

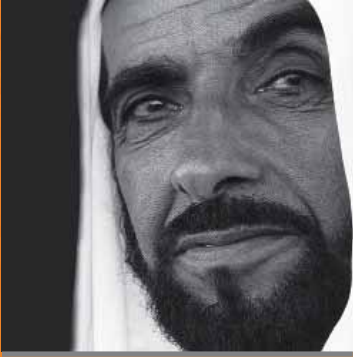
MASDAR CITY

ONE DAY ALL CITIES WILL BE BUILT LIKE THIS



Contents

Introduction	02
What is Masdar?	04
A grand design on a global scale	06
The United Arab Emirates	08
Abu Dhabi – A global city	10
Masdar City – Our goals	16
Creating balance and harmony	18
Keeping the city moving	20
Keeping the city green	22
Making an attractive city to live in	24
A great city	28
Masdar Headquarters	32
Masdar Institute of Science and Technology	36
Sustainable development	40
Business benefits at Masdar City	56
Partnering with Masdar	58
Retail partnerships	59



“We cherish our environment because it is an integral part of our country, our history and our heritage. On land and in the sea, our forefathers lived and survived in this environment. They were able to do so because they recognised the need to conserve it, to take from it only what they needed to live, and to preserve it for succeeding generations.”



AHMED ALI AL SAYEGH
CHAIRMAN

"A new era is upon us, challenging us to venture beyond the achievements of the past and meet the needs of the future. Masdar aims to become a source of energy, knowledge and innovation in order to maintain Abu Dhabi's position as a global energy leader. It is committed to the optimum use of natural and human resources so that Abu Dhabi can develop into a global centre of excellence for renewable energy research, development and innovation."



DR. SULTAN AHMED
AL JABER
CHIEF EXECUTIVE

"Abu Dhabi is evolving its global energy leadership through the Masdar Initiative – demonstrating long-term commitment to renewable energy for a sustainable future. The construction of Masdar City is underway. The Masdar Institute of Science and Technology is on site, our investment funds are already fuelling future energy inventions and innovations, and we are working with long established industries to reduce carbon emissions. This is a long-term initiative. Our aspirations are broad and our ambitions are global."

Masdar is the expression of a vision

The vision of His Highness Sheikh Mohamed Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces. Masdar represents Abu Dhabi's multi-faceted response to the challenges facing a sustainable future and it is positioning Abu Dhabi as a global leader and hub for the research and development of renewable energy and sustainable technology.

Masdar is a wholly-owned subsidiary of the Mubadala Development Company (Mubadala), the Abu Dhabi government's investment vehicle.

Masdar City's aim is to become the silicon valley for clean, green and renewable energy. A global centre where over 1,500 companies will converge to address one of mankind's greatest challenges. A city where current and future technologies will be funded, researched, developed, tested and implemented.

Already Masdar has formed partnerships with many of the world's leading companies who intend to set up research centres within the city and who share our vision.

Masdar's mandate is to champion renewable energy technologies, and to contribute to the diversification and sustainable growth of the Abu Dhabi economy into one that is industry-led and knowledge-based.

Masdar City is the physical embodiment of that vision

Masdar has 5 integrated units:

1 Masdar City

A living city that will house around 1,500 Cleantech companies with 40,000 residents and 50,000 commuters, and provide a research and test base for its technologies. It will be an exemplar of environmental best practice and a demonstration of what is possible.

2 Masdar Institute of Science and Technology

Developed in cooperation with the Massachusetts Institute of Technology (MIT), the Masdar Institute offers Master's and Doctoral-level degree programs focused on the science and engineering of advanced energy and sustainable technologies to students from across the world. The Masdar Institute will eventually host 800 students and 200 faculty members. The Institute will be a key component of Masdar City where technology is researched, designed, developed and tested.

3 Utilities and Asset Management

The Utilities team is a renewable energy project developer focusing on concentrated solar power (CSP), photovoltaic (PV), wind, and waste-to-energy both locally and internationally. A hydrogen fired power plant in Abu Dhabi will be the world's first and produce over 500MW of power. Our Asset Management team build strategic portfolios in companies with promising technology and IP. A US\$250 million cleantech fund takes an active role in a number of companies that it believes will make a significant impact on the industry in the future.

4 Carbon Management

Aims to drive the progress of low carbon economies around the world while capitalising on monetising carbon emission reduction projects. The Carbon Management Unit is also developing a carbon capture and storage network within the Emirate of Abu Dhabi.

5 Industries

Developing large-scale, strategic clean energy projects locally and internationally including a PV production facility in Germany and Abu Dhabi and a 4 sq km solar manufacturing cluster also in Abu Dhabi.

One Planet

6 **One of the guiding principles** behind the Masdar Initiative has been the example of His Highness the late Sheikh Zayed Bin Sultan Al Nahyan, the founding father of the UAE, who spoke of conservation and the environment as 'an integral part of our country, our history and our heritage.'

As a mark of his commitment, His Highness created a sanctuary for endangered species and as a result the World Wildlife Fund (WWF) presented Sheikh Zayed with its highest conservation award, marking the first time that a head of state was so honoured.

His Highness had an inherent understanding of the importance of mitigating our impact on the natural world, and was instrumental in ensuring its preservation. As an energy producer, the UAE has been a pioneer in diminishing the impact of carbon-based energy on the environment.

Over forty years ago, the country's policy to stop gas-flaring made the UAE an early leader among oil-producing nations in adopting emission reduction policies. Today, the UAE is quickly diversifying its economy, with non-oil commerce climbing to 60 percent of GDP.

Now, as the natural extension of that policy Abu Dhabi is leveraging its experience in global energy markets toward the technologies of the future. The Emirate is moving quickly to realise its pledge that renewable energy sources will account for at least 7 percent of total power generation capacity by 2020.

In 2006, Abu Dhabi launched Masdar, an extraordinary, multi-faceted commitment to advance the development and deployment of renewable energy and sustainable technology solutions. It is a powerful signal that one of the world's top oil producers is leading the transition to a cleaner, renewable future – a true paradigm shift.

Central to this shift, is the adoption of the principles of 'One Planet Living', a global initiative of BioRegional and WWF, that is based on the idea that it is possible to live within ecological limits and still improve the quality of people's lives. One Planet Living communities, such as Masdar City, aim to put principles of sustainability into practice.

The UAE understands the responsibility of its position as a major energy producer and it is committed to ensuring the conservation of its environment. As the late His Highness Sheikh Zayed once said:

'With God's will, we shall continue to work to protect our environment and our wildlife, as did our forefathers before us. It is a duty, and, if we fail, our children, rightly, will reproach us for squandering an essential part of their inheritance, and of our heritage.'

MASDAR CITY

The Masdar Initiative defines Abu Dhabi's vision to be at the centre of the world's future energy solution. Ideally situated at the crossroads between Europe, Africa and Asia, the UAE is already a global destination and transport hub. It will continue to be a beacon for the clean technology revolution.



United.

8

The United Arab Emirates (UAE) is a federation of seven emirates, which was established on December 2, 1971. Situated along the south eastern tip of the Arabian Peninsula, the UAE is a nation with one of the world's highest per capita income and its economy has grown consistently over the last 10 years.

The UAE's economy has traditionally relied on crude oil and gas exports for a significant share of its national income, as it holds 9.5 percent of the world's proven oil reserves and 3.5 percent of natural gas reserves.

Abu Dhabi emirate is the largest of the emirates, comprising approximately 30 percent of the entire UAE population and 87 percent of the federation's total area of 83,600 sq km. The city of Abu Dhabi, the capital of the UAE, is both a centre for business and tourism, replete with luxury hotels, parks, shopping malls and cultural destinations.

Abu Dhabi's long-term goal is to create an economy which is not reliant on fossil fuels. As the economy diversifies, the city will change and to this end the government of the UAE has drafted a long-term urban vision for the emirate – the Abu Dhabi 2030 plan. The plan sets out the systematic, intelligent and organic growth of this burgeoning and diverse city.



ABU DHABI TODAY SHOWING FUTURE DEVELOPMENTS AND TRANSPORT PLANS



ARABIAN GULF

Dubai ↗

Lulu Island

Saadiyat Island

F1 Circuit

Yas Island

Central Abu Dhabi

Raha Beach

MASDAR CITY

Abu Dhabi International Airport

Khalifa City

Al Ain →

Oman ↘

Future transport developments

- High-speed train
- Metro
- LRT

1km 10km



Abu Dhabi is a great place to live...

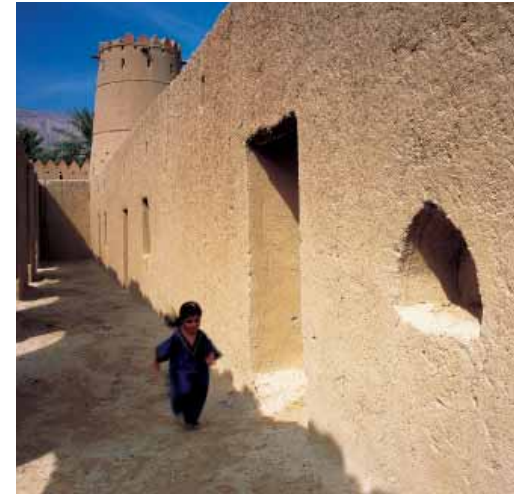
10



The UAE is a politically stable, economically strong and highly developed nation with a rich culture. It is home to a huge variety of nationalities represented in diverse, tolerant communities, and some of the world's finest educational and healthcare systems.







Health

Eighty-five hospitals deliver state-of-the-art care throughout the UAE and are establishing electronic medical records systems to improve quality. Partners include: Cleveland Clinic, the Harvard Medical School Dubai Center, the Dubai Harvard Foundation for Medical Research, the Imperial College and Johns Hopkins Medicine International.

Education

Over 240 schools and 15 universities deliver world-class education. Abu Dhabi has a unique system of nationality-specific schools (British, German, American, French, Arabic). La Sorbonne, London Business School, New York University, Michigan State University, American University of Dubai, Middlesex University and INSEAD's executive research centre all have UAE facilities.

Culture

Abu Dhabi and Dubai are world-class centres of culture, regularly hosting the Philharmonic, Cirque du Soleil and various world-renowned operas, musicals, concerts and art exhibitions. Abu Dhabi looks forward to the opening of the Louvre Abu Dhabi and the Guggenheim museum. The region regularly hosts major global sporting events like the World Tennis Championships, the Red Bull Air Race, and this year Abu Dhabi will host the closing race of the 2009 Formula 1 season.



...and work





Goals

In Masdar City, staff, personnel and visitors will not just work for change, they will live it.

- 100% renewable energy
- Carbon neutral city
- Zero waste
- Highest quality of life
- Global exemplar of sustainability research and development in practice
- Partnerships of excellence
- Best-in-class technology, thinking, architecture and planning

Master planned by Foster + Partners,

Masdar City is a 6 sq km sustainable development that uses traditional Arabic planning principals, together with existing and future technologies, that will redefine the design and construction of cities in the future.

It is an ambitious and realistic project that is attracting the highest levels of international expertise and commerce, creating a mixed-use, high-density sustainable city. One of its great achievements will be to show the world lessons learned in developing a city which meets the environmental, social and economic goals of sustainability.

Principles

Synergy, mobility, energy and quality of life. These ideas are at the very core of everything we aim to achieve.

- Achieve One Planet Living principles
- Emulate traditional Arabic city designs
- Realise highest levels of resource efficiency
- Improve quality of life in a city (car-free, convenient, compact, safe)
- Maximise the benefits of sustainable technologies through an integrated planning and design approach

“The environmental ambitions of the Masdar Initiative are a world first. They have provided us with a challenging design brief that promises to question conventional urban wisdom at a fundamental level. Masdar City promises to set new benchmarks for the sustainable city of the future.”

Lord Norman Foster

Masdar City has been planned to make best use of the intelligent integration of our principles. Not only to make it an attractive and vibrant city to live in and a functional and effective city to work and study in, but also to ensure that the design allows the most effective use of resources. Carbon neutrality, zero waste, total water utilisation and the highest possible quality of life for the 1,500 companies, 40,000 residents and 50,000 commuters that will be here.

Synergy

18

One planet principles

Different countries are consuming and polluting at different rates. If everyone in the world lived as Americans do, we would need 5 planets to support us. And if everyone lived the way Europeans do, we would need 3 planets. One Planet Living comprises 10 practical principles to enable us to live happy, healthy lives within our fair share of the earth's resources.

Carbon neutral city

A conventional city of the same size and density of Masdar City, emits about 1.1 million tones of CO_2 a year. Building design and energy generation contributes about 80 percent of the footprint, waste around 13 percent and transportation around 7 percent. In Masdar City, energy efficient building design, renewable energy generation, recycled waste and fossil-fuel free transport, ensures carbon neutrality.

Highest quality of life

A fully functioning modern city that emulates the best of traditional Arabic city designs and architecture, such as wind towers, narrow streets, shaded courtyards and compact walled city design with modern amenities, schools, healthcare, retail, entertainment and sport facilities. This intelligent mix of traditional techniques, modern knowledge and technologies helps to improve quality of life.

Multi-modal transportation system

Inner city transport will primarily be based on a revolutionary Personal Rapid Transit (PRT) system which, will

- Efficiently transport people, goods and supplies.
- Collect solid waste.
- Be located in multi-level, barrier-free environment.
- Connect to future local and regional mass transportation systems, including metro, light and intercity rail, together with easy access to the airport and bus network.

Business friendly

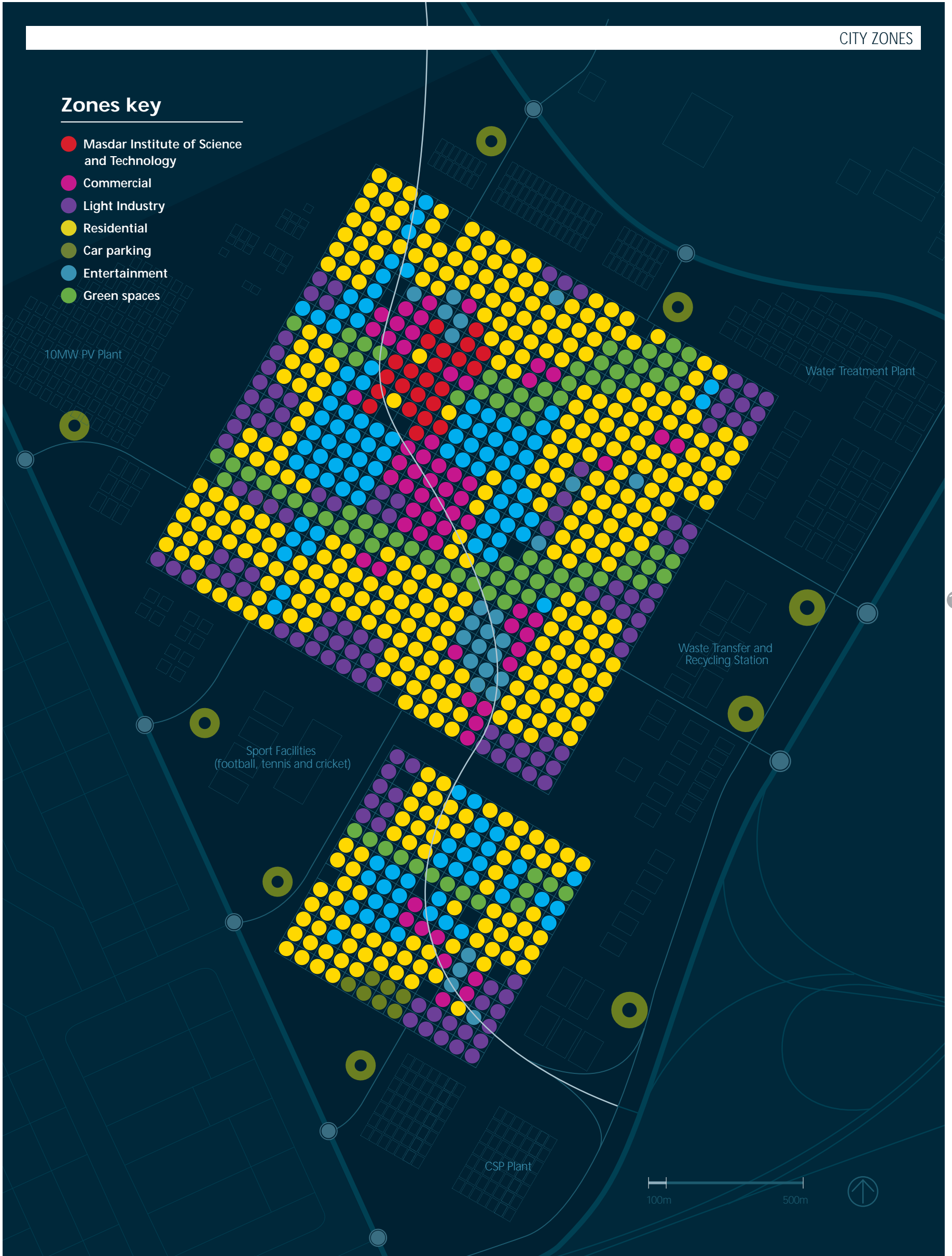
Masdar City will offer all the benefits of a freezone area including reduced barriers to entry into the Middle East, zero taxes, zero import tariffs, zero restrictions on capital movement as well as providing a host of business development, incubation and the collaboration opportunities provided by co-locating with other companies within the cleantech sector.

Efficient water utilisation

The purpose-designed and installed infrastructure in Masdar City will maximize the use of local water resources, the collection and treatment of waste water and ensure the 100 percent utilisation of bio-solids for energy and or carbon sequestration.

Zones key

- Masdar Institute of Science and Technology
- Commercial
- Light Industry
- Residential
- Car parking
- Entertainment
- Green spaces



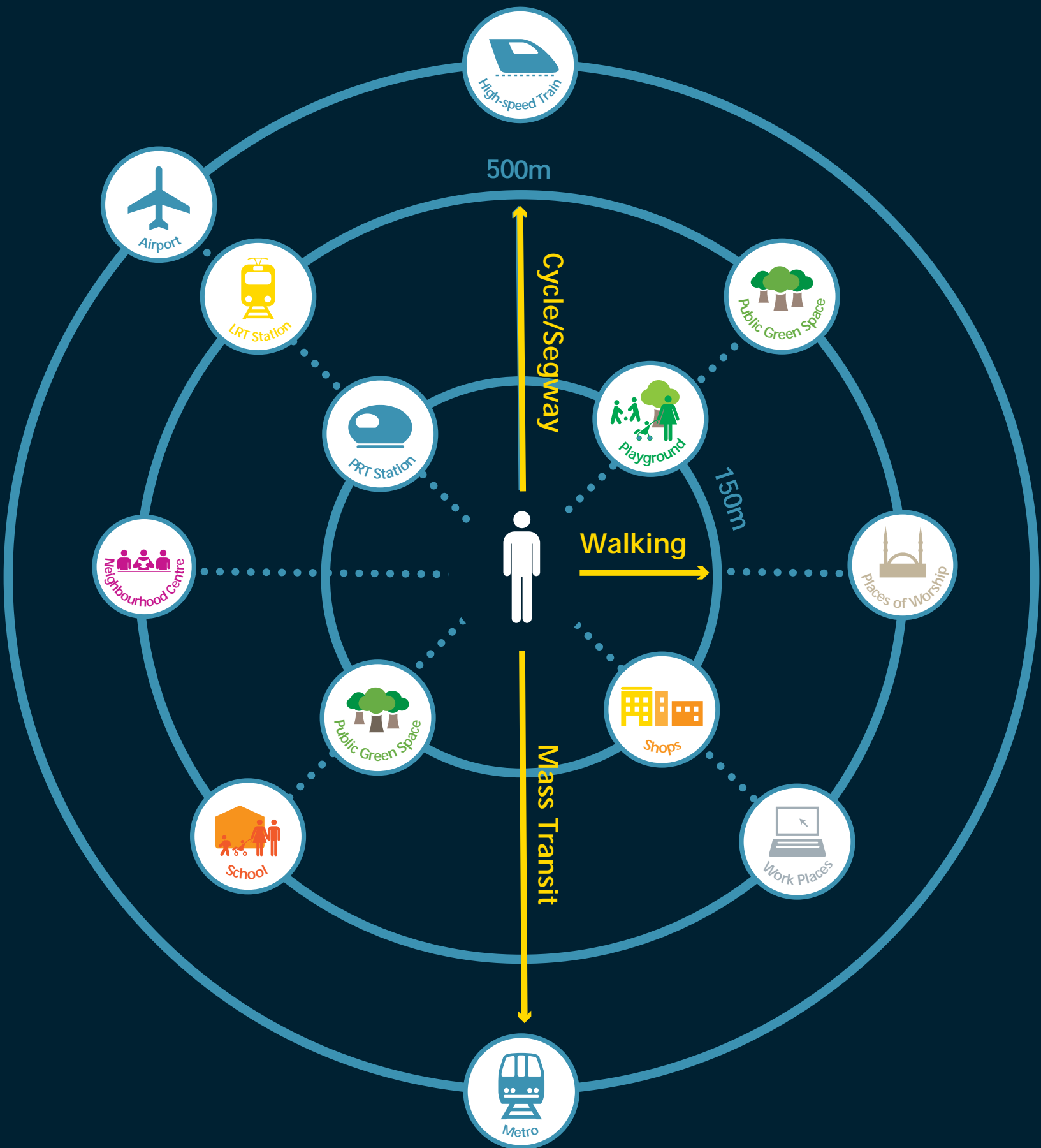
The world's most advanced city also uses the world's most advanced large-scale transportation system, removing the need for fossil-fuel powered vehicles.

Mobility

By designing a walkable city, and through the introduction of Personal Rapid Transit (PRT), Freight Rapid Transit (FRT), and breakthrough transport technologies, Masdar will revolutionise and redefine urban transport as we know it today. Free of traditional cars, the city will rely on state-of-the-art electrical PRT cars tied in to a higher-speed and longer route light rail system (LRT). Masdar will be a city where people can live and work without the need of a personal vehicle, in a multi-level, barrier-free environment.



Left: The PRT vehicle is futuristic, luxurious and efficient. It seats six people in comfort, and will travel anywhere in the city at the touch of a button.



Better energy use, better energy generation, better energy conservation. Everything about the design and execution of Masdar City is geared towards improving the energy cycle. A city that requires less energy to operate and that wastes less of every resource. Energy is our most precious resource. Masdar City creates it, harnesses it and conserves it.

Energy

22



Masdar City's hotel and conference centre facility, designed by LAVA, will provide much of its own power from the photovoltaic arrays on its roof canopy.



Masdar City



Building Design
Energy efficient

-56%



Energy Generation
Renewable

-24%



Transportation
Electric/Solar

-7%



Recycling
Waste to energy

-12%



Carbon offsetting
Carbon Sequestration

-1%

= Carbon Neutrality

Conventional City



Building Design
Conventional

80%



Energy Generation
Oil and Gas



Waste
Landfill

13%

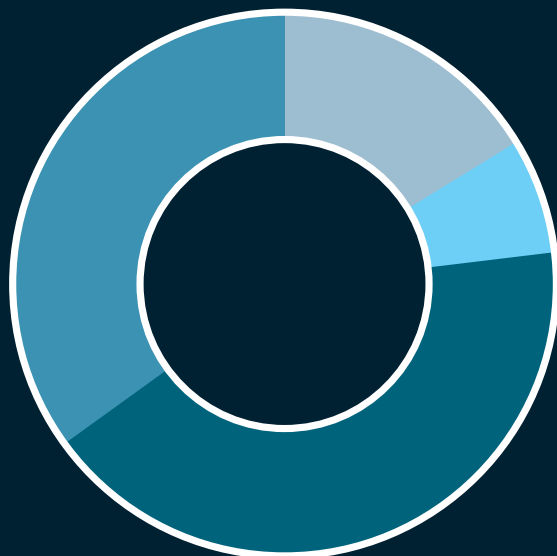


Transportation
Fossil Fuel

7%

= 1,100,000 Tonnes CO₂

100% of the energy used at Masdar City is generated through renewable resources.



8% Waste to energy



15% Evacuated tube collectors



35% Concentrated solar power



42% Photovoltaic

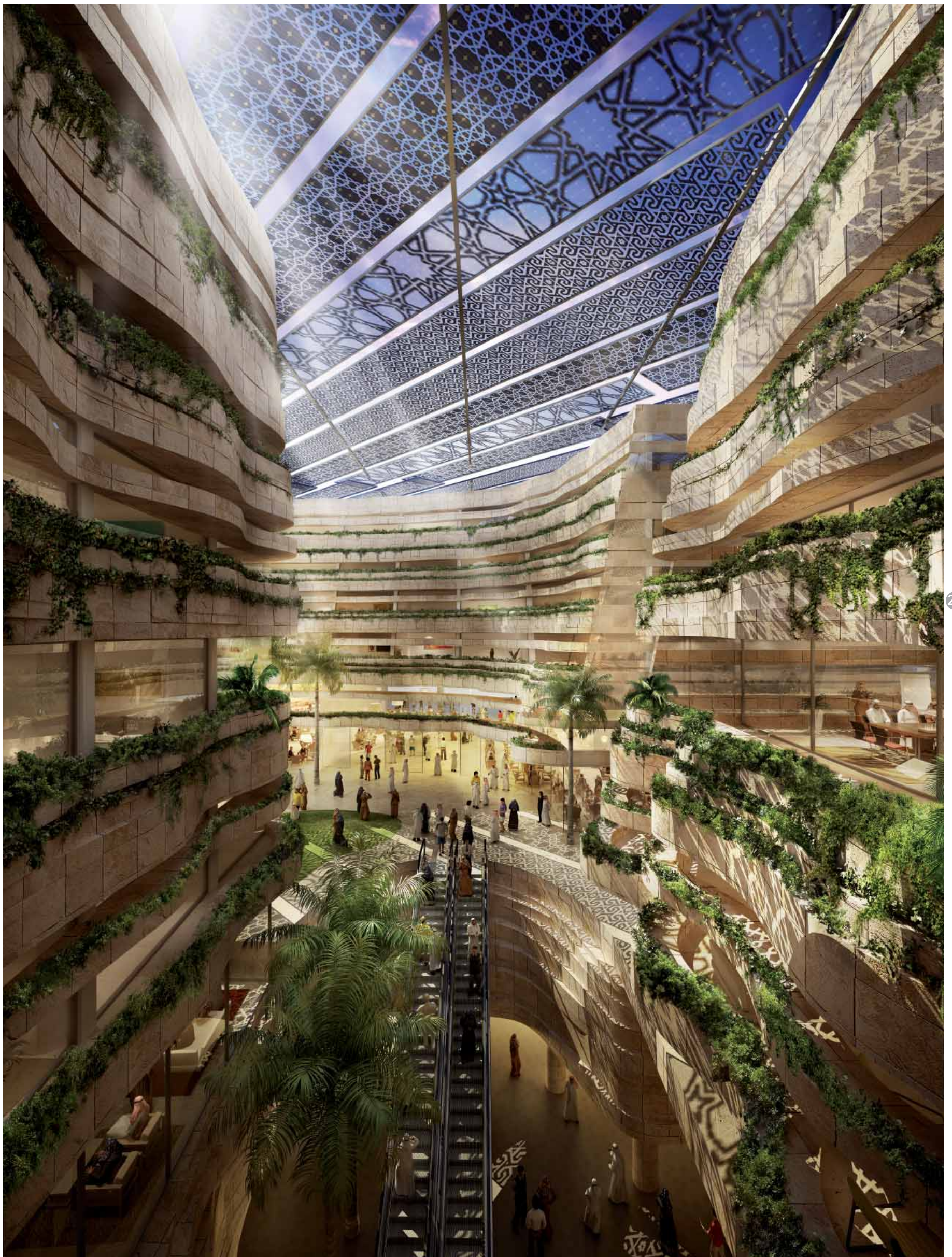
Masdar City will be as great to live in as any world-class city. It just happens to be green as well.

Quality of life

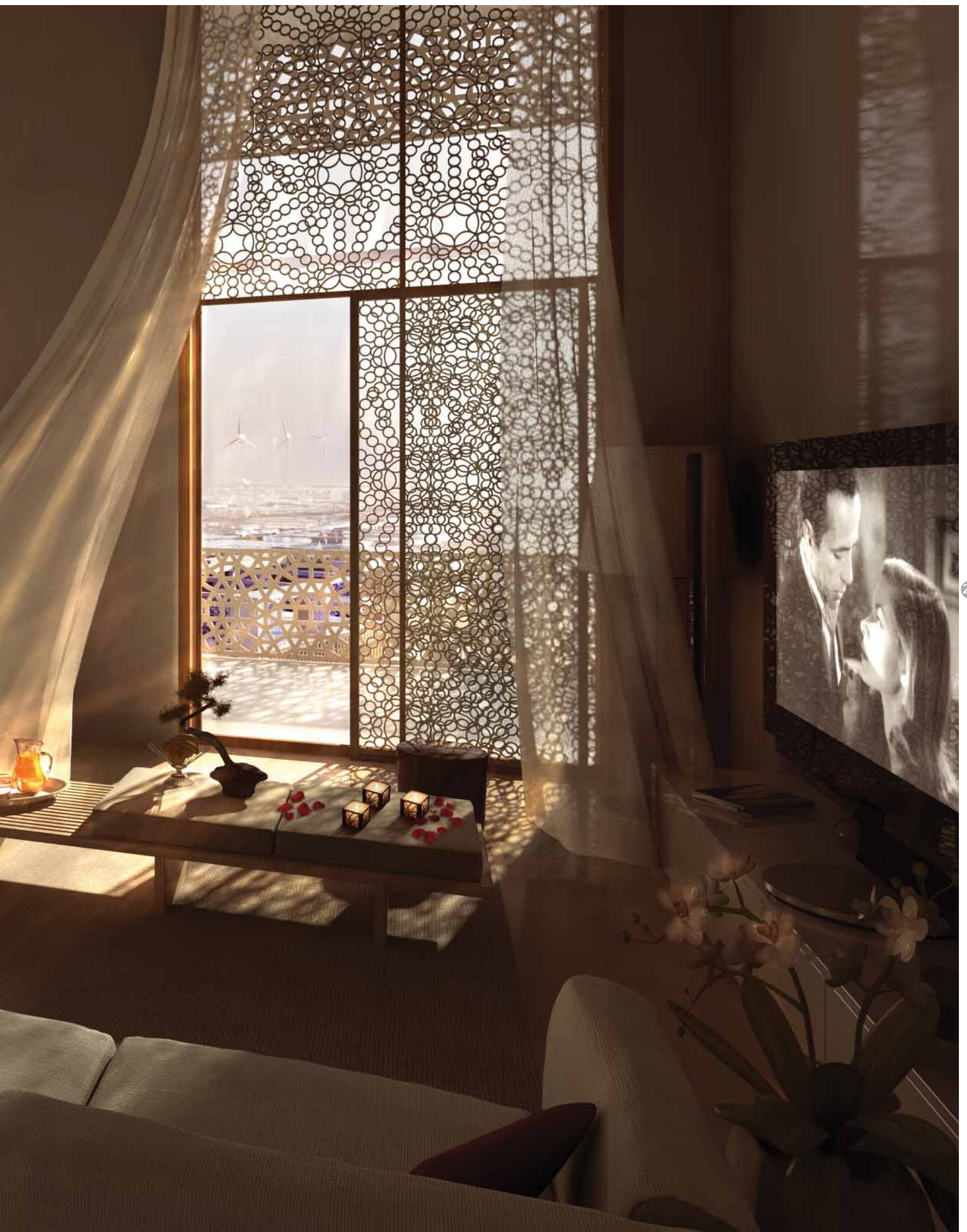


The environmental performance of Masdar City is one of the key design principles, but it is as important to the creators that it also provides an enviable quality of life. Environmentally responsible living doesn't need to come hand-in-hand with hardship.

Life in Masdar City won't be about water shortages or a lack of resources. It will be about enjoying pleasant public spaces or cultural events with your family, walking to work, shopping or eating out, secure in the knowledge that you aren't taking any more of the Earth's resources that you need or deserve.









Masdar Headquarters has been designed by the Internationally renowned firm of Smith + Gill.

One of the key drivers during the design of Masdar City has been the complete integration of the principles of sustainable development, ensuring that the social, economic and environmental goals are taken into account in every design decision. The same is true of the city planning as much as it is of the design of individual buildings.

28

Each building is at the cutting edge of sustainable design, but will also provide a great environment in which to live or work. The buildings are efficient, effective, uplifting and exciting. In order to maintain a sense of scale and rhythm within the cityscape, some of the buildings are iconic and some of the buildings are subtle, but all of the buildings will be world-class.

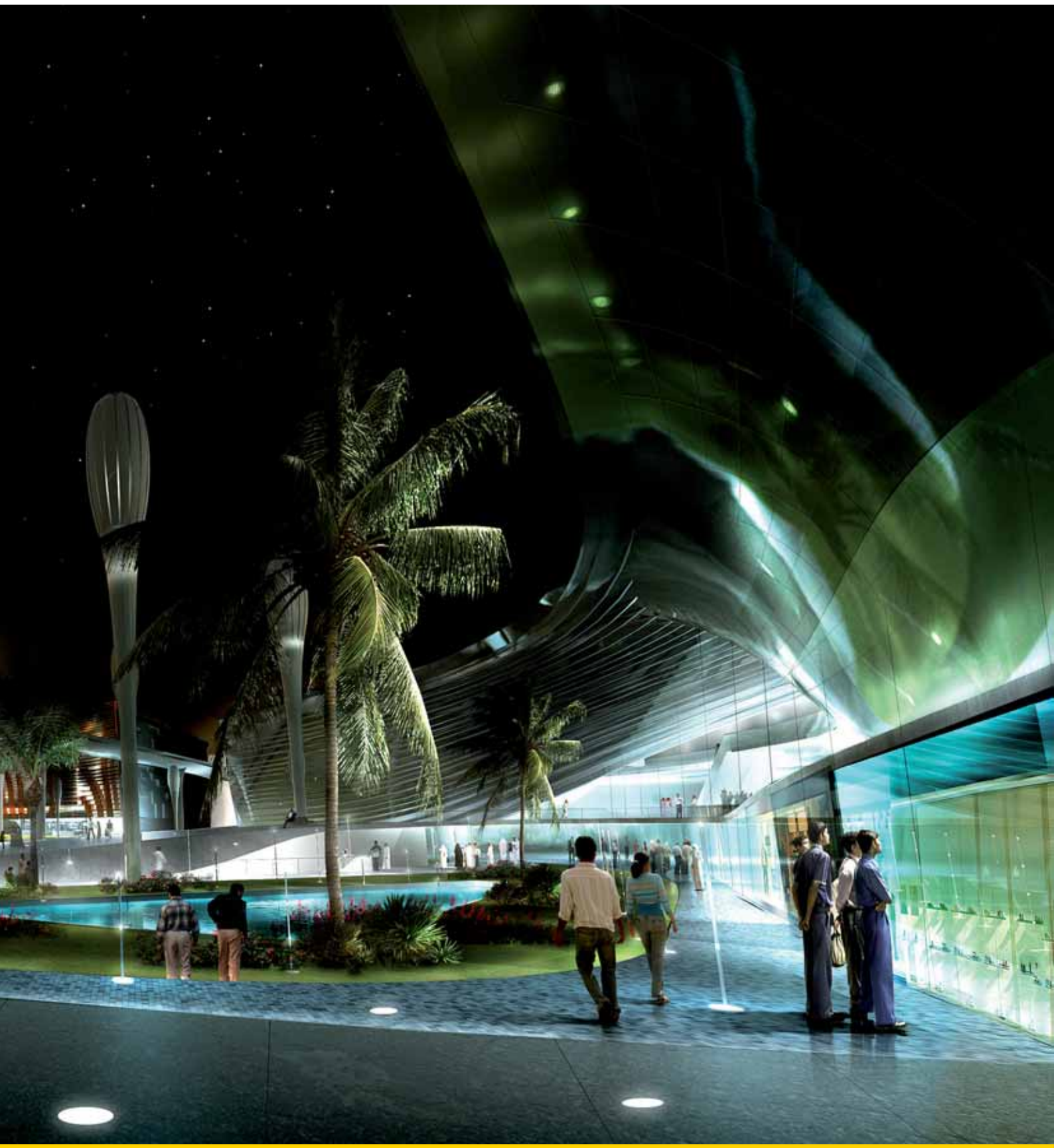
A great city...



In warm weather, a sub-surface water-cooled floor acts with multi-layered solar umbrellas to reflect heat and reduce ambient temperature. As the temperature decreases, umbrellas fold away automatically using built-in PV panels to power their motors.



...needs gre



at buildings

The world's greenest commercial building

32



The highest measures for environmental sustainability just aren't high enough for Masdar HQ. It surpasses all previously defined global building standards.

It is carbon neutral, uses 70 percent less water than buildings of comparative size, its roof houses the world's largest integrated photovoltaic panel array, and is the first building in the world to generate more power than it consumes.

It is simply, the world's greenest commercial building as well as one of the most technically advanced.

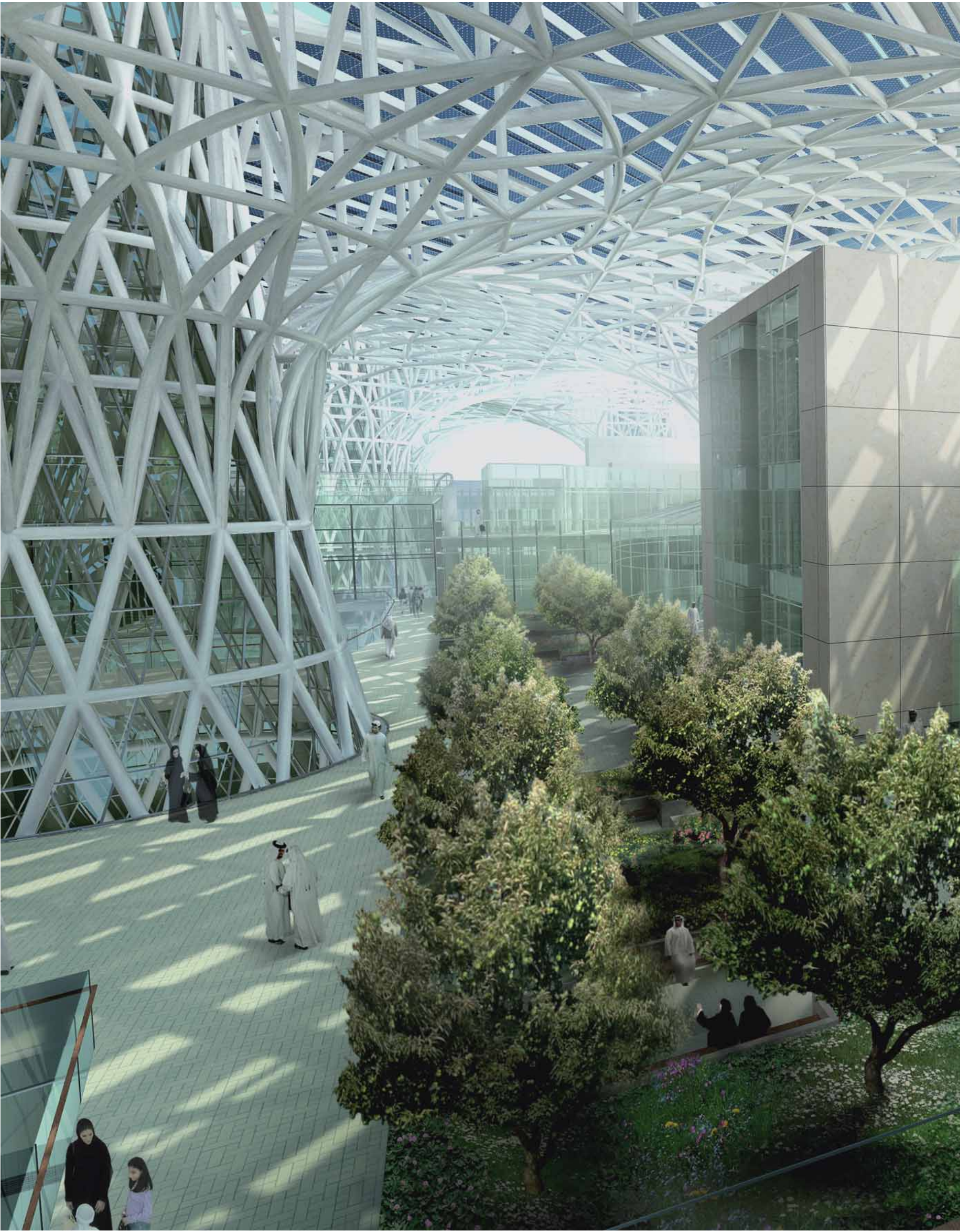
Masdar HQ will stand out. Within the development it will act as a hub around which the rest of the city is built, and locally and globally it will be an example for other developers to follow. The building exceeds the high energy-efficiency standards and low resource-consumption levels set for the city.

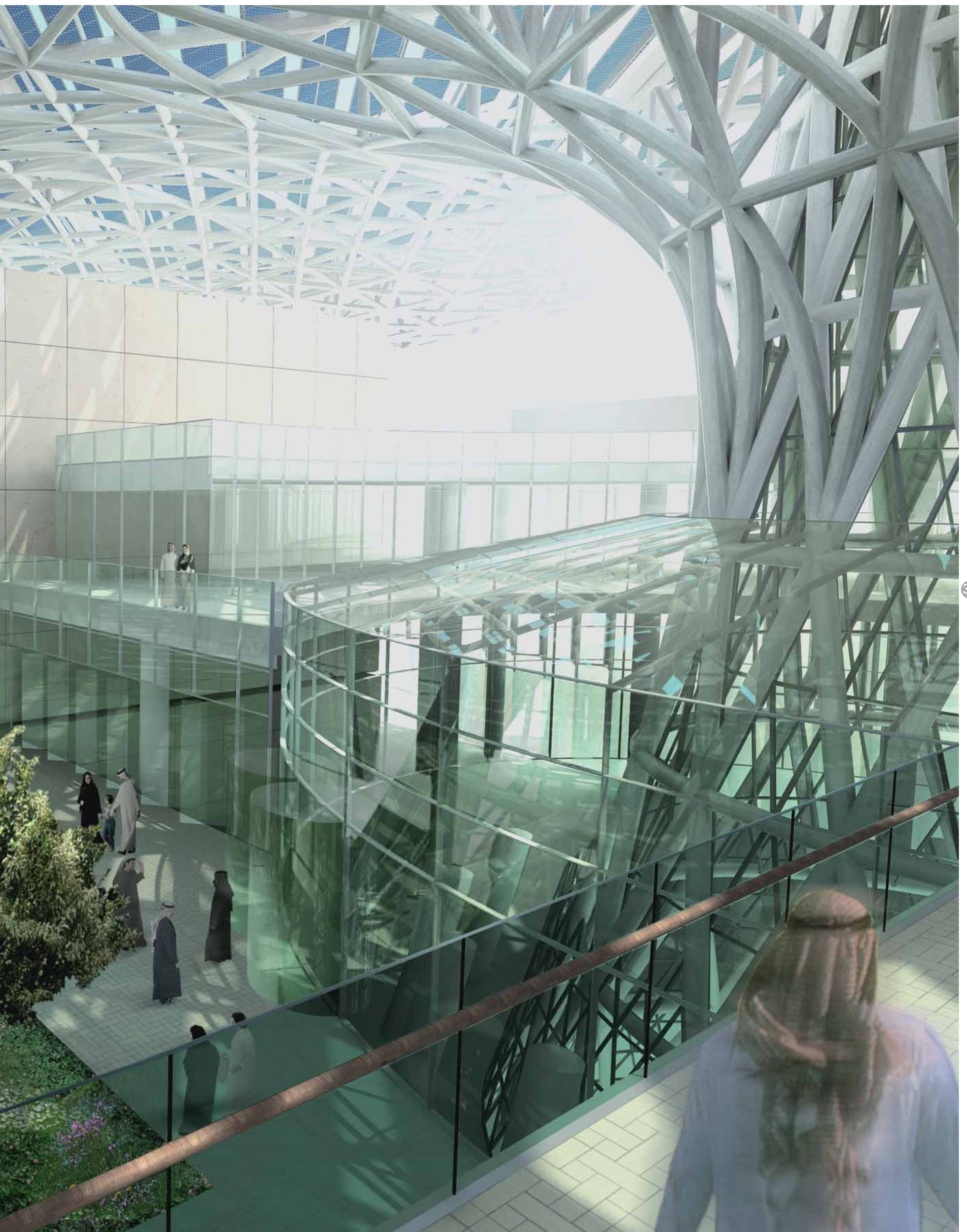
The sun will be the source of energy for Masdar HQ. Its rays will be harnessed through the world's largest solar canopy, which will provide shade to the building below and keep it cool in the hot desert climate. The power of the sun is also used to cool the building, replacing ozone-depleting air conditioning units.

Eleven large wind cones will ventilate the building, expelling hot air above as fresh air enters from below. The draught created will circulate cool breezes and reduce the building's temperature. In addition, sunlight will flood through the cones and will reduce the need for artificial lighting.

On the roof, shaded by the solar canopy, residents will have access to communal outdoor green spaces in which to relax.







The Masdar Institute of Science and Technology is a key component of Masdar City. First opening to students in September 2009, by 2011 the Institute will offer 10 MSc programmes in renewable energies and sustainable technologies. The purpose-built 43,000 sq m research facility and 11,000 sq m of laboratory space for the 800 students and 200 faculty staff will encourage an environment for the next generation of scientific discoveries.

Masdar Institute

36

Designed by Foster & Partners, as a benchmark for other buildings to follow, the Masdar Institute is designed to provide a 70 percent reduction in portable water consumption, a 75 percent reduction in cooling demand, a 95 percent reduction in domestic hot water energy consumption and a 70 percent reduction in electrical demand. The smart design will also encourage interaction, communication and visual connectivity between students, staff and visitors.

Unique features include:

- Pedestrian colonnades with retractable screens that are closed during the day to provide shade, but opened at night to purge warm air and collect cool breezes.
- A laboratory facade that has been developed to provide glare-free daylight and solar control, without affecting views out of the building.
- External ETFE cushions, backed by reflective stainless steel, that create a durable and low maintenance facade with a very low thermal mass, limiting heat gain and reducing building energy usage.
- An energy metering system that monitors energy consumption and produces data that can be easily accessed by students and faculty and used as a research tool.
- Accommodation that has been designed with the latest low-energy lighting systems and a low energy 'sleep mode' when the rooms are unoccupied.
- Wind towers that capture cooler, higher level winds and direct them to the public spaces below.
- Buildings that are oriented to provide optimum shade and reducing cooling loads. Green linear parks adjacent to the buildings capture and channel cooling night-time winds.
- Wind gates that control hot winds, and wind towers and courtyards that enhance ventilation and cooling. The public spaces that are cooled by shading.
- The researchers at Masdar Institute will not only be leading the way in finding the answers to the questions of our environment's future, they will be living them every day.







40 'A sustainable development meets the needs of present generations without compromising the ability of future generations to meet their own needs.'

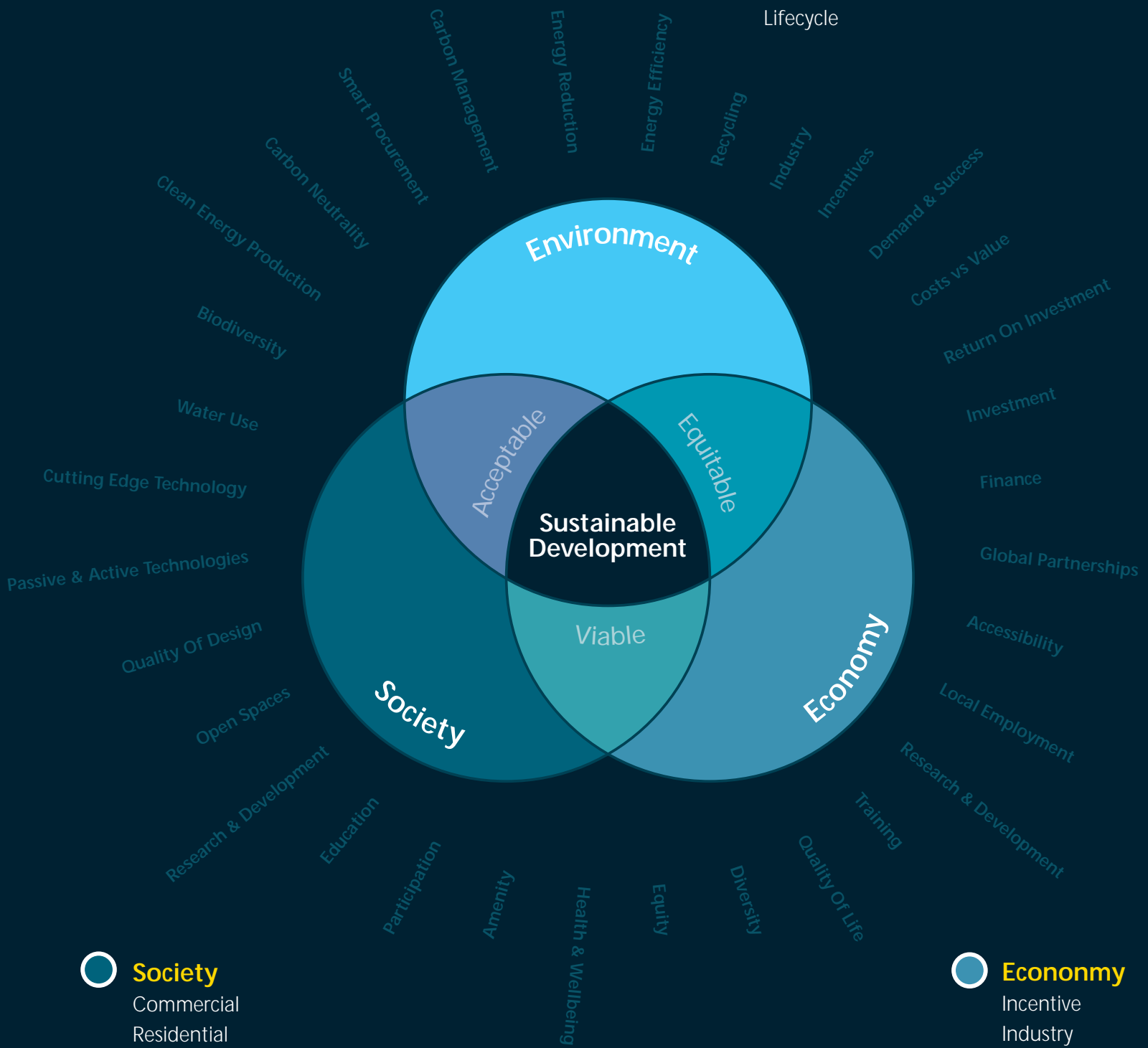
Bruntland Report

'Our Common Future'

Sustainability is a balance or integration between three major components:

Environment

- Planning
- Power
- Waste
- Water
- Transport
- Lifecycle



Society

- Commercial
- Residential
- Academic
- Leisure/Civic
- Light Industrial

Economy

- Incentive
- Industry
- Investment
- Government
- Profitability

Planning

Strategically located in Abu Dhabi, Masdar is adjacent to the international airport and to the east of central Abu Dhabi. It is linked to the principal infrastructure and surrounding communities as well as the proposed high-speed coastal links to Abu Dhabi City and Al Raha beach.

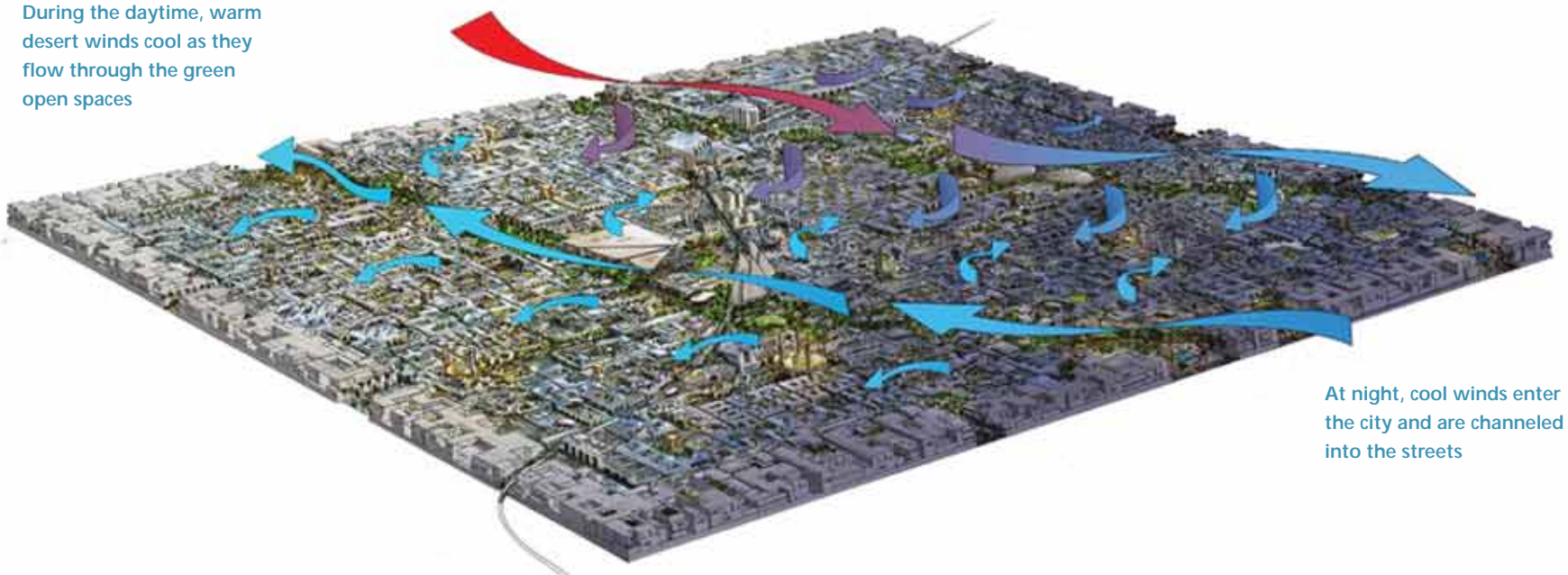
Responsive to the culture and spirit of Abu Dhabi, the design of the city is inspired by the traditional Arabic architecture and urban planning of the region and includes many examples of where traditional design techniques help to reduce energy consumption and to improve the quality of the environment.

Shaded walkways and narrow streets reduce glare and solar gain, and create pleasant and attractive outside green spaces. The diagonal orientation of the streets and public spaces makes best use of the cooling night breezes and lessens the effect of hot daytime winds, whilst further reducing the effects of direct sunlight. Traditional passive features such as wind towers and blinds and solar shades help to further improve comfort levels.

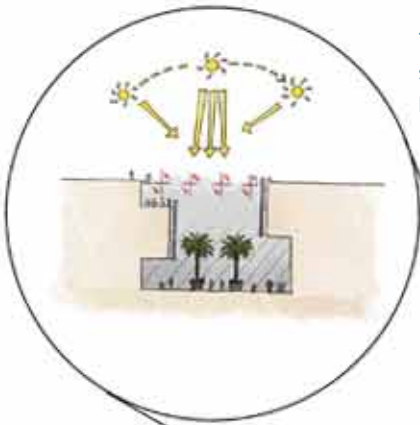
The buildings in the city are amongst the most advanced in the world. Intelligent design of residential and commercial spaces reduce the need for artificial lighting and air conditioning. All buildings will surpass the highest standards currently set by internationally recognised organisations and Masdar City is a key partner in the *Estidama* programme which sets new benchmarks in planning, design and building within cities.

42

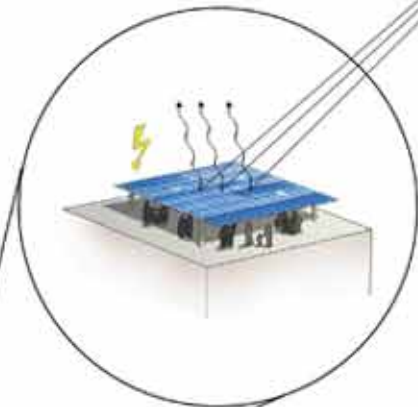
During the daytime, warm desert winds cool as they flow through the green open spaces



At night, cool winds enter the city and are channeled into the streets



The sun enters shaded spaces, bringing light, but not heat

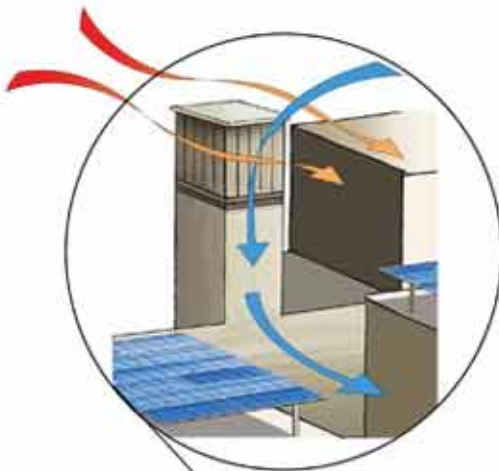


Photovoltaic panels are applied to roofs, and provide cooler, shaded roof spaces in the daytime, and power for the building

Sun



Parks and green spaces create cool, green oases and attractive places to relax



Cool wind enters the traditional wind tower and is directed into the street. Warm air is directed away.



Landscaped entrance areas encourage cool air flows and provide a recognisable point of entry





Power

After the efficiency of the city has been maximised, the most important carbon savings that are achievable come about through the generation of electricity through renewable resources, or by using natural methods to bypass the need for power use. A standard city would draw power from a distant power station fired by coal, oil, gas or nuclear fuel. At Masdar, the following technologies are used:

Photovoltaic technology

Extensive use of photovoltaic technology is proposed, both to provide the base power load during the construction phase and integrated into the city at roof level. A variety of panel types will be used including; monocrystalline, polycrystalline and thin film. Photovoltaic power will provide a large proportion of the total energy demand.

Concentrating solar power

CSP technology will be used to provide electricity and heat for the production of cooling with absorption chillers. The high temperature heat produced can be stored for overnight use with molten salt technology.

Evacuated tube collectors

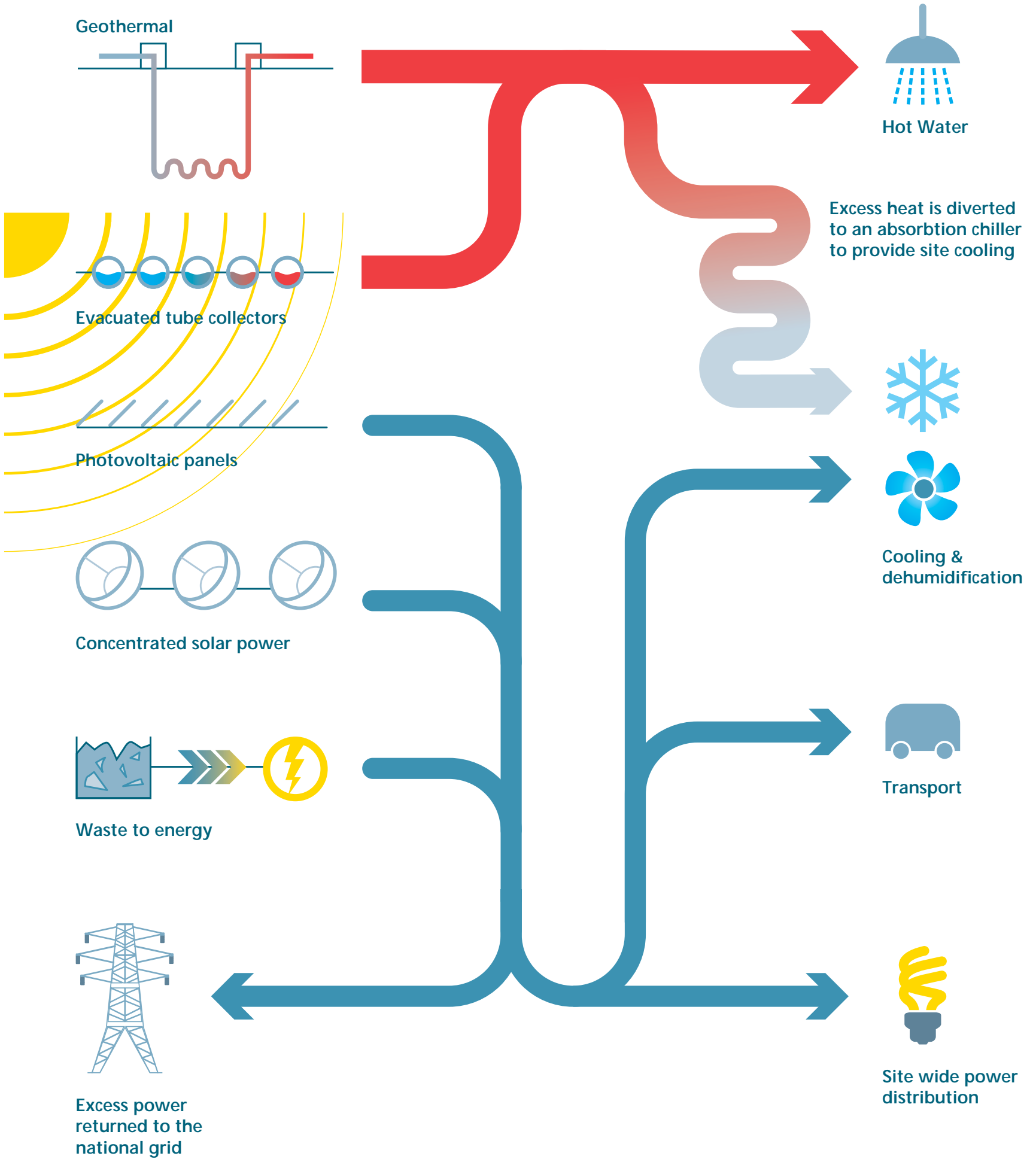
ETC will be integrated into buildings to provide hot water and a base load which can be used for cooling.

Geothermal

The feasibility of a deep geothermal resource borehole is being evaluated. This will provide a constant source of high temperature water or steam for the production of 24-hour cooling.

Waste to energy

Products that cannot be recycled can be converted into energy by incineration using a number of technologies including gasification, pyrolysis and plasma arc gasification.



Waste

Global waste management is a huge challenge. With the majority of waste globally still going to landfill, drastic action is required. As a response to this, Masdar City has developed a strategy encompassing waste collection and treatment system that will eliminate the need for landfills.

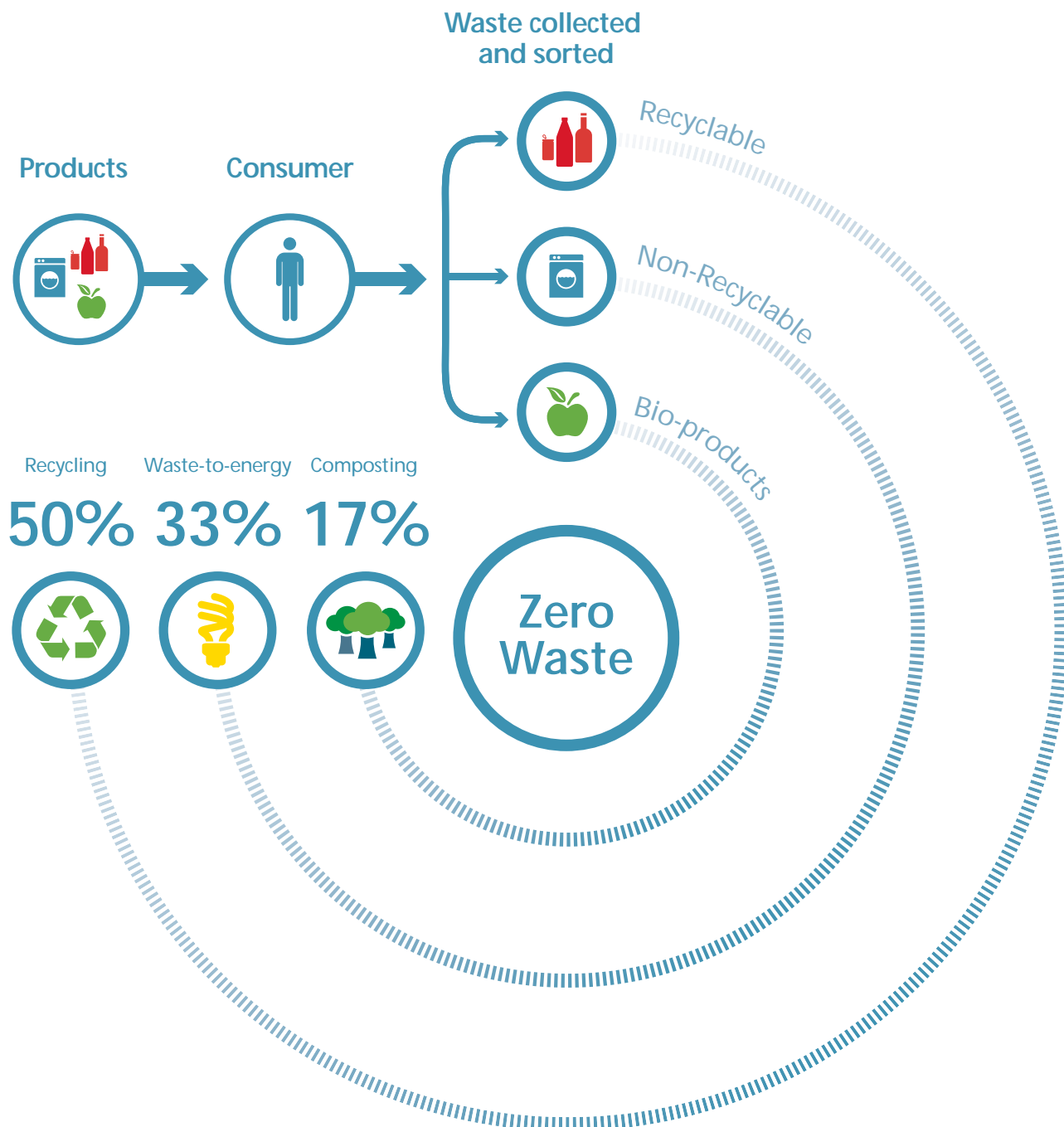
After ensuring that construction, manufacture and procurement processes introduce the minimum possible waste into the system, the next step is to sort and collect the waste. Vacuum waste systems automatically sort and remove all waste from point of use, ensuring the city is clean and tidy and reducing the need for traditional dustcarts.

Once collected, the waste is sorted into compostable, non-recyclable and recyclable waste. All appropriate bio-waste will be composted and the product used to enrich the plantations.

The recyclable waste will be recycled on, or as close to site as possible and any remaining waste will be employed in a zero-emission waste-to-energy plant. By using this integrated system the unnecessary use of landfill is avoided.

Masdar has strict targets during the construction process that include:

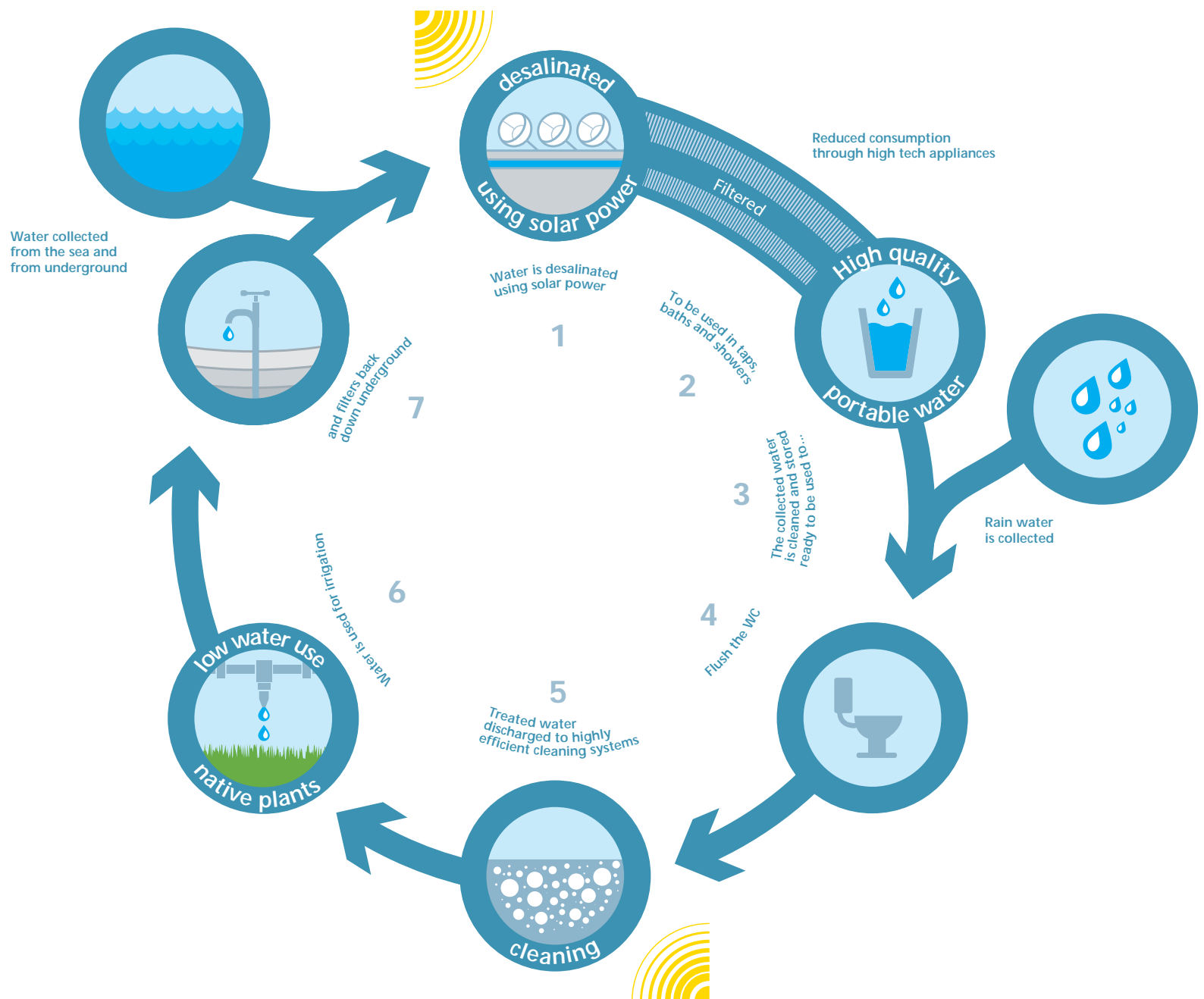
- All steel and metals used in construction are recycled.
- All concrete rubble is recycled.
- Wood is stockpiled for reuse and finally energy recovery.



Water

Water is one of the UAE's most precious resources and the power that is usually required to provide clean, drinkable and useable water is extreme. Masdar City has been designed to minimise water waste and maximise the efficiency of production techniques.

- Reduce domestic water consumption to 100 litres per capita per day from the current UAE average of approximately 500 litres per capita per day.
- Utilise a broad array of water-use reduction technologies such as grey and black water recycling, landscaping with low-water use native plants, seawater greenhouses, dew catchers and rainwater recovery.
- Incorporate smart water appliances into offices and homes such as low-flushing toilets, showers and highly efficient laundry systems.
- Minimise the need for desalination as a source of water.
- Maximise the use of local water resources.
- Eliminate waste and leakage, reserving high-quality water supplies for drinking, and using state-of-the-art treatment technologies to facilitate expanded water reuse for all other uses.



Masdar City's diverse and comprehensive transport system will move people within the city and provide connections to the region's wider transport network. With the development of each transport technology, the need to travel by traditional modes, such as cars and trucks, will be eliminated and result in an increase in the quality of life throughout Abu Dhabi. The integration of a series of efficient systems will make transportation easy and effective.

Transport

50



Inside Masdar City

The Personal Rapid Transit (PRT) system is effectively an automated taxi service, providing the convenience and luxury of a private vehicle.

There will be over 3000 vehicles providing up to 135,000 trips per day. The system will operate 24 hours a day, 7 days a week and congestion, parking, waiting, getting lost or car accidents will be a thing of the past. Key to the effectiveness of the system is the proximity of the 85 PRT stations; no one will ever be more than 150m away from the nearest PRT stations.

These state-of-the-art vehicles are air-conditioned comfortable, sophisticated and ultra modern. They can automatically take you anywhere you want to go within Masdar City with a maximum journey time of seven minutes. Most importantly, they are powered entirely by renewable resources, and so provide the key component within the world's first emission-free, large-scale transportation system.

The Light Rail Transit (LRT) system will pass through the city while travelling between Masdar and the airport along an extensive rail network. The LRT will connect Abu Dhabi island, its suburbs, and upcoming communities such as Al Raha Beach and Yas Islands. Frequent service, characteristic of LRT operations, will move people within Masdar City and beyond. Access to the system will be via six LRT stations strategically located in areas of high activity where passenger numbers on the rail system will be maximised.






Outside – Metro and High Speed Rail

By 2030, Abu Dhabi is projected to have 3.1 million residents in the metropolitan area. This enormous growth highlights the need for a fast, high capacity, high-quality transit system that will move thousands of people on a daily basis. Plans call for an underground Metro line from the airport to Masdar City, that continues on to central Abu Dhabi. This station will connect Masdar to a highly sophisticated, wider transport network. The recently announced High Speed Rail system will provide high capacity, high speed travel between Abu Dhabi Airport and Dubai, further developing Masdar City's extensive transport network.

Abu Dhabi/
Raha Beach ↑

Abu Dhabi
International
Airport

Khalifa City

-  LRT Station
-  Light Rail Transport (LRT)
-  Personal Rapid Transport (PRT)
-  PRT Station
-  Car parking

100m 500m



Lifecycle

Throughout the construction and operational life of Masdar City, there will be a substantial shift towards the greater use of sustainable products, materials and services.

Through a detailed product evaluation process which includes environmental, economic (including cost and quality) and social considerations, Masdar will reduce the overall impact of the materials chosen for the buildings in the city.

There are many important considerations including; cradle-to-cradle lifecycle analysis, evaluation of amounts of recycled content, manufacturing processes, assembly plant location, logistics and distribution. Following this strategy, combined with this screening and specification process, Masdar will have a positive regional effect by influencing the overall supply chain to become more sustainable.

“We believe the actions of our suppliers are increasingly important factors in our sustainability performance and that they should therefore be viewed as partners in our sustainability aspirations.

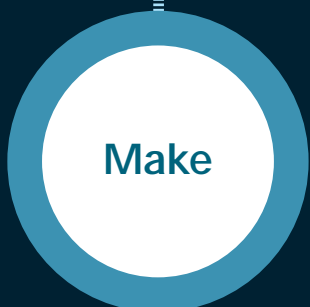
We take great care in selecting the companies who supply us with products and services, and expect each of them to operate to internationally recognised standards and appropriate codes of practice.

We seek out suppliers who share our commitment to best practice and continuous improvement in ethical business practices, in management practices that respect the rights of all employees and the local community, and in minimising our impact on the environment”

Significant product cost and environmental impact is locked in at design phase

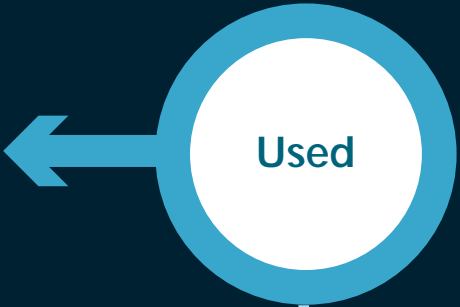
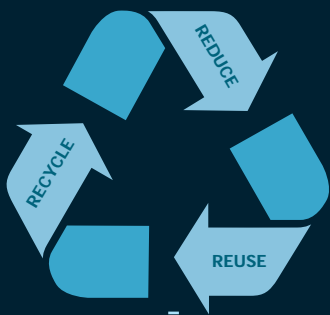
Energy sources and efficiency of production impact both cost and greenhouse gas emissions

Manufacturing waste is both an environmental and business cost



The sustainability of sources influences overall sustainability

Transportation is a common contributor to greenhouse gas emissions



Materials selection and assembly influence end of life disposal options

Products efficiency and durability influence environmental impacts

Purchasing with sustainability in mind





Business benefits at Masdar City

Masdar City is forging ahead with its vision to become the global centre for renewable energy research, development, implementation and investment. Covering over 6 sq km, and centrally located, it will be the definitive location for a fully integrated and working city that will afford a new working experience for businesses and employees.

- Masdar City will attract and feature a diverse range of companies - more than 1,500 - ranging from Fortune 500 and publicly listed firms, to small and fast-moving idea labs.
- Located at the crossroads between East, West, North and South, Masdar City is set to become the global epicentre for renewable energy business ambitions and deliverables.
- An open and innovative business environment, that, combined with the brightest academic minds, will create an extraordinary Research and Development and learning and teaching environment.
- A business-focused environment, specifically designed for clean-technology companies, that ensures easy set-up and implementation, allowing leaders and workers to focus on the important tasks at hand.
- The most advanced laboratories in the region will be located within The Masdar Institute of Science and Technology.
- Masdar City is ideally situated to foster new ideas, and provides the ideal environment to pilot and test new technologies and applications.
- A highly skilled pool of engineers, researchers, designers and managers work closely with the brightest graduate students and professors from the Masdar Institute – creating a highly-charged work environment.
- Masdar's investment teams specialise in cleantech financing and work closely with venture capital firms, helping to create new and exciting funding opportunities to businesses and entrepreneurs.
- The Masdar brand is highly regarded and recognised internationally, and business association with our goals and vision offers tremendous benefits and value.
- The most efficient, state-of-the-art and sustainable buildings providing the ideal working environment for staff.
- All the amenities one would expect from a modern city.
- All types of commercial space: High grade offices, research laboratories, testing facilities, assembly, concept stores and retail.
- A self-contained car-free city. Living and working within easy reach in a pleasant, landscaped environment.
- Beneficial rates for residential leasing.

Masdar City offers all the benefits one would associate with a freezone, but with a unique focus on clean technology and renewable energy, and in a business friendly and entrepreneurial environment that offers:

- Quick and easy set-up with a one-stop-shop for registration, government relations and visa processing.
- 0 percent import tariffs.
- 0 percent taxes for companies and individuals.
- No restrictions on capital movements, profits or quotas.
- Trade without a local sponsor.
- No currency restrictions.
- Easy access to highly skilled labour.
- Opening of new market opportunities.
- Outstanding local and international logistics network by air, sea, road and eventually rail.
- A safe, friendly working environment.
- An improved quality of life.
- The opportunity to maximise corporate social responsibility objectives.

Partnering with Masdar

To build the most advanced city in the world we are incorporating some of the most advanced technology currently available alongside simple and proven concepts. At the same time we are a showcase for sustainable building materials and products.

Technology is a primary building block of Masdar City and its successful implementation is paramount to the Masdar image around the world. If you believe your company has synergies of interest to us we are always keen to hear your ideas and determine where and how we might be able to work together. We are constantly looking for ways to be innovative and run a comprehensive course of pilot programs across a broad array of technologies.

Some of our current focuses to ensure the future smooth operation of the city are:

Energy and Utilities: District cooling, grid management for electrical power and water distribution, geothermal technologies, all solar technologies, energy storage, nano-technologies, waste collection, handling and recycling, grey water and black water treatment and desalination.

Infrastructure: Masdar is embarking on a global drive to attract industry partners in real estate development, design (including sustainable architecture), city management systems, hotel operators, health care, retail, citizen administration and security services.

ICT: In order to improve the quality of life and enable critical services the city the ICT structure of Masdar will require special attention. Fibre networks, smart building controls, operations management and electronic wallets will all feature in the city and are currently being assessed.

Transport: The unique transport systems of Masdar City present challenges that have never been addressed before. Demand management systems, movement of hazardous waste and bulk items, emergency services and car park management are all important functions that will require the implementation of new ideas.

At Masdar City, companies can:

- Showcase new and emerging technology to customers and partners.
- Instantly implement new ideas and innovations into a test environment.
- Conduct extensive Research and Development at the Masdar Institute of Science and Technology, and establish a robust mechanism to measure results.
- Strategically operate an international or regional headquarters, close to emerging markets and customers.
- Bid on procurement opportunities within Masdar City, and help to supply materials during the design and construction of the city.

Access an up-to-date partners and supplier web site, to review and bid on delivering goods, services and innovations to Masdar:

www.masdarprocurement.ae

Retail Partnerships

The retail provision within the city will sustain and provide a fully-functioning retail offer for the inhabitants. This will include all retail, service and food and beverage sectors. The distribution of retail has been modelled to ensure best practice in terms of both sustainability and commercial viability. This involves breaking the city into distinct urban hubs with dedicated Neighbourhood Retail Centres which will feed into a larger city centre.

The city will be a global exemplar of sustainable development, and any retailer that considers environmental awareness to part of its brand will be eager to be part of this project.

The city, when completed, will provide 63,000 sq m (Gross Leasable Area) of retail floorspace carefully distributed to create a vibrant and cosmopolitan mixture of merchandise to the projected 40,000 inhabitants and 50,000 daily commuters.

The open spaces that permeate the city will be activated for restaurant and cafe uses to create vibrant piazzas, avenues and terraces. Taking advantage of the unique microclimate, outdoor areas will be designed into the outdoor landscape to allow inhabitants and visitors alike to enjoy al fresco dining in comfortable surroundings.

Community identity and belonging

The Neighbourhood Centres are seen as the heart of the community creating a sense of identity throughout the city. These will serve the local residential communities with daily goods and services which will be anchored by a food store. Multiple opportunities exist to take advantage of the local pedestrian footfall generated by the adjacent residential communities.

City centre

The city centre will showcase the best of global sustainable retail in an urban context. There will be extensive high street retailing anchored by a shopping centre complex extending to approximately 16,000 sq m which will offer a food store of approximately 3,500 - 4,000 sq m. Being part of the city centre will allow retailers to establish their environmental credentials worldwide and show that the challenges of sustainability and commerciality can co-exist in an unparalleled retail location.

The market

The market contains many segments from city residents to the substantial commuting workforce and the multitude of visitors that are expected to come to Masdar on a daily basis. More details of demographics are available on request.



Contact

Masdar

PO Box 54115, Abu Dhabi, United Arab Emirates

Telephone:

+971 2 513 3333

Website:

www.masdarcity.ae

Masdar

PO Box 54115, Abu Dhabi, United Arab Emirates T +971 2 513 3333 www.masdarcity.ae