



CASCADE

Cities exchanging on
local energy leadership



CERTOSA ISLAND: VENICE'S LOW-CARBON URBAN PARK

SHORT DESCRIPTION

Public and private investors have joined forces in Venice to convert the former industrial area of Certosa Island into a low-carbon urban park.

In December 2010, the city of Venice signed a special agreement with the Italian ministry for the environment for the rehabilitation and sustainable recovery of Certosa Island. The historic complex of Arsenale was also included in this agreement, while the industrial area of Porto Marghera was added later. The agreement foresees a €9 million grant for the implementation of energy-efficiency measures and the deployment of renewable energy sources in the selected areas, and aims to reduce the environmental and carbon footprint of economic and industrial activities.

Venice would like to turn the Certosa Island into an accessible urban park of natural interest, providing recreational boat services, and modern agricultural, crafts and educational activities. To lever in external funds and minimise the costs for the city, it launched a call for tenders to enter into partnership with a private investor (public-private partnership). The tender covered both the regeneration works and the management of the entire area for the next 50 years.

Vento Di Venezia S.r.l (VDV srl) submitted the best project proposal for the rehabilitation and sustainable recovery of Certosa Island and thus won the tender. The proposal included a detailed business plan for the development of the urban park and thoroughly described the measures and actions to be implemented using the resources made available through the special agreement.

The plan for Certosa Island includes the refurbishment of an existing building to high-energy standards and the management of a public park in which public spaces and economic activities will take place (training halls, sailing school, sports grounds, residences, pleasure boating). VDV srl has to ensure that all building activities will be conducted according to high efficiency standards. A CCHP biomass-fuelled plant (biomass produced from maintenance of the park) will provide heating and cooling for the local district heating and cooling network. Solar thermal systems will provide hot water, and PV and experimental micro-wind systems are also planned. The lighting system will be low-energy, using LED and avoiding light pollution. A low-carbon transport system is being designed for people and logistics on the island.

FINANCING

The total cost of the investment amounts to €3,659,150:

- €2,624,000 for energy –efficiency measures
- €845,150 for the production of renewable energy
- €190,000 for pilot projects (e.g. mini-wind plant, educational area)

The investment is co-financed by the special agreement grant (€2,400,000) and VDV srl (€1,259,150).

RESULTS

Certosa Island is designed to be a low-carbon park, saving 289MWh of electricity, 86,600m³ of natural gas and 311 tons of CO₂ emissions per year:

- 215KWp of PV panels will produce 210MWh/year of electricity and save 101.43 tonnes CO₂/year.
- Solar thermal panels will produce hot water and save 10,500 m³/year of natural gas and 20.81 tonnes CO₂/year.
- A CCHP biomass plant will produce cooling, heat and electricity (40MWh/year) and save 47,500m³/year of natural gas and 113.26 tonnes of CO₂/year.
- A district heating and cooling network will save 28,600 m³/year of natural gas and 56.68 tonnes CO₂/year.
- A smart low-energy lighting system will save 39MWh/year of electricity and 18.84 tonnes CO₂/year.

LESSONS LEARNT

- Although the city of Venice is implementing the project together with its private partner, it retains the overall responsibility for management and implementation. Greater shared responsibility would have been more binding for the private partner and would have helped drive the project forward.
- Low-carbon investment funds could be used as a source of funding in regeneration projects. Venice took advantage of the synergies between regenerating the Certosa Island into an accessible urban park and the special agreement funding scheme for climate mitigation. This allowed access to special agreement funds, without which Venice could not have afforded the investment in Certosa Island.
- A step-by-step planning approach depending on financing options seems to work for the sustainable recovery and development of the Certosa Island. Nevertheless, it might be easier to realise individual projects if the planning is adapted to a specific timeline.

KEY SUCCESS FACTORS

- The special agreement funding scheme supports the binding character of the project and drives implementation forward.
- The two-finance partners work closely together for the implementation of the project..
- A detailed implementation plan describes the works to be carried out and the timeline.
- The partnership agreement gives flexibility to adapt and modify the implementation plan to maximise the energy benefits and the CO₂ savings.

THE CASCADE EXPERIENCE

CASCADE mentors from Gateshead, Eindhoven and the Wuppertal Institute visited Venice on 17-19 April 2013 to support the city in the implementation of two innovative sustainable energy projects: Certosa Island and the Porto Marghera eco-district.

CASCADE mentors visited the project development sites and held discussions with representatives from the city administration and partner companies. This allowed them to gain a better overview of the two projects. At the end of the visit, mentors presented their ideas and recommendations for improvements. For Certosa Island, they recommended ways of attracting more visitors during the step by step implementation of the project as an additional source of income.

Venice developed an action plan inspired by the mentor's ideas and recommendations.

MORE INFO

<http://bit.ly/1y1N4I7>

<http://bit.ly/1ooiHWo>



Co-funded by the Intelligent Energy Europe Programme of the European Union