ENERGY STRATEGY BERLIN ADLERSHOF 2020

Major cities are 'energy guzzlers' and responsible for around 80% of worldwide greenhouse gas emissions. Hence, it is particularly important that energy consumption be stemmed there.

To this end, Berlin is particularly creative and pioneering and has come up with a number of ambitious ideas. One of them is the 'Energy Strategy Berlin Adlershof 2020' at the renowned Adlershof Science and Technology Centre in the southeast of the city. Together with partners from research and business, the operators want to increase the energy efficiency of the site through the use of innovative technologies. The aim is to cut the consumption of primary energy at Adlershof by 30% by 2020.

A challenging target because the project encompasses 450 buildings, over 900 companies, 16 scientific institutions and 23,000 people, who research, study, produce and live there. Adlershof is Europe's biggest inner-city development area (467 hectares).

A new 'Campus Residential Area' will be built on 14 hectares of the area up to 2020. Dr Beate Mekiffer of WISTA Management, the operating company, is in charge of the entire energy project: "The demand for primary energy is expected to rise from 360 at present to around 825 gigawatt hours if no action is taken to stop this development. In other words, the situation is extremely urgent!"

The German government is also aware of the problem and is sponsoring 'Energy Strategy Berlin Adlershof 2020', a cluster project that is unparalleled anywhere in Germany. At Adlershof, the focus is on building efficiency and intelligent electricity grids on both existing and new developments. According to an analysis in cooperation with Berlin Technical University, the energy consumed by the lighting would be almost halved if just the lighting systems at Adlershof were to be modernised.

Therefore, motion detectors with electronic sensors will be used to manage the lighting in future. Dimmers will be fitted so the brightness of the interior lighting can be controlled intelligently in accordance with the time of day. Particular attention is being paid to the construction of the planned 'Campus Residential Area'. Around 100 of the 1,300 apartments are to be built in a plus-energy estate where more energy will be generated than used. To this end, the plans call for a highperformance solar plant and cogeneration for decentralised power supply.

Berlin Adlershof
Credit: © WISTA-MANAGEMENT GMBH **www.adlershof.de**

Berlin Technical University and partners are looking at the integration of a smart-grid solution for an intelligent power supply system.

In addition to saving energy, the operators are also banking on the increased use of regenerative energies. To date, Adlershof has primarily used photovoltaic systems. In the future, they will be supplemented by geothermal energy, wind energy from the surrounding countryside or decentralised cogeneration plants. Dr. Beate Mekiffer: "We are working closely together on all these aspects with scientists in Austria and Switzerland, who are also researching into the energy-saving potential of model districts. The 'Energy Strategy Berlin Adlershof 2020' will play a pioneering role in this direction."

Centre for Photonics and Optical Technologies
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Light + Building, World's Leading Trade Fair for Architecture and Technology from 30 March to 4 April 2014 im Frankfurt am Main presents market-ready technologies for energy-optimised buildings and districts. At L+B around 2,300 international exhibitors from 50 countries will show their latest products and innovations for the fields of lighting, electrical engineering, house and building automation and software for the building industry. www.light-building.com