

The Masdar Development



Masdar's development is a unique, integrated 'Green Community' in the heart of Abu Dhabi.

This new energy and technology Community will open in 2009, covering six square kilometers and offering the finest practical facilities for the Masdar Institute of Science and Technology, the Masdar Research Network, light industry, development units and laboratories, plus a carefully selected pool of international tenants.

The development is an inspirational expression of Masdar's vision, hosting an iconic campus leveraging the fullest use of innovation in energy-efficiency, sustainable practices, resource recycling, biodiversity, transportation and green building standards. Every building in the development will be designed and constructed to provide a model for sustainable living and working.

Masdar will offer opportunities unique in the Middle East for synergy between academic resources, research facilities, industry, the financial community, entrepreneurs and family businesses. The development will provide up to 1,500 companies with an attractive package of incentives, including a one-stop-shop program of government services, transparent laws, 100% foreign ownership, tax-free environment and intellectual property protection. Proximity to nearby manufacturers, suppliers and markets rounds out Masdar's unique value proposition.

Masdar, through a micro chip like network of connections, will bring together the talent, expertise and resources to enable global technological breakthroughs in advanced energy technologies which will contribute to the future of environmental sustainability.

Designed for an on-site population which will grow to 100,000, Masdar responds to the urban identity of Abu Dhabi while offering a sustainable blueprint for the future. It is an ambitious project that will attract the highest levels of international expertise and commerce, providing a mixed-use, high-density city.

The principle of the Masdar development is a dense walled city to be constructed in an energy-efficient, two-stage phasing. A large photovoltaic power plant will power the city's construction from inception. Strategically located with Abu Dhabi's principal transport infrastructure, Masdar will be linked to surrounding communities as well as the centre of Abu Dhabi and the international airport by a network of existing road and new rail transportation routes.

Rooted in a zero-carbon ambition the city itself is car free. With a maximum distance of 200m to the nearest transport link and amenities, the compact network of streets encourages walking and is complemented by an easily-accessible rapid transport system. The shaded walkways and narrow streets will create a pedestrian friendly environment in the context of Abu Dhabi's extreme climate. It also articulates the tightly planned, the surrounding land will contain wind, photovoltaic farms, research fields and plantations, so that the city will be entirely self-sustaining.

Masdar demonstrates Abu Dhabi's commitment to the challenges meeting some of mankind's most pressing issues: energy security, the environment and truly sustainable human development, and provides a model for international cooperation.

One day, all cities will be built like this.



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About Masdar



In April 2006, Abu Dhabi took a bold and historic decision to embrace renewable and sustainable energy technologies.

As the first major hydrocarbon-producing nation to take such a step, it has established its leadership position by launching MASDAR, a global cooperative platform for open engagement in the search for solutions to some of mankind's most pressing issues: energy security, the environment and truly sustainable human development.

MASDAR, which means "the Source" in Arabic, is Abu Dhabi's vision and investment in the future of energy and environmental sustainability, a multi-billion dollar, multi-faceted response to the need for a global focus on the development of advanced energies and sustainability-related technologies.

MASDAR has partnered with the world's most prominent companies, educational institutions and investment firms to lead and advance a global strategy of international knowledge and capability to change the way the world understands energy and create a historic global shift to new energy sources and sustainable resource utilization.



Energy Concept

Outside the walled zone the land will be used for the following power generating and recreational uses:

- Photovoltaic field
- Photovoltaic factory
- Desalination plant
- Wind farm
- Research fields
- Tree plantations of different species producing biofuel
- Water treatment plant
- Visitors parking
- Recycling centre
- Sewage treatment plant
- Visitor centres
- Recreational areas
- Sports facilities

The following renewable energy sources are being considered:

- Concentrating Solar Thermal Power (CSP): A field of mirrors concentrates sunlight on to a specific point creating extremely high temperatures. This heat is then used to produce steam as in a conventional power station; the heat and waste heat can also be used directly for thermal purposes. CSP is among the cheapest solar electricity generating solutions.
- Wind Power : Large wind turbines are proposed at the southwest and northeast corners of the site, as well as some building-integrated "urban turbines".
- Municipal Solid Waste: The use of advanced recycling, composting and combustion of collected waste can lead to a drastic reduction in land-fill requirements, with recycling and composting offering opportunities for GHG reductions.
- Ground-Sourced Heat Pumps (GSHP): Heat can be exchanged between the hot land surface and the cooler earth below ground using geothermal heat pumps. It is a simple concept with the potential to reduce electricity consumption for cooling by more than 50%. Piping to accommodate GSHP would be sunk into the spaces alongside the buildings. We would aim at an overall reduction in cooling demand of 30% using this method.



Masterplan Architect
 Foster + Partners
 Site Area
 640 hectares (6,400,000m²)
 Built Area
 6,000,000m²
 Population living on site
 50,000, eventually facilitating
 a population of 100,000

Programme : Walled City

Housing	30%
Special Economic Zone	24%
Commercial	13%
University	6%
Civic and Culture	8%
Service and transport areas	9%

