The Challenges
Towards
Sustainability & Green building
In State of Qatar

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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 codes in Qatar (examples)
### Qatar in Numbers

<table>
<thead>
<tr>
<th>Area</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Area</td>
<td>11473 km²</td>
</tr>
<tr>
<td>Population</td>
<td>2 millions</td>
</tr>
<tr>
<td>Public Parks</td>
<td>87</td>
</tr>
<tr>
<td>Food security</td>
<td>10% but we aim to reach 100% by 2030</td>
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- **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.

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.

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.

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

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 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
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