



CASE
STUDY

Case Study



Clean Energy

Toulouse, France - Greenfield Development, ZAC Andromède

The urban community of Greater Toulouse is situated inland in southwest France, on the frontier between Mediterranean and Atlantic oceanic climate. It has less than 2.000 heating degree days per year, but may become hot in summer. The city has a population of 650,000. The rise of high-technology aerospace industry entailed a strong demographic and economic development in the second half of the 20th century. However, the strong growth brought about forms of urban sprawl which impedes sustainable urban development. Moreover the increasing land costs constitute a major problem enhancing the construction of housings on the outskirts of the agglomeration and thus act as driving force of urban sprawl. The city of Toulouse which responsible for urban planning wants to counteract this trend while developing a polycentric urban model, with new orderly developments. The urban (re)-development zone ('Zone d'Aménagement Concerté' [ZAC]) "Andromède" is one of the projects which has been established 1999 when Airbus decided to locate factories for the construction of the A380 airliner near Toulouse. The three ZAC together correspond to 500 ha, 5.000 housing units and roughly 10.000 employments. In 2004 the city established an environmental observatory, serving as an instrument to inform and sensitize delegates and municipal institutions as well as the population. It is the first French project that includes the principles of sustainability. The strong significance attributed to landscape in the "Andromède" project is justified by the utilization of 70 ha arable area by the Constellation project. The mixed economy company Constellation has been established in 1999 and became general contractor for the ZAC. The project is composed of three phases and lasts altogether 20 years; it has exhibited some delay because of the economic crisis of 2008. The project pursues different objectives: A maximum green space should be preserved (70 ha) to compensate the arable area occupied by the Constellation project. In addition to a social mix, a functional mix is aspired in "Andromède". Public institutions such as nurseries, schools, sport facilities and retirement homes should be es-

established. Finally the extension of means of transportation like tramways and bikeways is central to the project. The biggest part of the residential units has been privately financed.

During the urban planning focus was on the active and passive use of solar energy. Also a low-energy elementary school was erected at the location. The solar district heating system consisted of flat collectors on three multi-family houses with in total 1.750 m² that fed the heated water into a 90 m³ buffer storage tank in the central heating station below the school. Whenever the required temperature cannot be reached through the solar system alone, the 3.7 MW central gas condensing boiler combination increases the heating water temperature. The residential buildings met the planned heating and domestic energy use which was calculated to be 30 % lower than the requirements for new buildings at that time. Each building had its own design and its own concept for the thermal insulation in order to meet the tightened requirements. Besides the solar array on the roof of three different houses for the central heating unit no other renewable measure (besides optimization of passive solar gains and daylighting) has been implemented.

Site Plan of Urban Redevelopment Area Andromede, Toulouse, France



Source: <http://www.lemoniteur.fr/article/inauguration-de-la-zac-andromede-pres-de-toulouse-77147>

References

<http://www.ecoquartier-andromede.fr/>

http://www.territoires-durables.fr/IMG/pdf/amd_andromede.pdf

Credentials

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