

**Almada cuida
do ambiente.
A Câmara vai dar o exemplo.**

EMAS LAB

**Sistema de Ecogestão e Auditoria Ambiental para a definição
de Metas Ambientais de Referência para Autoridades Locais**

LAYMAN'S REPORT

DISSEMINATION REPORT

PROJECT EMAS Lab

Eco-Management Audit Scheme for Local Authorities Environmental Benchmarking

October 2006

PROJECTO LIFE03 ENV/P/000504





LAYMAN'S REPORT

Reporting date: 31/10/2006

EMAS LAB: Eco-Management Audit Scheme for Local Authorities Environmental Benchmarking

Project LIFE03 ENV/P/504



Project Data

Project Location:	Portugal
Duration of the project:	01/11/2004 to 31/10/2006
Beneficiary:	Câmara Municipal de Almada Rua Bernardo Francisco da Costa, 42 2800-029 ALMADA PORTUGAL
Partners:	Leicester City Council, CELBI, ANMP
Total Cost:	€ 957,883.25
EU Contribution:	€ 450,691.62
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EMAS LAB: Eco-Management Audit Scheme for Local Authorities Environmental Benchmarking



Almada



Almada is one of the 18 councils that integrate the Lisbon Metropolitan Area, in Portugal.

Located in the south bank of the Tagus River across from Lisbon, it has a geographical area of 72 km². The boundaries of the Council are in great part waterfront: a northern riverfront and an Atlantic western front.

Almada has a resident population of 160 825 inhabitants and a fluctuating population of 70 000 inhabitants. The beachfront of great quality and landscape value extends for approximately 13 km, and it attracts the most part of the 8 000 000 visitors that the Council receives annually.



Summary

Recognizing the importance of the intervention of municipalities in the promotion of the quality of life of populations, the European Commission has come to advance the improvement of its environmental performance through the application of EMAS.

It was in this context that it financed the development of an EMAS system in Almada City Council, through the LIFE Environment Programme, with the approval of the proposal to develop the “EMAS LAB: Eco-Management Audit Scheme for Local Authorities Environmental Benchmarking” Project.

ACC’s decision to develop an EMAS was taken in the framework of the Local Agenda 21 Process. It aimed at improving and modernizing the public service it gives to populations and to apply effective environmental preservation and safeguard policies.

The development of this Environmental Management System in Almada led to significant improvements in ACC’s performance in areas such as recycling, solid waste production, water consumption, energy consumption, green purchasing and greenhouse gas emissions and use of environmentally friendly transports.

The innovative character of the actions developed in Portugal Allowed for the definition of a methodology for the conception and development of an EMAS in Local Authorities.

Framework

In the framework of development of the Local Agenda 21 process in Almada, the Municipality decided to give particular attention and priority to one of the 1992 Earth Summit's Agenda proposals, the improvement of the environmental behaviour of public institutions, particularly Local Authorities.

This motivation is present in many European and national reference documents and in the "Local Strategy for Sustainable and Solidary Development" itself, the strategy chosen by the Municipality of Almada for the 1st decade of the millennium.

Hence, the development of an Environmental Management System arose as a natural sequence to this municipal strategy, accompanied by the need to pursue an effective policy in terms of use and consumption of goods and services.

On the one hand, the Municipality of Almada considered that the integrated approach of EMAS would be the most effective way to reduce the environmental impacts associated with its activities and to continuously improve its environmental performance.

On the other hand, due to its privileged position close to the local community, the Municipality strived to intervene as a motivational agent, mobilizing both citizens and local actors, promoting greater awareness in matters such as the sustainable consumption of natural resources, energy efficiency, use of renewable energies, waste recycling, use of more environmental efficient transports, preservation of natural/green areas and greenhouse gas emissions.



Project Aims

In 2003 the Municipality of Almada prepared and presented a proposal to the European Commission's Environment Directorate-General's LIFE Environment Programme, for the development of the Project:

"EMAS LAB: Eco-Management Audit Scheme for Local Authorities Environmental Benchmarking".

The partners were Leicester City Council, the first British Local Authority to obtain EMAS certification, CELBI StoraEnso, a national EMAS-certified paper mill company, and ANMP, the National Association of Portuguese Municipalities.

Following the approval of this proposal, the EMAS-LAB Project started in November 2004 and along 36 months. It had as its main goal to **develop and test a methodology to apply the Environmental**

Management and Audit System, EMAS, in Portuguese Local Authorities, using for this purpose the entire universe of the Municipality of Almada - including its administration, installations and municipal services.

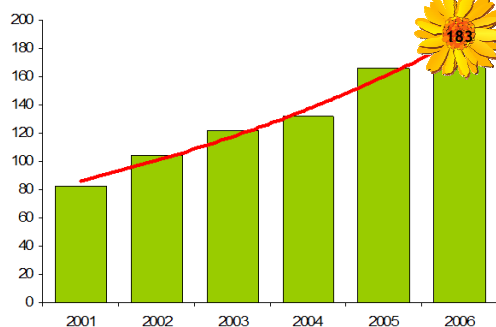
Also, in the framework of EMAS-LAB a set of **indicators and environmental benchmarks** was proposed in order to evaluate, at any given moment, the level of efficiency associated with the implementation of each adopted improvement measure.

The aims of the EMAS-Lab project were:

- To develop the **instruments** and a **methodology** to implement EMAS in the Municipality of Almada;
- To define environmental management **indicators** and, for each one of these, environmental benchmarks that might be used by Portuguese and European municipalities

The set of indicators and environmental benchmarks was one of the references of this project, together with the methodology developed for the ALMADA-EMAS system.

The innovative character of the project should be highlighted in the national context, where there are no EMAS registrations in the public sector and even in terms of the industry and private sector, it is a system with feeble implementation. In this perspective, the challenge and growth potential are clear in this area, and the experience gained by the 183 public organizations certified in the European Union was valuable and may be a reference for the certification of Portuguese organizations.



Evolution of the number of EMAS registrations in Local Authorities, in Europe
(Source: EC's EMAS Helpdesk, October 2006)

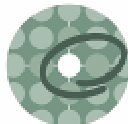


Methodology

In order to achieve the established goals, the Municipality of Almada defined in the proposal 8 specific tasks for the development of its Environmental Management and Audit System:



Task 1 - Launch of the ALMADA-EMAS System: technical visits to organisations that shared good practices in the implementation and management of EMAS, and in the selection of indicators for the ALMADA-EMAS System.



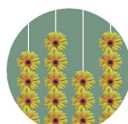
Task 2 - Environmental Audit of the Municipality of Almada: installation of monitoring and control equipment, development of verification lists for the environmental diagnosis and information gathering for the calculation of environmental indicators.



Task 3 - Define EMAS benchmarks and the methodology for the ALMADA-EMAS system: developing, adapting and integrating information, environmental benchmarks and the EMAS methodology in Almada.



Task 4 - Implement and certify the ALMADA-EMAS system: development of EMAS in ACC, installation of public buildings that allow for resource-savings in the selected departments.



Task 5 - Follow-up internal audit of the ALMADA-EMAS system: system functioning verification, information gathering for the necessary corrections and improvements.



Task 6 - ALMADA EMAS benchmark review and adaptation: evaluation of the applicability of environmental benchmarks, carrying out its review, if necessary.

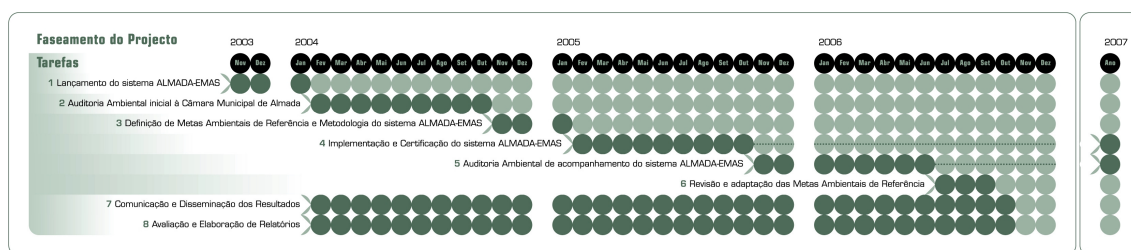


Task 7 - Communication and dissemination: define an internal communication strategy, develop a website, promote the developed tools and organize a final conference.

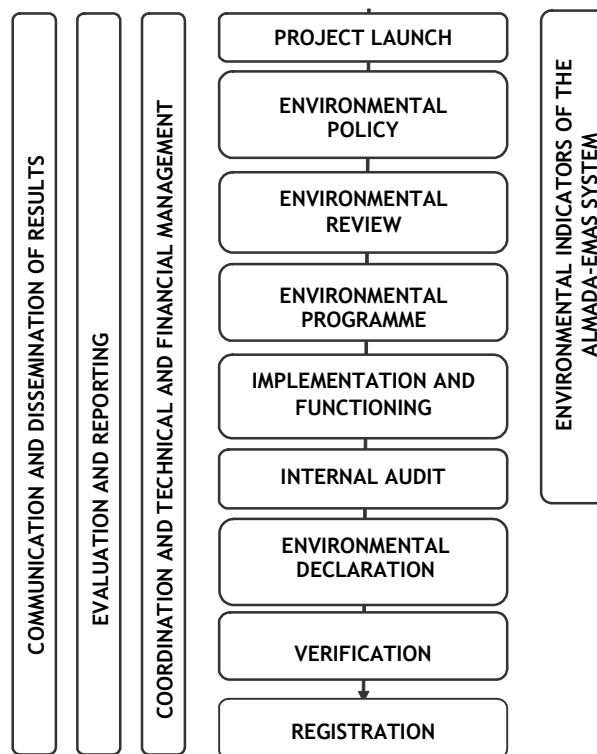


Task 8 - Evaluating and reporting: project management and evaluation of its progression.

The EMAS LAB project developed during 36 months, according to a previously established timeline and scheduled phases.

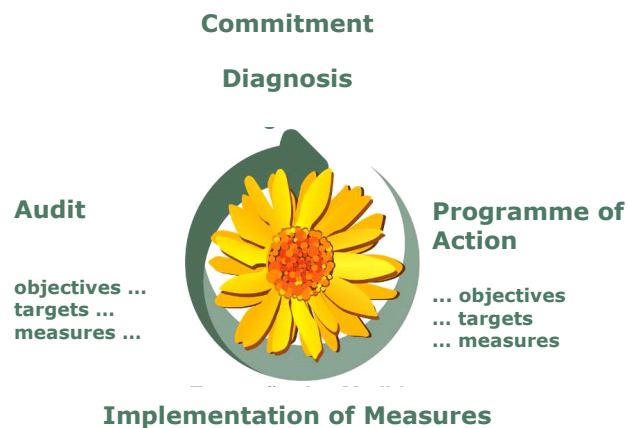


The methodology of the Almada-EMAS system was established according to EMAS requirements (EMAS European Community Regulation: EC N.º 761/2001), to the above mentioned tasks and to the intervention specificities of a local authority. This resulted in 9 sequential steps, composing the main process, and in 4 steps that work across the board, taking place across the entire duration of the project.



Methodology for the development of Environmental Management System EMAS in Almada

The elaboration of Almada-EMAS system was based in a profound and consolidated knowledge of the requirements of an Environmental management system and was based on a vision of continuous improvement of the environmental performance of the Municipality of Almada, a key aspect of any management system.



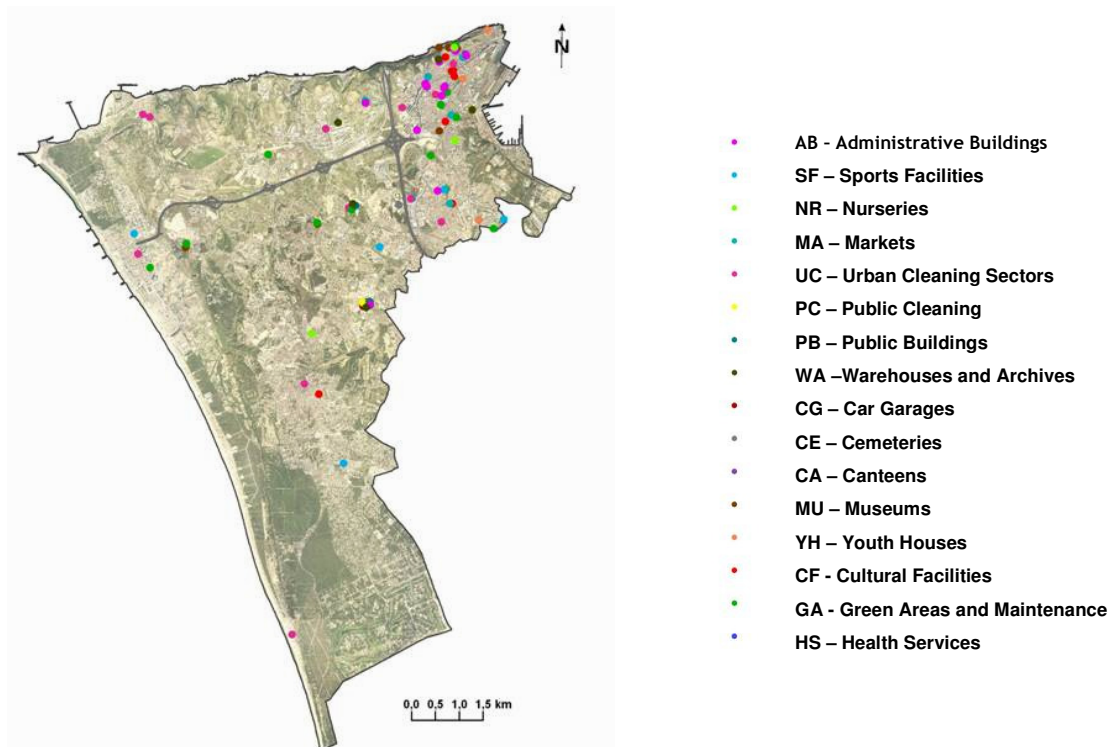
Continuous improvement cycle of the Environmental Management System EMAS in Almada

Development of the Almada-EMAS System

The Almada EMAS system was conceived based on the interpretation of EMAS requirements, in the light of the specific characteristics of a Local Authority.

The Municipalities have a range of attributions and competencies on very diverse matters, such as land planning, traffic management, waste collection, water treatment and distribution, wastewater treatment, creation and management of green areas, sports and cultural facilities and management of workshops, amongst many others. These attributions and competencies are defined by law (No. 169/99 of the 18th of September, with the changes produced by No. 5-A/2003 of the 11th of January).

Simultaneously, these multiple activities are dispersed throughout all the area of the council, as can be seen in the following map, which illustrates the geographical distribution of the Municipalities services (Almada-EMAS Geographical information System).



It was also taken into account the fact that a Local Authority is a particular case, whose mission is to perform a public service that aims at the well-being and quality of life of the citizens, whilst preserving the systems that support it. This specific reality makes it especially relevant not only the evaluation of negative environmental impacts that result from the Local Authority's activities, but also the positive environmental impacts (improvements), since from these might originate benefits for the local community. This aspect was particularly relevant in the significance analysis during the phase of the system's Environmental Review.

The last aspect to be taken into account, results from the fact that many of the activities carried out in a Municipality are planning activities, of a clear indirect nature, hence affecting mainly the indirect environmental aspects considered in the definition of the scope of the Almada EMAS system.

Consequently, the approach of the Almada EMAS system is carried out by "site" (buildings, public facilities or other sites) and not by "service", in order to ensure that every facility, with no exception, was reached by the system across the board. In every "site" it was decided to carry out an approach by "activity".

Involvement in the Almada-EMAS System

The technical coordination of the project was the responsibility of an internal work team, nominated by the Lady Mayor, and made up of representatives of different municipal services, with varied competencies within the municipality: the Municipal EMAS Team, MET.

Apart from the MET, a group of Eco-consultants and a group of Eco-keepers were created, whose functions complemented each other:

- 36 Eco-consultants from the ACC and SMAS, to support the implementation, dissemination and management and management of the necessary procedures to the development of EMAS in the Municipality;
- 90 Eco-keepers with a more targeted intervention, at the “know-how” level, related to the particular reality of each site.

The municipal executive also had a indispensable role in the project.



Almada City Council's Environmental Policy

Environmental Commitment



In the initial phase of the Almada-EMAS system, the Municipality of Almada expressed its commitment towards reducing the environmental impacts associated to its activities, aiming at continuously improving its environmental performance. The elaboration of the Environmental policy is a basic requirement in any environmental management system, including EMAS.

The Environmental Policy was developed by ACC's Administration and SMAS's Administration (President and Councillors), having been politically approved by unanimity in a Municipal meeting, by the Municipal executive and by all the Councillors that compose this Municipal body.

The approved Environmental Policy, was broadly disseminated, printed in posters and exposed in all municipal buildings open to the public. It was also made available in the web pages of ACC and SMAS and in the project's website itself (www.m-almada.pt/emas-lab).

Tidy up the “house”



The Environmental Review phase defined concepts, levelled out actions, organised and structured processes that made possible to identify and characterise the activities and elements of the activities developed by the Municipality in each Site/Sector, that might interact with the environment.

Environmental aspects associated to each activity and/or element of activity were also identified - both the negative and positive environmental impacts - and their level of significance was evaluated.

In the procedure adopted for the environmental review the type of organisation was taken into account, as well as the diversity, dimension and distribution of the activities. The direct and indirect environmental aspects associated to the areas of intervention were also taken into account, as these factors characterise and particularize the performance of the Municipality as a Local Authority and a Public Institution.

Globally, the Almada-EMAS system integrates 108 ACC's sites, of 16 different typologies, and 61 SMAS's sites, with 9 different typologies.

Environmental Management Indicators, Objectives and Goals

A structuring part of the Almada EMAS system are the environmental management indicators associated to the environmental aspects, selected after a thorough phase of benchmarking.

After the establishment of several sets of indicators, a final proposal of **Environmental Management Indicators, Objectives and Goals** was reached, where it is understood that these are capable of being replicated by other Local Authorities and that these translate ACC's work experience in the development of its system during the different tasks of the project.

Their adoption might serve as a reference for the development of EMAS by other Portuguese Municipalities, leading to the effective application of environmental preservation policies.

ENVIRONMENTAL ASPECT	Energy Use and Greenhouse Gas Emissions (GHG)
INDICATOR	Total Energy Consumption in the Municipality [toe/year] Unit
BENCHMARK	Reduction of 10-20%, 5 years after the publication of the Environmental policy Variation and Expected Period

Example of a benchmark proposed for an indicator

Environmental benchmarks were established for each of the selected EMAS indicators, considered realistic and suitable to the context of local authorities intervention.

The definition of benchmarks and goals serves as a basis to ensure the evolution of the organization's environmental performance - a better public service at a lower cost and with fewer impacts on the environment.

Environmental Aspects of the Almada-EMAS system

- Water Use
- Energy Use and Greenhouse Gas Emissions
- Waste Management
- Procurement of Goods and Services
- Pollution Prevention and Control
- Mobility and Transports
- Quality of the Natural and Built Environment

Involving the staff



One of the priorities of the EMAS-LAB project was the involvement of ACC's and SMAS's staff. The roles of Eco-consultant and Eco-keeper, created in this framework, allowed for the circulation of the information flux between colleagues and for the population in general. This is one of the key points of an EMAS system in a local authority.

These staff elements participated in training and awareness raising actions organised by the Municipality, learning new technical competences in the various thematic areas covered by Almada-EMAS, in the context of the development steps of an EMS.

Involving and training Municipal Staff

- Training of Trainers Course
- Theme Workshops
- Training Actions
- Support to the use of the Environmental Legislation Database
- Integration of the Almada-EMAS System, internal training plan 'Municipality online'
- EMAS awareness raising in the phase of welcoming new staff
- Conference/ Technical Seminar of the EMAS-LAB project: "EMAS: Experiences and e European Good Practices"

A Training Plan integrated in the EMAS system was established, subdivided in several theme modules and learning units covering different levels of knowledge. The main goal was to ensure that all staff is aware of the Environmental Policy, of the different stages of the Almada EMAS System and of the requirements that are part of the process of environmental performance improvement.



Training session for Eco-counsellors

Communication and Result Dissemination



The nature and goals of the EMAS LAB project imposed the establishment of a communication

strategy directed both internally and externally of the Organisation.

On the one hand, the internal communication aimed at motivating and encouraging municipal staff to accept the additional effort of environmental performance improvement of the Municipality. Simultaneously, it intended to raise awareness for the need to preserve natural resources and the Planet.

On the other hand, the external communication targeted the local community (companies, institutions, schools, university and population in general), the suppliers of the Municipality and other organisations that wish to replicate the project (using the proposed set of EMAS environmental indicators and benchmarks). This made the project known, as well as the commitment of the municipality towards the development of more environmentally friendly practices.

A Final Conference took place, where the project results were disseminated. It had the support and participation of several organisations involved in the development of the EMAS-LAB project, as well as invited municipalities and European organisations. This event was a contribution towards the dissemination of the Municipalities work experience in the construction of its system, namely the needs and problems faced by the different services, and the dissemination of other EMAS at a national and European level.



Final Conference and International technical Seminar of the EMAS-LAB Project
Almada, 16th May 2006

Still part of the global communication strategy, the conception of project's webpage should be highlighted. It has been online since June 2004, at www.m-almada.pt/emas-lab, with up to date information on the project and its development in the Municipality of Almada.



Homepage of the EMAS-LAB website
October 2006



EMAS-LAB stationery

As an example, we show some of the material produced with the image of the project, offered to eco-consultants and eco-keepers during the “Environmental Programme” stage.



Results and Benefits

The investment in specific training and in the acquisition of new competences by the staff involved in the development of EMAS, as well as the strengthening of communication actions, information and awareness raising, proved to be a solid investment. The dynamics created will contribute towards the continuous improvement of the environmental performance of the Municipality on the long run, creating the necessary synergy for resource rationalization and the improvement of the organization's functioning.

The construction of the Almada-EMAS system also made possible the adoption of environmental good practice, in terms of the activities developed in the organisation. The technical clauses in public procurement procedures of for goods and services started to integrate environmental criteria (ex.: positive points for suppliers of ISO14001 or EMAS certified products).

Another example of good practice was the adoption of a procedure to make paper collection more efficient in every site of the Municipality, and its correct channeling.



"Paper Eater"

The more visible face of EMAS development in the Municipality of Almada was the procurement and installation of **goods and equipments for resource-savings and waste reduction**, aiming at a reduction of costs, together with a better environmental performance.



Example of a measure carried out in the scope of the Almada-EMAS system: hybrid vehicles for ACC's fleet

Due to its relevance, the procurement of low emission vehicles (hybrid vehicles) for ACC's fleet stands out, as well as the use renewable energy sources in municipal facilities, the introduction of LED technology in traffic lights or in the pilot-project of Public Photovoltaic Illumination in the Park "Parque da Paz".



Example of a measure carried out in the scope of the Almada-EMAS system: public photovoltaic illumination

Some Environmental Benefits:

- The low emission vehicles procured represent a reduction of 8,6 tons CO₂/year (60%) comparing the fleet that they replaced.
- The procurement of environmental accredited goods and services (by the norm ISO 14001 or EMAS-registered), is having an impact in terms of the suppliers offer.
- The introduction of LED technology in traffic lights represents an energy consumption 10 times smaller together with a lifetime expectancy 10 years longer
- The use of the "Paper Eater", contributed towards the recycling of 36 tons of used paper and cardboard, in 2005-2006 (more 12 tons then in 2004)



Recommendations and Transferability Potential

The EMAS LAB project unfolded during 3 years and was developed mainly by Municipal staff (Almada City Council (ACC) and Almada's Water and Wastewater Treatment Services (SMAS)), with the support of subcontracted specialized organisations in order to address technical areas in which the Municipality of Almada did not possess expertise. The subcontracted organizations were Global to Local, for matters of consultancy and specific training, and AGENEAL, the Local Energy Management Agency of Almada, for energy use matters.

The benefits of the system focused mainly in the reduction of expenses and of resource-consumption, in the strengthening of staff motivation and its greater awareness for environmental issues. The Almada-EMAS system also allowed for the opportunity to give the local community greater confidence and transparency in the Municipality's work and procedures, highlighting a greater credibility of the organisation in dealing with environmental problems.

Due to the voluntary nature of EMAS, it was essential to involve the staff as much as possible, being simultaneously a driving force and a requirement for the continuous improvement of the environmental performance. This was one of the greatest challenges of the Municipality of Almada. It also included the need to create a broad participatory dynamic. Reaching this goal was time consuming for the staff involved and implied considerable effort.

The innovative character of this project in the Portuguese context, due to the inexistence of any EMAS registrations from the public sector in Portugal, led to some difficulties, translated in the lack of experience of national consultants and auditors, namely in what concerns the methodology to be adopted, the scope of EMAS in a local authority and the environmental aspects and indicators to be monitored.

The dimension, diversity and distribution of activities and sites in the Municipality of Almada, the lack of monitoring data and the need for compilation of the vast applicable legislation, as well as the full compliance with it demanded by the national EMAS Competent Body, seem to be a reality shared across the board by most Portuguese Local Authorities that attempt EMAS registration.

This range of reasons, associated to the methodology applied in the development of the system, led to the need for the elaboration of a **Guide for the Application of EMAS in Local Authorities** that reports the methodological proposals of the different phases of the process of developing the Almada-EMAS system. This is intended as a useful document for other national Local Authorities, eventually allowing them to avoid some of the limitations and difficulties felt and overcome by Almada.

The **final set of environmental management indicators and corresponding benchmarks**, may also represent a good starting point for Local Authorities to develop a monitoring process of their future EMAS.

It is hoped that the experience gained by the Municipality of Almada in the development of EMAS, serves as an incentive for other Municipalities, leading them to embrace the challenge of rationalising resource-consumption and of minimising the impacts of their activities on the Environment.

