthly updated.

Organisations have to evaluate the relation between the needed effort to data acquisition and quality of data, namely update level and reliability. The correct balance between these factors (like a marginal cost) will prevent that enormous efforts should be done without archiving the pretended results.

Concerning the quantification of GHG it was found a great difficulty in the precise quantification of emissions derived from transport sector. This quantification involves complex methods and it needs massive input of data. Concerning emissions, it is recommended to use methods that accounts emissions by the consumer side, e.g. to assign emissions of greenhouse gases produced by the utility to an electricity consumer.

Several methodologies were developed to allow a fast data update and the related analyses, as soon as the availability of new data. This allows to minimise the update effort and to keep a coherent working version with the objectives of the project, which has as base the support the region energy policy.

TO KNOW MORE

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USEFUL INFORMATION

List of Internet sites

[Matriz Energética de Vila Nova de Gaia / http://www.energaia.pt/matriz](#)

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