



Saragossa, Water Saving City (1997-2008)

LESSONS LEARNT



Objective

The goal of the project was to demonstrate the possibility of resolving water scarcity problems by employing approaches that were cheaper, more environmentally friendly and that avoided social conflict: By increasing the efficiency of water use Saragossa would become the example to follow.



Project Summary: Main Phases

Phase 1: Saragossa, Water Saving City. Small steps, major solutions. Technologies providing long-lasting savings without losses in comfort were explained.

Phase 2: Saragossa, Water Saving City. 50 Good Practices. To overcome resistance to the introduction of the technologies, promotion of the spread of examples of efficient water use in the city: 50 Examples of Good Practice as regards Technology and Habits in parks and gardens, public buildings and industry so as to create reference points and models to be copied by their peers in each sector.

Phase 3: Saragossa, Water Saving City: 100,000 commitments. During the last phase we set the goal of bringing together and certifying 100,000 citizen commitments to correct water use to legitimize Saragossa as the city organizing an international exhibition focused on water and sustainable development.



Target public

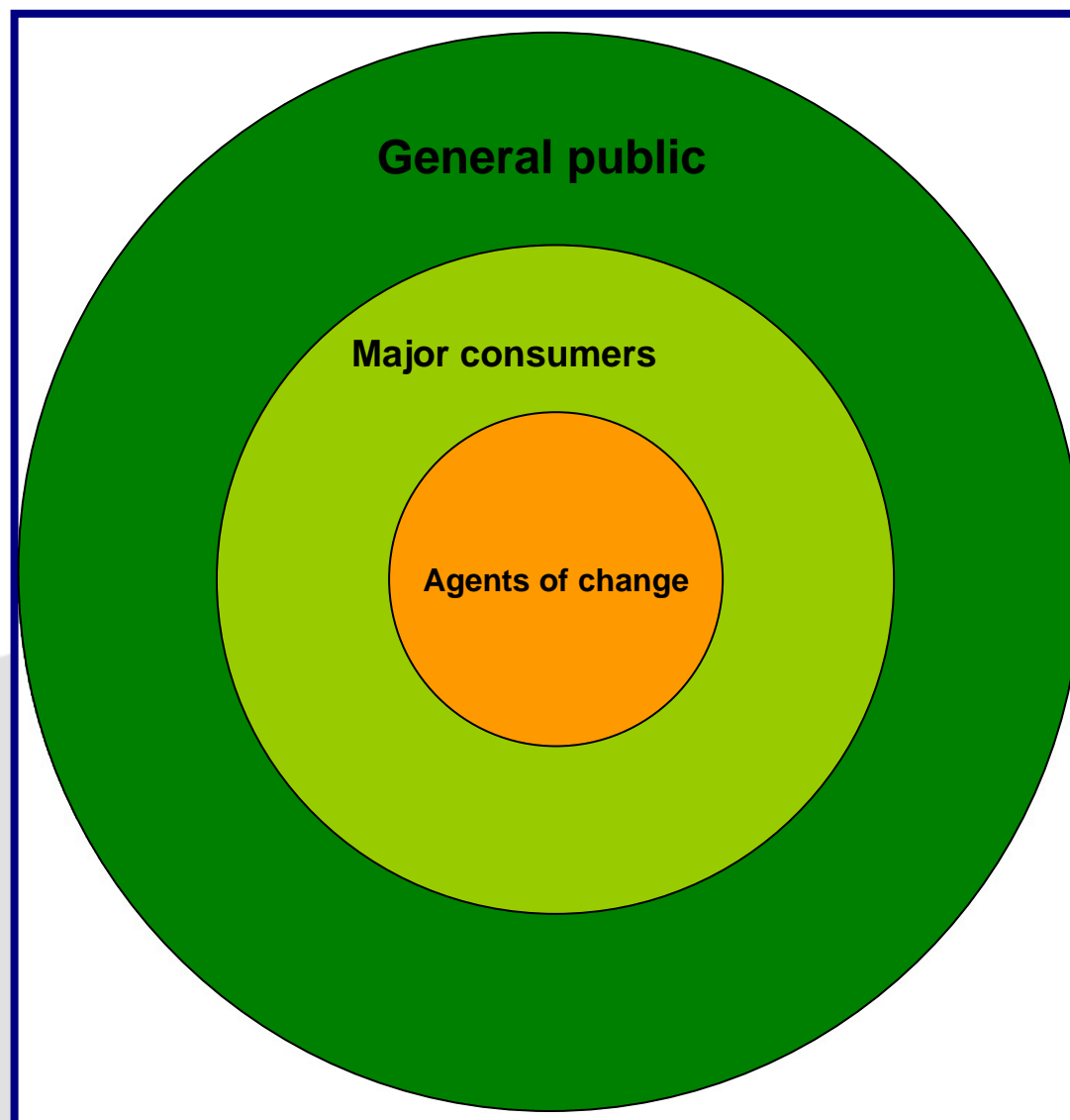


Table of Water Saving Technologies



General Installation	Pressure reducers in the main network.
Taps	Electronic taps, taps with timers, both with aerators.
Showers	Thermostatic taps with saving heads.
Toilets	Cisterns with dual flush.
Urinals	Individual photoelectric cells and maximum flush timer.
Dishwashers	Choice of machine suited to the needs of the premises and with environmental labelling.
Washing Machines	Choice of machine suited to the needs of the premises and with environmental labelling.
Coffee Machines	With water recirculation systems (constant circulation).
Ice Machines	Air cooling instead of water in an open circuit.
Heating	Repair of leaks, installation of condensation recirculation systems.
Air Conditioners	Use of air for condensation not water.
Cooling Towers	Correct maintenance and optimization of installations.
Swimming Pools	Closed treatment circuits, reduction of maximum depths of pools, covering pools when not in use.
Green Areas	Choice of native plants, improvements to watering efficiency (sprinkler, drip and porous-tube irrigation).



***Saragossa, Water Saving City.
Small Steps, Major Solutions.
(1997-2000)***



Results (1997-2000)

Savings in one year of 1,176 million litres in the city of Saragossa, equivalent to 5.6% of the city's annual domestic consumption.

Increase in awareness of water saving measures: the number of citizens unaware of any measure fell from 60% to 28%.

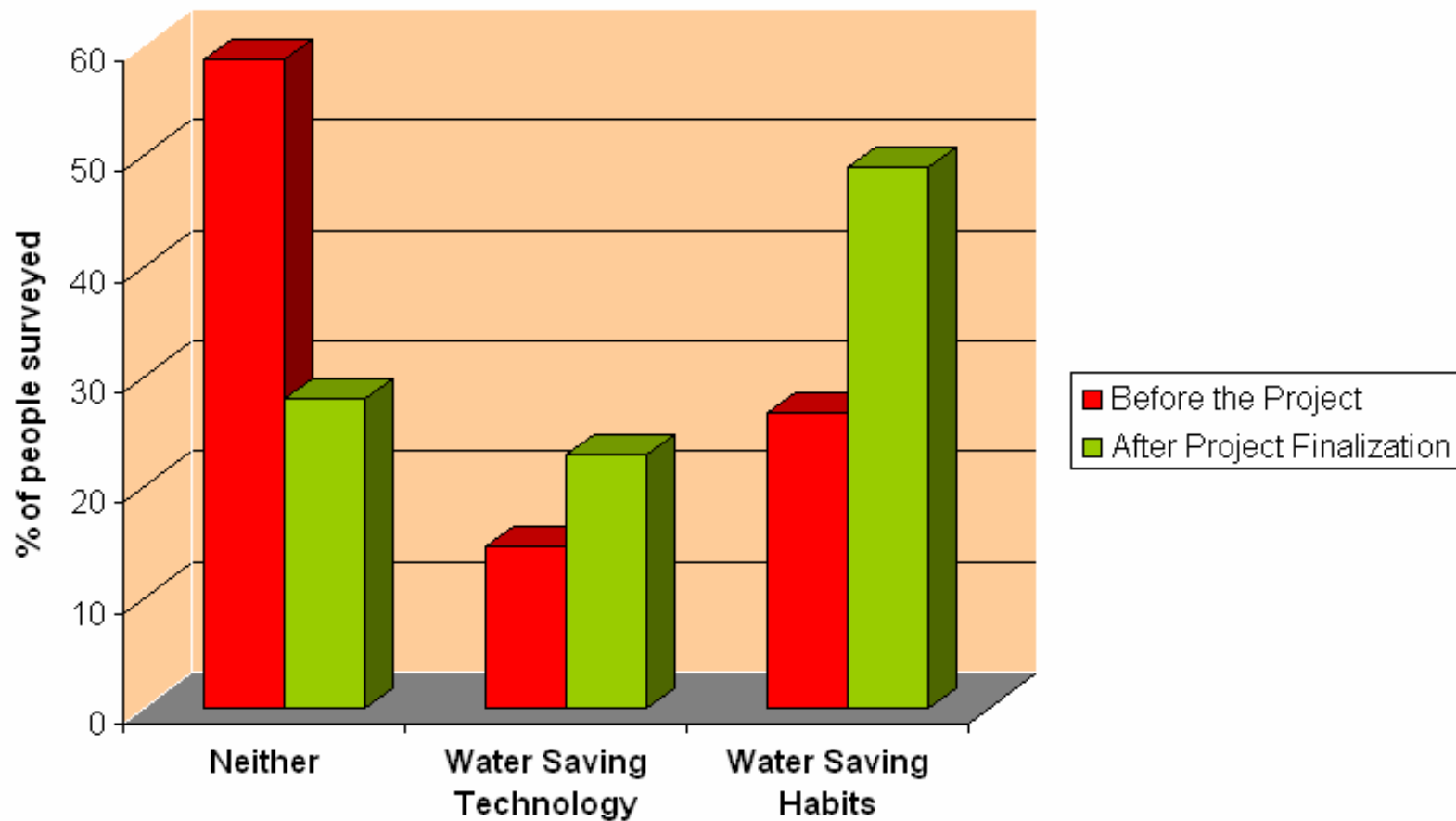
65% of retail outlets for plumbing, bathroom and sanitary fittings, washing machines and white goods, and installation of water meters actively participated in the project.

69% of the city's schools participated in an activity promoting the efficient use of water.

150 public and private organizations participated in the project.



Results: Evaluation surveys





**Saragossa, Water Saving City.
50 Examples of Good Practice
(2000-2006)**



50 EXAMPLES OF GOOD PRACTICE

SUPPORTING EACH SECTOR'S MOST DYNAMIC AND ACTIVE MINORITY in order to stimulate a process of imitation in their peers.

Prior surveys on the consumption of water in the sectors involved (schools, hotels, residences, parks and gardens, industries, etc.)

Free audits in centres that voluntarily wished to make a commitment and become an example of good practice in water management.



Saragossa, Water Saving City



“Andalán” Secondary School

- Installation of **taps with timers**.
- Installation of **urinals with timers**.
- Installation of **water-saving toilets**.
- Some green areas were planted with **plant species adapted to drought conditions**, other gardens were equipped with **automatic watering** systems that monitor consumption.
- The quantity of water consumed per user per day following installation was 5 litres and the cost per user per year 2.3 euros. These figures are respectively **2.4 and 2.8 times less than the average figures in Saragossa**.



Saragossa, Water Saving City



“Stadium Casablanca” Indoor Swimming Pool

- All **plumbing devices** in the pool’s services now use **efficient water use** systems (timers in showers and wash basins, flow reducers, water-saving toilets, to save around 50% in comparison with traditional systems, without the user noting a reduction in the quality of services.
- **The main saving** comes from the **treatment and reuse system** for the swimming pool water. The only real use of water is the result of **legal requirements** for the renewal of the water (**5% a day**) and filling the swimming pool once a year.
- The **foot baths** of the swimming pools are activated automatically by **photoelectric cells** when the users pass through them.
- The **water treatment method** employed **avoids the excessive chlorination** common in most swimming pools and reduces the use of this toxic danger that can be a nuisance to the users.
- **The cleaning of surfaces** is made mainly using a **sweeping-washing machine** that completes the entire job with just 160 litres of water.



Saragossa, Water Saving City



“Hotel Boston”

- The hotel’s environmental policies, promoted by the advanced development of its environment management system, and especially by the awareness of its employees, has led the Hotel Boston to employ efficient water use criteria in its installations.
- During the year, it drew up a **wide-ranging study** that provided the centre with all the information necessary to undertake the changes with guarantees of success.
- The Hotel **already had** a series of **efficient water use** systems.
- Systems for saving water in the rooms had not been introduced for **fear of reducing the quality of services**. A **practical study** was therefore carried out with water saving devices and **individual meters** in four rooms, the guests were **surveyed** on the perceived quality and no complaints were made.
- During the study, a **19% hot water saving** was made and a **27.6% saving in cold water** compared to consumption in traditional rooms.



Information dissemination process



- **Practical Guide on water saving technologies for homes and public services**
- **Self-Diagnosis Guides on water use for hospitals, offices, schools, hotels, bars, cafes and restaurants.**
- **Pocket Guides on Good Practices for hairdressers, carwashes, offices, restaurants, bars and cafes, hotels, sports centres and shopping centres. Circulation among 10,000 users.**



***Saragossa, Water Saving City.
100,000 Commitments.
(2006-2008)***



Saragossa, Water Saving City. 100,000 Commitments

Project based on:

A citizen participation process...
to make a commitment...
the goal of which is saving water and responsible consumption.

Making Commitments

We now have:

- *more than 170,000 commitments*
- *30.412 committed citizens*
- *312 committed organizations*

Saragossa, Water Saving City

Photo of the first 100 organization commitments





How are the commitments obtained?

1. On the web

www.zaragozaconelagua.org

www.defipourlaterre.org

www.zaragozaconelagua.org

Ecología y Desarrollo
www.ecodes.org

agua-dulce.org
eficiencia del agua
en las ciudades

Inicio || ¿por qué? || ¡comprométete! || comprometidos || mapa de los compromisos || consejos de ahorro || contacto

Comprometidos: [Área de Participación Ciudadana del Ayuntamiento de Zaragoza]

¡Zaragoza ya cuenta con **80581** compromisos con el agua!

¿Por qué comprometerse con el ahorro de agua?

Porque, aunque el agua es un elemento básico para garantizar la vida humana, en muchas ocasiones el uso que hacemos de ella no es el más adecuado. Conscientes de ello, los ciudadanos de Zaragoza queremos asumir el compromiso de ahorrar agua en nuestras casas, en nuestro trabajo, en nuestro entorno urbano...

haz click aquí para ampliar información »

¿quieres comprometerte con el agua? El mapa de los compromisos Los embajadores del agua

Pincha aquí para comprometerte

haz click aquí para ver el mapa »

haz click aquí para ver sus mensajes »

Ecología y Desarrollo
www.ecodes.org

acuaEbro
Agencia de la Cuenca del Ebro

iberCaja

EXPO ZARAGOZA 2008

AGENDA 21

Zaragoza

Instituto Aragonés del AGUA

GOBIERNO DE ARAGON
Departamento de Política Ambiental



How are the commitments obtained?

2. During awareness activities: For example (1):



Grancasa Shopping Centre



How are the commitments obtained?

3. During awareness activities: For Example (2):



Trade Fair



How are the commitments obtained?

4. During awareness activities: For Example (3):



Second leg of the European Handball Federation CUP





How are the commitments obtained?

5. Company and Worker Commitments For Example

GOBIERNO DE ARAGON
Departamento de Agricultura y Alimentación

Cartilla Sanitaria
Carnet de Sante
Certificate of Health

Para mascotas
Pour des mascottes
For pets

Aragón - España

PROVINCIA Nº DE IDENTIFICACIÓN

MIS COMPROMISOS CON EL AHORRO DEL AGUA
(portada al anexo 4)

Revisar el consumo con el recibo y reducirlo hasta 100 l/persona/día. ☐

Comprobar posibles fugas y actuar en su caso. ☐

Cerrar el grifo al enjabonarme, afeitarme... ☐

No emplear el inodoro como papelera. ☐

Instalar filtros ahorradores en los grifos. ☐

Colocar la doble descarga en el inodoro. ☐

Poner la lavadora/lavavajillas sólo si están llenas. ☐

No fregar con el grifo abierto. ☐

Colocar un rociador de ducha ahorrador. ☐

Compartir mis hábitos con familiares y amigos. ☐

Certificate of Health

**Collaboration with the
Veterinary College**





How are the commitments obtained?

6. Company and Worker Commitments.

ZARAGOZA CIUDAD AHORRADORA DE AGUA
100.000 COMPROMISOS

Lackey
50 años 1957-2007 aniversario
Grupo Teka

Lackey se compromete con el agua

¿Qué es un aireador-perlizador?

Es un dispositivo que mezcla aire con el agua, incluso cuando hay baja presión, de manera que las gotas de agua salen en forma de perlas. Sustituye a los filtros habituales de los grifos y, a pesar de reducir el consumo, el usuario no tiene la sensación de que proporcione menos agua.

Estos dispositivos permiten ahorrar aproximadamente un 40% de agua en los grifos tradicionales.

www.zaragozaconelagua.org

Other
examples

ZARAGOZA CIUDAD AHORRADORA DE AGUA
100.000 COMPROMISOS

PANISHOP
365 Días Recién Hechos

Panishop se compromete con el agua

Zaragoza AGUA GOBIERNO DE ARAGON

ZARAGOZA CIUDAD AHORRADORA DE AGUA
100.000 COMPROMISOS

zoilorios
ESTACIONES DE SERVICIO

Zoilo Rios, S.A. se compromete con el agua

Zaragoza AGUA GOBIERNO DE ARAGON

ZARAGOZA CIUDAD AHORRADORA DE AGUA
100.000 COMPROMISOS

SIMPLY MARKET
PRECIOS BAJOS BAJOS

Simply Market se compromete con el agua

Zaragoza AGUA GOBIERNO DE ARAGON



How do you raise awareness in those already committed?

1- By sending monthly tips to all those who have made a commitment.

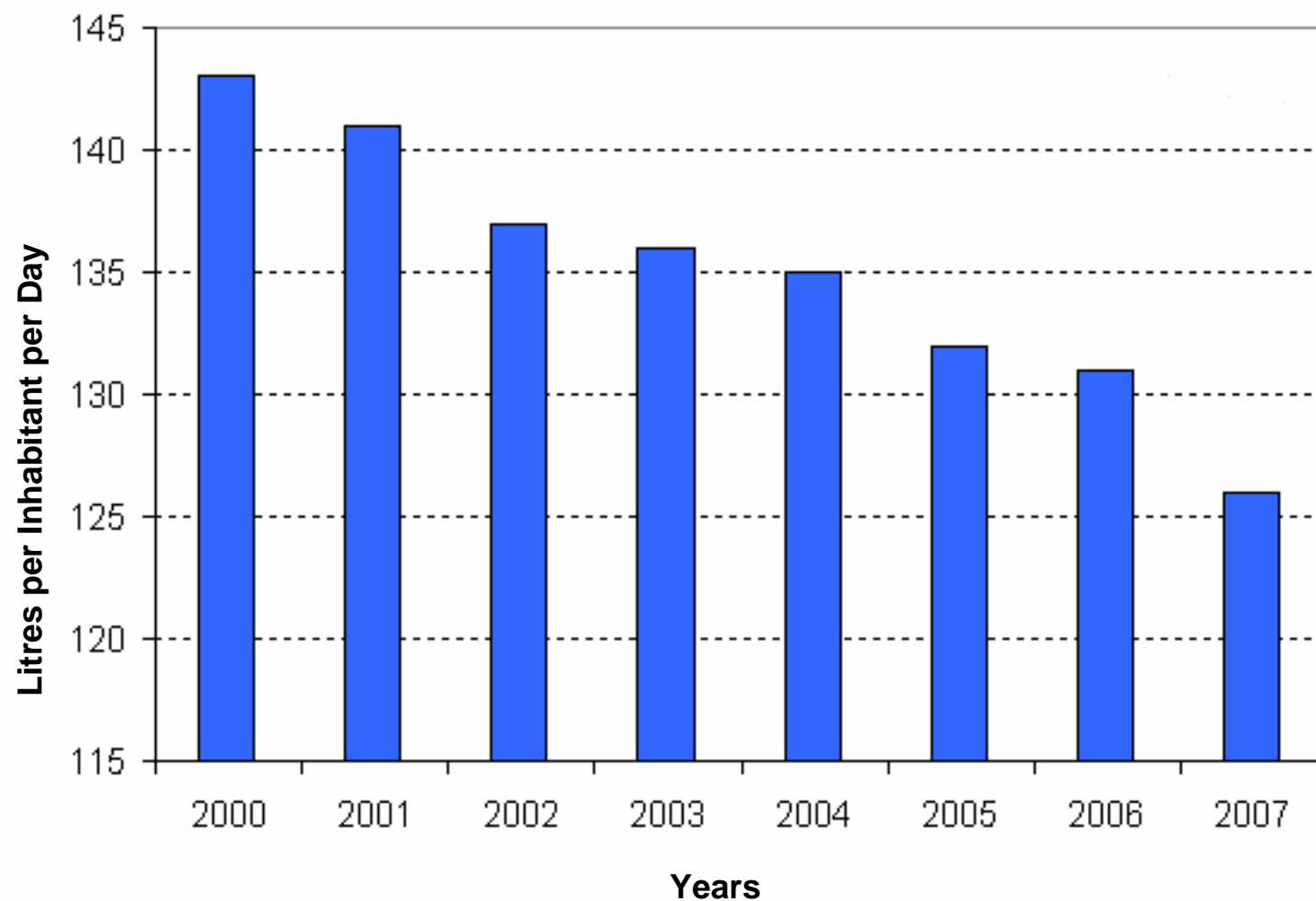




How do you raise awareness in those already committed?

***With new editions of the
Practical Guide for the home.***







The achievements of the project have been possible as a result of the following partner champions:



And in previous phases the following organizations also participated:

EU-Life and the Avina Foundation



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