



The Circular Economy in Qatar 2

Issues for Discussion
Executive Summary

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Global Counsel

Executive Summary



MAPPING AN EQUITABLE PATHWAY TO A CIRCULAR ECONOMY

A recent estimate indicates that, less than 8% of all human material produced is currently recycled back into the global economy.^[1] This low percentage is a reflection of humankind's extremely high consumption and the waste burden this creates. It increasingly gives rise to grave concerns about the long-term sustainability of our current global economic system. To many it is a warning about the impacts of maintaining the current linear economic model, the resultant depletion of non-renewable natural resources and the critical planetary wide biodiversity loss that has ensued.

When considered optimistically, it is also a measure of the potential that exists to improve the sustainability of our resource-use and grow a sustainable global economy.

Some may argue that achieving both is impossible as the concepts are mutually exclusive, a conceptual oxymoron no less. However, much recent work has been carried out that attests to the viability of achieving both economic growth and greatly reducing mankind's dependency on the planet's limited resources. At the heart of that approach lies the concept of a circular economy.

A circular economy greatly reduces the environmental burden of our non-sustainable linear economic system by adoption of the tried and well tested three 'Rs': reduce, reuse and recycle. Waste can therefore be redefined as only that material that 'drops out of the global economic loop of utility' and is thus greatly reduced. When waste does occur, it has to be 'safely returned to Earth'. The 'safely' aspect meaning that there are no impacts on the integrity of the planet's biosphere as a consequence of this process.

The transition to a circular economy then, is not just about waste recycling and the use of renewable materials. It infers a global system that redistributes vital materials and maximises the productivity and cyclical lifecycle of all products and materials by designing out waste and designing in renewability. The 'waste outputs' from one industry (including material that has come to the end of its 'economic life-cycle' within each sector), therefore become the inputs for another industry.

Implicit in this transition to a circular economy is the need to make radical changes to manufacturing and consumption across the value chain, which is no small endeavour. Across the policy and political landscape in all countries, and at a personal level, this requires a multitude of deliberate and focused actions to achieve the transition. It means embracing new policy thinking, the acceleration of new technological invention, the delivery of innovative business models, improvements to everyday resource production and consumption practices, and lastly the adoption of new behaviours.^[2]

Across the world, each country will need to plot a transitional pathway to create a truly circular economy. As previously stated, this is not an easy task and even countries that have a reputation for instigating enlightened sustainability policies and are 'early adopters' of circular economic principles, have some way yet to go to achieve comprehensive circularity. Whatever the pathway adopted that leads a country towards a circular economy, it should be recognised that this process also needs to be equitable if it is to be truly sustainable.

QATAR'S CIRCULAR ECONOMY PATHWAY

A recent study by the Gulf Cooperation Council (GCC) found that the region could save up to \$138bn by 2030 by transitioning to a circular model.^[4] There is therefore, a good rationale for Qatar to seek its own circular economic pathway. Moreover, commitment to mapping this pathway is inherent within Qatar's National Vision (QNV) 2030 and the aspirations it espouses. Since its publication, and that of the subsequent National Development Strategies (NDS), Qatar has made good progress despite the practical challenges that come with integrating sustainability within an accelerated pace of development.^[3]

A crucial part of the QNV is ensuring that the cultural and Islamic values that are core to Qatari identity, underpin the development and transformation of the Qatar's economy. Central to those Islamic values are the rights of human beings and the environment. Allah "has raised up the heaven and has set a balance that you may not transgress the balance".^[4] By shifting to a circular economy, Qatar can protect society, while transforming the economy and preserving the balance between nature and human development.



Hospitality

Hospitality is a growing sector and an especially important one for Qatar's economic diversification.

83%

As global awareness of the issues surrounding sustainability grows, there is increasing demand for sustainable tourism, with 83% of global tourists believing sustainable travel is vital.

The global ecotourism market is expected to reach

\$334bn by 2027^[24]



This offers a significant opportunity for Qatar to capitalise on this growth.

By implementing interventions to increase the circularity of the hospitality sector, Qatar could achieve a reduction in carbon emissions of



0.09MtCO₂e

Such interventions could also lead to savings of over



3 million m³
in water reduction



38GWh
in energy reduction



3,700 tonnes
of waste reduction



Food & Domestic Waste

Central to Qatar's National Food Security Strategy is agricultural self-sufficiency.



Self-sufficiency offers a significant opportunity to diversify the economy and position Qatar as an innovation hub for sustainable food production.

~60%

Currently, ~60% of domestic waste in Qatar is composed of organic waste, with each person producing over half a tonne of food waste every year.^[8]

Should the recommended policy interventions be implemented, Qatar could save over:



784,000 tonnes

of organic and packaging waste from being sent to landfill



OVER 1.3MtCO₂e

total emissions reductions



QAR 2.1bn a year

net benefits provided



Built Environment

As Qatar's economy grows, so too does its construction sector and population.

Changes made in this sector can have a profound effect on the whole country.

Nearly 60%



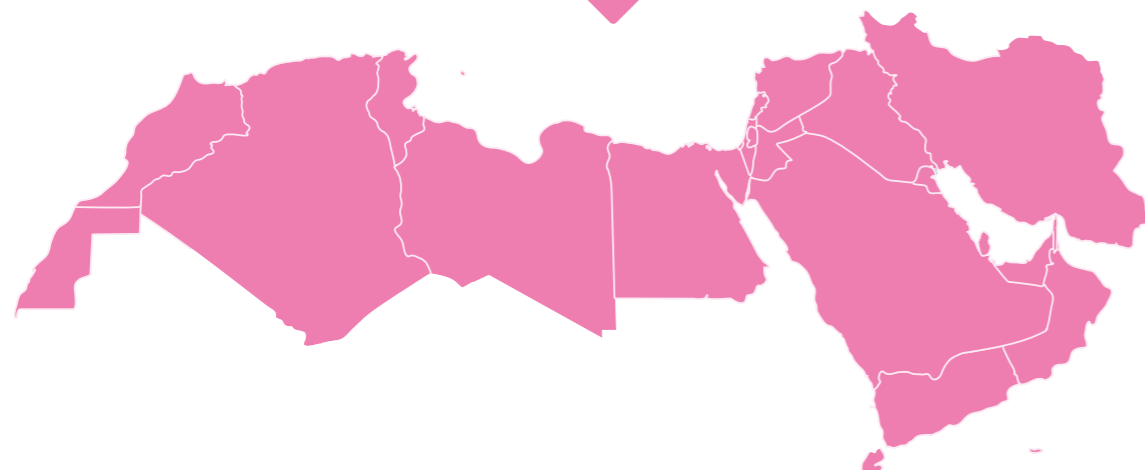
of Qatar's electricity consumption is from the domestic sector ^[3]

Significant reductions can be made in Qatar's carbon footprint each year through the interventions that focus on bringing operation efficiency to the built environment throughout the building's life. Such interventions have the potential to reduce emissions by 0.3MtCO₂e, alongside a potential 1,080GWh of annual energy savings and net benefits of QAR 4bn in addition to increasing health and wellbeing.



Qatar can emerge as a leader in sustainability in the MENA region by building on the World Cup legacy and other sustainable developments.

Qatar has the opportunity to become an innovator and leader, driving progress to green the built environment sector throughout the MENA region.



OUR APPROACH: POTENTIAL, PRIORITISATION, IMPACTS

An initial study sought feedback through workshops and surveys on both:

- the barriers of moving to a circular economy and;
- the opportunities that could be realised across six sectors (hospitality, water, plastics (including fashion and packaging), food and domestic waste, the built environment, and energy transition and renewables.

Responses suggested that hospitality, food and domestic waste, and the built environment had the most opportunity to develop in line with a circular economic agenda and/or were growing areas of the domestic economy with significant future potential. Energy and water will be considered separately. This report builds on the policy approaches identified in those initial discussions. It seeks to discern which policies and interventions could have the most impact, are practicable, and are likely to be cost effective.

Policies and interventions have been considered under the umbrella of four policy levers:

- financial;
- legislative;
- enabling approaches;
- and awareness raising

Each policy intervention has been assessed to determine how practical they would be to integrate into Qatar's socio-economic system and the impact they would have on people, the economy, and the environment.

Three methods were used to achieve this:

- 1 A survey of over 100 experts, businesses and policymakers in Qatar and the wider MENA region. Respondents were asked to provide views on how the policy interventions can align with and support the Qatar National Vision 2030 (QNV).
- 2 A series of targeted in-depth interviews with 12 key policymakers, academics and stakeholders in Qatar, focused on those who would be responsible for implementing the policy recommendations identified in the report, including ministries, hotels and private-sector companies in the target sectors.
- 3 Extensive desk-based research across the MENA region, Europe and beyond to identify policy impact assessments that could be adapted to assess the economic, human and environmental impact of each policy and intervention in the Qatari context. Assessments were considered alongside national priorities and values including the Qatar National Vision and the 3 pillars of sustainability. ^[6]

Through our initial consultations, we identified a holistic approach as necessary to transition to a circular economy. No single policy can achieve this transition alone so, Qatar needs to develop a framework that harmonises policies to collectively address the barriers to circularity.

The levers found to be most effective were:



LEGISLATIVE
Regulations for reporting, infrastructure and certification



ENABLERS
Technology, greening supply chains, data collection



AWARENESS RAISING
Education campaign, use of media and advertising

Under these levers, we identified specific interventions and tested them to determine how practical they would be to integrate into Qatar's socio-economic system and the impact they would have on the people, economy and environment.

OUTCOMES

HOSPITALITY

Opportunities to reduce the negative environmental impacts offer truly sustainable services



Potential for circular economy dynamics. Internationally very few government policy interventions are hospitality specific. However, the sector tends to voluntarily adapt sustainable business strategies from other sectors to improve its operational efficiency and meet customers demand for responsible services. The sector is therefore, often influenced instead by broader, built environment, transport, energy, and waste related policies that were instigated to target the whole economy. As the hospitality sector in Qatar expands, there are benefits to a more centralised approach that would ensure that hospitality can be seen to be within a credible country-wide for eco tourism.

Key challenges:

- Data collection regarding both current hotel efficiency and visitors' concerns and priorities, if shared throughout the sector, could help ensure that Qatar's hospitality sector and Tourism Authority and greatly informs future policy development.
- A mandatory waste management policy based on the 5Rs* across the sector is crucial.
- Developing country-wide green procurement policies that lead the economy collectively toward establishing a more sustainable supply chain, greatly benefits the hospitality sector.
- Raising awareness of both guests and staff reinforces the significance and implementation of sustainable policies that affect hospitality services.

Assessed benefits: Net economic benefits across all the policies and interventions explored were estimated to be over QAR 114m each year. A sustainable tourism services sector would also bring increasing employment opportunities and support the local economy and new business models. Total carbon emissions savings across all the policies reviewed are estimated to be 0.09MtCO_{2e} per year.

FOOD AND DOMESTIC WASTE

There are significant opportunities to reduce food packaging waste, the negative health and environmental impacts that this waste causes.



Potential for circular economy dynamics. Food consumption and packaging are a major source of waste. Landfill produces significant volumes of methane, a potent greenhouse gas. Thus food related product and service innovation have the potential of significantly reducing negative environmental impacts and improving economic circularity.

Key challenges. Decisions over diet are a highly personal choice, with few countries willing to regulate the general public's diet. It is therefore unsurprising that the interventions that were most popular in surveys and interviews focused on nudging consumer behaviour through awareness campaigns and tackling the food waste. Shifting behaviour, reducing packaging and greening the supply chain are critical in this sector in order to make effective changes. As in all sectors, data collection is important to ensure that the effectiveness of interventions can be monitored over time and targeted interventions can be introduced.

Assessed benefits: Net economic benefits across all the policies and interventions explored were estimated to be QAR 2.1bn each year as well as increasing employment opportunities. Total carbon emissions savings across all the policies reviewed are estimated to be 1.3MtCO_{2e} per year.

BUILT ENVIRONMENT

Opportunities to reduce negative impacts on the environment and human health through extending the lifecycle of the built environment.



Potential for circular economy dynamics. The policy interventions that were found to be most effective were more often interventionist approaches that rely on government regulation. Consultation stressed that a holistic approach could only be achieved via development of a 'Sustainable Buildings Strategy' for both existing and new buildings'. These have been highly effective in other jurisdictions, such as Europe and the UK, in setting direction and creating certainty in the policy landscape for businesses. New business opportunities and innovation that contribute to a sustainable economy also emerge from such holistic intervention.

Key challenges. An important challenge raised throughout consultations was the absence of government regulation. Public sector-led legislation is key to the wider uptake of circular economy practices. As in other areas, there is an inherent weakness in relying on non-local data and methodologies for impact assessments; fully customised impact assessments with accurate local data will improve this.

Assessed benefits. Net economic benefits across all the policies and interventions explored were estimated to be QAR 4bn a year as well as increasing employment opportunities. Total carbon emissions savings across all the policies are estimated to be 0.3MtCO_{2e} per year.

The top three most impactful interventions based on our findings were:



Hospitality



Mandate certification standards e.g., **Green Key Awards** across all hotels. Estimated benefits each year: net economic savings **QAR 83m per year**, emissions **0.07MtCO_{2e}**, **1.5 million m³ water reduction**.



Improved access to data through **smart metering and tourist surveys** to enable targeted interventions. Estimated benefits each year: net economic savings **QAR 31m per year**, emissions **0.02MtCO_{2e}**, **1.5 million m³ water reduction**.



Adoption of **the PLEDGE** on Food Waste hotel benchmarking standard. Estimated benefits each year: net economic savings **QAR 1.4m per year**, emissions **0.001MtCO_{2e}**, **2kt food**.



Food & Domestic Waste



Waste collection and bio digesting. Estimated benefits each year: net economic savings **QAR 1.3bn per year**, emissions **1.06MtCO_{2e}**.



Capturing methane from existing landfill at Mesaieed. Estimated benefits each year: net economic savings **QAR 13m per year**, emissions **0.013MtCO_{2e}**.



Extended producer responsibility scheme to put the cost of recycling on packaging producers. Estimated benefits each year: net economic savings **QAR 647m per year**, emissions **0.14MtCO_{2e}**.



Built Environment



Mandatory energy performance certificates for all existing buildings. Estimated benefits each year: net economic savings **QAR 10m per year**, emissions **0.05MtCO_{2e}**.



Increase the proportion of recycled aggregate. Estimated benefits each year: net economic savings **QAR 5.8m per year**, emissions **0.009MtCO_{2e}**.



Adopt Leadership in Energy and Environmental Design in all new buildings. Estimated benefits each year: net economic savings **QAR 3.7bn per year**, emissions **0.15MtCO_{2e}**.

Five strategic principles for building a circular economy

The MENA Region is a developing region with fast growing economy and high potential for circularity.

What is needed to expedite green growth is to lay the foundations for a range of policy interventions. There is a place for a top-down approach using legislation supported by education and focused messaging and, where necessary, enforcement measures. This would demonstrate the government's motivation and leadership, sending a strong signal to businesses and society in Qatar and internationally. This in turn would provide the private sector with the framework and certainty to follow suit and equip the population with the tools and infrastructure that will allow them to successfully make this transition.

From analysis of data gathered for this report it is possible to distil some key principles to shape a circular economic strategy for Qatar.



1

COLLECT AND USE DATA TO INFORM POLICY

Data collection and generation, remains a significant challenge for developing targeted policy interventions. Emissions data for the sectors is not available, and a coherent data collection strategy across and between sectors does not yet exist. Until it does, policymaking is too dependent on impact assessment methodologies that do not reflect Qatari realities fully. Here, Qatar has a key opportunity to mobilise and improve its data collection and utilisation capability.

2

TAKE A SYSTEM-WIDE APPROACH

There is a need for a system-wide approach to policy making to promote sustainable development and environmental protection in decision making. Developing policies and regulations that provide a roadmap to address gaps in various sectors will lead to more impactful outcomes. Qatar would benefit from a comprehensive "Green Growth Plan" which would support the QNV 2030. The plan would bring together all government departments and outline detailed implementation pathways and key performance indicators to support decarbonisation and biodiversity across the economy.

3

CREATE A ROBUST LEGISLATIVE FRAMEWORK FOR CHANGE

For most of our interviewees, broad legislative approaches – which are currently largely absent – were considered the most necessary and impactful. Legislation offers a clear and powerful framework for change, and findings indicated that regulations and consistent benchmarking were important to enable decision makers to develop evidence-based policies.

4

EDUCATE FOR CONSUMER AND CITIZEN AWARENESS

For new policies to be a successful they need consumer buy-in. One of the main barriers to the circular economy transition is the lack of awareness of sustainable initiatives, laws and incentives already in place. A MENA-wide, first-of-its-kind circular economy hub would help to address this. It would be a one-stop-shop for businesses and the public, generating engagement and promoting initiatives. Ultimately, consumer and citizen awareness is the key to fully unlocking change. Awareness and education-based policy levers such as employee guidance or consumer awareness campaigns should flank legislative change.

5

INTEGRATE CIRCULAR ECONOMY STRATEGY INTO QATAR'S FDI STRATEGY

Qatar should capitalise on its Free Zone strategy and its open approach to FDI. Scaling up financial flows for circular economy innovation enables Qatar to incubate new businesses and entrepreneurs which will diversify its economy.

METHODOLOGY AND NEXT STEPS

This report sets out the best available evidence for the impact of a circular economy transition in Qatar across the three sectors. The assessments in this report should be considered as guides rather than definitive findings. The economic savings have been calculated using the UK's estimate of the social cost of carbon, i.e., the economic cost of emitting one tonne of carbon dioxide. These assessments have relied heavily on equivalent UK and EU impact assessments. These are mandatory requirements for many new policy proposals in many European countries but not used widely elsewhere. The use of methodologies designed for other jurisdictions is acknowledged as an imperfect tool. In some cases, assumptions have had to be made where there were gaps in data available. A full assessment through life cycle analysis, broader economic modelling and data gathering is needed to understand the full impact and potential of these approaches. For some interventions, on-site feasibility studies would be needed to understand costs and benefits. Detailed information on the evidence gathered and the assumptions made for the assessments is available in Annex 2.

Nevertheless, the preliminary conclusions point to potentially significant environmental and economic savings from the interventions identified. Across the three sectors, each year Qatar could benefit from emissions reductions of 1.7MtCO_{2e}, net economic benefits of QAR 6bn alongside social well-being and biodiversity benefits. As a vision of what a circular economy could provide for Qatar across three sectors of the economy, we can be confident in its conclusions. It has shown the value that a circular economy can have to Qatar's people, environment and economy. There are significant opportunities presented by a country-wide shift away from a linear model.

Several interventions stand out as the most viable for Qatar, which will need to be further scrutinised and addressed in the next stage of work. The next stage will involve a world-first, full life cycle analysis of Qatar's entire domestic economy. The insights from this and all other work to date will be used to create a data-backed, policy-driven, bespoke plan for a transition to a circular economy. It will enable the bespoke identification of areas where policy interventions could have most impact for Qatar and set out the strategic pathway, accompanied by a detailed implementation plan for the transition.



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3,700 tonnes
of waste reduction



Food & Domestic Waste

Qatar is a food import dependant country with

80%

of food imported.

Food waste makes up

60%

of domestic solid waste in Qatar



Whether we are looking at local production like food production in Qatar, or looking at the sustainability of the circular economy [in] the country we don't have the legislation. The regulation will make guidelines for these businesses [and] open up opportunities for others."

KEY ACTIONS

Methane emission capture from existing landfill at Mesaieed.

Waste collection, recycling and composting facilities.

Extended producer responsibility scheme to put the cost of recycling on packaging producers.



Net economic benefit of QAR **2.1bn saving per year** across potential interventions identified



78,000 tonnes of waste could be prevented from going to landfill each year across all policies

Total Carbon emissions Savings across all proposed Food & Waste policies

estimated to total 1.3 MtCO₂e

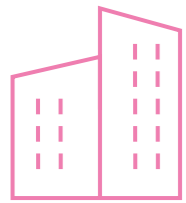
globally each year



Survey respondents saw waste collection and composting as the highest priority area for policy intervention in Food & Domestic waste – 95% seeing it having a positive impact for sustainability.



88% of respondents supported methane capture from landfill.



Built Environment



Construction & manufacturing are responsible for circa

17% of Qatar's total carbon emissions

KEY ACTIONS

Increasing the proportion of recycled aggregate in construction.

Energy Performance certification for existing buildings.

Adopting green government procurement standards.

Across all proposed built environment policies estimated to **total QAR 4bn saving** globally each year



You have to consider the whole lifecycle of a building from the construction to the deconstruction to develop a building in a sustainable manner”



Total Carbon emissions Savings across all proposed Built Environment policies estimated to total

0.3 MtCO₂e

globally each year



Survey respondents identified that a sustainable business strategy and mandatory global sustainability assessment certifications such as LEED were the highest priority areas.



Targeting the LEED rating system and Energy Performance systems mandatory have been identified by impact assessments as those with most significant impact. Recycled aggregate usage also deemed an important innovation.

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EARTHNA

Earthna is a non-profit policy research and advocacy center established under Qatar Foundation (QF) to inform and influence national and global sustainability policy.

Bridging technical and research expertise with policy advice and advocacy, Earthna will convene a wide community of technical and research experts, government, policy and decision makers, businesses, multilateral institutions, and civil society to generate a more sustainable future.

Earthna runs multidisciplinary programming with a focus on the fields of hot and arid climates, sustainable cities, and sustainable energy, as well as the potential of QF's Education City as a testbed for sustainable technologies and practices.

Earthna is focused on developing tools, solutions, and policies to improve people's lives within a thriving natural environment. Working together with our community to co-create and design solutions that utilize our resources and understand our local culture and needs, we deliver a message of hope and impactful action that will strengthen our legacy.

For more information on Earthna please visit: www.earthna.qa

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