

Youth-Led Innovations in Sustainability: Lessons from Qatar's Mega-Events

Fatima Al-Maadeed, Waad Al-Maadeed & Athba Al-Kuwari





Can every mega-event leave a lasting legacy for our planet?



Introduction to Sustainability and Youth Innovation in Mega-Events

- Qatar's strategy to align mega-events with sustainability.
- Youth as key drivers of innovation.
- Focus on Asian Games, Expo 2023 and the FIFA World Cup 2022

01

2006 Asian Games: The Starting Point



2006 Asian Games: The Starting Point

- First large-scale event hosted by Qatar.
- Youth engagement in innovative strategies
- Laid the foundation for sustainability in future events.



02

EXPO
2023
DOHA
QATAR



Expo 2023 Doha: “Green Desert, Better Environment”

Expo 2023 Doha: “Green Desert, Better Environment”

EXPO
2023
DOHA
QATAR



- Thematic focus on sustainability in arid climates.
- Collaboration with industry leaders and policymakers
- Programs empowering youth innovation
 - Hackathons and workshops.

03



FIFA WORLD CUP
Qatar2022

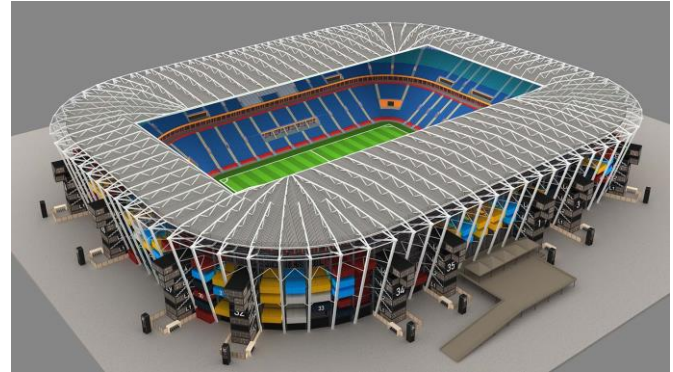
FIFA World Cup 2022: A Sustainability Milestone

FIFA World Cup 2022: A Sustainability Milestone



FIFA WORLD CUP
Qatar 2022

- Stadium 974: World's first fully demountable stadium.
- Generation Amazing initiative: Youth training in leadership and sustainability.
- Legacy projects with long-term community impact



04

Public-Private Sector Collaboration in Building Sustainable Infrastructure: Enhancing PPPs

Education Sector – Qatar Foundation, Earthna, and Global Collaboration

- Qatar Foundation (QF)
 - Global partnerships for climate tech.
 - Collaboration with private universities for sustainable projects.



Transportation Sector– Sustainable Mobility Solutions

- **Doha Metro & Lusail Tram**
- **Impact:** Lower emissions through sustainable travel options.
- **High Usage:** 53.65 million trips in 2023.
- **Safety Benefit:** Reduced car use by 54,000 cars daily, preventing 3,500 accidents.
- **Global Partnership:** RKH Qitarat

Tourism Sector – Sustainable World Cup

- Carbon-neutral World Cup stadiums built with sustainable materials.
- Collaboration between Supreme Committee, private firms, and Qatar University.
- Solar-powered cooling system developed by Dr. Saud Abdulaziz Abdul Ghani, using spot cooling to reduce energy use.



Energy Sector – Al Kharsaah Solar Power Plant

- First large-scale solar plant in Qatar
- **Supplies:** 10% of Qatar's peak electricity demand.
- **Ownership:** 60% Siraj Energy (Qatar), 40% TotalEnergies and Marubeni





Climate Resilience in Qatar: Challenges & Successes

Climate Resilience in Qatar: Challenges

Mitigation Actions



Carbon Capture

High cost, limited storage options



Oil & Gas Energy

A significant part of Qatar's economy

Adaptation Actions



Water Access

Dependant on energy-intensive processes



Extreme Temperature

Increased energy demand for cooling

Al Kharsaah Solar Power Plant: Harnessing the Desert Sun



10%

Of Qatar's power needs
producing enough
energy to power
around 66,000
homes.

**26 Million
Metric Tons**

of CO₂ Reduction

Al Kharsaah will prevent an
estimated 26 million metric
tons of CO₂ from being
emitted over its lifetime

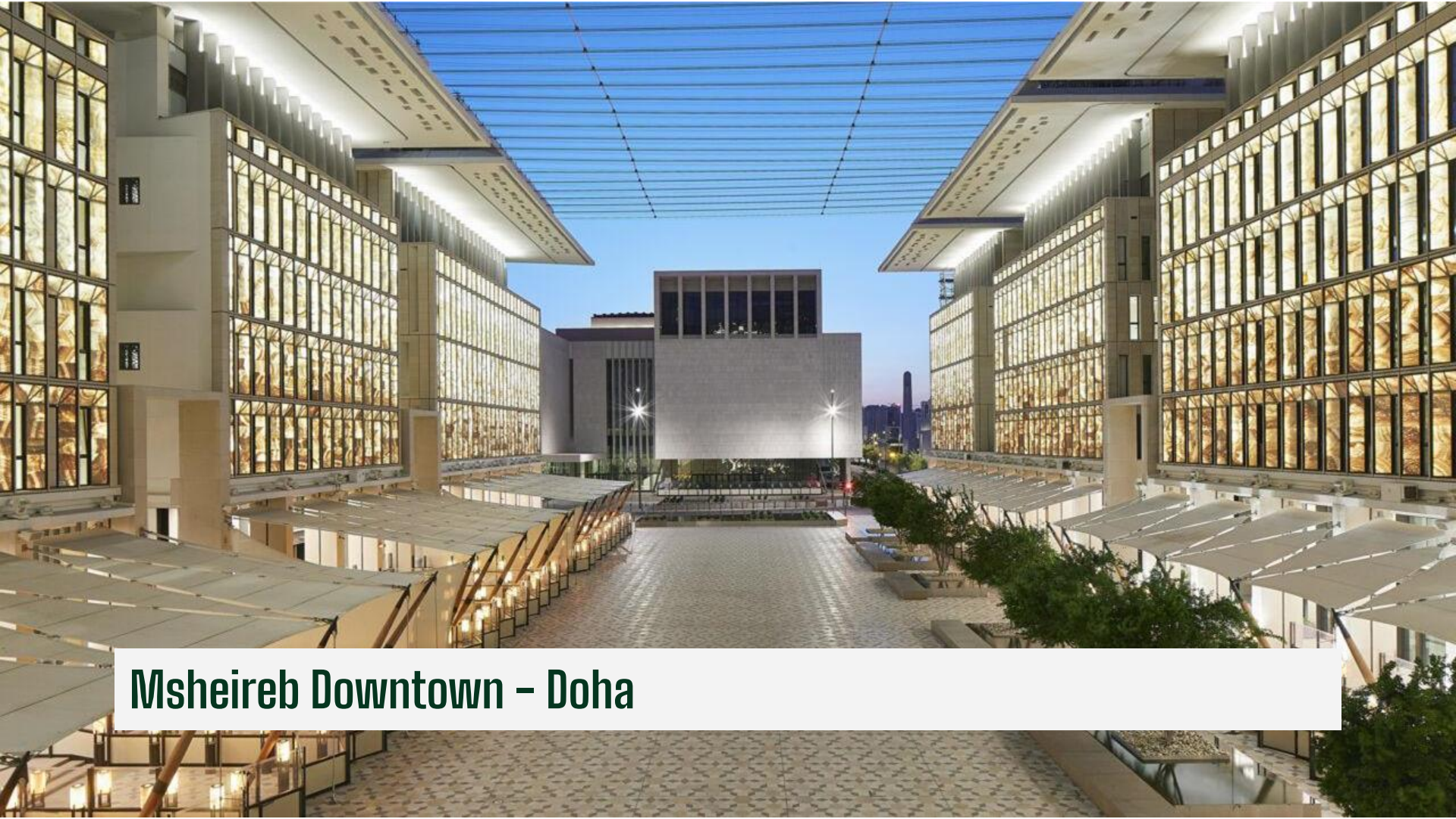
30%

**More Efficient with
Bifacial Panels**

bifacial solar panels can
collect sunlight from both
sides, capturing not only
direct sunlight but also
reflected light from the
ground.

**800 MW
Capacity**

produces enough electricity
to power a city roughly the
size of Doha during peak
hours



Msheireb Downtown – Doha

Msheireb Downtown: Standards Of Eco-Friendly Urban Living

Eco-friendly Buildings

thicker walls, heat-insulating glass that prevent the heat loss, less energy consumption

Green Transport

by a tram that uses clean energy, and lanes for bicycles and walkers



Solar Energy Capture

captured through photovoltaic solar panels and solar hot water panels on rooftops is used to generate electricity.

Advanced Waste collection

With a collection and segregation system. Most wastes are recycled or reused; minimum wastes are disposed.

Qatar and Switzerland: Collaborative Solutions for Global Sustainability Challenges

Shared Strengths:

- Earthna Young Climate Leaders
- Swiss Youth for Climate

Collaboration Opportunities:

- Youth exchange program
- Swiss-Qatari Youth Innovation Hub



Thank you!

