



## 58 pilot cities and communities in 23 countries

Since 2003 the European Union has co-funded 58 cities and communities in 23 countries to demonstrate smart energy technologies at neighbourhood level, in the CONCERTO initiative of the Research Framework Programme (FP6 & FP7).

CONCERTO is a milestone towards the EU targets for 2020:

- 20 % improvement in energy efficiency
- 20 % share of renewable energy
- 20 % reduction of greenhouse gas emissions

It demonstrates that the energy optimisation of districts and communities as a whole is more cost-effective than optimising each building individually. The total amount of EU funding is around EUR 175.5 million.

### CONCERTO at a glance\*:

- More than 3000 high-performance new buildings were built (1.75 million m<sup>2</sup>)
- Around 1400 buildings were refurbished (2 million m<sup>2</sup>)
- 376 kt CO<sub>2</sub> emission reductions per year, in these areas:
  - 17 kt in refurbished buildings
  - 17 kt in new buildings
  - 147 kt in energy supply units – electricity
  - 173 kt in energy supply units – district heating
  - 22 kt in energy supply units – heating
- 1.326 GWh non-renewable primary energy demand reduction per year, in these areas:
  - 5 % in refurbished buildings
  - 6 % in new buildings
  - 37 % in energy supply units – electricity
  - 46 % in energy supply units – district heating
  - 6 % in energy supply units – heating (if no data for buildings or district heating is available)

## Start your own smart city!

To implement the right mix of technologies for your neighbourhood, all relevant stakeholders have to work together in a smart way: investors, local authorities, urban planners, developers, energy utilities, engineers, tenants and owners.

Integrated planning involving the residents right from the start is a key element.

### CONCERTO cities and communities demonstrate that

- Low-carbon technologies are available and ready to be applied
- Renewable energy is affordable
- Communities can cut their CO<sub>2</sub> emissions, at acceptable costs, by up to 80 %
- Energy must be transparent for residents
- Citizens need to be informed about intelligent user behaviour to truly realise the saving potential

More than 5 million people live in CONCERTO cities and benefit from the measures implemented there. Be part of it!



CONCERTO is co-financed by the European Union under the Research Framework Programme © European Union, 2013. Reuse is authorised provided the source is acknowledged.  
Fotos: CONCERTO project sites: Cerdanyola del Vallès (ES), Dundalk (IE), Grenoble (FR), Lyon (FR), Maabjerg (DK), North Tipperary (IE), Ostfildern (DE), Växjö (SE), Weiz-Gleisdorf (AT).



Including Augmented Reality APP for IOS & ANDROID



European Commission



## Energy solutions for smart cities and communities

### Ready to go

Learn how to combine energy efficiency measures and renewables to make your neighbourhood fit for the low-carbon future

Energy

\*Data status of 10<sup>th</sup> September 2013



## Energy solutions ready to be applied

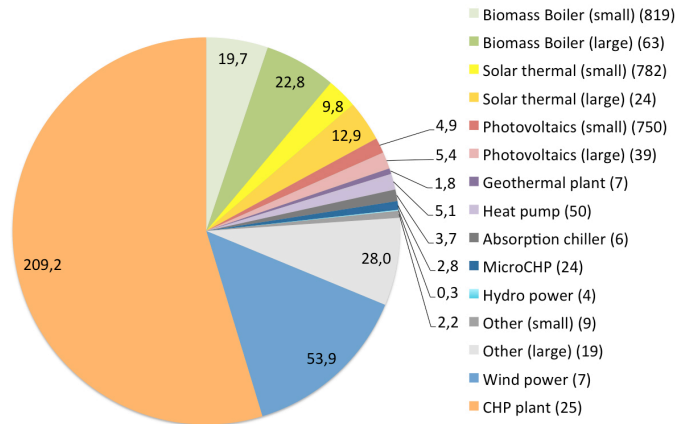
CONCERTO cities combine different technologies and offer innovative approaches for:

- energy efficiency measures
- the use of renewable energy sources (RES) and combined generation of heat, cold and power
- sustainable building and district development
- the refurbishment of buildings

All 58 communities have developed their own strategy and implemented different low-carbon technologies. Altogether, almost 383 MW of renewable energy power has been installed in the CONCERTO projects so far. With the help of concerted measures such as improved thermal insulation of the roof, façade, floor or external walls, the replacing of windows and heating systems, in combination with consumption information for the users, the energy demand of buildings has been reduced significantly in new and refurbished buildings.

A technical monitoring data base, that is the main tool for the analysis of the performance data from the projects, is accessible to the public on the website. ([www.concerto.eu/concerto/environmental-technologies/technologies-intel-enquiries.html](http://www.concerto.eu/concerto/environmental-technologies/technologies-intel-enquiries.html))

### Total installed RES power in CONCERTO: 383 MW



Total installed RES power [MW] of CONCERTO demonstration objects by summing up heating, cooling and electricity power per type, according to the CONCERTO database status from 10th September 2013. The numbers of demonstration objects are shown in brackets.





### Augment this brochure for an interactive 3d experience!

Learn about CONCERTO and discover the augmented reality environment. Get the Augmented Reality APP for IOS and Android. Scan the symbol using a QR Code reader or visit our website: [www.concerto.eu/concerto/app](http://www.concerto.eu/concerto/app)

Follow the links to download the APP from the iTunes APP Store or Google play.



Install the APP on your device. Film the image. Start the APP. Select the "Augmented Reality" function. Hold the camera of your mobile device above the image with the AR sign.

### Ready to go!

Experience the impact of sustainable construction and renewable energy sources. Select buildings or areas by touching the plus icons. Learn about innovative technologies. Apply technologies by dragging them on buildings and areas. See the stunning results and how we can meet the energy challenge! Remove technologies to see the difference.



### How to create an energy efficient building by refurbishing:

Be it a residential building – an office building – a public building.

#### Check it and improve it!

Are your windows double-glazed or triple-glazed? Improve your walls, façade and roof with thermal insulation! Put solar panels and solar collectors on your roof and façade! What about heat recovery and smart metering? Replace fossil fuel with wood pellets!



### How to create an energy efficient district, integrating low-carbon technologies:

Combine renewable sources of energy such as photovoltaic and solar thermal collectors, wind turbines, biogas plant with combined heat, power and cold, polygeneration, district heating and cooling, heat pump and storage.

Find the right mix of renewable energies and innovative technologies for your neighbourhood!



58 pilot cities and communities in 23 countries show energy efficiency measures, renewable energies and integrated low carbon technologies, ready to be applied.

Watch our videos: <http://www.concerto.eu/concerto/home/video-gallery.html>

### START YOUR SMART CITY!





