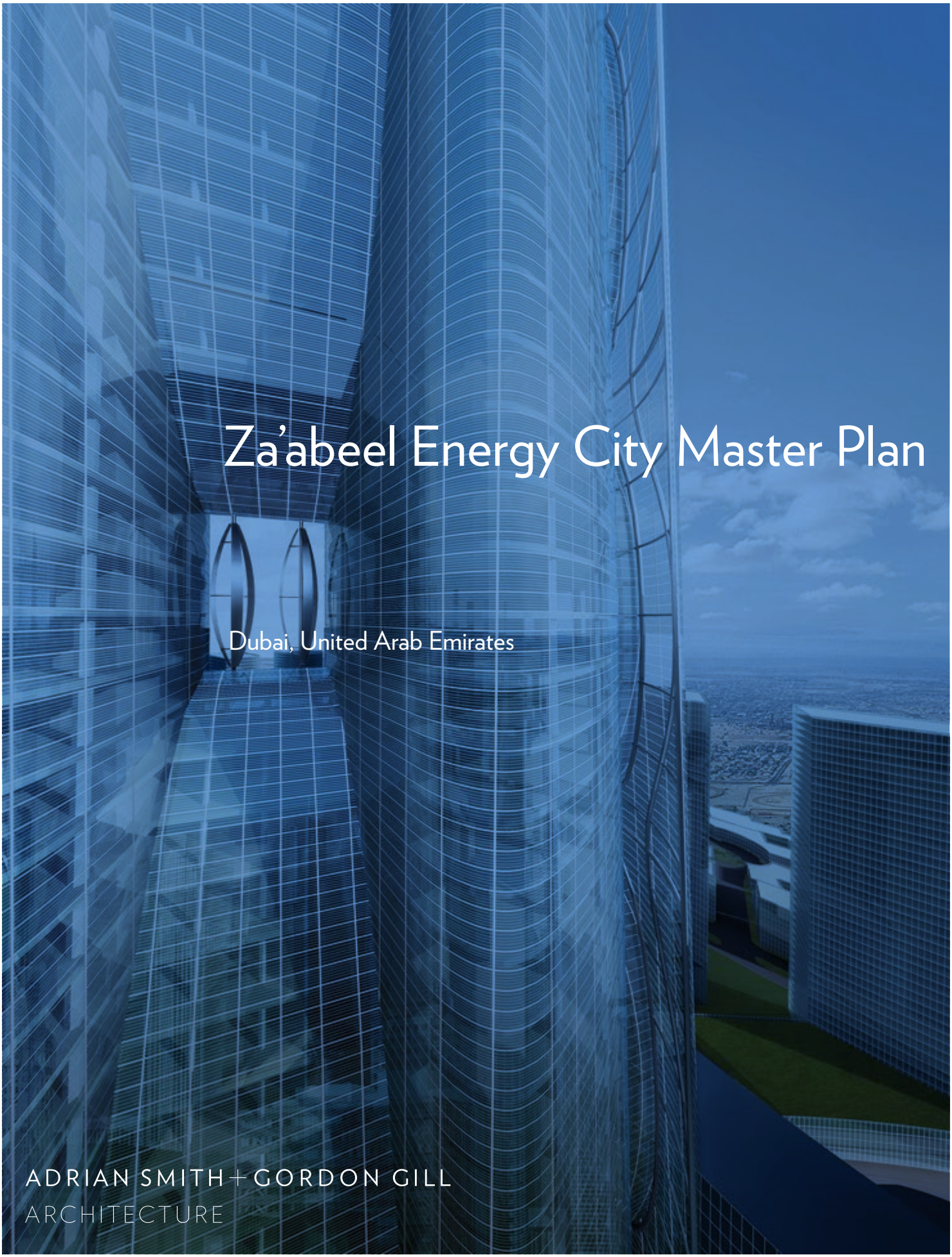


Za'abeel Energy City Master Plan

Dubai, United Arab Emirates

ADRIAN SMITH + GORDON GILL
ARCHITECTURE

Za'abeel Energy City Master Plan
Dubai, United Arab Emirates

The Energy Master Plan is uniquely positioned as a center for both commerce and residential development. The project will embody modern, sustainable living, working and recreation in Dubai.

SERVICES
Architecture

CLIENT
Meraas Development

FUNCTION
Mixed-use

FACTS
4,496,728 sm building area
918,242 sm site area

With connections by rail to Jumeira Gardens and convenient proximity to the Burj Dubai and downtown, the project will be a vibrant mixed-use center. The generative concept behind the Master Plan is the creation of memorable places that define sustainable districts and neighborhoods.

The Master Plan proposes the creation of a major new civic park space. All residents and workers will have direct access to the commons through shaded pedestrian passageways, multi-modal transportation access to the project and opportunities for pedestrian and bicycle use within the development provide all users with a diverse experience and due to its proximity to transit, the Master Plan has an opportunity to become a self-contained, mixed-use environment and achieve Dubai's first LEED platinum rating for community design.

Office and hotel functions add interest along the main boulevard and throughout the development, effectively reinforcing this new business center and connection to convention and hospitality functions. Private, luxury residential lofts define the perimeter of the project, providing a unique and intimate living experience.

In addition to creating memorable urban places, the Master Plan utilizes Islamic patterns and design traditions, re-interpreted for modern materials and lifestyles, to create variation and uniqueness in building designs and landscapes. These patterns, drawn from Islamic textiles, architectural ornament, and traditional village forms add texture and scale to the project.

EFFICIENT COOLING SYSTEM:

Balance demand from commercial and residential users. Combined heat and power plant can achieve up to 94% efficiency.

Increased performance building envelope: design to high-energy efficiency standard.

CO2 EMISSIONS CONTROL:

Minimize CO2 emissions by using high-performance building design, tri-generation central utility plant, on-site renewable energy systems and potable water conservation.

WATER EFFICIENCY:

Minimize water consumption; maximize use of reclaimed water for irrigation.

Greywater use; rain water can penetrate and recharge ground water.

Reduces volume of storm water run-off and discharge of pollutants.

MAXIMIZE USE OF RENEWABLE ENERGY:

Wind Turbines

Photovoltaic Panels

Thermal Solar Collections

Fuel Cells/Hydrogen Power

INDOOR ENVIRONMENTAL QUALITY:

Maximize natural ventilation and daylighting.

ENCOURAGE ALTERNATIVE TRANSPORTATION:

Maximize uses of existing transit systems

(RTA + Dubai Metro)

TRAM / PRT Systems

PHEV + Premium Charging Services

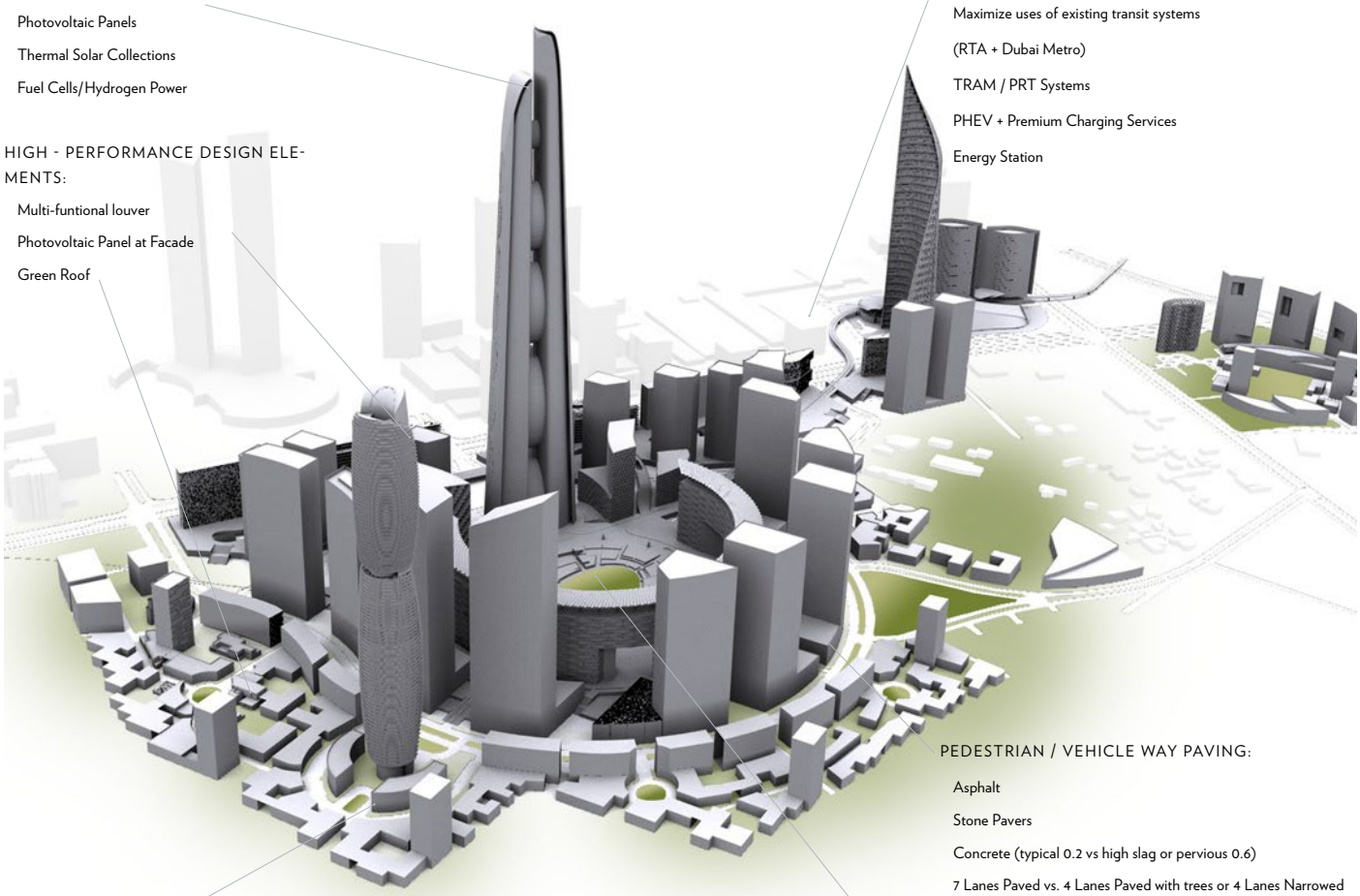
Energy Station

HIGH - PERFORMANCE DESIGN ELEMENTS:

Multi-funtional louver

Photovoltaic Panel at Facade

Green Roof



PEDESTRIAN / VEHICLE WAY PAVING:

Asphalt

Stone Pavers

Concrete (typical 0.2 vs high slag or pervious 0.6)

7 Lanes Paved vs. 4 Lanes Paved with trees or 4 Lanes Narrowed

WASTE MANAGEMENT

Automated Waste Collection System

Waste-to-Energy Plant

REDUCE HEAT ISLAND EFFECT:

Maximize the quality and quantity of landscaping.

Install high-efficiency canopy.

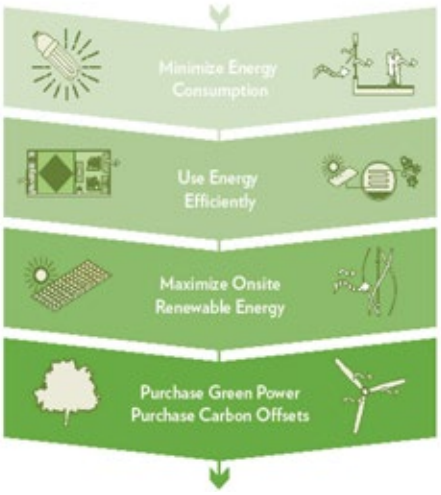
Offer green spaces.

CODE COMPLIANT DESIGN

CLIMATE RESPONSIVE DESIGN

ENERGY + ATMOSPHERE

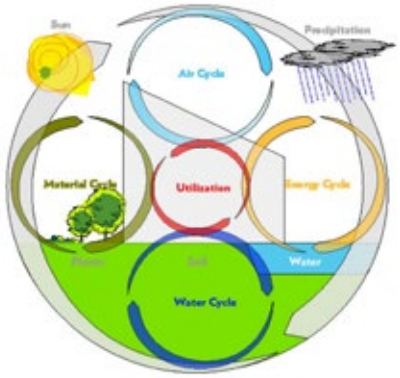
Innovative, efficient strategies will decrease energy use and reduce carbon emissions.



CARBON ZERO

INDOOR ENVIRONMENT

Building occupants will experience healthy, high quality indoor environments that will increase occupant satisfaction and productivity.



WATER

Water will be protected as a valuable resource through intensive conservation and reuse cycles on-site.

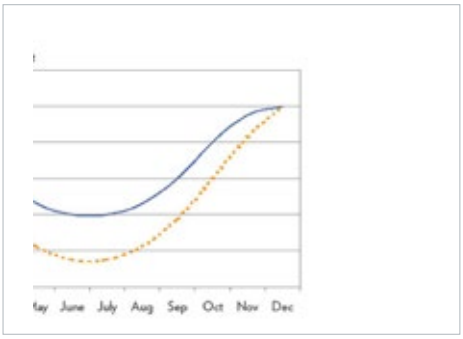
CONSTRUCTION PROCESS + MATERIALS

Sustainable material choices and construction practices will reduce the environmental impact of the development on a local and global scale.

SHADING DIAGRAM

LANDSCAPE + OUTDOOR ENVIRONMENT

Beautiful parks and streetscapes will reduce the urban heat island effect and create comfortable outdoor microclimates.



BENCHMARKING

BENCHMARKING + IMPLEMENTATION

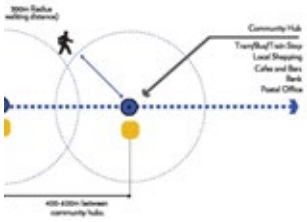
Benchmarking with LEED will ensure that the project exceeds current sustainable design standards.

WALKING DISTANCE GUIDELINES

ACCESS + TRANSPORTATION

EFFICIENT TRANSPORTATION

Infrastructure will enable low-carbon and zero-carbon movement throughout the site and encourage pedestrian activity.



FUTURE OPERATIONS

Continued monitoring and assessment will ensure the ongoing sustainable operation of the buildings and infrastructure within the development.

WASTE REDUCTION STRATEGIES


North
Mecca
0 m
100 m
200 m
300 m