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Megaprojects – part 2: Masdar City ©

by Max Farrington and Michael Hirsch

Masdar city is one of several of the world's current Arcology projects. An Arcology project is a certain vision of architectural design combining architecture and ecology, and its purpose is to minimize the environmental impact of the city and its inhabitants by being economically self-sufficient. Masdar City is fully funded by the government of Abu Dhabi, and its goal is to become a real-world display of a 100% green city and a hub for "clean-tech". It was designed by the British architectural firm Foster and Partners.

The Masdar City project was launched back in 2006. The city has already been fully designed, and will encompass a 6 square kilometer area, which eventually will house around 45-50,000 residents and 1500 businesses. It is expected that more than 60,000 workers will commute to the city every day. The project was estimated to cost in between $18 and $22 billion and take about 8 years to build. However, due to the impact of the global financial crisis, phase 1 of the project will only be completed by the end of 2015, with the final completion date sometime between 2020 and 2025. Also, and very unusual for a project of this magnitude, the cost has decreased by 10 -15%. Masdar is only unique for its size; otherwise it is just the latest of a number of specialized research and technology-intensive municipalities. Similar places are KAUST, the King Abdullah University of Science and Technology, and Tsukuba Science City in Japan, close to Tokyo.

Masdar City is not made for the people, but more as an experimental city. As the city will not use any petrol or gas, the designers have had to resort to alternative sources of energy. The entity designed to do that is Masdar Power, and as the city is in the middle of a desert and the sun is very strong, that is perfect for solar panels and photovoltaic-based modules. The city will also use wind power. Finally, another source of energy will be heat. To ensure minimal waste, there will also be an entity called Masdar Carbon, which will work on energy efficiency and the reduction of emissions through the technology of CCS, or Carbon Capture and Storage.

The city is working on a new green transport system consisting of a network of many "pods" like small cars but with no drivers that will connect the city center to the outer sectors. In 2010 it was announced that the Personal Rapid Transit or PRT will not expand beyond its actual form because of the cost, but the city will also be connected to Abu Dhabi's existing light rail and metro line. For public transport in the city, Masdar will rely on electric vehicles and other clean energy vehicles such as bicycles.

For the creation of such a city, the government cannot do everything by itself, and the German multinational, Siemens, has already installed its regional headquarters there. According to the company, their building is the most efficient in all of Abu Dhabi: It has been designed to use 45% less energy and 50% less water than other buildings of the same size.

Masdar City, however, has been heavily criticized for being nothing more than a status symbol for Abu Dhabi, and in the end only the extremely wealthy will be able to afford the place. Nicolai Ouroussoff, the architecture critic, qualified Masdar as being the "ultimate gated community with a division between technology enclaves and informal ghettos where questions like durability are not really of interest".