

# Chapter 2

## The Evolvement of Qatar's Environmental Sustainability Policy: The Strategies, Regulations, and Institutions



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**Abstract** Environmental sustainability has been increasingly present on Qatar's policy agenda since the early 2000s, with the ratification of the Permanent Constitution, the issuance of several environmental laws, and the launch of Qatar National Vision 2030, and its supplementary strategies. This chapter tracks the development of environmental policy through surveying the country's key 'guiding' policy documents; Qatar National Vision 2030, the first and second National Development Strategies, sectoral strategies, and through reviewing laws and regulations that have been issued so far to safeguard the ecological systems and their inhabitants. This chapter also investigates the respective government institutions and how their role has evolved over the years.

**Keywords** Environmental Policy · Sustainability · Environment · Qatar

### 2.1 Introduction

Environmental sustainability has been one of the most pressing topics on Qatar's policy agenda over the past two decades, considering the steady economic growth, massive population expansion, and the rapid urbanization the country has been experiencing and the implications of such growth patterns on the degradation of the environment and the latter's impact, in addition to climate change, on the society and the state as a whole.

With all the transformations in various respects that Qatar has been going through, environmental policy, too, has been subject to several changes during this time period. Several strategies, laws, and institutions have been established at various levels to address the environmental challenges. Whether or not they have been successful in doing so, this chapter intends to provide an overview of environmental sustainability

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policy evolution and tries to identify the gaps that might exist. The chapter first investigates related national policies and strategies, then goes over the laws and regulations issued, and lastly, the relevant government institutions.

## 2.2 National Policies and Strategies

Although the 2000s were significant to environmental sustainability policy planning in Qatar since they have witnessed the establishment of the first medium- and long-term nationwide strategies,<sup>1</sup> environment has been the concern of a number of policy initiatives throughout the 1970s, 1980s, and 1990s. These policy initiatives came in various—yet scattered—forms, whether laws (such as Law No. 8 of 1974 on General or Public Cleanliness, see Sect. 2.3), institutions (such as the establishment of Standing or Permanent Environmental Protection Committee in 1981, see Sect. 2.4), or the ratification of regional and international environmental treaties (such as accessing the 1954 International Convention for the Prevention of Pollution of the Sea by Oil in 1980) (United Nations Environment Program 1984).

The state's strategies concerning environmental affairs have been developing gradually in terms of scope and level since the start of the new millennium. One of the early medium-term strategies that were developed at the sub-sectoral level was the National Biodiversity Strategy and Actions Plan (NBSAP), launched in 2004. It was developed at a time in which the subject of biodiversity has been the focus of several international and regional treaties, such as the Convention on Biological Diversity in 1996, the Convention to Combat Desertification in 1999, the Convention on International Trade in Endangered Species of Wild Fauna and Flora in 2001, and the Convention on the Conservation of Wildlife and their Natural Habitats in the Countries of Gulf Cooperation Council in 2004—which Qatar has ratified the accession to. The NBSAP intended to provide a 10 years roadmap for sustaining biodiversity, marine ecosystems, and aquatic resources. The second NBSAP was launched in 2015 and aims to achieve the objectives set in the first strategy along with a few additional by 2025.

The years that followed the launch of NBSAP witnessed the development of more sophisticated long- and medium-term strategies with wider scopes, including the Qatar National Vision, National Development Strategies, the National Environment and Climate Change Strategy, as well as sectoral and institutional strategies, respectively, detailed in the following subsections.

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<sup>1</sup> In 1995, the General Secretariat for Development Planning prepared the 'Public Strategy of Social and Economic Development in Qatar', but the policy document was never implemented or executed due to the dissolution of the General Secretariat soon after (Al-Kuwari, 2012).

### 2.2.1 *Qatar National Vision 2030*

Launched in 2008, Qatar National Vision 2030 (QNV 2030) was the first of its kind in the state. The launch of the Vision came during a time period wherein there were repeated calls for establishing an integrated approach to sustainable development at global, regional, and national levels, from the Earth Summit in 1992 to the General Assembly Special Session on the Environment in 1997 and the World Summit on Sustainable Development in 2002. The idea of developing the Vision perhaps has emerged due to the deliberations and conclusions of such conferences. QNV 2030 was the first policy document attempting to provide a long-term comprehensive development strategy for the State of Qatar, and it appears to be largely influenced by the United Nations' (UN) manifestation of sustainable development (i.e., 1987's Brundtland Report and subsequent UN publications).

The sustainable development approach of QNV 2030 is similar to what Peterson (1997) described as the competing objectives approach, in which a strategy is designed to reconcile social, economic, and ecological goals. The Vision is constituted of four 'pillars': social, human, economic, and environmental development, and for each, national challenges and objectives are identified. In addition to the challenges that are specific to each pillar, five major challenges were recognized by QNV 2030 and are supposed to be at the core of the efforts made toward the four pillars. Three of these challenges concern environmental sustainability; (a) attending to current needs without compromising future generations' needs, (b) managing economic growth and population, and (c) sustaining the social and economic development that the state has been experiencing while protecting the environment.

The environmental development pillar of the Vision is concerned with environmental management and addressing the aforesaid three challenges along with challenges that are specific to Qatar's ecosystems, which are (a) the impact of climate change on sea levels, (b) the impacts of declining water and hydrocarbon resources, (c) pollution, and (d) environmental degradation.

QNV 2030 also identifies the means that need to be established for environmental sustainability, which include (a) an environmentally aware population, (b) a comprehensive legal system, (c) effective environmental institutions, (d) a comprehensive sustainable urban development planning, and (e) regional and international cooperation.

While the aforementioned guiding environmental principles and considerations in QNV 2030 are 'nice-sounding,' they appear to be too general (Al-Kuwari, 2012) and could apply in many temporal and spatial contexts, which is an issue that perhaps partially originates from the definition of sustainable development itself and any policy planning that concerns it due to its complexity and ambiguity at the interpretation (i.e., defining actions) and application levels (Karki, 2004). QNV 2030 does

not provide a defined starting point for the environmental challenges it has highlighted (e.g., statistics on the status of water and hydrocarbon resources, level of pollution), nor does it give a defined desired ‘destination’; it leaves both to the next layer of policy guiding documents which is the National Strategy.

### ***2.2.2 National Development Strategy***

Guided by QNV 2030, two National Development Strategies (NDS) were launched (NDS-1 in 2011 and NDS-2 in 2018) to define and prioritize the national development goals along with time-bound targets for a period of five years. The NDS intends to provide a medium-term structure for various sectoral and enterprise strategies to ensure that they are coordinated and aligned. Moreover, NDS is supposed to form the basis for the national policy framework and be complemented further by the sectoral strategies.

In its attempt to provide an integrated approach, NDS-1—as well as NDS-2—sought to integrate environmental sustainability in the various sectoral strategies wherever possible. For instance, throughout the implementation of the Strategy the healthcare sector was intended to be enabled by targets set under environmental sustainability—e.g., the latter’s target to raise the public awareness and encourage healthier living and working environments—and was also intended to act as an enabler for environmental sustainability, within the healthcare sector’s target to establish monitoring and health standards. Similar notes of intended alignments among the sectoral targets were indicated throughout the Strategy document. Regardless of the actual outcomes of NDS-1, such cross-sectoral planning concerning the environment is recent to the state’s policymaking and has developed gradually following the launch of QNV 2030.

NDS-1 specified four themes: water, air quality, waste management, and biodiversity as the environmental development priorities for the period from 2011 to 2016 and identified a set of targets for each. While the Strategy document provided some insights on the drivers of degradation in these four areas and the risks of such, it missed providing adequate baseline statistics on their status at the time of the Strategy’s launch. On one hand, statistics is a prerequisite for the formulation of ‘meaningful’ environmental policy. On the other, it is essential throughout the monitoring and progress assessment stages (Rao, 1983). The absence or inadequacy of statistics at the planning stage raises concerns about the basis upon which the environmental targets (detailed in the following paragraph) were determined in NDS-1 and also about the ability to conduct progress assessment activities throughout the implementation. Also, the appropriateness of the identified environmental policies in Qatar’s context is in question considering that they seem to have been developed somewhat ‘blindly’ due to the lack of data about many of the targeted respects.

Fourteen environmental targets were identified in NDS-1. In terms of water preservation, a comprehensive National Water Act was to be developed and enacted. For air quality, a national policy was to be developed and launched to manage air pollution,

greenhouse gas (GHG) emissions, and climate change-related challenges. The specified targets toward this end included eliminating instances of excess ozone levels and halving gas flaring volumes that result from energy production. For waste management, a multidimensional strategy was to be developed and initiated to reduce the waste levels that are generated by households and various commercial and industrial activities and increase the volumes of recycled waste. A target that was identified here was to keep the generated domestic waste at 1.6 kg per capita per day. For biodiversity, a central database that conducts detailed surveys on Qatar's biodiversity and provides baseline data to inform policymaking was to be established and operated. The other target set was to expand the nature reserves and conservation areas. With regard to environmental management, the plan was to develop urban planning to include a green dimension. The first planned action was to create a network of tree-lined green areas in Doha instead of large, open parks. The second was to carry out a nationwide campaign to raise the population's awareness of Qatar's ecological endowment and their role in supporting environmental sustainability. Other activities that were highlighted by the Strategy in relation to environmental sustainability were building more regional and international partnerships and establishing environmental performance reporting requirements for the industrial sector.

The environmental sustainability medium-term targets set in NDS-1 indeed were ambitious. By 2016, however, only two targets were fully met—according to NDS-2. Efforts were successful in reducing gas flaring that results from energy production by around 30 percent. Also, the target to maintain domestic waste generation per capita per day at the pre-Strategy level was met and even reduced to 1.3 kg. In terms of the factors underpinning the failure to meet remaining targets, NDS-2 highlighted that they relate to policy planning and implementation gaps, such as unclear prioritization of targets, poor coordination at sectoral and cross-sectoral levels, and lack of planning and implementation capabilities at the institutions' level.

NDS-2 was launched in 2018, with targets to be met by the year 2022. The second Strategy's identified concerns include the urban expansion's pressure on ecological systems, waste, air pollution, surface groundwater levels, and the lack of sanitation network availability in all residential areas and its stress on the environment. NDS-2, too, attempts to approach environmental sustainability in an integrated manner. For instance, economic infrastructure sector targets include environmental dimensions. One of the set targets in this regard is to increase the proportion of the recycled materials that are used in infrastructural projects. Such targets, if met, are meant to contribute to both economic and environmental development.

A total of eight targets specific to environmental development were identified in NDS-2, (a) reducing levels of air pollutants, (b) improving coastal and marine water quality, (c) keeping the generated domestic waste under the rate of 1.6 kg, (d) creating a green belt around Doha, (e) raising public awareness on biodiversity status and establishing a national database about the status of ecological systems and their inhabitants, (f) managing nature reserves and ecosystems in a sustainable manner, (g) establishing a database on Qatari environment within the Ministry of Environment, and (h) building an environmentally aware and supportive society. The programs or projects that were identified to assist in achieving these eight targets revolve around

establishing sub-sectoral plans (e.g., air quality management plan, coastal and marine water quality control plan, waste management plan, climate change mitigation and adaptation plan, nature reserves management plan), creating databases (e.g., national biodiversity database), and carrying out awareness campaigns.

It is worth noting also that the targets that are identified under other pillars of NDS-2 (e.g., sustainable economic prosperity) are intended to, directly and indirectly, contribute toward environmental sustainability. One of the main targets that are identified for economic infrastructure development, for instance, is to increase the power production capacities through increasing the solar energy share in the energy mix to meet the increasing demand for electricity. Deployment of renewable energy would contribute—along with relevant programs and projects—to national targets regarding air quality and GHG emissions. So is the case for the target to increase the proportion of recycled materials that are used in public and private projects. Such a target, if met, would contribute to the state's targets on waste management and the overall goal of environmental preservation. This complementary approach, again, is a unique feature of the post-QNV 2030 policy planning.

Unlike NDS-1, no mid-term review report was published for NDS-2. As of the first quarter of 2021, it remained unclear whether NDS-2 has been successful—compared to the first at least—in meeting the environmental development targets. Assessing and reporting progress has been lagging behind throughout the duration of both strategies. Moreover, it seems that the respective governmental entities are more active in sharing the progress toward sustainability with external, international bodies, while locally, they are less active. Three national voluntary reviews on the implementation of the 2030 Agenda for Sustainable Development—in 2017, 2018, and 2021—have been prepared and submitted. While such reporting is necessary, similar efforts at the national level are important as well with regard to progress toward NDS-2 targets.

It is worth mentioning that the development of the third NDS (or NDS-3) for the period 2023 to 2027 is underway following the Prime Minister's Resolution No. 1 of 2022 on establishing the National Steering Committee, which will supervise the preparation of the Strategy document and follow up on its implementation.

The fourth quarter of the year 2021 has witnessed the unveiling of the first National Environment and Climate Change Strategy 2021 to 2030 and the National Climate Change Plan 2030 (see Sect. 2.2.3 and 2.2.4). Both documents are supposedly significant to environmental sustainability policy in Qatar since they intend to pave the way toward meeting the state's targets of not only QNV 2030 but also those that it has committed to accomplishing at the international level (i.e., the 2030 Agenda for Sustainable Development and the Paris Agreement). It is worth mentioning as well that, unlike the NDS and relevant sectoral strategy 5-years duration, the timeframe that has been set in both policy documents extends from 2021 to 2030. What is unique also about both policy documents is that they are similar to the NDS in terms of level and scope. Although the Ministry of Environment and Climate Change (formerly the Ministry of Municipality and Environment) is the principal owner of the two policy documents, numerous entities (governmental and non-governmental) are responsible for carrying out the necessary measures and programs to meet the identified targets.

This perhaps would promote the Ministry's supervisory and advisory role after a period of slight passiveness pre the recent government reshuffle, through which the Ministry seemed to be more active and focused on municipal affairs (Al-Kuwari & Rahaman, 2018).

### ***2.2.3 National Environment and Climate Change Strategy***

The National Environment and Climate Change Strategy (QNE) was announced in 2021. The Strategy has identified five priority areas for action (a) GHG emissions and air quality, (b) biodiversity, (c) water, (d) circular economy and waste management, and (e) land use, and several objectives were set toward each area. The objectives are aligned with those of QNV 2030 and the NDS, but perhaps are more defined.

The QNE targets toward GHG emissions and air quality are (a) GHG emissions to be reduced by 25 percent by 2030, (b) ambient air quality standards to be enhanced by 2024, (c) indoor air quality standards to be enhanced, too, by 2024 in accordance with World Health Organization guidelines, (d) national network for air quality monitoring to be established by 2023, and (e) a national air emissions inventory to be established by 2023. The pathway toward QNE's GHG emissions and air quality targets include increasing carbon capture and storage application, increasing renewable energy capacity, and investing in blue carbon technologies.

The targets toward biodiversity are (a) nature reserve areas' proportion to be increased to 25 percent and effectively managed in line with the post-2020 Global Biodiversity Framework, (b) endangered species to be protected and recovered, (c) fishing activities to follow sustainable practices, (d) biodiversity awareness, participation, and capabilities to be enhanced, and (e) biodiversity conservation to be incorporated national and institutional planning.

For Water, the targets identified are (a) all water resources to be effectively monitored, (b) reverse osmosis (RO) and sustainable technologies to be used to produce more than 55% of desalinated water, (c) groundwater extraction to be reduced by 60%, (d) total water network loss to be maintained under 8% and real loss under 5%, (e) per capita household water consumption to be reduced by 33% from 2019 levels, and (f) 100% of recycled water to be reused.

Targets for circular economy and waste management include (a) 15% of municipal waste to be recycled, (b) 100% of unsanitary landfills to be closed and rehabilitated, (c) recycled materials to account for 35% of used materials in construction projects, (d) circular public procurement in public infrastructure to be achieved at 30%, (e) per capita food waste to be reduced by 50% at consumer and retail levels, and (f) circular industry principles to be applied across industrial areas.

In terms of land use, targets are (a) farmland productivity to be improved by 50% compared to 2019 levels, (b) water consumption of crops produced to be improved by 40% in comparison to 2019 levels, (c) agrochemicals use to be monitored and reduced, (d) soil quality to be monitored and improved, (e) public transport modal share to be increased to 16%, (f) open space and recreation strategy to be developed

by 2022, and, lastly, (g) green building requirements to be established and mandated for new development projects.

The Strategy document does not indicate specific programs or initiatives, nor does it list out key stakeholders or actors. It does, however, outline the enablers of achieving the QNE targets, which include (a) establishing a committee at the Cabinet-level to review and follow up on the implementation process, (b) establishing a supporting team from various ministries to assist in monitoring and following up processes, (c) increasing the cooperation with the international and scientific communities, (d) deployment of state-of-art technologies for environmental assessment and monitoring, (e) providing financial resources, (f) developing necessary legislative frameworks, (g) building human capacities and national talents, and (h) raising public awareness. Moreover, it does specify baselines for some of the identified targets (e.g., 2019 levels for water and land use targets), which would allow assessing the progress toward them throughout the implementation. Such specifications were missing in former policy documents.

#### ***2.2.4 National Climate Change Action Plan***

The National Climate Change Action Plan (NCCAP), too, was approved and launched in 2021. The NCCAP policy document intends to combine climate change implemented and planned adaptation and mitigation measures ‘under a single framework’ (p. 10). The most significant goal of NCCAP is to reduce GHG emissions by 25%, which is aligned with the QNE target. On the mitigation side, key sectors for action include (a) oil and gas, (b) power and water, (c) transportation, and (d) building, construction, and industry. On the adaptation side, sectors for action include (a) economy, (b) infrastructure, (c) water management, (d) health care, (e) biodiversity, and (f) food security.

Mitigation measures in oil and gas sectors involve (a) deployment of carbon capture and storage technologies, (b) reducing methane emissions, (c) establishing flare reduction projects, and (d) establishing energy efficacy programs. Mitigation measures in the power and water sector include (a) establishing water conservation regulations, (b) enhancing energy conservation in buildings, (c) expanding renewable energy capacity, and (d) enhancing energy and water production efficiency. Mitigation measures in the transportation sector involve (a) increasing the use of public transportation, (b) improving shipping and aviation sectors, (c) improving efficiency standards for vehicles, and (d) electrification of cars and buses. Mitigation measures in the building, construction, and industry sectors include (a) establishing green building standards and (b) increasing the recycling of construction and other wastes.

Adaptation measures as per the NCCAP document are more general under some sectors and more defined under others. For instance, adaptation measures involve establishing a diversified, knowledge-based and resilient economy and resilient infrastructure. For water management, adaptation measures include reducing water

consumption and increasing the use of recycled water. For healthcare, adaptation measures include conducting studies to understand climate change's impacts on public health and raising awareness of them. Adaptation measures in biodiversity include improving scientific knowledge of the state's biodiversity, conserving biodiversity, raising awareness, and building necessary capacities. Lastly, adaptation measures in food security involve diversifying trade partners, increasing self-sufficiency in perishable commodities, establishing strategic reserves for storable commodities, and establishing an efficient local food supply chain.

Unlike QNE, NCCAP lists out relevant stakeholders and the key initiatives they are to carry. Enablers as per the Action Plan document include (a) community awareness, (b) education and human capital, (c) technology and research, and (d) incentives and regulations.

### ***2.2.5 Sectoral and Sub-sectoral Strategies***

The Environmental Sustainability Strategy (ESS) was launched by the Ministry of Municipality and Environment in parallel with the NDS-1 and NDS-2 for the periods 2011 to 2016 and 2018 to 2022. The second ESS indicates the specific programs and projects that are supposed to assist in achieving the environmental development targets of the NDS along with the responsible department. The programs outlined in ESS include (a) establishing a waste management manual, (b) developing and implementing a management plan for solid waste, (c) raising awareness of environmental protection, (d) developing and implementing a climate change mitigation and adaptation plan in addition to stimulating strategic partnerships at various levels, (e) establishing nature reserves management plan, and (f) creating a database within the Ministry. The aforementioned programs are linked to NDS-2 time target, meaning they should be completed by 2022. This is highlighted because the second ESS also lists many ambitious strategic initiatives of the Environmental Affairs Department that would contribute to the targets of NDS-2, but it is not clear if they are intended to be met by 2022 as well. This perhaps suggests that the issue of unclear prioritization of targets that has been faced once before with NDS-1 might reoccur. It could also highlight the planning challenges faced at the institutional level.

On another note, while NDS-2 does not refer to Qatar's Intended Nationally Determined Contributions (INDCs), even though the state has submitted them in 2015 and has ratified Paris Agreement in June 2017, the ESS indicates that one of the strategic initiatives of the Ministry's Environmental Affairs Department is to develop and implement INDCs' plan. It is worth mentioning also that the elements of the ESS 2011 to 2016 differ from those of ESS 2018 to 2022. The water sector is not included in ESS 2018 to 2022 since the water-related activities and projects were transferred to the Ministry of Energy and Industry, which has been dissolved in November 2018 following the government reshuffle.

At the sub-sector level, the strategy of the Ministry of Municipality's urban planning and urban development sector has identified the threats of climate change (e.g.,

sea-level rise and flooding, increasing temperatures, and harm to biodiversity) and a number of initiatives to develop the sector's mitigation and adaptation capacities against each threat (see Chap. 9). They are included in a dedicated policy document established for the sector (Climate Change Strategy for Urban Planning and Urban Development Sector in the State of Qatar, launched in 2018). In addition to QNV 2030, the policy document and the whole urban planning sector are supposedly guided by Qatar National Master Plan or Qatar National Development Framework 2032 (QNDF). QNDF 2032 is a long-term spatial development strategy that is intended to act as the guiding document for urban planning and urban development in the state's 8 administrative municipalities. The policies for sustainable urban planning and development seem to be comprehensively and thoroughly planned and articulated. Yet, the owner principal of the policies, i.e., the Ministry of Municipality, seems to lack control in terms of implementing them, whereas semi-governmental entities, such as Qatar Railways Company, have much influence on urban development (Al-Thani, 2019).

Also, Qatar National Research Strategy (QNRS) has specified desalination, wastewater reuse, and deployment of solar energy among the major challenges related to the environment and energy that need to be prioritized on the R&D agenda in the country. QNRS is supposed to provide the framework to drive Qatar Foundation R&D's program plans toward addressing critical national priorities in line with QNV 2030. Therefore, the aforementioned challenges have been assigned to the relevant research institute, which is Qatar Environment and Energy Research Institute (QEERI) (see Chap. 8).

### ***2.2.6 Institutional Level Strategies***

While the recent practice for strategies at the national and sectoral levels has been, to some extent, consistent in which policy documents are prepared and launched within a specific timeframe, at the institutions and agencies level, it is unclear whether such consistency exists. This can be understood since such documents are usually developed for internal use and not shared or accessible for public.

For the Ministry of Environment and Climate Change (formerly the Ministry of Municipality and Environment), the various departments' strategic initiatives are highlighted in the previously mentioned sector strategy, the second ESS. However, the strategy document does not indicate whether those initiatives are to be accomplished by 2022—in parallel with NDS-2.

Though the development process of environmental strategies at various levels (i.e., national, sectoral, institutional) has come a long way in Qatar, the development itself is not the determining success factor. Implementation constraints remain in question, and whether there is an adequate institutional and technical capacity (see Sect. 2.4) to achieve the desired outcomes outlined in these strategies (although recognized by QNV, NDS a challenge that has been faced from the very beginning). Stakeholders' engagement in the development process of the strategies is also in question, and

whether a participatory approach has been followed throughout the preparation and drafting processes. QNV 2030 has been criticized as being a top-down approach (e.g., Al-Kuwari, 2012). This could reflect the level of endorsement and, hence, the ownership of the strategies by the respective entities, and the implications of the level of endorsement on the implementation process eventually.

### 2.3 Laws and Regulations

One of the unique features of the Permanent Constitution of Qatar is that it recognizes the state's obligation toward preserving the environment and pursuing a sustainable development approach, as stated in Article-No 33 of the Constitution. However, many environmental laws and regulations were issued long before the Constitution was decreed in June 2004. One of the very early laws to protect the environment was Law No 8 of 1974 on public or general cleanliness, which generally prohibited depositing and abandoning waste in any public space and provided a guideline on handling and managing waste. The law was active for around four decades and was only recently repealed by Law No 18 of 2017, which indicates similar principles.

Marine biodiversity was one of the early environmental themes to be addressed by the law. Law No 4 of 1983 was issued to regulate the exploitation and protection of living aquatic resources. Among several purposes, the Law aims to (a) protect marine biodiversity from harmful practices and overfishing and (b) detect and prevent the use of harmful substances that could impact the living aquatic resources' growth, reproduction, and migration. The issuance of the law came only a few years after Qatar's accession to the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution in 1978, its Action Plan, and its subsequent protocols, namely the Protocol concerning Regional Cooperation in Combating Pollution by Oil and Other Harmful Substances in Cases of Emergency in 1982.

Law No 32 on preventing damage to plant ecology and ecosystems was issued in 1995. The main purpose of the law is to regulate grazing areas and seasons and indicate the prohibited practices that have an adverse impact on plants' ecology and ecosystems.

The 2000s, however, witnessed the issuance of several important laws concerning environment protection and management. This could be related to the formation of the Supreme Council of Environment and Natural Reserves in the year 2000, which has been active in proposing policies and legislation, and the accession to several regional and international organizations and agreements throughout the 1990s.

The key legislation on environment protection is Law No. 30 issued in 2002 with the aim to (a) protect and preserve the quality and balance of the environment, (b) combat all forms and sources of pollution and avoid its impacts, and (c) develop natural resources and conserve biodiversity to ensure the benefit of current and future generations. The executive bylaw for the law was issued in 2005 and

covers the environment and sustainable development, development projects' environmental impact, environmental disasters' emergency plans, waste and hazardous materials, air pollution, water pollution, and marine environment protection.

Perhaps the most significant law on conserving wildlife and natural habitats is Law No 19 of 2004, which revolves around prohibiting activities that harm ecological systems and their inhabitants and undertaking necessary arrangements to rehabilitate and manage natural habitats and preserve endangered species. Several nature reserves were established following the issuance of the law, such as Lusail Reserve in 2005, Al Mashabiya, Al Eraiq, and Al Thakhira Reserves in 2006, Khor Al Adaid Reserve in 2007, Southern Area Reserve in 2018, and Al Rafaa Reserve in 2020. Prior to the 2004's Law, several laws were in force on conserving wildlife. Law No 4 of 2002 was issued to regulate hunting activities of wildlife animals, including mammals, birds, and reptiles. Moreover, hunting seasons for certain birds and wild animals are also defined by ministerial decrees—seasons were specified for the years 2002, 2003, 2006, 2007, 2008, and 2009.

Law No 5 of 2006 was issued to regulate trade activities of endangered wildlife—fauna and flora—and their products. Also, a National Biosafety Committee was established by Ministerial Decree No. 11 of 2007 to (a) propose policies, regulations, and executive bylaws for biosafety, (b) establish guidelines and procedures for licensing importing of genetically modified organisms and their products, and several other related responsibilities. The Minister of Environment issued Resolution No 37 of 2010 on conserving turtles and seabirds from extinction. The Resolution prohibits approaching, disturbing, or poaching the nests of both species in the area of Fuwairit Beach during the breeding season—from April to July.

In terms of laws to address air pollution, there is Law No 19 of 2015 on issuing the Unified Law of the Gulf Cooperation Council for the Arab States on the Control of Substances that Deplete the Ozone Layer. Also, Ministerial Decree No 310 of 2020 has been issued for establishing and operating a national air quality monitoring network, which intends to contribute to solving the persistent issue of lack of data and monitoring tools for air pollution in Qatar.

The level of these laws' enforcement, however, remains unclear considering the previously mentioned institutional capacity of respective government entities and their actual ability to make necessary arrangements to ensure environmental laws' application.

## **2.4 Institutions**

Over the years, the number of government agencies that are concerned with environmental affairs increased, and their responsibilities—at least theoretically—expanded. Long before the establishment of a dedicated ministerial body, the first entity formed to look after environmental affairs was the Standing (or Permanent) Committee for Environmental Protection in 1981. The Committee was attached to the Prime Minister's Office and functioned within the governmental structure that was governed

by the Amended Provisional Constitution. The Committee consisted of representatives from several government sectors and held its meetings in the Ministry of Public Health. Its responsibilities included (a) proposing policies for environmental protection along with implementation plans, (b) drafting environmental protection legislation and regulations and following up on their implementation, (c) acting as a coordination agency between various bodies concerned with environmental protection and research laboratories and centers, evaluate their activities, and provide recommendations, (d) monitoring activities of various sectors in areas of provision of data, measurements, and analyses, carrying out studies on ecological conditions, sources of pollution, ways to address them, evaluating those studies and provide recommendations and funding accordingly, (e) verifying the availability and adequacy of monitoring, measuring and control systems, (f) raising awareness of the environment through educational programs and media campaigns, and (g) representing the state at bodies and organizations and regional and international meetings. Another supervisory responsibility was added in 1986, by which the Committee was to review development plans and projects before their implementation. The Committee's approval was to be sought for megaprojects, whether those of the public or private sector. After nearly a decade and a half under the Prime Minister's Office, the Committee was attached to the Ministry of Municipal Affairs and Agriculture in 1994.

In 1990, the Ministry of Municipal Affairs and Agriculture was also assigned to contribute with the respective bodies in the state to protect the environment and address the issue of pollution in all its forms and sources and eliminate its effects. Within the Ministry, a Department of Environmental Protection was established and was to (a) propose and implement environmental protection programs, (b) contribute to assessing environmental analyses conducted for public and private projects, (c) monitor and follow up on pollution incidents, and (d) contribute to the environmental awareness educational programs and media campaigns in coordination with concerned entities. When the Standing Committee for Environmental Protection became under the Ministry in 1994, the Department was also assumed to act as the technical secretariat of the Committee to assist it in carrying out its responsibilities.

Both the Committee and the Department kept functioning under the Ministry of Municipal Affairs and Agriculture until the year 2000, which marks a significant year for the government structure. The law establishing the Standing Committee for Environmental Protection was repealed by Law No 11 of 2000, establishing the Supreme Council of Environment and Natural Reserves (SCENR) to undertake the same role but with a larger scope. The SCENR responsibilities included (a) establishing general policies for environmental protection, achieving sustainable development, and conserving endangered wildlife and their natural habitats, (b) developing action plans that are necessary to carry out these general policies and supervising their implementation, (c) monitoring all related activities to the aforementioned aspects and evaluating their outcomes, (d) preparing related legislation and regulations and following up the enactment, (e) creating a national database and a reference laboratory for the Qatari environment, (f) evaluating the studies concerned with preserving the environment when planning development projects and providing

an opinion about their impact, (g) identifying the problems that are caused by pollution and environment degradation and cooperate with respective government agencies to address them, (h) representing the state at organizations and regional and international meetings, (i) developing plans to improving human capacities with regards to ways and means to protect the environment and natural reserves, and (j) raising public awareness about environment through educational programs and media campaigns.

Two committees were established under the umbrella of the SCENR in 2007 and later under the Ministry of Environment following the government restructure in 2008. The first was the Climate Change Committee, and the second was the Clean Development Committee (following the ratification of the Kyoto Protocol in 2005). Both committees were merged in 2011 to form the Climate Change and Clean Development Committee. The established Ministry of Environment's responsibilities did not differ much from those of the SCENR following the government restructuring. Throughout the 2010s, The Ministry of Environment has undergone several restructurings in 2014, 2016, and 2019 in which it has been merged with the Ministry of Municipality to form the Ministry of Municipality and Environment (MME).

Referring back to the Climate Change and Clean Development Committee and its structure, the Committee is chaired by the Assistant Undersecretary for Environmental Affairs, and it is constituted of representatives from MME, Ministry of Foreign Affairs (the Committee Vice-Chair), Ministry of Commerce, Qatar Petroleum (currently known as Qatar Energy), Civil Aviation Authority, and Qatar University. It is worth noting that the Ministry of Energy and Industry (established at the time) was not represented in this committee, even though this Committee's scope covers the energy and industrial sectors. The Committee's responsibilities include (a) suggesting national policies and action plans related to reducing GHG emissions, (b) ensuring that the government and non-government entities implement UNFCCC and Kyoto Protocol obligations and develop the required reports and studies, (c) developing databases based on UNFCCC and Kyoto Protocol requirements, (d) suggesting a strategy for Clean Development Mechanism (CDM), (e) spreading awareness and knowledge on Clean Development (CD) projects and their goals, (f) engaging in the activities related to the Committee's scope of work at local, regional, and international levels, and several other activities for the Committee to carry.

A Climate Change Department was established under the Environmental Affairs Department within MME. Article-No. (29) of Emiri Decree No. (11) of 2019 on the organizational structure of MME states that the Climate Change Department's responsibilities include (a) suggesting policies reduce the emissions causing climate change and following up their implementation, (b) suggesting policies and programs to encourage the deployment of renewable energy resources, clean production projects, and sustainable consumption, (c) reviewing and approving CD and renewable energy projects and programs to adapt to climate change, (d) preparing studies and reports on climate change in cooperation with respective entities, (e) monitoring the implementation of international conventions that Qatar has joined and highlighting the efforts made regarding climate change at the international level, and (f) collaborating with international organizations and benefit from their programs,

activities, and support under the international conventions concerned with climate change, and several other activities for the Department to take care of.

The Climate Change and Clean Development Committee and the Climate Change Department's responsibilities seem to overlap. For example, both are responsible for proposing national policies for emissions reduction, ensuring implementation as per the commitment to international conventions, promoting awareness of climate change, and both bodies are expected to collaborate with regional and international organizations. It is unclear whether the Department is acting as the technical secretariat of the Committee or if the latter works in parallel with the former. Such overlapping reflects a lack of collaboration management and might lead to duplicated efforts, inefficient use of time and resources, and policy incoherence.

Furthermore, the current framework seems blurry regarding overseeing current projects and plans and ensuring that they are aligned with the targets and objectives of NDS, QNV 2030, and other multilateral agreements Qatar has ratified. For instance, the responsibilities of the Standing Committee of Water Resources, which was established under the Council of Ministers by Emiri Decision No. (19) of 2011, include (a) suggesting policies related to water resources in line with the overall development plans and in consideration for sustainability and environment protection, (b) implementing projects and programs related to managing and developing water resources, (c) prioritizing water resources development projects and developing proposals of their action plans, (d) following up on the implementation of projects, programs, and studies related to water resources, (e) suggesting appropriate resolutions for issues of wasteful use of water, and (f) proposing amendments to water resources protection, management, and development laws. The Climate Change and Clean Development Committee and the Standing Committee of Water Resources seem to undertake a supervisory and advisory role over specific development projects and plans, which also creates some sort of overlap of efforts between the two, especially since some development projects might fall within the scope of both committees, such as decarbonizing water desalination. It is essential to define each committee's responsibilities over the other and put in place cooperation or coordination mechanisms. The structure and how these committees, along with related government institutions, should interact under the Council of Ministers should also be clarified. Those committees are supposedly part of the same network concerning subjects related to environmental sustainability.

In 2021, the council of ministers was reshuffled one more time, and the Ministry of Environment and Climate Change (MOECC) was established. The challenge of climate change has now become a key aspect of the Ministry's responsibilities and activities, whether in terms of policies that it shall propose and implement, the necessary studies that it shall conduct, monitoring, and so on. It is worth noting that, as of the 2022s quarter, the ministry structure is yet to be announced and confirmed through a decree-law. Government restructuring is a means that is usually used to cope with fiscal stresses, especially during global financial crises and economic recessions. The most significant government restructures in Qatar were made a mid or shortly after such crises, whether in 2009 or 2014. The MOECC has indeed undergone several organizational restructures in which it has either been merged with the

Ministry of Municipality or segregated. The question here would be whether such reoccurring organizational restructuring could have limited the Ministry's ability to plan and implement the strategies' targets. Moreover, a concern also arises on where and how certain environment-related matters would fall following the recent government reshuffle and the establishment of a dedicated ministerial body for environmental affairs and the implications of their assignment, whether under MOECC or a different governmental body. Consider waste management as an example. On the one hand, waste collection and handling are the responsibility of the local municipalities under the Ministry of Municipality. On the other, waste management is significant for environmental protection and accordingly within the scope of MOECC (see Chap. 16).

## 2.5 Conclusion

Although the progress toward environmental sustainability targets so far remains modest, the policy has evolved gradually in terms of scope and level. On the planning side of the policy, several strategies and action plans—e.g., NDS, QNE, NCCAP, ESS, and NBSAP—are in place with ambitious targets. However, it is the implementation side of the policy that is challenging, and whether the relevant institutions have the capacity to carry the strategies through. The same can be said about the laws and the regulations that have been issued and to what extent, really, they are in force. The situation seems ambiguous also due to the lack of assessment and progress reporting activities—at least those that are accessible by the public. Future efforts perhaps should focus on the microlevels of the strategies and on developing relevant entities' institutional and technical capacities. Also, attention should be paid to the evaluation and assessment phases of the policymaking process, as they should feed into the planning phase to avoid rearticulating targets that might be beyond reach. Moreover, addressing the persistent issue of limited data and information about ecological systems and their inhabitants is essential to alleviate the ambiguity of the strategies' actual outcomes.

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