ALDAR HQ ABU DHABI

PRECAST FACADE NYC

LEED CERTIFIED

CCTV CHINA

CCTV CHINA

EUROPEAN COMMISSION AMMO BOOKS BUILDING

Masdar

A MUBADALA COMPANY

Situated in the southern edge of the Phase 1b Masdar City Masterplan in Abu Dhabi, the 32,000m2; seven-storey Grade A office building will accommodate the headquarters of Masdar and IRENA in accordance with their sustainable principals.

Sustainability relies on a balance of Economic, Environment, and Social. The construction programme, and functionality is imperative by the design solutions and time available.

The site is located 10km west from central Abu Dhabi, and adjacent to the airport, and in close proximity to the Yas Island F1 Circuit.

Masdar operates through five integrated units, including a research-driven university, seeking to become a market leader in renewable energy as a viable business in Abu Dhabi.

IRENA (International Renewable Energy Agency) operates in promoting a widespread use of renewable energy.

Project Description:

- A headquarter to reflect MASDAR and IRENA identity.
- 7 stories (G+6) of "Grade A" office with retail space. 36,000m2 combined GFA with 32,000m2 Office + 4,000m2 Auditorium.
- 3 vehicle drop off areas: MASDAR, IRENA and the AUDITORIUM.
- No parking on site in accordance with the Master plan guidelines.
- Due to program and budget constrains the existing structure to be re-used.

IRENA

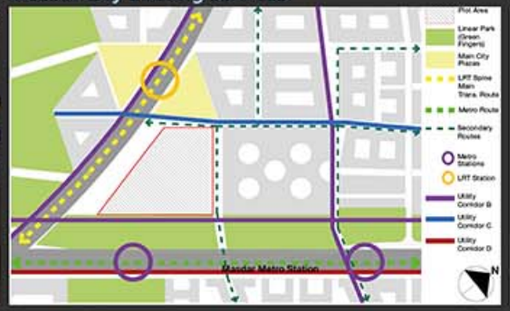
International Renewable Energy Agency

▲IRENA entrance & lobby

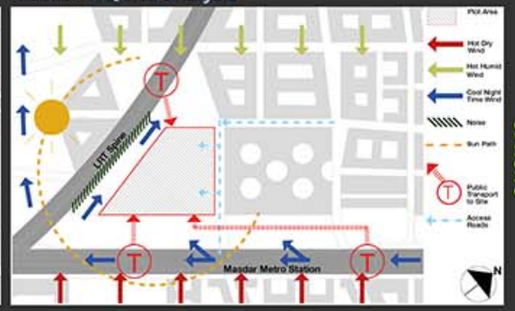
▼Courtyard & green zone

Masdar atrium interlinked bridges, lifts, and stairs

Masdar City existing services

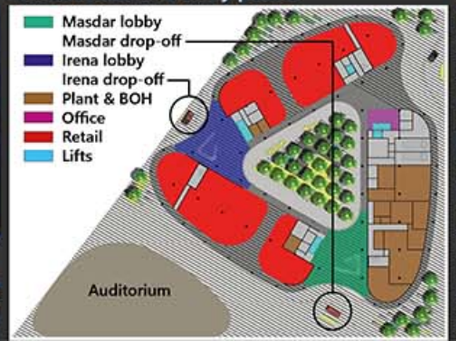


Masdar HQ site analysis



IRENA entrance and drop-off area

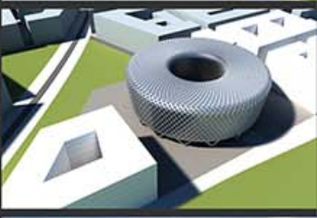
Ground floor and entry points



Courtyard and green zone

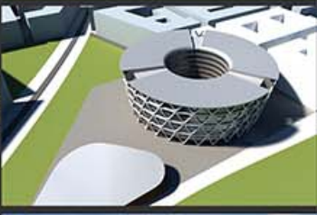
OPTION 1

OPTION 2



OPTION 2

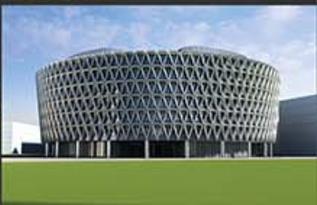
OPTION 3



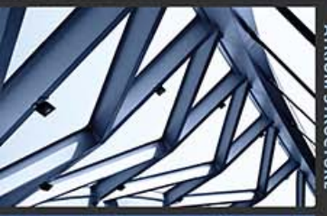
OPTION 3

OPTION 4

OPTION 5



TENERIFE OPERA HOUSE



ATRIUM STRUCTURE

WGBH HEADQUARTERS

HSBC HQ HONG KONG

CEMENT BUILDING USA

VODAFONE HQ PORTUGAL

WUHAN BUILDING CHINA

Masdar
A MUBADALA COMPANY

ESTIDAMA achievement:	4 pearl
ENERGY reduction:	50%
WATER reduction:	50%
WASTE reduction:	30%
CARBON material reduction:	30%

Woods Bagot along with SMEP Engineers and Buro Happold have developed the fit out for both tenants. Once built, the building will be subject to a post-occupancy evaluation to ensure the user satisfaction is met.

A 3.0m high ceiling provides natural light penetrating deep into the space, whilst a central lowered ceiling spine accommodates the major services.

Three vehicle drop-off areas are located along the southern edge and north-west edge. The building entrances have been articulated by an Atrium that links adjacent floor plates within the building envelope.

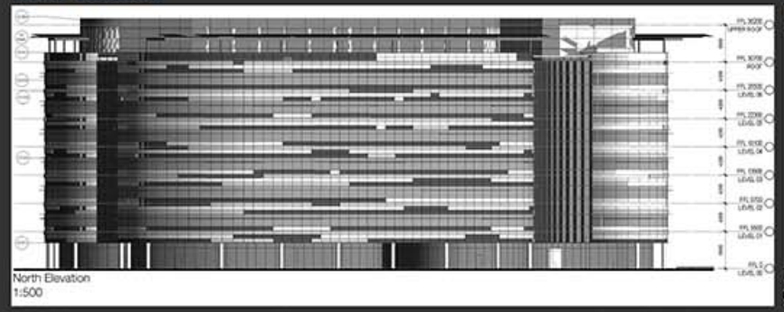
A total of 6 floors per wing, each floor averaging 1,250m2 NIA. Each wing has a dedicated core. Floor plate depth provides an abundance of natural daylight. Along the western facade, vertical glass fins with 70% frit protect tenants from direct solar heat from the harsh western sun. Along the southern facade, horizontal sun hoods are built-in to reduce solar gain upon the windows.

The necessary utility services are located at ground floor, whilst the main MEP systems are located on the roof with dedicated risers feeding down to the office floors.

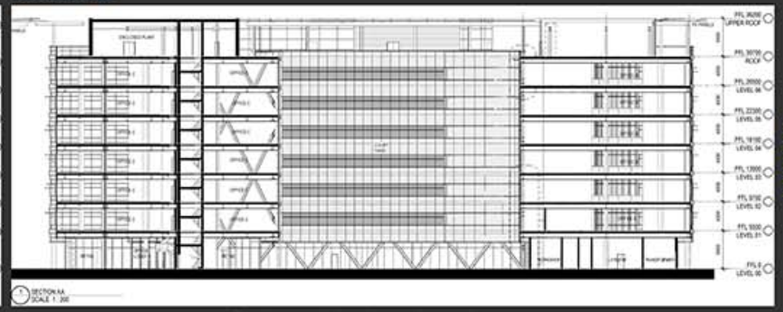
IRENA
International Renewable Energy Agency

▲IRENA entrance & lobby
▼Courtyard cafés & restaurants

North elevation

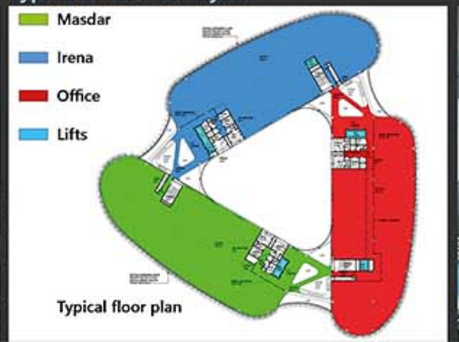


Section AA



IRENA entrance and drop-off area

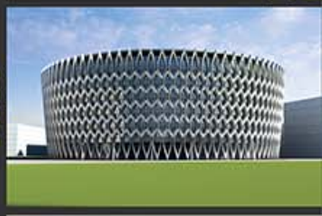
Typical office floor layout



Typical office interior design style and layout

OPTION 6

OPTION 7

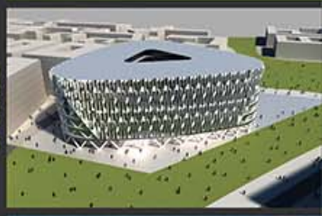


OPTION 8

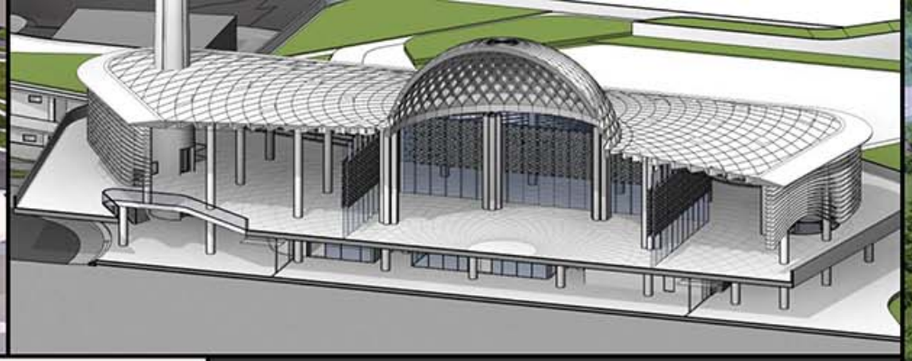
OPTION 8

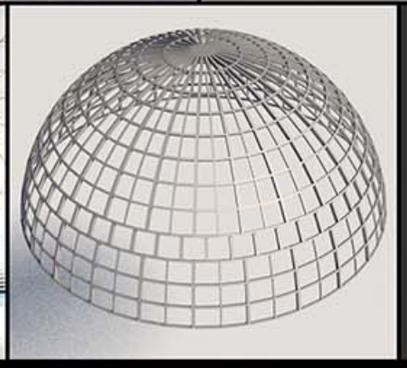
OPTION 9

OPTION 10



OPTION 11

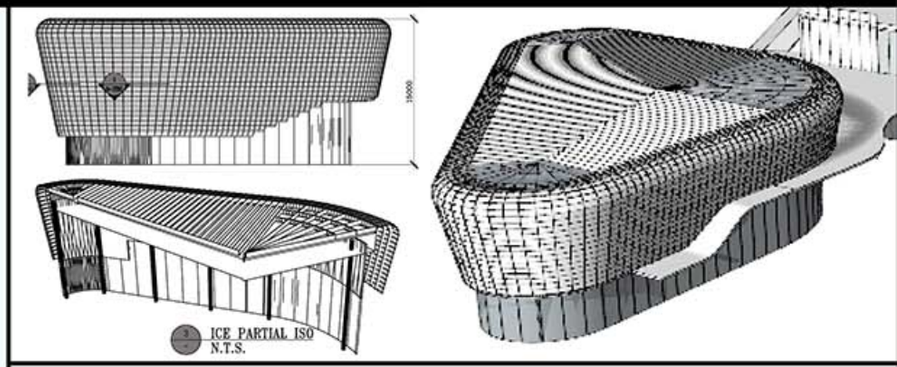


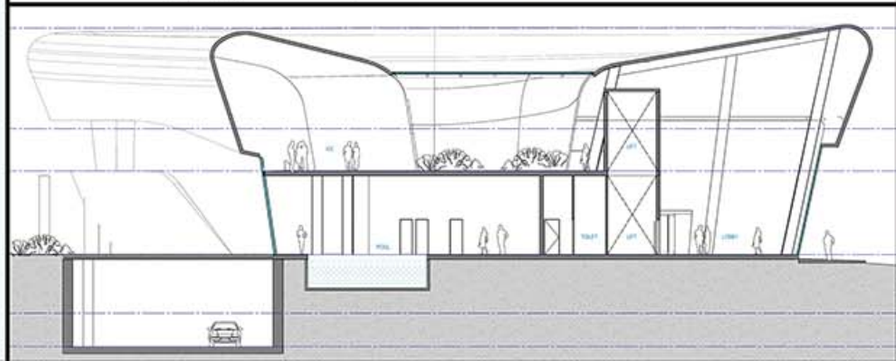


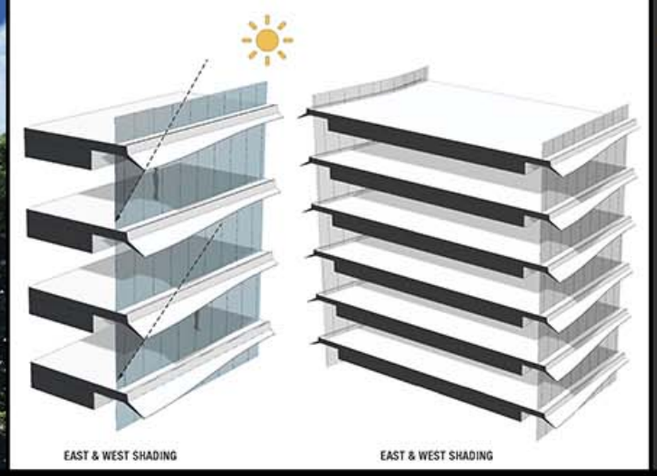
Project Summary:
The new TNB HQ will house 3100 staff with an estimated floor area of 650,000 sqft and incorporates an office building, a convention centre, a exhibition centre and a Mosque.

Exhibition Centre:
A public centre showcasing the history of electricity. This 1030m² GFA centre symbolises a glowing glass lantern that changes colour. 10823 opaque glass panels makeup the top tier facade with LED lights centred behind each panel to form a giant multimedia screen.

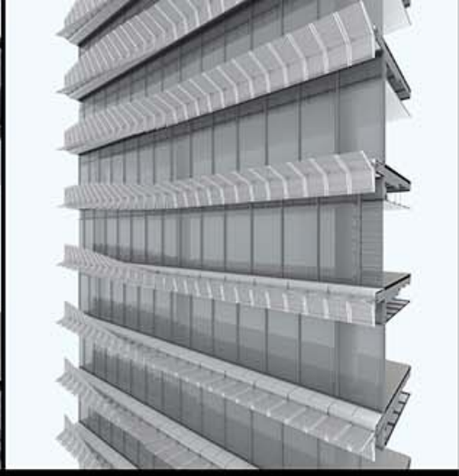
Mosque & Dome:
The main Prayer Hall has a 1050 pax capacity. Mounted above is a 20.4m diameter dome, with a steel structural cage. The outer shell is built up of 600 diamond shaped metal composite panels, with 250 diamond shaped glass panels. The dome is built off-site in 50 segments and assembled on site.

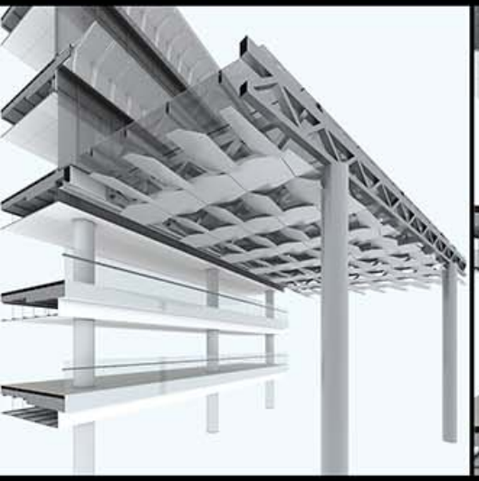


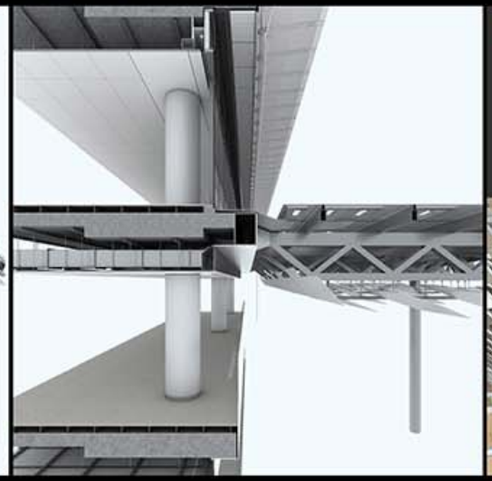




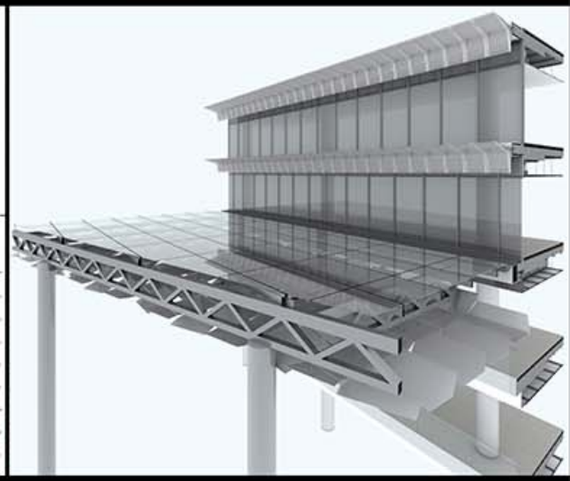
Office Towers:
The four office towers with a combined area of 56,000m² NLA; are wrapped at the balcony edge with a total of 9568 Aluminium Brise Soleil panels. Each 750mm wide panel (length 1356mm X height 856mm) is angled and fixed into position to optimise the reduction in solar glare and heat gain. Powder coated in satin white, the gradient perforated sheet and profiled framed Brise Soleil is repeated at every floor and undulates to give a sense of movement.



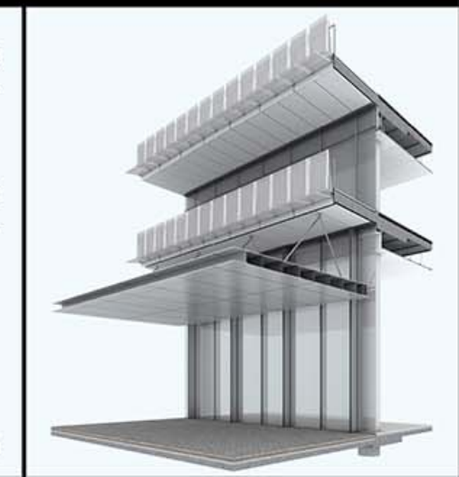




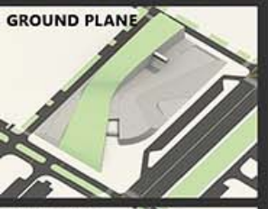
Atrium roof:
Each of the 3 X 608m² Atriums, is constructed of 23 steel trusses which spans and interfaces with the East and West floor plate. A white polka dot frit covers the double glazed roof and screened underneath by 312 suspended featured ceiling panels to deflect heat and solar glare.

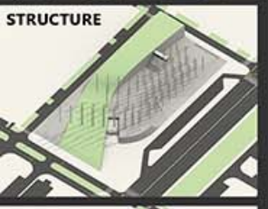


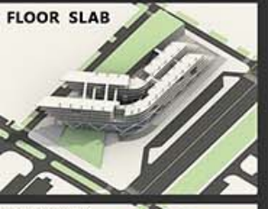
Canopy:
Covering a total length of 202m, the 4.6m high metal framed canopy is suspended with steel tension cables from the steel reinforced concrete balcony located at level 1. In addition, the back of the canopy is secured to a series of stainless steel posts aligned in front of each facade mullion. Starting at the West face of Office Tower 1 and finishing at the interface of the Exhibition Centre; the 6.7m wide canopy made from seam roof sheeting and aluminium composite panel cladding is free from any structural columns.

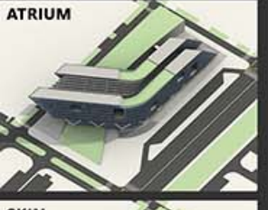


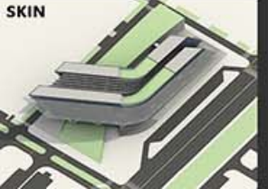
ADEC-HQ Abu Dhabi











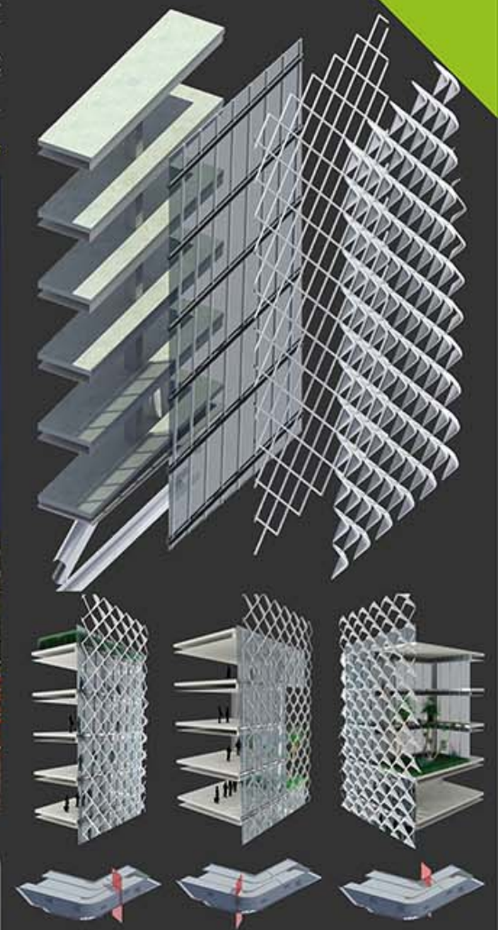
Design Methodology

Functionality is paramount for the diverse requirements at ADEC HQ. Conscious of time and economic obligations, a series of simple, and yet effective techniques have been employed to facilitate a tight programme.

The vertical structure sits on a 9m X 9m grid; allowing the columns to run continuously from the basement right through to the top floor, thus eliminating the necessity for transfer beams and structural gymnastics.

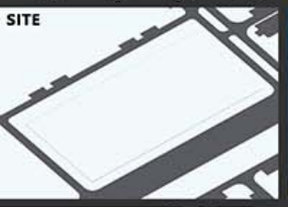
This simple vertical structure carries two 12m wide 'Floor Plate Ribbons' consisting of 4 typical and 2 atypical floor plates. To maximise construction efficiency, standard form-work and structural details have been implemented throughout the building. A modular unitised curtain wall glazing facade is secured to the slab edge across the entire footprint.

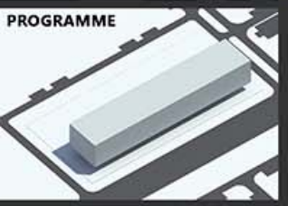
To protect the internal space from solar gain, a shaded skin facade has been installed, supported by a 2m X 2m diagrid framing system. The skin geometry is based on a square grid, allowing the 'shade shells' to be positioned vertically or horizontally.

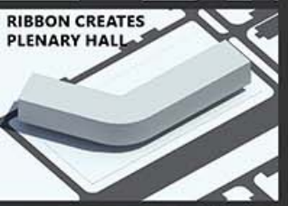


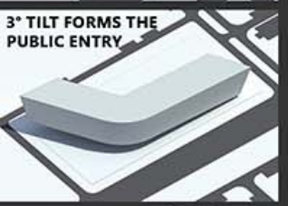
In the hot environment that Abu Dhabi presents, an unprotected floor to ceiling glass facade would be irresponsible. The addition of an external, secondary skin with shade shells of varied depth protects the building from this issue. Large vertical shading is applied to the north-west facade. Small vertical shading is applied to the south-east facade.

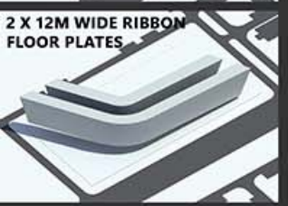
ADEC-HQ Abu Dhabi

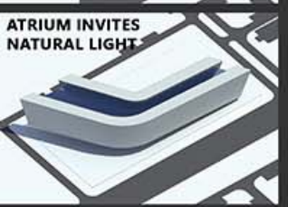


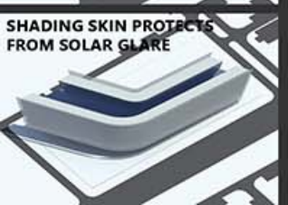


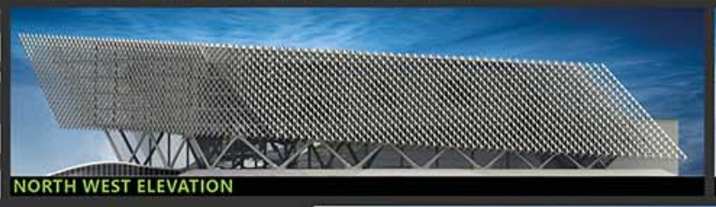




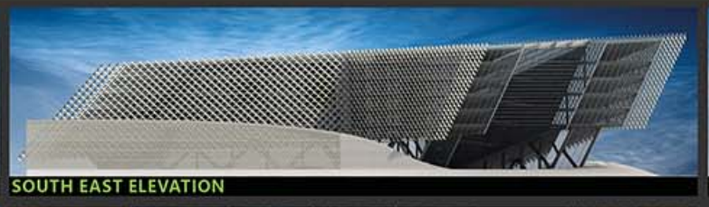







NORTH WEST ELEVATION


SOUTH WEST ELEVATION


SOUTH EAST ELEVATION


NORTH ELEVATION

Design Principles

*Address the street
*Effective floor plate depths
*Respect solar orientation

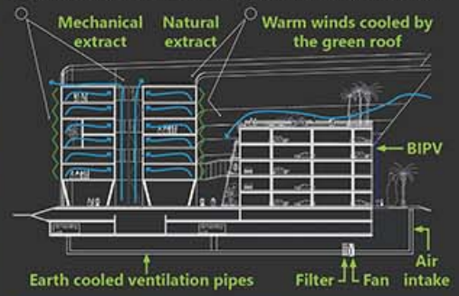
The evolution of the building presents it self to the street with floors deep enough to accommodate effective workplace functions, but shallow enough for the occupants to access external views with the sky, and adequate penetration of natural light.

The solution is a 'Ribbon Floor Plate' around a central open space where occupant integration takes place. This can be done using forms such as H, U, E or O shapes.

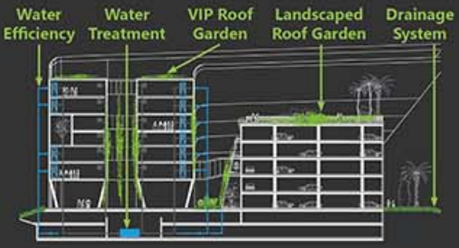
For practical construction, a large free span auditorium is better located away from an office building which requires a smaller structural grid. The solution is an Administration building aligned to the street which sweeps away, allowing space for the Auditorium with public access.

With this singular move, the two facilities have valuable front face to the street, with half the office building orientated due North, thus allowing for an optimal orientation to cope with sun penetration.

VENTILATION AND ENERGY CONSERVATION CONCEPT



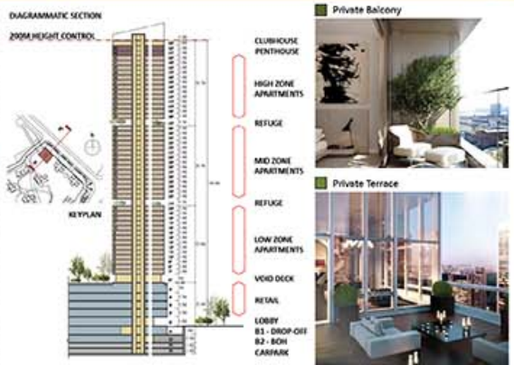
LANDSCAPE AND WATER CONSERVATION CONCEPT

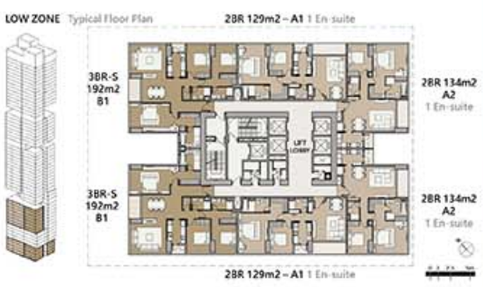


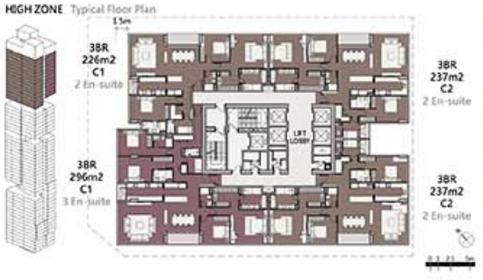
Aiming for a 5 Pearl Estidama rating, passive design principles have driven the building orientation towards natural ventilation using operable windows within the atrium space.
Shaded shells will be fabricated from recycled Aluminium cans to reduce heat gain.
PV cells will be incorporated in the saw tooth atrium roof to produce power, together with Solar thermal and cooling systems.
The pitch roof will provide shading in the long atrium space, whilst diffusing natural light and minimising solar glare.
A displacement hybrid system with chilled floor slabs will be considered as part of the energy concept for up to 70% from base case.

1YuLong Shenzhen China

BUSINESS TOWER



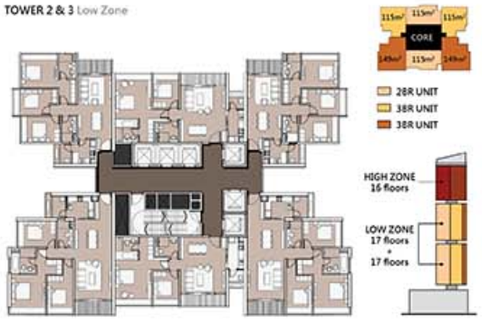




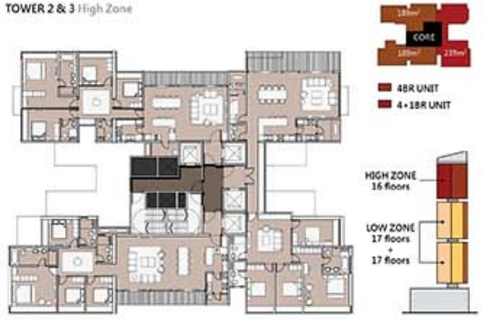
1YuLong Shenzhen China

SALEABLE TOWERS

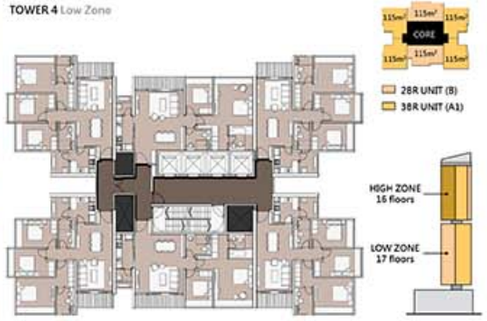
TOWER 2 & 3 Low Zone



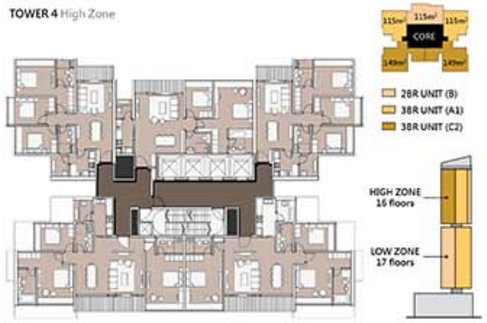
TOWER 2 & 3 High Zone



TOWER 4 Low Zone



TOWER 4 High Zone




PRECEDENT IMAGE


PRECEDENT IMAGE


PRECEDENT IMAGE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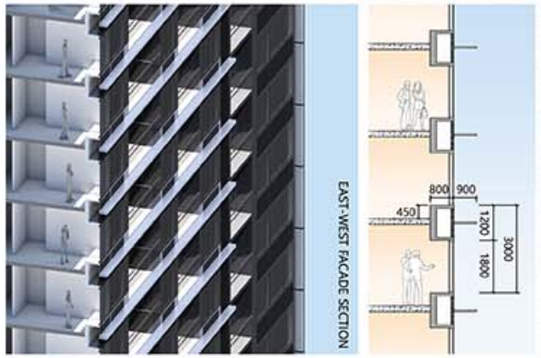
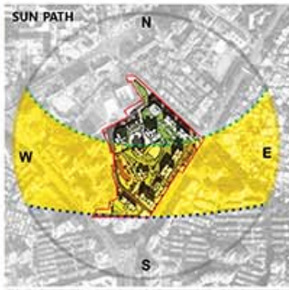




TARGET DEMOGRAPHIC

Young Shenzhen citizens with high-income and overseas background who desire to live an independent life.

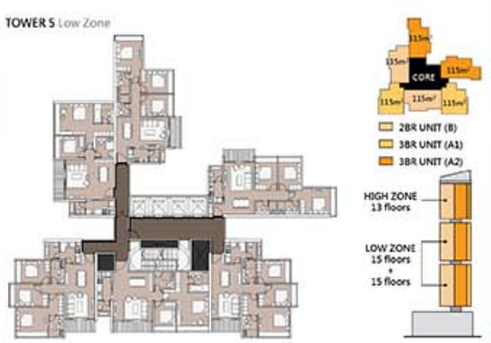
Families moving into smaller high quality apartments, because their children have grown up and moved out.

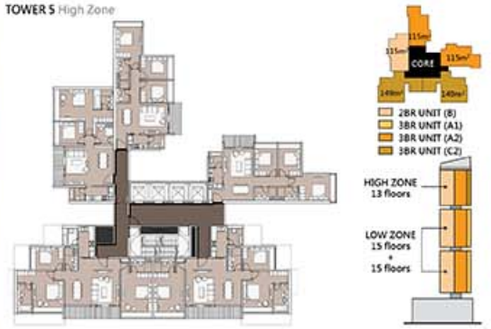
High-income professionals from other cities or Hong Kong

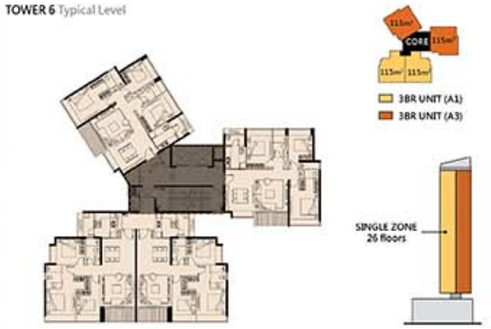
RETAIL PODIUM

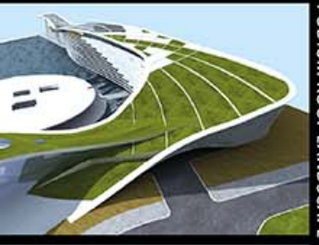
1YuLong Shenzhen China

REPLACEMENT TOWERS

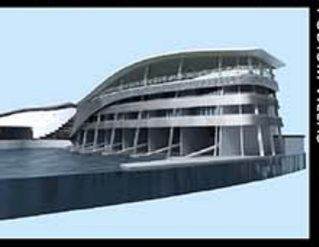




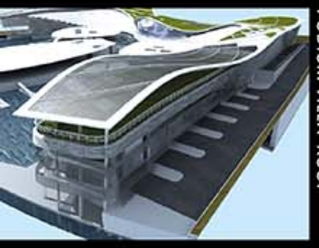




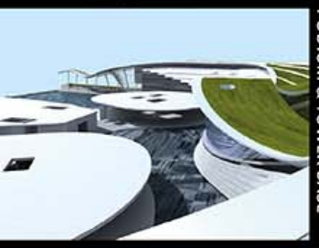
PODIUM ROOF LANDSCAPE



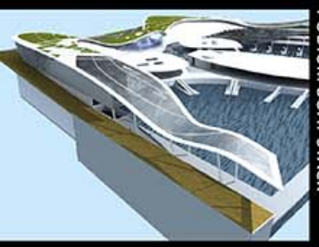
PODIUM VILLAS



PODIUM VILLA ROOF

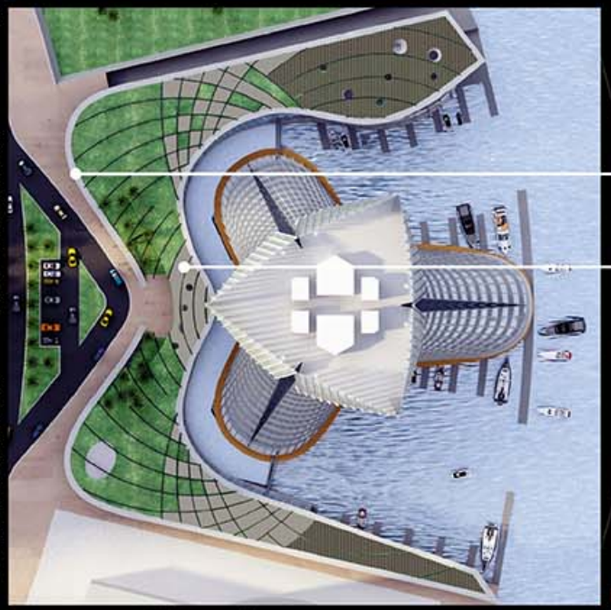


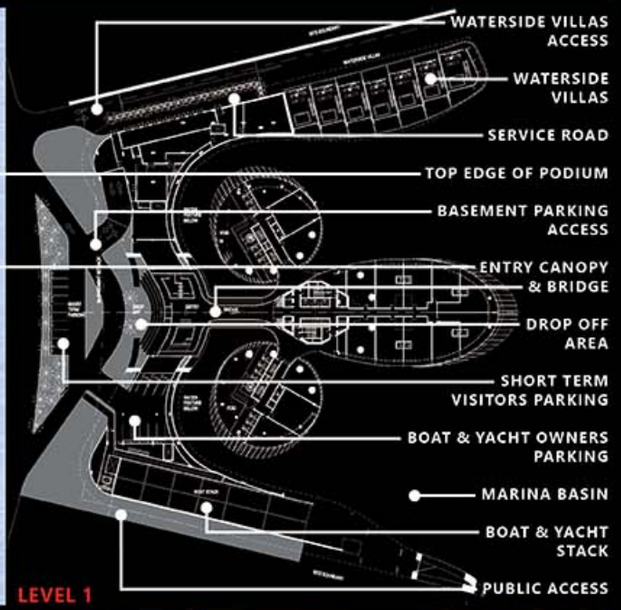
PODIUM & TOWER BASE



PODIUM BOAT STACK

PODIUM ENTRANCE





Michael Schumacher World Championship Tower

Situated on 'Al Reem Island' in Abu Dhabi. The sculptural form takes its cues from analysing wind effects around Formula 1 cars.

Positioned at the opening of a major waterway, this will be the world's first 'Marina Tower' featuring triplex apartments with direct access to it's own private marina berth.

Development

Townhouses along the northern edge of the Marina basin will offer private berth access to harbour yachts up to 46'. The basin features a Boat Club incorporating a boat stacker system which houses 40 boats from 32' to 40' in length.

Height & Setback

The 'Draft Affection Plan' nominates a maximum building height of 172m. However, at the request of 'First Wharf Tower LLC' a building height limit of 300M has been sought from the developer 'Tamouh'. The tower achieves 278M above the ground level of RL3.5 ADMD.

Podium

The two levels houses the majority of the MEP plant, telecoms, water and district cooling machinery. Providing primary access to the tower and entry links to the basement car park, and boat storage facilities. Its shape is characterised by an undulating roof form similar to a Mantar-Ray wrapped with contoured louvers and finished with a landscaped terrace.

Tower

The base starts with three tilted elongated legs merging to form the main structure. Centrally positioned in the marina basin, it appears to emerge from the water.

Design

The basement walls are setback 3m within the site boundary to respect the service corridors. A 6m setback line is sought for the street alignment to allow articulation of the sculptured podium roof.

The undulating form of the podium envelopes a sense of flow. The curved edges serve to encourage pedestrian flow around the building and along it's public walkways.

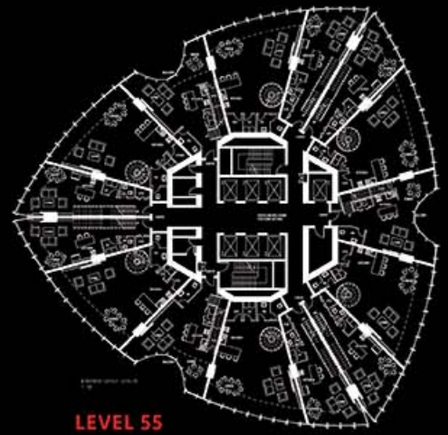
Al Reem Island, Abu Dhabi

Michael Schumacher World Championship Tower

First Wharf Tower LLC envisions to create a luxury residential tower combining waterfront amenities enveloped with enthralling aesthetics. The site measures 120M wide, and 130M deep. It fronts a boulevard to the west and a water channel to the east. The development composes a 66 storey tower with 4 levels of basement parking, and features an extended marina basin providing private boat berths. The tower serves 434 apartments with 7 waterfront villas. Due to the planned site topography the main access level to the tower will occur at Level 01 (RL 7.20 ADMD)

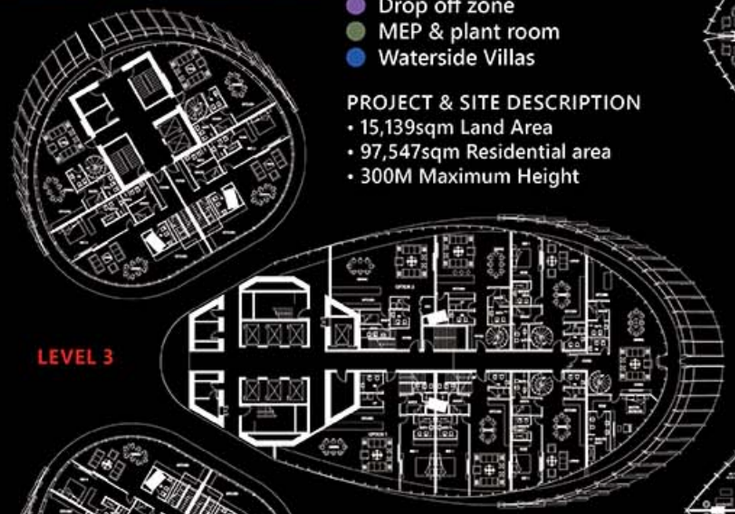
LEVEL 17

- Penthouses
- Duplex
- 1,2 & 3 bedroom apartments
- Wharf terrace & apartments
- Wharf marina apartments
- Marina basin
- Boat stack
- Drop off zone
- MEP & plant room
- Waterside Villas

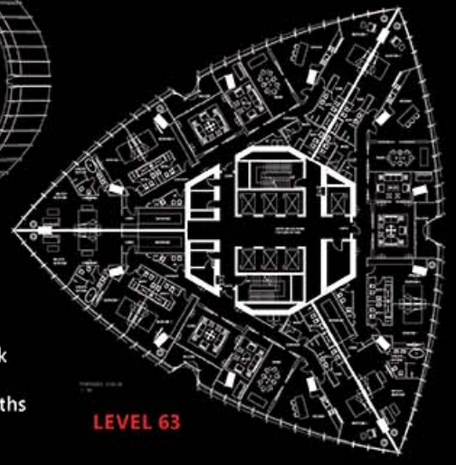


LEVEL 55

PROJECT & SITE DESCRIPTION
- 15,139sqm Land Area
- 97,547sqm Residential area
- 300M Maximum Height

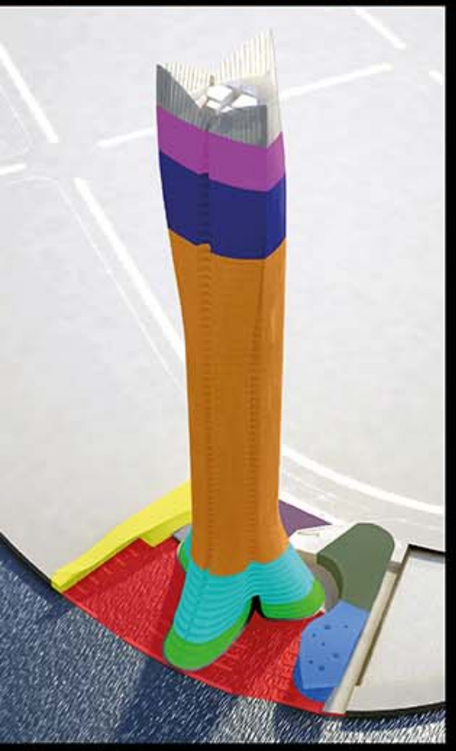


LEVEL 3



LEVEL 63

PROJECT SPECIFICS
- Single use residential
- Street and water frontage
- Gym with amenities and Pool Deck
- Basement car parking
- Boat storage and private boat berths



TYPICAL LIVINGROOM

Al Reem Island, Abu Dhabi

Michael Schumacher World Championship Tower

Etihad has been rapidly increasing its entire workforce to accommodate the accelerated passenger growth through the UAE's capital. It's seeking to build at least 28 new apartment blocks.

By the end of 2013, Etihad had 13535 employees, up 27% from 10656 in 2012.

Abu Dhabi, Dubai and Doha are becoming central hubs for world travel, as more passengers switch planes on long-haul flights, eating into the market share of Europe's well established travel hubs.

Etihad's rapid expansion mirrors that of the Dubai-based Emirates Airline, which has also been adding hundreds of new apartments and villas to accommodate cabin crew, pilots and engineers.

Emirates leases and owns around 12,000 apartment units and villas in Dubai, making it one of the city's largest landlords.

1 bedroom unit:
Open plan kitchen and living room,
with a balcony, utility room,
1 bathroom and 1 guest toilet.

Floor to ceiling height 2830mm.
Unit size 81m2

2 bedroom unit:
Open plan kitchen and living room,
with a balcony, utility room,
2 bathrooms and 1 guest toilet.

Floor to ceiling height 2830mm.
Unit size 90m2