



## Case Study



Clean Energy

### Stad van de Zon, the Netherlands - New District of Heerhugowaard

This new district is energy-efficient and supplied by renewable energy. Stad van de Zon (city of the sun) is a new district built in the Alkmaar area, situated in temperate oceanic climate zone with approximately 2700 heating degree days. The new district is planned for a total of 1,600 homes located on the polders towards the North Sea. All new buildings were equipped with solar PV panels. When opened in 2009, this was the biggest urban PV project in the world.

#### Heerhugowaard, Stad van de Zon, the Netherlands



Source: <http://www.heerhugowaardstadvandezon.nl/Stad+van+de+Zon/Beeld+-en+Nieuwsarchief/default.aspx> Copyright: Jan Tuyp

Three wind turbines ensure the area is CO<sub>2</sub> neutral. A 70 ha lake offers a natural and recreational environment as well as providing a water storage facility. A labyrinth of flowing water creates a natural purification system. Research by TNO (Netherlands Organisation for Applied Scientific Research) and ECN (Energy Research Centre of the Netherlands) has shown that a carbon-neutral City of the Sun was feasible, with almost 4 MW solar energy created by three major wind turbines. For the realization of the CO<sub>2</sub> target the energy demand is limited to the dwellings. The EPC (Energy Performance Coefficient) will be on average 0.8. EPC's were mandatory. The solar energy performance was monitored according to a monitoring plan. The project was financed by the municipality of Heerhugowaard, the Province Noord-Holland, NUON (energy company) and the European Commission (5th framework programme, 2002). For one part also the Dutch government agency SenterNovem has contributed to the financing. A refined payback system based on the energy produced by solar, involving the utility NUON and a guarantee fund. Through this action the residents were stimulated to energy saving, because they could earn the deposit back through energy saving measures.

## References

EA IEA ECBCS Annex 51 – Subtask A; European Commission under the Fifth Framework Programme contributing to the implementation of the Key Action "Cleaner energy systems, including renewables" within the specific programme for RTD and demonstration on "Energy, Environment and Sustainable Development - Part B: Energy program".

<http://www.heerhugowaardstadvandezon.nl/Stad+van+de+Zon/Beeld+-+en+Nieuwsarchief/default.aspx>

## Credentials

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