



BIOAZUL

AGUA • ENERGÍA • MEDIO AMBIENTE

BIOAZUL: the company



- ❑ R&D&i intensive SME, engineering and technological consultancy founded in 2003 focused on environmental issues (water, waste and energy), with two interconnected business areas:
 - ☞ Development and marketing of tailor made solutions and eco-innovative products for water/wastewater treatment.
 - ☞ Technological consultancy, acting as catalyst and promoter of R&D&i applied projects.
- ❑ Experienced multidisciplinary team in R&D&i applied and industrial projects formed by engineers, chemists, economists and biologists.
- ❑ Partner #22 of TURAS project. Leader of task 4.5 on improved climate-neutral infrastructure, focused on theoretical application of an Integrated Solid Waste Management. Participation in other tasks of WPs1, 8 & 9.
- ❑ People in charge: Ms. Pilar Zapata Aranda and Ms. Antonia Lorenzo López.

TURAS outcomes: Urban Waste Management



- Assessment methodology for identifying opportunities to make local urban waste management more sustainable and resilient.
 - ✓ **Case study:** analysis of the waste management system of the city of Malaga from the perspective of the ISWM concept, setting also measures to improve the identified weak points.
 - ✓ **Area:** central district of Malaga city.
 - ✓ **Type of waste:** municipal waste (solid only).
 - ✓ **Main challenges:** very interesting area, as it presents many complexities:
 - Narrow streets and pedestrian areas with difficult access for cleaning and waste collecting and transporting technologies.
 - Different kinds of population (permanent vs. transient), with great and constant influx of visitors during the year and celebration of local massive events. These conditions cause specific peaks in waste generation that must be foreseen to establish special measures.
- **NEW SERVICE:** BIOAZUL can perform similar studies for local authorities including participatory approaches to define citizens demands and draw solutions according to them, and give support during the implementation stage.

TURAS benefits for cities

Findings of the case study

- ✔ Improving selective collection.
- ✔ Improving environmental awareness of citizens.
- ✔ Bio-waste stream specific management (step forward regarding the common organic matter plus those other wastes that cannot be classified in any other stream).
- ✔ Improving the user satisfaction on the service regarding some specific aspects. Specific consultation could be done to check what can be improved from the users points of view.

Recommendations from the case study

- ✔ Extend the study to whole city, as within the management system everything is integrated and the particularities of each district have to be considered.
- ✔ Estimate economical and environmental benefits of higher recycling rates.
- ✔ Public awareness raising should be considered and its economic viability should be studied.
- ✔ Explore the space for improvements in the quantification, treatment and recycling of construction and demolition waste.
- ✔ Estimate the possibility of enlarging the network of clean points in industrial areas of the city.
- ✔ Participatory approaches to design the waste management system.

- ❑ The **ISWM concept** is applicable to any city from both developed and developing countries, even those without having a consolidated urban waste management system. The amount of steps to be followed vary according to the state of development of the city.
- ❑ The **informal sector** (waste pickers, scavengers, etc.), usually omitted within conventional waste management schemes, **is also considered**, also in developed EU cities where the importance of this sector is being increased due to the economical crisis.
- ❑ It implies a **participatory approach** that allows the local authorities to know the main concerns and needs of the citizens, as well as allows the citizens to learn about the existing hindrances of the local authorities. It also establishes a cooperation channel and facilitates the **mutual learning**.



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