The City of Zeros: Masdar City

By Ahmad Dialdin

Hi, and welcome to this virtual tour of Masdar City, an initiative established by HH Sheikh Mohammed bin Zayed Al Nahyan, crown prince of Abu Dhabi, driven by the Abu Dhabi Future Energy Company, and planned by Foster + Partners. Walk with me a while and let me introduce you to the city of zeros. Due to be constructed over the next ten years, Masdar City will be home to 50,000 people, 1,500 businesses, all within the confines of this six square-kilometer walled city.

As we walk, take a second to listen. Do you hear that? No engines humming or roaring past, not even a far-off drone of cars driving down an unseen highway in the distance.

That is our first zero: zero cars. One of Masdar City's principles is maintaining a zero-carbon ecology, and that means no cars. Visitors will utilize electric railways for commuting to and from the airport, Abu Dhabi city, and car parks located on the outskirts of the city. Masdar is built around the needs of pedestrians. You may have noticed that the streets feel much narrower than usual. The compact pathways and shaded walks reduce the need for air conditioning, encourage walking and cycling, and are complemented by a revolutionary personal rapid transit system known as podcars.

With special stations throughout the city such as the one we're standing at now, people will be able to call upon the services of a fully electric and fully automated taxi system. You simply hop in, tell the pod where you want to go using its computerized screen (yes, there is no driver), and the vehicle will traverse a maze of roads to your destination.

Let's talk energy and utilities. Focused on renewable resources, Masdar will tap into every renewable source of energy around it. As we travel to one corner of the city, you can witness the largest grid-connected solar plant in the Middle East. Solar panels and collectors will be placed on rooftops throughout the city, wind farms will be established on the outskirts, even the earth itself will provide geothermal power, and finally there are plans to build one of the largest hydrogen plants in the world.

On the flip-side of energy coming in is waste coming out, and with 50,000 people in the city, there's bounds to be quite a bit of waste. This brings us to another of our zero goals: zero waste. The key to achieving that is composting and recycling materials. Nutrients can be recovered from much of the waste and be used to create soil, for example, and be used for landscaping. Some sewer sludge can go towards a waste-to-power scheme that will be put into place. Otherwise, it's all about recycling. Even the construction of the city is utilizing recycling as recyclable plastic will be used for site fencing that can be reused, resold, or recycled.

Foster and Partners ©



Foster and Partners ©


Foster and Partners ©


Foster and Partners ©

Speaking of recycling, although a solar-powered desalination facility will provide water, four fifths of the water actually used in the city will be recycled to maintain the focus on renewable resources.

All right, enough of what goes in to run the city. There are exciting opportunities for what will come out of the city as well. As we near the center of this green oasis, we come across our centerpiece: the Masdar Institute of Science and Technology.

Developed with help from the Massachusetts Institute of Technology, this endeavor will establish a homegrown academic and scientific research institute aimed at renewable, sustainable forms of energy with the simple yet inspiring vision of making a meaningful contribution towards sustainable human development. Several Master of Science programs will be offered, including IT, water and environmental studies, engineering systems and management, materials science, and mechanical engineering.

Rather than the brain of the city, consider the institute its heart, and research will be its lifeblood.

Naturally, the campus will use the latest innovations in energy efficiency, sustainable practices, resource recycling, biodiversity, and green buildings.

In the spirit of business, Masdar City offers not one, not two, but three zeros that will vitalize commerce and businesses. As a free zone clean-tech cluster, the city promotes zero taxes, zero import tariffs, zero restrictions on capital movement and among the strongest intellectual property protection in the region. General Electric has recently signed on to be one of the first tenants in the city, and the Swiss Embassy in Abu Dhabi and Swiss businesses have started up a “Swiss Village” project that will take up an area of the city to host a variety of Swiss-owned companies.

As we reach the end of our tour, I would like to thank you all for joining us. Before you leave, a little bit of trivia for those of you that don’t speak Arabic. Masdar is the Arabic word for source, and that’s really what it all comes down to: a city that aims to become the source of energy, knowledge and innovation for the Middle East and the world. As the Chairman of the Masdar Initiative, Ahmed A. Al Sayegh, put it: “A new era is upon us, challenging us to venture beyond the achievements of the past and meet the needs of the future.”

Welcome to the new era. Welcome to Masdar City.