

Masdar City – Abu Dubai, United Arab Emirates

Essay by Bailey Releford

Masdar City is created to be a zero-carbon and zero-waste community. It was designed by Foster + Partners and Arup along with many others, with the goal of being the most sustainable city in the world upon completion. The entire city takes up an area of 6,000,000 square meters. It includes wind towers, solar panels, and many other self-sustaining measures. There will be an entire community of people who live in the city that are completely supported by what the city has to offer. This includes careers, education, living spaces, restaurants, retail stores, and other features.

One of the most innovative features of the city is their transportation pods. They are public, driverless units that run off a 16kWh lithium-ion battery that can be charged at stations throughout the city. They are charged by the electricity that the wind towers and solar panels provide. Masdar has a concentrated solar power plant 100km away from the city. It is one of the largest in the world and emits very little emissions. The power plant generates enough energy to power an average of 94 UK homes. The wind tower located in the city is 45m high and was inspired by traditional cooling techniques in that area. It drives cooler air from below up into the city while pushing the hot air up and out of the city.

Masdar City's architecture is designed to limit energy use. The buildings are designed to be five stories high to provide shade for the streets below, but also to limit additional energy needed to provide for a taller building. The streets are narrow and shaded from the buildings around, creating a protected pathway for residents to walk. The orientation of the city is deliberately oriented north-east to south west to let the cool winds pass through the city at night.

A large part of the reason this city is focused on being sustainable is the need for removing themselves from the temperamental oil-focused economy, which dominates the world. It instead focuses on creating an economy based on knowledge and technology. The goal is to create not a perfect eco-friendly city, but a community that focuses on reducing their waste, saving resources, and doing everything in their power to create as little emissions as possible. A city focused on growing with age and changing the world's perspective on sustainable living.

References:

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