

SWITCH Demonstrations

Template Instructions

SWITCH DEMONSTRATION PROJECT

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| 1. Name of Demonstration : Water Demand Management | 2. Location(s): Zaragoza, Spain |
| 3. Lead workpackage/partner: WP 3.1 The Municipality AYTO-Zaragoza (Participant no 14) is the partner responsible for this Demonstration. It is drawing on a long-standing relationship with the University of Zaragoza for specialist socio-economic contributions to the Demonstration. It is proposed that the future partner Zarag (Participant no 38, to be identified) should also participate in this Demonstration, in particular on water loss management. This has not yet been agreed by SWITCH project management, so their contribution is not included in this summary. WEDC (Participant no 27) is leading WP 3.1 and providing guidance to maximize the contribution of the Demonstration to the workpackage objectives. <i>Other workpackages involved:</i> WP 3.2 A very important paper manufacturer firm is going to reduce the water consumption by means of reuse of waste water, in order to reduce water consumption from 4 m ³ to 2 m ³ . | |
| 4. Timeframe: 2006 to 2011 | |
| 5. Description of demonstration: Demonstrate and evaluate new approaches for water demand management - including IWA recommended best practices - for potential application in other cities. These new approaches will cover <ol style="list-style-type: none"> 1. water loss management 2. reducing water consumption <i>Innovative features/science:</i> Innovative features include application of IWA recommendations on water loss management and the international demand management framework in a demonstration European city. Although various components of these recommendations have been applied elsewhere, a holistic integrated resource planning approach has not been widely demonstrated for urban water planning and management. <i>Potential impact:</i> The demonstration should save water directly in the Actur area of Zaragoza, firstly by directly reducing losses from the distribution network and users' consumption of water, and secondly by demonstrating potential for applying an integrated resource planning approach, encompassing both supply and demand side planning options. <i>Relationship to LA – evidence of demand:</i> | |

Zaragoza has an established reputation for best practice as a Water Saving City which has been recognized by the 1998 Dubai International Award for best practice, and the UNESCO decision to hold EXPO2008 in Zaragoza with the theme Water and Sustainable Development. In April 2007 the mayor of Zaragoza announced that Zaragoza would reduce consumption to 90l/person/day by 2010. There is a long-established multi-stakeholder group of 29 members – the Water Commission– which supports this commitment and the SWITCH demonstration as a way to take this forward.

Plans/ideas for scaling up:

The Municipality plans to replicate the approach in other parts of Zaragoza, depending on the success of the demonstration. This will be discussed first in the city Water Commission where there is keen interest in implementing water saving measures throughout the city.

WP3.1 will also disseminate the findings as a case study of proven innovative approaches for potential replication in other cities.

6. Budget Summary (overall description of SWITCH and match funding – how 35/65% split will be achieved)

The 60-month AYTO demonstration budget under SWITCH is €250,200 of total eligible costs. The EU contribution would be €87,570 and €162,630 will be provided as matching funds by AYTO. It is proposed that the whole of this budget is allocated to this WP3.1 demo.

| <i>Year</i> | <i>SWITCH budget (EUR)</i> | <i>Matching funds (EUR)</i> |
|---------------------|----------------------------|-----------------------------|
| <i>2006/7</i> | €10,563 | €19,617 |
| <i>2007/8</i> | €19,257 | €35,763 |
| <i>2008/9</i> | €21,000 | €39,000 |
| <i>2009/10</i> | €22,750 | €42,250 |
| <i>2010/11</i> | €14,000 | €26,000 |
| <i>Total</i> | €87,570 | €162,630 |

7. Dissemination Plans

Target Audiences/rationale:

Dissemination will be targeted mainly at Practitioners (managers and staff of city water departments or utilities, urban planners, water and environmental professionals, consultants, contractors, private sector organizations). The aim will be to disseminate lessons from the demonstration on how water sector practitioners can reduce both water losses from the network and end-use consumption, as well as apply an integrated resource planning approach for sustainable urban water planning and management.

The findings will also be disseminated to other groups: Decision makers (international, national, local), the Scientific and research community, SWITCH partners and the General Public (particularly in Zaragoza).

Planned Publications:

Case studies and Conference papers will be prepared on different aspects of the Demonstration.

Media:

Dissemination to practitioners will be primarily through case studies, which is an interesting format for this target group.

Other (workshops, conferences, etc.):

The demonstration will build on IWA approaches, and it is expected that IWA conferences will be an important pathway for discussion and dissemination of the findings.

8. Training activities (activity, location, timeframe)

In collaboration with the University of Zaragoza, we shall plan to have a capacity building activity for those directly involved in the water management and other stakeholders in the year four and five of the project.

Zaragoza Water Demand Management Demonstration Project Details

| Activity | Tasks | Timeframe for task | Deliverable & due date | Lead partner/workpackage | Comments |
|--|--|--------------------|--|--|----------|
| Reviews and support studies 1. Demonstrate and evaluate new approaches for reduction of water losses - including IWA recommended best practices in water loss management - for potential application in other cities | Design and operationalise DMAs (District Meter Areas) in Actur Area | Year 2 | Progress Report on Actur Study Area | AYTO / WEDC +Partner 38 | |
| | Carry out active leak detection and management in Actur Area | Year 3 | Case study on Actur | | |
| | Design and operationalise DMA in other areas of Zaragoza and carry out active leak detection and management | Year 4 | Progress Report | | |
| | | Year 5 | Case study on the selected Area | | |
| 2. Demonstrate and evaluate new approaches for reducing water consumption - including the IWA international demand management framework -for potential application in other cities | Plan for overall IDMF (International Demand Management Framework) process, and obtain buy-in from major stakeholders | July 2007 | A well-defined IDMF process that is acceptable to major stakeholders | AYTO and Univ Zaragoza / Learning Alliance, WEDC | |

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| | Data collection and analysis of existing situation, and determination of supply-demand balance based on 'business as usual' scenario | Year 3 | Demand Forecasting Model Case Study on Zaragoza experience of a new stepped tariff | AYTO and Univ Zaragoza / LA, WEDC | |
| | Data collection and analysis of desired scenarios | Year 4 | Options Model | AYTO and Univ Zaragoza / LA, WEDC | |
| | Implement a pilot study | Year 5 | Case Study report | | |
| <i>Construction and implementation activities</i> 1. Demonstrate and evaluate new approaches for reduction of water losses | Installation of bulk water meters in Actur and telemetry for analysis and quick response to increased leakage | (years 1 &2) | Progress report | AYTO/WEDC + Partner 38 | |
| 2. Demonstrate and evaluate new approaches for reducing water consumption, within the IWA IDMF | Install digital meters for 3 apartment blocks | Year 2 | Progress report | AYTO/WEDC/Univ. Zaragoza | |
| | Conduct campaign on efficient water use | Years 2 and 3 | Progress report | AYTO/WEDC/Univ. Zaragoza | |
| <i>Monitoring and analysis</i> 1. Demonstrate and evaluate new approaches for reduction of water losses | Analysis of non-revenue water in Actur using initial data from zone meters, and identification of | Year 3 | Report including Action Plan for improvement | | |

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| | options for improvement | | | | |
| | Case study on active leakage control using leak detection equipment in other areas | Year 4 | Report including Action Plan for improvement | | |
| | More detailed analysis of non-revenue water and active leakage control, including analysis of longer term results from Actur and other areas, and evaluation of what each Action contributed | Year 5 | Case study report | AYTO / LA, WEDC + Partner 38 | |
| 2. Demonstrate and evaluate new approaches for reducing water consumption within the IWA IDMF..... | Data collection & analysis on water consumption in households | Year 2 / 3 | Progress report Case study on tariff | AYTO and Univ Zaragoza / LA, WEDC | |
| | More data collection, detailed options analysis and report on influences on water consumption in households (socio-economic, technical and campaigns) | Year 4 | Progress report | AYTO and Univ Zaragoza / LA, WEDC | |

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Demonstration Project Budget

| Year | Partner | Budget (EUR) | Matching Fund Organisation (name) | Budget (EUR) | Total Budget (EUR) |
|-------------|----------------|---------------------|--|---------------------|---------------------------|
| 2006 | AYTO | 20,000 | | | 20,000 |
| 2007 | AYTO | 40,000 | | | 40,000 |
| 2008 | AYTO | 40,000 | | | 40,000 |
| 2009 | AYTO | 45,000 | | | 45,000 |
| 2010 | AYTO | 30,000 | | | 30,000 |
| 2011 | AYTO | | | | |