# United for a new energy model

smartcity

Smartcity originates from a clear idea: changing the current energy model is only possible if citizens, businesses and the public administration participate. This project, coordinated by Endesa, includes the participation of 11 leading companies in their sectors: Greenpower, Ingeteam, Telvent, Isotrol, Neo Metrics, Ormazábal, Sadiel, IBM, Acciona, Enel, the collaboration of various research centres and universities, and counts on the support of the Andalusian Regional Government and the Centre for the Development of Industrial Technology of the Ministry of Science and Innovation.

> The implementation of all the working lines that make this project work during its four years of development entails an investment of 31 million Euros. Smartcity has the financial support of the ERDF and is integrated into the European Union's 20-20-20 plan.

> > The objective of Smartcity is to achieve an energy saving of 20%, increase renewable energy consumption and reduce 6,000 tonnes of  $CO_2$  emissions per year in the project area.

Renewable energy consumption



**Objective:** to increase the renewable energy consumption: solar, wind... Energy saving





**Objetive:** to achieve an energy saving of 20%.

# CO<sub>2</sub> Emissions



**Objetive:** to reduce 6,000 tonnes of  $CO_2$  emissions into the atmosphere per year, equivalent to emissions from 2,000 cars.









> participating companies:





# + information:

Paseo Marítimo Antonio Banderas, 28 local 1 29004. Málaga

- 🖂 oficina@smartcitymalaga.com
- www.smartcitymalaga.es
- @www.agenciaandaluzadelaenergia.es

# smartcity

# energy is in your hands









Unión Europea

Fondo Europeo de Desarrollo Regional

# **Smartcity,** energy is in your hands

/ Imagine that you could generate the energy that you need. In your own home, in your company, in your street. Using cutting-edge renewable energy technologies. / Imagine that you knew what you consume at each moment, in each device you have turned on. / Imagine that you decrease your energy consumption by 20%. / Imagine that you could reduce the emission of thousands of tonnes of  $CO_2$  into the atmosphere / Imagine all this happening in Malaga and it has a name: Smartcity.

### Smartcity is a pioneer project

where new systems and technologies are applied to reduce electricity consumption in Malaga, involving **11,000 homes** and **1,200 businesses** in the area of the Misericordia Beach. With this objective, energy generation systems based on renewable energy sources will be installed in homes, offices and industries in the area, so that a user can produce not only the energy that it consumes, but also store it in batteries for later use by other inhabitants, for lighting purposes, climatisation of buildings or public transport.

The project is a commitment towards a rational and efficient use of energy, including smart consumption metres and advanced telecommunication and remote control systems to optimise the distribution grid, enabling a new energy management and, in turn, enhancing the quality of the service.

**Smartcity also uses renewable energies,** such as wind and solar, for public lighting as well as for a fleet of electric vehicles that will promote sustainable mobility in the project area.

# Malaga, one of six cities in the world to apply this model

/ The Smartcity project converts Malaga in an international reference for the development of advanced technologies for the energy sector, at the level of initiatives already underway in Stockholm, Dubai, Malta, Ohio and Colorado.

The city of Malaga has all the technological and social conditions necessary to ensure the success of the project: excellent electrical infrastructure, extensive technological capabilities, university presence, a solid business network and strong support from the public administration.

The area chosen to implement the Smartcity project is Malaga's promenade. An area benefitting 300 businesses in the industrial sector and 900 in the services sector, as well as approximately 11,000 residential customers.

# Active management of energy demand

The electricity consumption will adapt to the energy generation supply existing at each moment, achieving greater energy efficiency.

# **Smart grids**

New management tools and automatic control in real time electricity usage, which prioritises consumer participation, energy efficiency and environmental respect.

## Advanced Information and communication technologies (ICTs)

ittp://v

These will allow knowing remotely and instantaneously, the state of all agents and installations connected to the electricity system.

### Smart meters

An innovative telemanagement system will be installed in which users may know, almost



immediately, their electricity consumption, its price and  $\rm CO_2$  emissions.

# **Benefits of the Project**

- Economic savings and energy efficiency through better information of energy consumed. Users can change their tariff by adapting it to their consumption habits, among other things.
  - Optimisation of the electrical distribution network using an advanced management that improves the forecast of the electricity demand and the processes that guarantee the safety, reliability and quality of the supply before consumption increase. Development of electrical networks with greater adaptability to the numerous technological future changes.
    - Reduction of CO<sub>2</sub> emissions thanks to the massive use of renewable energies, ensuring a long-term sustainable energy generation.
      - Development of local technologies and new employment opportunities in rural and urban areas of Malaga.
        - Demonstration and evaluation of a pioneer model and generation of good practices for other cities.

# Electrical vehicles

Implementation of a sustainable mobility system based on electrical vehicles.

# **Public lighting**

Lampposts with integrated wind turbines will be placed in Malaga's promenade which will produce the electricity that they consume.



### Storage systems and distributed generation using renewable energies

Energy will be produced close to the demand points, for example, canopies covered with photovoltaic panels; and may be stored in batteries for later use.



smartcity