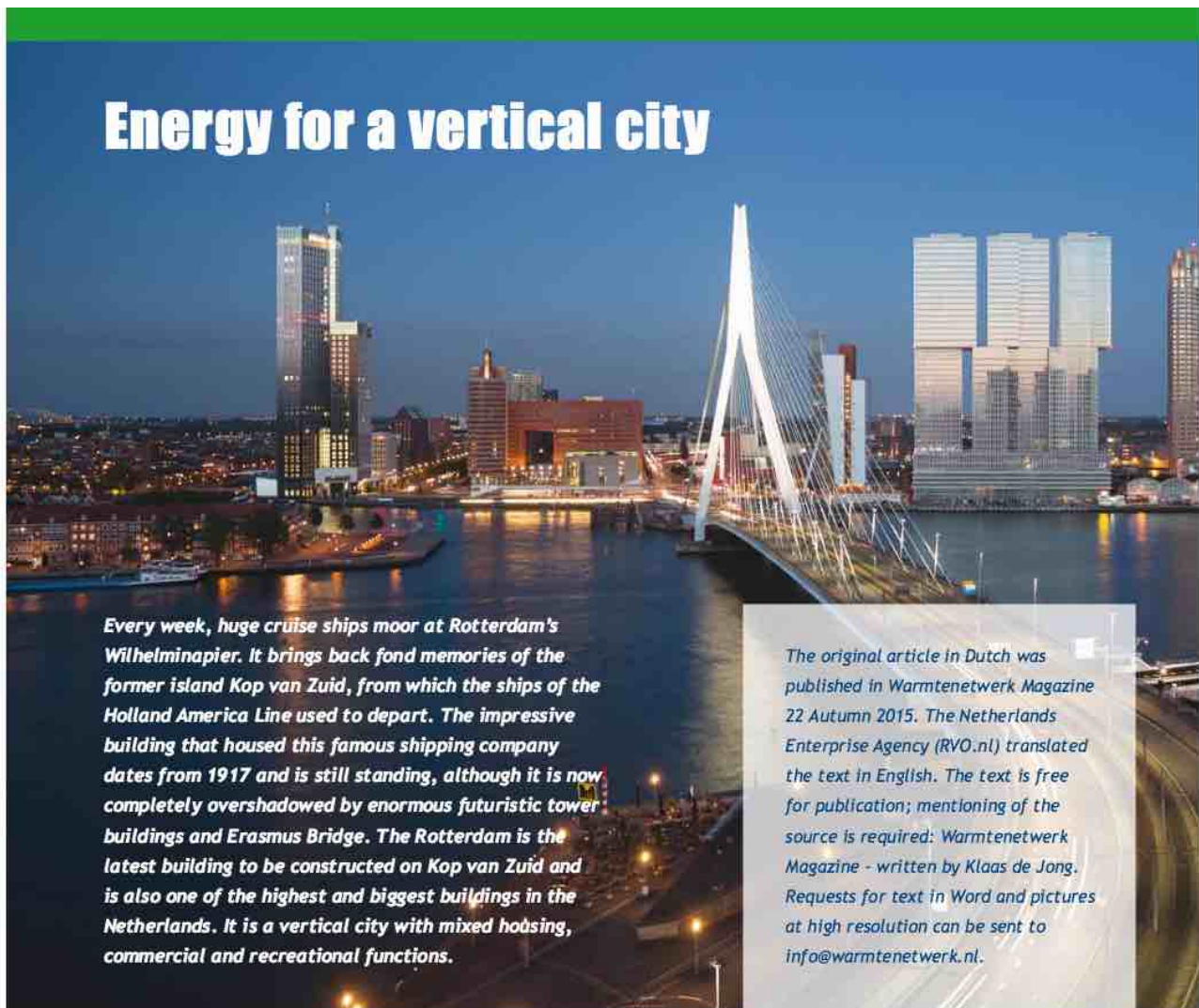


Energy for a vertical city - De Rotterdam



Energy for a vertical city

Every week, huge cruise ships moor at Rotterdam's Wilhelminapier. It brings back fond memories of the former island Kop van Zuid, from which the ships of the Holland America Line used to depart. The impressive building that housed this famous shipping company dates from 1917 and is still standing, although it is now completely overshadowed by enormous futuristic tower buildings and Erasmus Bridge. The Rotterdam is the latest building to be constructed on Kop van Zuid and is also one of the highest and biggest buildings in the Netherlands. It is a vertical city with mixed housing, commercial and recreational functions.

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A challenging construction project

The striking building was designed by Rem Koolhaas and the project had its fair share of setbacks. The project partners started making preparations in 1998, but the project was put on hold after the attack on the World Trade Center on 9/11 and was not restarted until 2006. Construction was finally started in 2009, despite the financial crisis that began the year before. Four years later, on 15 November 2013 at exactly 12.00 p.m., one of the Netherlands' highest and biggest buildings was completed. The construction of 160,000 m² of floor area on a piece of land of 5,500 m² was a technical and logistical marvel. As many as 800 workers were active on this tiny patch of land by the water at any one time, which required very tight scheduling of all the cranes, platforms, other equipment and materials deliveries. The property developer wanted an extremely sustainable building, which was achieved by combining

various functions for more social cohesion, creating an underground bicycle storage, ensuring efficient public transport connectivity, joining the district heating system, designing a cooling system using water from the river Maas and installing a bio CHP plant.

The pilot project Vertical City is part of the EU Celsius Smart Cities programme

The energy supply system is an example to other projects. The Rotterdam pilot project (called the *The Vertical City*) is part of the European *Celsius Smart Cities* programme. The 50 MW heat hub pilot project in Rotterdam, that focuses on the development of cooling and heating networks, is also participating in this European programme.

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connection to the district heating of Eneco in Rotterdam, cooling by river water and a small bio CHP for its own renewable electricity supply.

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The Rotterdam is one of the highest and biggest buildings in the Netherlands. It is a vertical city with mixed housing, commercial and recreational functions. The building has an innovative connection to the district heating of Eneco in Rotterdam, cooling by river water and a small bio CHP for its own renewable electricity supply. The energy system of the buiding is a pilot project in the [EU Celsius Smart Cities](#) programme.

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