مؤسسة قطر
Qatar Foundation
لإطلاق قدرات الإنسان
Unlocking human potential

Environmental Sustainability at Qatar Foundation

June 2025

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Overview

Qatar is playing its part in the global effort to tackle climate change by diversifying its economy and optimizing the use of its natural resources. The country has set itself a series of climate targets that span more than **35** actions and over **300** adaptation initiatives focused on mitigation.

Sustainability – whether environmental, social, human, or economic – is a common thread throughout Qatar Foundation's (QF) mission. We see sustainability as instrumental in building a strong, resilient, self-sufficient, and prosperous nation, a dynamic and diversified economy, and a healthy, engaged, active society.

Focused on addressing Qatar's national priorities in the area of environmental sustainability, QF's research, development, and innovation efforts – such as those of Qatar Environment and Energy Research Institute, part of QF's Hamad Bin Khalifa University; QF's international partner universities based at its Education City campus; and the leading tech companies and up-and-coming startups based at Qatar Science & Technology Park (**QSTP**) – are making breakthroughs and developing new technological solutions in pivotal fields such as environment sustainability and energy and water security.

QF's research and innovation efforts in the field of environmental sustainability is intended not just to address Qatar's priorities, but to help solve problems that face other countries and societies. By enabling ideas to become commercialized products, QF is helping to pave the way for new revenue streams that support the diversification of Qatar's economy, and the building of a sustainable, environmentally friendly, post-hydrocarbon nation.

"Qatar's sustainability journey constantly feels faster, more challenging, and more exhilarating. But our decisions for sustainability today must be made with the intention that they will carry us not just to **2022 (World Cup**), or even to **2030**, but to generations ahead."

Meshal Al Shamari, Senior Director of Strategic Initiatives and Stakeholder Engagement, Earthna

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Environmental Sustainability at QF

QF is itself an exemplar of sustainability. Every element of its own environment promotes sustainable living and action, from the design of its buildings and infrastructure, to its renewable energy and water practices, the open spaces it provides for public enjoyment and natural wellbeing, and the mindsets it fosters across Qatar's community.

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Sustainability in Action at QF

- Qatar's Solar Carbon Black Project is a joint collaboration between **QSTP**, **Fraunhofer I.W.S.**, and QF partner university **Texas A&M** University in Qatar to build and test several generations of smart solar reactors that produce high-grade carbon and co-products from natural gas without GHG emissions.
- A Solar Testing Facility is based at QSTP.
- QF has developed and implement a Distributed Solar Smart-Grid System for smart grid management and solar generation monitoring. The centralized Energy Monitoring Center enables real-time monitoring of solar systems and power quality monitoring systems, and allows analysis of potential performance and communication alerts
- QF has the only platinum LEED certified student housing complex in the world, and the highest concentration of independently registered platinum LEED buildings as defined by the U.S. Green Building Council.
- The Education City Stadium is the first stadium to achieve a five-star sustainability rating under the Global Sustainability Assessment System: Qatar's Latest Architectural Feat Will Have a Lasting Impact Around the Globe
- Msheireb Downtown Doha, the world's first sustainable downtown regeneration project and a landmark development of QF joint venture Msheireb Properties, will have one of the highest concentrations of LEED (Leadership in Energy and Environmental Design) certified sustainable buildings, making it the world's first sustainable downtown regeneration project: Msheireb Sustainability
- QF has instigated a series of measures aimed at reducing plastic consumption in Education City (QF students' campaign calls for Qatar to ban plastic bags), including:
    - Raising awareness of environmental stewardship amongst its student body and staff.
    - Reducing plastic waste in all QF construction sites by **20** percent.
    - Reducing or eliminating single-use plastics in food and beverage outlets in Education City.
    - These efforts have prevented 112,000 plastic bottles and 120,000 plastic bags from being wasted at QF each month.
    - Additionally, QF students have campaigned for Qatar to ban plastic bags – a measure agreed by the country's government in **2021**.
- The Education City Tram makes QF a more environmentally friendly, interconnected, and accessible environment, as well as providing a travel option that aims to reduce vehicle use and emissions within and around QF.

- The tram system is the only one in the world that is electrically charged but battery operated via pantographs.
- It has reduced gas emissions in Education City by **10** percent, and air pollution by **20** percent.
- The tram network is used, on average, by more than **3,000** people a day, and more than **100,000** people a month.

- QF has been named a '**Climate Conscious**' organization by climate change consultancy **South Pole**, with its first **Carbon Neutral** event being held in January **2020**.
- QF was awarded the Level I Eco-Event Award for its FIFA Club World Cup Qatar **2020™** activation, fulfilling the necessary sustainability standards in awareness, water, energy, waste, cleaning and hygiene, and indoor environment.
- Education City was awarded the '**Healthy Education City**' award as part of the '**Healthy City**' initiative that aims to improve the social determinants of health as an urban issue that requires commitment and concerted action. This award reflects QF's dedication to promoting health and wellbeing, as well as its commitment to supporting members of the community to reach their full potential.

QF also supports sustainability through the following initiatives:

- Its Park & Plant initiative aims to create Qatar's first urban forest and restore Qatar's indigenous landscape.
  - It is part of 30+ activations and initiatives such as Green Island, the only community-centric recycling hub in Qatar.
- Stars of Science, launched in 2009, is the Arab world's leading scientific 'edutainment' reality TV program. Several of the show's alumni's have gone on to develop and market sustainable innovations
  - In 2022, the show crowned its first female winner, Sumaiya Said Sulaiman Al Siyabi, who developed a chemical-free floating sphere that dissolves micro-plastics, capable of helping to address the issue of plastic garbage in bodies of water.
  - One of its recent participants invented the Smart Reusable Medical Mask Kit in response to the increase of mask use during the pandemic. With the use of IoT, a more efficient use of the mask was developed that increases both health and environmental safety.
  - The show's Season 7 winner developed a washing machine, Glean, that runs completely on solar energy and uses recycled water to conserve both electricity and water. Glean's independence from electricity makes it possible to wash clothes even when electrical outages hinder the usage of traditional washing machines.
  - Its Season 6 winner developed the Efficient Solar Energy System, designed to improve the performance of solar panels in intense climates such as that of the Arabian Gulf, using a concentrated photovoltaic system, water cooling and thermo electric generators mounted on solar concentrators.
  - A Season 4 participant invented a vertical wind turbine called Reyah-T, which generates power from wind using four times fewer resources than traditional turbines and has the ability to do so from low windspeeds.

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Sustainability-focused QF entities

Qatar Environment and Energy Research Institute (QEERI)

QEERI conducts and coordinates long-term and multidisciplinary research that addresses critical national priorities related to water security, energy, and environment. This research takes place in QEERI facilities including its Core Labs, Micro- and Nano-Fabrication Labs, and a **35,000** sqm Outdoor Test Facility.

Recent QEERI developments:

- QEERI has collaborated with global technology leaders to expand its solar research and testing facility. Research by QEERI into the particular requirements for solar PV to work effectively in the desert climate of Qatar was essential to a recently-announced solar power project including Total, Japanese industrial giant Marubeni, and Siraj Energy – a joint venture between Qatar Petroleum and Qatar Electricity and Water Company. The **800** MW solar plant will provide 10 percent of Qatar's peak electricity needs
- "Total's solar testing facility at QEERI reduces carbon emissions, whilst supporting Qatar in developing leading-edge technologies and inspiring future engineers to work on more sustainable solutions," says Total's Al Jaber. "This in turn creates a healthier environment for our future generations."
- In **2020**, QEERI launched a partnership with NASA's Jet Propulsion Laboratory to establish a space-based capability to scan Earth's most arid regions and better understand how climate change is accelerating changes in ice sheets, sea level rise and underground aquifer water sources, and how these three elements interact.
- QEERI recently announced that it had observed a **30** percent decrease in particulate matter concentrations across greater Doha, which can be directly attributed to social distancing policies implemented due to the COVID-19 pandemic, potentially benefiting measures to decrease emissions in the future.

Earthna

Earthna is an international policy research and advocacy platform promoting and enabling a coordinated approach to environmental, social, and economic sustainability; a facilitator of sustainability efforts; and a convener of climate change thinking and action in Qatar and other hot and arid countries. Earthna brings together a community of local and global technical experts, academia, government and non-government organizations, businesses, and civil society to enhance sustainability efforts, innovation, and positive change. Earthna's work in addressing challenges that hot and arid environments face helps to shape new pathways and informs national and global policy.

Green Island

Green Island is Qatar's first community-centric recycling hub. Developed in partnership with the private sector, it is home to multiple learning centers focused on key sustainability themes such as upcycling, urban farming, solar energy, and food waste. Green Island is also home to several research programs and open to the public to learn from and interact with.

Green Island will kick off with six recycling streams – paper, plastic, aluminum cans, e-waste, batteries, and organic waste.

Partially powered by solar panels, it will be easily accessible by public transport, including the EC Tram.

Spanning more than 8,000 square meters, Green Island will be made up of 95 end-of-life shipping containers, which have been donated by Milaha – one of the largest maritime and logistics companies in the Middle East.

Education and awareness will be incorporated into the site. Each container will have a large screen mounted on it which will allow community members to see the various steps that a certain type of waste goes through as it's recycled.

Green Island will also feature research labs, a themed giftshop, an open space for exhibitions and lectures, organic cafes, and a farm-to-table restaurant with its vertical farm onsite. Additionally, it will house an art gallery where students can exhibit pieces of recyclable waste, as well as a 3D printing lab that prints using recycled concrete.

It will be home to the first urban hydroponic farm able to produce around 15T of vegetables all to be consumed within EC making of the campus the first GCC application of circular economy.

Green Island will use 100kw of on-site sourced solar energy.

Hamad Bin Khalifa University (HBKU)

HBKU is QF's homegrown graduate studies-focused university whose academic remit focused on building human capacity in areas and fields that align with the priorities of Qatar and the region. Among the programs offered by its six colleges are graduate and doctoral programs in sustainable energy and sustainable environment, focusing on areas including human development, pollution, population growth, sustainable policymaking, and the impact of growth, urbanization, transportation, and manufacturing on energy and overall sustainable development.

Texas A&M University at Qatar (TAMUQ)

TAMUQ offers one of the world's premier engineering programs, built on its home campus' international reputation in engineering. Offering programs in chemical, electrical and computer, mechanical, and petroleum engineering, TAMUQ also has a strong and collaborative research focus, with its centers of excellence including the Gas and Fuels Research Center, the Qatar Sustainable Water and Energy Utilization Initiative, and the Smart Grid Center Extension in Qatar.

Qatar Science & Technology Park (QSTP)

QSTP is home to research, development and innovation centers that include leading global energy and technology companies, and some of the Arab world's most exciting tech startups. It is where companies have made breakthroughs in areas ranging from desalination technologies that improve water security, to the development of fuels intended to improve air quality. QSTP's work is built on four overarching themes that align with Qatar's priorities, which include energy and the environment.

Qur'anic Botanic Garden (QBG)

QBG exhibits and conserves the plants mentioned in the Holy Qur'an and the native flora in Qatar. It supports QF's focus on sustainability through awareness initiatives, workshops, training, and competitions that motivate students from across Qatar to develop their knowledge of why sustainability matters. Through its application of scientific innovations, appreciation of cultural traditions, and promotion of lifelong learning, it encourages visitors to enjoy environmental activities and preserve natural resources.

05 About Qatar Foundation

Qatar Foundation (QF) is a non-profit organization made up of more than 50 entities focused on education, research, and community development.

QF's unique ecosystem – supported by partnerships with leading international institutions – is built on initiatives that address our most pressing challenges, create global opportunities, and empower people to shape our present and future.

06 About Education City

Education City, QF's flagship initiative, is a campus that spans more than 12 square kilometers and hosts branch campuses of some of the world's leading educational institutes, a homegrown university, research and innovation hubs, and community facilities. Together, this makes Education City a unique environment of knowledge – pioneering a new approach to multidisciplinary, global education and enabling breakthroughs that benefit Qatar and the rest of the world.

07 QF Media Center

The Qatar Foundation (QF) Media Center provides you with access to useful information. This includes a list of QF expert commentators, information about the QF Centers, media pack & factsheets, logos, photo gallery and finally, our stories & press releases. To find out more, please visit www.qf.org.qa/media-center

For more information and for media enquiries, please contact the QF Press Office at pressoffice@qf.org.qa

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