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The Challenges Towards Sustainability & Green building In State of Qatar

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SEQUENCE

1- QNV2030

- 1. Emerging challenges to Qatar in term of Environment**
- 2. Solutions**
- 3. The technique used in Qatar**
- 4. the implementation of green building cods in Qatar (examples)**

QATAR IN NUMBERS ...

Area	<u>11473 km²</u>
Population	2 millions
Public Parks	87
Food security	10% but we aim to reach 100% by 2030
average size of productive farms.	27 hectares, but only 8 hectares was used for crop production, with roughly equal areas devoted to fruit trees, vegetables, and fodder crops



QATAR VISION 2030

- An advanced society capable of sustaining its **Economic**, **Ecological**, **Social** and **Human Development** .
- Providing a high standard of living for all of its people.





Human Development

Development that expands the opportunities and capabilities of all the people of Qatar to enable them to sustain a prosperous society.



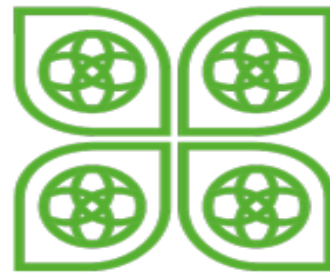
Social Development

Development of a just and caring society based on high moral standards, and capable of playing a significant role in the global partnership for development.



Economic Development

Development of a competitive and diversified economy capable of meeting the needs of, and securing a high standard of living for all its people for the present and for the future.



Environmental Development

Management of the environment such that there is harmony between economic growth, social development and environmental protection.



EMERGING CHALLENGES TO QATAR

Environment of Qatar has following challenges

1. Arid-Agriculture System
2. Subtropical Desert
3. Least amount of Raining –Almost dry and hot weather
4. Very long, hot and humid summer with shortage of underground water

**What is the Initiative and Solutions Adapted
By Qatar to Pass This Difficulties ?**



WATER DESALINATION AND TREATMENT

Desalination and Water Treatment research aims to:

- 1- Design, Development and Fabrication of Membranes for Water Treatment and Desalination Technologies.
- 2- Feasibility of using Forward Osmosis (FO) for Multi-Stag-Flash Desalination pre-treatment.
- 3- Characterization, Optimization and Implementation of a Novel Forward Osmosis Based Seawater Desalination Process.
- 4- Hybrid desalination and water treatment systems, new membranes and processes, advanced pre-treatment methods and tools for water reuse and groundwater recharge.
- 5- Constrains on Desalination Plants and the Challenge to Water Security.

QATAR HAS PLANTED SIDR PLANT AND OTHER OF ITS FLORA IN ALL REGIONS OF QATAR, TO BECOME THE TOTAL NUMBER OF 35479 TREE



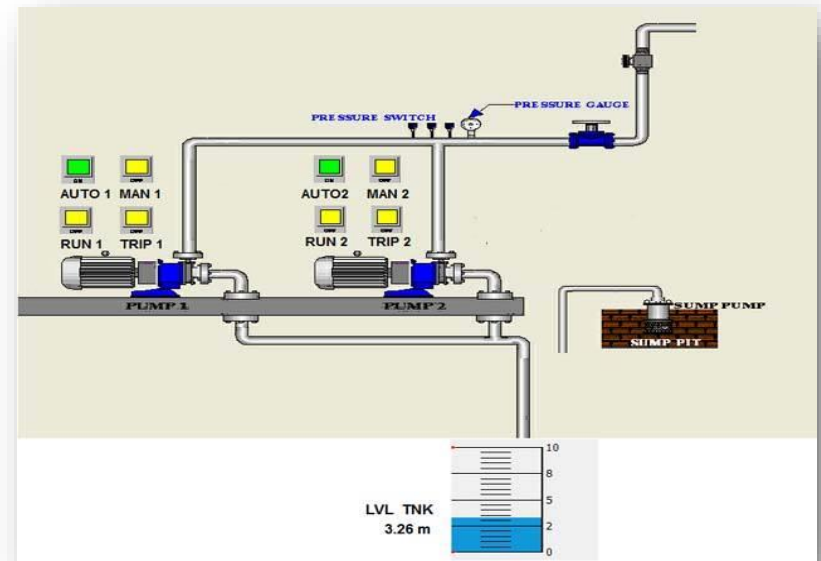
MME TRYING TO FIND PLANTS CAN TOLERATE QATARI ENVIRONMENT FOR THE FIRST TIME IN QATAR AFTER THE EXPANDED SEARCH IN BIOLOGICAL OF THESE PLANTS AND ASSESS THE INDIVISIBILITY OF GROWTH AND THEIR TOLERANCE TO QATAR WEATHER CONDITIONS . THIS RESEARCH FOCUSED ON THE BASIC ASPECTS OF ACHIEVING ONE OF THE THEIR OBJECTIVES TO PLAY AN ESSENTIAL ROLE IN THE CONCEALMENT OF THE DIVERSITY OF NEW ENVIRONMENTAL AND ENRICH QATAR FLORA.



water tanks design underground to take advantage of the space allocated to agriculture




LINKING GARDENS FOR IRRIGATION CENTRAL CONTROL SYSTEM



STRATEGIC MEASURES FOR GREEN OASIS IN QATAR

**In order to accomplish Qatar National Vision 2030 ,
Fourth Pillars is Environmental development, State
of Qatar Started to constructs ;**

- 1. Public parks**
 - 2. Playground for children**
 - 3. Renovation of old parks**
 - 4. Increase green lands area**
- 

RATIONALIZATION OF IRRIGATION WATER CONSUMPTION IN PARKS

The screenshot displays the 'Programs' software window, which is used for configuring irrigation schedules. The interface is divided into several sections:

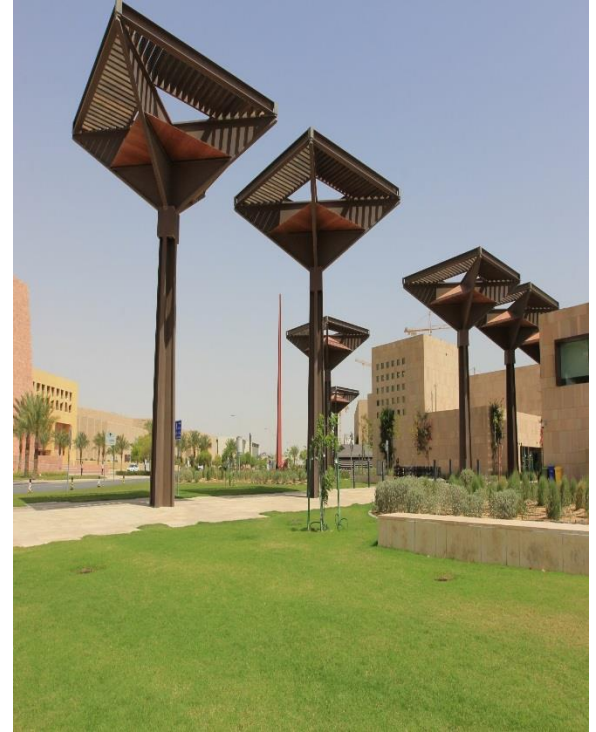
- Group Timing:** Includes fields for Start Time (04:30:00 AM), Stop Time (03:00:00 PM), Cycles in Day (2), and Interval (2:00:00). It also has radio buttons for 'Start-to-Start' and 'End-to-Start'.
- Group Active Days:** Features a 'By Days' section with a calendar grid for selecting days (Su, Mo, Tu, We, Th, Fr, Sa) and an 'Every' section for setting a frequency (0 Days).
- Group Conditions:** Contains a table for defining conditions based on Type (Start, Wait, Stop), Element, and Do When (Input, Wait, Stop, Ignore).
- System/Field Unit Selection:** A dropdown menu currently shows 'Alhitmy park'.
- Table:** A table with columns for #, Suspend, Name, Description, Field Unit, Expected Flow, Active, Irrigate, Name, and High F. The 'Irrigate' column for the first two rows is circled, showing values of 14 L.

#	Suspend	Name	Description	Field Unit	Expected Flow	Active	Irrigate	Name	High F
1	<input type="checkbox"/>	ALHITMY		Alhitmy pa	0 GPM	<input checked="" type="checkbox"/>	14 L		100
2	<input type="checkbox"/>	Quantity		Alhitmy pa	0 GPM	<input checked="" type="checkbox"/>	14 L		25

Technique is based on irrigation by the amount of water required for each kind of plant which is calculated by sensitive flow

ENVIRONMENTAL-FRIENDLY ENERGY SOURCES

1. To fulfill need of energy in agriculture and irrigation system of education city Campus, State installed solar system.
2. These renewable energy is being managed through a centralized Energy Monitoring Center (EMC) monitoring the Solar Generation and Smart Grid Management.



GARDENS AND PARKS IN QATAR



EXAMPLES OF QATAR PROJECTS IN SUSTAINABILITY FIELD AND ALIGNED WITH QNV2030

1. Qatar stadiums
2. Oxygen park
3. Mshaireb project

اللجنة العليا للمشاريع والارث

SUPREME COMMITTEE FOR DELIVERY AND LEGACY



Al-Gharafa Stadium
is a multi-purpose stadium in Doha.. [Read more](#)



Al-Shamal Stadium
is a proposed football stadium... [Read more](#)



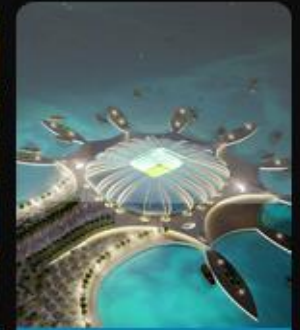
Al-Khor Stadium
is a proposed football stadium... [Read more](#)



Ahmed bin Ali Stadium
is a multi-purpose stadium in Al-Rayyan.. [Read more](#)



Al-Wakrah Stadium
is a multi-purpose stadium in Al Wakrah.. [Read more](#)



Doha Port Stadium
is a proposed football stadium... [Read more](#)



Education City Stadium
is a proposed football stadium... [Read more](#)



Khalifa International Stadium
also known... [Read more](#)



Lusail Iconic Stadium
is a proposed football stadium... [Read more](#)



Qatar University Stadium
is a proposed football stadium... [Read more](#)



Umm Salal Stadium
is a proposed football stadium... [Read more](#)




Sports City Stadium
is a proposed football stadium... [Read more](#)

The stadiums we have proposed for the 2022 FIFA World Cup Qatar™ have:

- Advanced cooling technologies and smart design features will ensure that fans, players, officials and everyone else inside the stadiums is kept cool, whatever the weather conditions outside.

We are working towards Global Sustainability Assessment System (GSAS) certification for all stadiums.

Transportation systems taking fans to stadiums will also assist in the journey towards sustainability. Qatar Rail is currently building metro, rail and light rail systems that will take cars off the road, further **reducing the environmental impact of the 2022 FIFA World Cup™ stadiums – and helping Qatar to build a greener future for us all.**



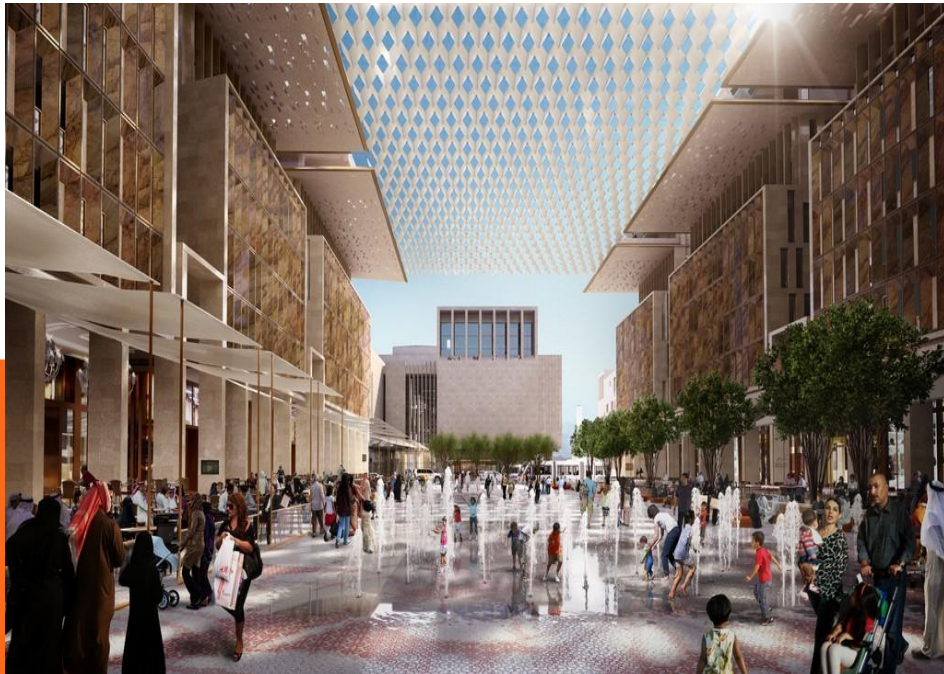
OXYGEN PARK

- Oxygen Park will be established in order to introduce a green lung in the Education City Campus, inviting students and visitors alike to refresh their mind, body and spirit, through active exercise and to explore the symbiotic relationships between oxygen, plants, and healthy purified living.
- Principal uses of the park are recreation and sports, and hosting outdoor public events.
- The park is divided into gardens and activity zones, using topography to create bowls to help protect users from prevailing winds and sculptured level changes to differentiate between zones of activity.
- Some notable features of Oxygen Park include: Covered Walkway, Running Track, Scent Garden, Wind Garden, Water Garden, Sound Garden, Equestrian Track, Sports Pitch
- There are heritage structures located within the Park
- Park Area: 130,000 m²
- Running Track: 1,600 m
- Pathways: 7,000 m
- Types of plants : 117



Mshaireb Project The Heart of Doha





Thank you

