

The Masdar Development –Climate engineering for a carbon-neutral city

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Client: Abu Dhabi Future Energy Company
Site: 550 ha
Program: 6.2 Mio m²
Architect: Foster & Partner London, UK
Infrastructure: WSP Group plc, London, UK
Renewable Energies: ETA - Renewable Energies, Florence, Italy
Transportation Consultants: Systematica, Milano, Italy
Climate Engineers: Transsolar Energietechnik GmbH

Masdar City Master Plan

As member of the design team - consisting of the architects, traffic planners, infrastructure and renewable energy systems engineers and us as climate engineers - for the Masdar City Master Plan in Abu Dhabi, we developed a new and most holistic approach of defining sustainable urban development: The six square kilometer city, designed by Foster and Partner for the Abu Dhabi Future Energy Company, is eventually to house 50,000 people in accordance with WWF One Planet Living sustainability standards, which include specific targets for the city's ecological footprint. Masdar City plans to exceed the requirements of the 10 sustainability principles - zero carbon, zero waste, sustainable transport, sustainable materials, sustainable food, sustainable water, habitats and wildlife, culture and heritage, equity and fair trade, and health and happiness.



Independent and public verification of Masdar City's performance in meeting these standards is just one of the features distinguishing the project. Another is the commitment that the project will not just preserve existing regional biodiversity but enhance it. The design team developed all of these targets that are to be achieved by the time Masdar City is completed and fully functioning, in 2012.

Masdar City is intended to be one of the world leading research and development hubs for renewable energy strategies and components based on the University Masdar Institute of Science and Technology. The laboratories and light industry production facilities are to support the vision of the UAE to develop from a technology importing into a technology exporting country with focus on renewable energy technologies. This also reflects the governments approach to prepare the UAE for the era after the oil.

Conclusion

Our involvement in the Masdar City masterplan project has given us the chance to view the possibilities of our work differently. Up to this point, we saw ourselves as experts in planning highly comfortable environments for the building user with a minimized energy demand. Through our work in the design team for Masdar City we were challenged to set the highest targets possible for energy savings and comfort protection in a city, enabling the team to plan a self-sufficient sustainable city – by realizing high density living and working space, which will still allow a modern but responsible lifestyle. If this can be showcased this will have global impact. Some of the key concepts of Masdar City are very innovative and have never been built in such a large scale. They demand further development and adjustment. To plan and realize these concepts in 7 years will be a great challenge.

The high standard living society in the world is responsible for the tripling of our ecological footprint. To prevent irreversible damage, we not only need to see our personal life style and its impact in a global context but also the chances that lie in our work and in the way we work. We see the vision of the Masdar Development for a carbon neutral city as a concept demanding replication in other location around the globe.