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# THE IMPACT OF ECONOMIC DEVELOPMENT ON LEGAL FRAMEWORKS ON ENVIRONMENTAL PROTECTION IN QATAR

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Keywords: Qatar, Sustainable Development, Environment, Qatar National Vision 2030. This article examines the economic and legal circumstances shaping Qatar's environmental legislation in the context sustainable development. First, it establishes the link between Qatar's economic trajectory and its environmental challenges. It then highlights the close connection between Qatar's economic development and its hydrocarbon resources, noting the country's ongoing decarbonization strategy amidst its commitment to the Paris Agreement. It finds that Qatar's economic expansion has significantly outpaced its legal and regulatory frameworks, creating gaps in environmental governance. Population growth and urbanization emerge as key drivers of climate legislation due to the resulting pressure on natural resources like water and food. The article explores Qatar's constitutional and legal framework, revealing an evolving recognition of sustainable development. It examines the roles of key authorities in the legislative process and identifies five central bodies involved in environmental lawmaking. Despite these developments, legal mechanisms remain largely reactive, struggling to keep pace with rapid economic and demographic growth. It presents recommendations to address gaps in enforcement, capacity building, and institutional coordination. It emphasizes the need for an integrated legal framework that aligns with Qatar's economic strategies while strengthening environmental protections. The article concludes by underscoring the necessity of legislative and executive reforms to enhance the effectiveness of environmental law implementation and ensure long-term sustainability in Qatar's development model

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# **1. INTRODUCTION**

Oatar's rapid economic growth and its legal frameworks are intrinsically connected to its approach to sustainable development. Notably, Oatar's rapid economic growth has led to the development of legal frameworks that prioritize sustainable development. For instance, the Permanent Constitution of Qatar recognizes the state's obligation toward preserving the environment, highlighting the intrinsic connection between economic development and environmental sustainability.<sup>1</sup> As one of the world's wealthiest nations, Qatar's economy is heavily dependent on its hydrocarbon sector, which has played a central role in shaping the country's development.<sup>2</sup> However, this growth comes with significant environmental challenges, making it essential for Qatar to balance economic progress with environmental sustainability. The environmental challenges associated with Qatar's transition from a resource-based economy to knowledge-based sustainable development include resource depletion, carbon emissions, and ecological impacts driven by economic expansion and demographic growth.<sup>3</sup> Despite the adoption of sustainability policies, such as those outlined in the Qatar National Vision 2030 (QNV 2030), integrating environmental considerations into the broader economic agenda remains a challenge. Qatar's hydrocarbon-driven economy has outpaced the development of its environmental legal frameworks, creating tensions between economic expansion and ecological preservation that necessitate a more adaptive legislative approach.<sup>4</sup> Studies on economic sustainability in hydrocarbon-based economies emphasize the urgency of reducing dependence on hydrocarbons and fostering innovation to ensure long-term resilience.<sup>5</sup> A transformative shift towards a diversified, knowledge-based economic model is essential for sustainability, aligning with Qatar's strategic initiatives under QNV 2030. These efforts aim to balance economic growth with environmental protection, yet achieving this equilibrium requires comprehensive policy adaptation and regulatory evolution. Therefore, this article examines how economic development has shaped Qatar's environmental legislation, particularly in the areas of sustainable development,

<sup>&</sup>lt;sup>1</sup> R Al-Hababi, 'The Evolvement of Qatar's Environmental Sustainability Policy: The Strategies, Regulations, and Institutions' in L Cochrane and R Al-Hababi (eds), *Sustainable Qatar* (Springer 2023) 17.

<sup>&</sup>lt;sup>2</sup> Dalal Al-Ansari, Noof Al-Malki, Djamel Boussaa, and Salim Ferwati, 'Urban Regeneration of Old Neighborhoods: The Case of Old Al Ghanim in Doha, Qatar' (2024) 17(3) Heritage & Society 367.

<sup>&</sup>lt;sup>3</sup> Btool H Mohamed, Mustafa Disli, Mohammed bin Saleh Al-Sada, and Muammer Koç, 'Investigation on Human Development Needs, Challenges, and Drivers for Transition to Sustainable Development: The Case of Qatar' (2022) 14(6) Sustainability 3705 https://doi.org/10.3390/su14063705

<sup>&</sup>lt;sup>4</sup>S A Al-Mohannadi and D M Al-Mohannadi, 'Qatar in the Energy Transition: Low Carbon Economy Challenges and Opportunities' in Logan Cochrane and Reem Al-Hababi (eds), *Sustainable Qatar: Social, Political and Environmental Perspectives* (Springer Nature 2023) 109.

<sup>&</sup>lt;sup>5</sup> Ahmed Al-Sulaiti, Abdel Magid Hamouda, Hussein Al-Yafei, and Galal M Abdella, 'Innovation-Based Strategic Roadmap for Economic Sustainability and Diversity in Hydrocarbon-Driven Economies: The Qatar Perspective' (2024) 16(9) Sustainability 3770 https://doi.org/10.3390/su16093770 accessed [8 February 2025]

and explores the national mechanisms driving legal adaptation in response to economic pressures.

The economic landscape of Qatar is largely shaped by the hydrocarbon industry, which has spurred unprecedented economic growth over the past few decades.<sup>6</sup> This growth, however, has been accompanied by environmental pressures, particularly related to resource consumption, carbon emissions, and urbanization. Studies and reports have shown that Gulf economies, including Qatar, face significant sustainability challenges due to their reliance on resource-intensive industries.<sup>7</sup> The rapid expansion of urban areas and population growth has further increased energy and water demand, exacerbating environmental degradation.<sup>89</sup> These factors underscore the need for a legal framework that evolves in parallel with economic expansion to effectively address sustainability challenges while maintaining economic stability. As the country's population continues to grow and urban areas expand rapidly, the demand for environmental regulation and sustainable practices intensifies. According to the Qatar National Vision 2030 (QNV 2030), sustainability is a key pillar, emphasizing the need for responsible resource management alongside economic growth (Qatar National Development Strategy, 2018). However, Qatar's environmental legal framework has struggled to keep pace with economic expansion, revealing gaps in enforcement, regulatory clarity, and institutional coordination. Therefore, this article explores the extent to which Qatar's economic trajectory has influenced its environmental policy and how legal mechanisms have adapted-or failed to adapt-to the pressures of rapid economic expansion.

In parallel with its economic evolution, Qatar's legal landscape has also undergone significant transformation.<sup>10</sup> The country's constitution, legislative-making processes, and institutional structures play a key role in how environmental laws are drafted and implemented (Qatar Constitution, 2004). Despite existing regulations, challenges remain in fully integrating environmental considerations into economic policymaking.<sup>11</sup> Legal frameworks have often been reactive rather than proactive,

<sup>&</sup>lt;sup>6</sup> Chandana Kularatne, Ken Miyajima and Dirk V Muir, 'From HydroCarbon to Hightech: Mapping the Economic Transformation of Qatar' (2024) IMF Selected Issues Paper No SIP/2024/010.

<sup>&</sup>lt;sup>7</sup> World Bank, *Economic Diversification for a Sustainable and Resilient GCC* (World Bank 2019) https://documents1.worldbank.org/curated/en/886531574883246643/pdf/Economic-Diversification-

for-a-Sustainable-and-Resilient-GCC.pdf accessed 8 February 2025; Gulf Research Center, 'Circular Economy in the GCC: Status, Challenges, and Opportunities' (Gulf Research Center 2020) https://www.grc.net/single-commentary/89 accessed 8 February 2025.

<sup>&</sup>lt;sup>8</sup> Osama D Sweidan, 'The Environmental and Energy Policies to Enable Sustainable Consumption and Production in the Gulf Cooperation Council Countries' (2021) 23 Clean Technologies and Environmental Policy 2639–2654.

<sup>&</sup>lt;sup>9</sup> Gulf Research Center, 'Circular Economy in the GCC: Status, Challenges, and Opportunities' (Gulf Research Center 2020) https://www.grc.net/single-commentary/89 accessed 8 February 2025.

<sup>&</sup>lt;sup>10</sup> Hassan Abdulrahim Al-Sayed, 'Qatar: Constitutional Challenges' (2022) 70 Al-Abhath 111–140.

<sup>&</sup>lt;sup>11</sup> Damilola S Olawuyi and Elena I Athwal, 'Law and Governance Innovations on Sustainability in Qatar: Current Approaches and Future Directions' in Logan Cochrane and Reem Al-Hababi (eds), *Sustainable* 

responding to environmental challenges only after economic priorities have been set. <sup>12</sup>The current legal framework does not sufficiently bridge the gap between environmental protection and industrial expansion, raising concerns about enforcement and compliance.<sup>13</sup> Moreover, there is a lack of comprehensive research assessing the effectiveness of Qatar's environmental laws in mitigating the ecological footprint of its hydrocarbon-based economy. Understanding Qatar's legal framework, particularly in the context of environmental protection, requires an examination of its legislative processes, the role of government authorities, and the historical development of environmental policies. By analyzing these factors, this article seeks to highlight the gaps in Qatar's environmental legal frameworks and propose pathways for strengthening regulatory mechanisms to support sustainable economic growth.

This study addresses a critical gap in the literature by examining the interplay between economic development, particularly in the hydrocarbon sector, and environmental protection within Qatar's legal system. While prior research has explored sustainability in the Gulf, few studies have analyzed the legal dimensions of integrating sustainability into economic policymaking. This article argues that Qatar's legal frameworks must evolve alongside its economic ambitions to ensure that environmental sustainability is embedded within national development strategies rather than treated as an external consideration. The central research questions guiding this article are: How has Qatar's economic development influenced the enactment and evolution of its environmental legislation?; and what gaps exist in the legal framework, and how can they be addressed to enhance environmental sustainability?

This article proceeds in five sections. After this introduction, Section 2 highlights the close connection between Qatar's economic development and its hydrocarbon resources, noting the country's ongoing decarbonization strategy amidst its commitment to the Paris Agreement. It finds that Qatar's economic expansion has significantly outpaced its legal and regulatory frameworks, creating gaps in environmental governance. Population growth and urbanization emerge as key drivers of climate legislation due to the resulting pressure on natural resources like water and food. Section 3 explores Qatar's constitutional and legal framework, revealing an evolving recognition of sustainable development. It examines the roles of key authorities in the legislative process and identifies five central bodies involved in environmental lawmaking. Despite these developments, legal mechanisms remain largely reactive, struggling to keep pace with rapid economic and demographic growth. Section 4 presents recommendations to address gaps in enforcement, capacity building,

*Qatar* (Gulf Studies, vol 9, Springer 2023) https://doi.org/10.1007/978-981-19-7398-7\_3 accessed 8 February 2025.

<sup>&</sup>lt;sup>12</sup> Philippe Sands, 'Environmental Protection in the Twenty-First Century: Sustainable Development and International Law' in *The Global Environment* (Routledge 2023) 116–137.

<sup>&</sup>lt;sup>13</sup> R Al-Hababi, 'The Evolvement of Qatar's Environmental Sustainability Policy: The Strategies, Regulations, and Institutions' in L Cochrane and R Al-Hababi (eds), *Sustainable Qatar* (Springer 2023) 17.

and institutional coordination. It emphasizes the need for an integrated legal framework that aligns with Qatar's economic strategies while strengthening environmental protections. The article concludes in section 5 by underscoring the necessity of legislative and executive reforms to enhance the effectiveness of environmental law implementation and ensure long-term sustainability in Qatar's development model.

# 2. ECONOMIC DEVELOPMENT CIRCUMSTANCES IN QATAR

Due to the interconnected relationship between economic development and environmental protection, examining the economic context is a crucial step within the scope of environmental legislation. This approach highlights an increasing focus on sustainable development within the country, emphasizing the need to balance economic growth with the conservation of the environment and natural resources. Global concerns regarding environmental degradation and resource depletion have been steadily rising, and Qatar, like other nations, is not immune to these challenges. The following section deonstrates this relevance by addressing key aspects of the topic.

# 2.1 Overview: The Impacts of Hydrocarbon Economic Development

As one of the wealthiest nations in the world, Qatar's economic development has been intricately tied to its natural resources, particularly hydrocarbons. Qatar has experienced periodic economic transformations, with key shifts documented over time. Specifically, before the discovery of oil in 1932, the nation's economy depended primarily on pearl diving, camel breeding, and fishing.<sup>14,15</sup> The discovery of oil marked the beginning of an economic boom, prompting the Qatari government to increase investments in oil and gas. Subsequently, in the mid-1990s, Qatar initiated its gas expansion strategy, ultimately becoming the world's leading exporter of liquefied natural gas in 2010.<sup>16</sup> As a result, Qatar's economy remains heavily reliant on hydrocarbon extraction and export to fulfill its fiscal obligations.<sup>17</sup> In this context, researchers noted that this dependency enabled Gulf Cooperation Council (GCC) states, including Qatar, to build modern public and private institutions in a fraction of the time it took other nations. Thus, Qatar's rapid economic growth has driven significant advancements across various sectors, including oil and gas extraction,

<sup>&</sup>lt;sup>14</sup> Rasoul Sorkhabi, 'The Qatar Oil Discoveries of 1940 and 1960' (2010).

<sup>&</sup>lt;sup>15</sup> Amir Abou-El-Kheir, 'A Phenomenological Study of Identity Construction in the Education Sector of Qatar' in Kashif Raza and Christine Coombe (eds), *Language, Identity and Education on the Arabian Peninsula: Bilingual Policies in a Multilingual Context* (Routledge 2016) 116.

<sup>&</sup>lt;sup>16</sup> Rory Miller, <sup>7</sup>Qatar, Energy Security, and Strategic Vision in a Small State' (2020) 10(1) Journal of Arabian Studies 122.

<sup>&</sup>lt;sup>17</sup> Fahad Al-Marri, 'The Impact of the Oil Crisis on Security and Foreign Policy in GCC Countries: Case Studies of Qatar, KSA and UAE' (2017).

healthcare, education, and public services. <sup>18,19</sup> Although its GDP composition has evolved, Qatar continues to rely heavily on hydrocarbon revenues.<sup>20</sup> Nonetheless, there is potential for Qatar to progress with reduced dependence on these resources.

As a key player in the global energy market, Qatar's vast natural gas and oil reserves play a pivotal role in shaping its economic and geopolitical influence. Qatar possesses the third-largest proven natural gas reserves globally, following Iran and Russia, with reserves exceeding 7,000 km<sup>3</sup>. <sup>21</sup> Moreover, the country has three offshore oil-producing sites and one onshore field in Dukhan, along with two additional onshore fields in western Qatar. Specifically, the primary producing areas include three oil and associated gas fields—Idd El Shargi, Maydan Mahzam, and Bul Hanine—while the North Field represents the second major area. These facilities are strategically distributed and operated along Qatar's coastline. Additionally, Qatar shares the Al-Bunduq gas field with the United Arab Emirates.<sup>22</sup> As a result of its expanding extractive activities, Qatar Energy (formerly Qatar Petroleum) now engages in a wide range of operations at both regional and global levels. <sup>23</sup>

While Qatar's industrial sector has been a cornerstone of its economic growth, the challenges it faces highlight the complexities of relying heavily on hydrocarbon resources. It is widely recognized that Qatar's industrial sector has significantly contributed to its economic growth and development; however, this growth remains fragile and has negatively impacted the environment.<sup>24</sup> In Particular, Qatar's heavy

<sup>23</sup> Mohammed Al-Breiki and Yusuf Bicer, 'Potential Solutions for the Short to Medium-Term Natural Gas Shortage Issues of Europe: What Can Qatar Do?' (2022) 15(21) Energies 8306.

<sup>&</sup>lt;sup>18</sup> Waleed Alkhuzaim, 'Degree of Financial Development and Economic Growth in Qatar: Cointegration and Causality Analysis' (2014) 6(6) International Journal of Economics and Finance 57.

<sup>&</sup>lt;sup>19</sup> Justin Williams, Ramudu Bhanugopan, and Alan Fish, 'Localization of Human Resources in the State of Qatar: Emerging Issues and Research Agenda' (2011) Education, Business and Society: Contemporary Middle Eastern Issues.; Paul Michael Brannagan and Richard Giulianotti, 'Soft Power and Soft Disempowerment: Qatar, Global Sport and Football's 2022 World Cup Finals' (2015) 34(6) Leisure Studies 703.

<sup>&</sup>lt;sup>20</sup> Sayeed Mohammed, Cheryl Desha, and Ashantha Goonetilleke, 'Investigating Low-Carbon Pathways for Hydrocarbon-Dependent Rentier States: Economic Transition in Qatar' (2022) 185 Technological Forecasting and Social Change 122084.

<sup>&</sup>lt;sup>21</sup> Ashraf Farahat, 'Air Pollution in the Arabian Peninsula (Saudi Arabia, the United Arab Emirates, Kuwait, Qatar, Bahrain, and Oman): Causes, Effects, and Aerosol Categorization' (2016) 9 Arabian Journal of Geosciences 1.

<sup>&</sup>lt;sup>22</sup> A Al-Siddiqi and RA Dawe, 'Qatar's Oil and Gasfields: A Review' (1999) 22(4) Journal of Petroleum Geology 417.

<sup>&</sup>lt;sup>24</sup> Stephen Taiwo Onifade, 'Environmental Impacts of Energy Indicators on Ecological Footprints of Oil-Exporting African Countries: Perspectives on Fossil Resources Abundance Amidst Sustainable Development Quests' (2023) 82 Resources Policy 103481.

reliance on hydrocarbons makes its revenue streams highly vulnerable to fluctuations in global oil and gas markets.<sup>25</sup> Furthermore, this dependency also poses risks to infrastructure, particularly as climate change accelerates, potentially leading to facility failures, shortened lifespans of buildings, and financial losses due to frequent maintenance costs across various sectors In addition to climate change, factors such as trade barriers and global outbreaks present unforeseeable challenges, necessitating strategic planning to mitigate adverse effects.

As the global push for sustainability intensifies, Qatar's transition from hydrocarbon dependence has become an essential component of its long-term economic strategy. Recent studies highlight the need for hydrocarbon-dependent rentier states (HDRs) like Qatar to transition away from fossil fuel reliance.<sup>26</sup> In this context, this transition can be achieved by investing in climate-resilient solutions and developing climate change legislation, as a sudden reduction in hydrocarbon use could destabilize the economy. To address these challenges, Qatar has taken steps to reduce its reliance on hydrocarbon revenues and promote economic diversification. For instance, the government has implemented strategies to foster growth in service industries, such as finance, knowledge-based sectors, and the broader economy.<sup>27</sup>

While Qatar's economic diversification efforts are commendable, they are not without significant challenges that could impede progress. Despite these efforts, scholars note that obstacles remain. For instance, challenges such as a shortage of skilled human resources, fear of failure, and the underperformance of the innovation system could hinder Qatar's economic diversification goals. Nonetheless, the government's commitment to diversifying the economy is evident in its strategic initiatives to develop green growth engines and reduce its dependency on fossil fuels.<sup>28</sup>

In his opening address at the 44th Advisory Council Session, the Emir of Qatar underscored the tangible progress made in economic diversification. The Emir of Qatar's opening address at the 44th Advisory Council Session highlights this point effectively. He noted that, as a result of the economic diversification policy, the State of

<sup>&</sup>lt;sup>25</sup> Abdullah Alqahtani and Tony Klein, 'Oil Price Changes, Uncertainty, and Geopolitical Risks: On the Resilience of GCC Countries to Global Tensions' (2021) 236 Energy 121541.

<sup>&</sup>lt;sup>26</sup> Sayeed Mohammed, Cheryl Desha, and Ashantha Goonetilleke, 'Investigating the Potential of Low-Carbon Pathways for Hydrocarbon-Dependent Rentier States: Sociotechnical Transition in Qatar' (2023) 189 Technological Forecasting and Social Change 122337.

<sup>&</sup>lt;sup>27</sup> Yeganeh Morakabati, John Beavis, and John Fletcher, 'Planning for a Qatar Without Oil: Tourism and Economic Diversification, a Battle of Perceptions' (2014) 11(4) Tourism Planning & Development 415.
<sup>28</sup> Tarek Ben Hassen, 'The State of the Knowledge-Based Economy in the Arab World: Cases of Qatar and Lebanon' (2021) 16(2) EuroMed Journal of Business 129.

Qatar has achieved a 1.5% decrease in hydrocarbons' contribution to GDP, accompanied by an 11% increase in the contribution of other sectors.<sup>29</sup>

What is remarkable is that, at the time of a 1.5% drop in contributions from the main component of GDP - the oil and gas sector, non-oil sector contribution increased by about 11%. This growth has been coupled with the continuation of a high level of confidence conferred on Qatar's economy by global rating agencies.

-The Emir of Qatar

As Qatar continues to navigate its path towards economic diversification, the need for a robust legislative framework to address climate change becomes increasingly urgent. The perspectives outlined above support two key approaches. The first is the need to diversify and transition away from economies heavily reliant on fossil fuels. In addition, the second involves implementing legislative policy measures to regulate sectors contributing to sustainable development. This necessitates a thorough review of existing legislation to align with such an approach. Articles 29 and 33 of Qatar's Constitution mandate the legislature to regulate the preservation of environmental quality, human health, and economic sustainability, leveraging the nation's abundant natural resources, both onshore and offshore.<sup>30</sup> Despite this constitutional framework, Qatar aims to expand its production capacity, with the North Field project set to increase output from 77 to 110 million tons by 2025 and further to 126 million tons by 2027.<sup>31</sup> Accordingly, we argue that Qatar's constitutional provisions provide the legitimacy and sovereign authority to balance economic development and environmental protection. Therefore, it is essential to develop a legislative framework for sustainable development that adheres to these constitutional principles.

As Qatar's ambition to expand its hydrocarbon production capacity continues, it faces significant challenges in balancing economic growth with environmental sustainability. This expansion is not without potential controversy. Greenhouse gas (GHG) emissions from fossil fuel combustion and industrial activities are significant contributors to climate change, and Qatar, with its abundant oil and gas resources, is no exception. As the world's largest producer of liquefied natural gas (LNG), Qatar derives the majority of its revenue from hydrocarbons.<sup>32</sup> However, Qatar is keen to take a positive step to employ climate-resilient technology. Notably, Qatar has shown commitment to

<sup>32</sup>Atif A Kubursi, The Economies of the Arabian Gulf: A Statistical Source Book (Routledge 2016).

<sup>&</sup>lt;sup>29</sup> 'The Shura Council, HH the Amir Speech at the Opening of the 44th Advisory Council Session' (n.d.) https://www.shura.qa/en/Pages/General-Secretary/Amir-Speeches/44th-Session-Opening accessed 23 January 2023.

<sup>&</sup>lt;sup>30</sup> Constitution of Qatar, arts 29–30.

<sup>&</sup>lt;sup>31</sup> 'Qatar Pushing Ahead with LNG Expansion despite Slumping Demand' *Financial Times* (25 May 2020) https://www.ft.com/content/e34141cb-c487-4a72-aba6-2de6c041574f.

climate-resilient technologies and, in 2019, announced plans to construct the largest CO2 capture and storage (CCS) facility in the Middle East to mitigate GHG emissions from its extensive processing operations.<sup>33</sup> While CCS holds considerable promise, its adoption has been slow due to various challenges. Therefore, implementing robust legislation and adhering to international agreements could help overcome some of these obstacles.

As Qatar strives to meet its commitments under the Paris Agreement, the complexities of carbon markets present significant challenges, particularly under Article 6.2. As a signatory to the Paris Agreement, Qatar faces challenges under Article 6.2, which complicates its reliance on and utilization of hydrocarbon resources. In particular, research identifies several obstacles that countries encounter with carbon markets, including ensuring environmental integrity, managing transaction costs, coordinating with other policies, and addressing national targets, all of which may require legal regulation.<sup>34</sup> While the specific impacts of carbon markets on Qatar have yet to be studied, Qatar's commitment to adhering to international charters and conventions suggests that new emissions trading systems (ETSs) could compel its legislators to adopt a proactive approach to leveraging the legislative framework for economic advantage.<sup>35</sup>

As Qatar's economic boom fueled rapid growth in the energy sector, it was paralleled by a surge in legislation aimed at regulating natural resources. This economic boom was arguably accompanied by a legal surge in the late 1970s aimed at regulating natural resources. Specifically, Law No. 4/1977 on the Conversion of Petroleum and Conduct of Petroleum Operations in Qatar outlines safety measures and operational guidelines for production activities.<sup>36</sup> Notably, the legislation dates back to the 1970s and 1980s. However, these laws are now considered outdated and fail to align with the United Nations Climate Change Convention (1992) or the Paris Agreement (2015). In contrast, following the Stern Review, countries like the United Kingdom have introduced proactive reforms, including laws, regulations, and incentives, to address climate change. As noted by environmental scholars, Qatar has yet to enact similar legislation, and its citizens remain exempt from water and electricity charges.<sup>37</sup>

<sup>&</sup>lt;sup>33</sup> 'Qatar Builds the Biggest Carbon Capture Plant in the Middle East' (n.d.) *OilPrice.com* https://oilprice.com/Latest-Energy-News/World-News/Qatar-Builds-The-Biggest-Carbon-Capture-Plant-In-The-Middle-East.html accessed 23 January 2023.

<sup>&</sup>lt;sup>34</sup> Axel Michaelowa, Igor Shishlov, and Dario Brescia, 'Evolution of International Carbon Markets: Lessons for the Paris Agreement' (2019) 10(6) Wiley Interdisciplinary Reviews: Climate Change e613.

<sup>&</sup>lt;sup>35</sup> Constitution of Qatar, art 6.

<sup>&</sup>lt;sup>36</sup> Law No 4 of 1977 on the Conservation of Petroleum and the Conduct of Petroleum Operations Within Qatar.

<sup>&</sup>lt;sup>37</sup> Aaron R Harmon and Jon M Truby, 'Achieving Green Building in Qatar Through Legal and Fiscal Tools' (2019) 12(5) Journal of Sustainable Development.

As Qatar continues to navigate its energy-dependent economy, the nation has a crucial opportunity to lead the way in sustainable energy practices. As a nation heavily reliant on fossil fuel exports, Qatar occupies a unique position within the global energy market. The Stern Review (2007) provides an opportunity for Qatar to lead a sustainable energy transition while showcasing its commitment to environmental responsibility. The Review emphasizes that the benefits of addressing climate change early far outweigh the costs of delayed action, highlighting potential impacts on water resources, food production, health, and the broader environment. Given Qatar's substantial investments in infrastructure development, these considerations underscore the importance of proactive regulatory measures. Recent studies indicate a negative correlation between GDP and GHG emissions, suggesting that Qatar's efforts to reduce emissions must continue to integrate environmental considerations.<sup>38</sup> Consequently, we argue that implementing a robust legislative framework could further support Qatar's decarbonization efforts.

As Qatar continues to expand its extractive activities, it becomes increasingly crucial to assess the adequacy of its environmental legal framework. Given Qatar's membership in the Paris Agreement, the government's plans to expand extractive activities necessitate a thorough review of the nation's existing environmental legislation. This raises several critical questions: Does Qatar possess adequate legislation to effectively regulate such expansion? Furthermore, does this legislation align with or contradict the preamble of the UNFCCC, which upholds the right of countries to pursue economic development while promoting the implementation of environmental regulations?

The latest report from the Intergovernmental Panel on Climate Change (IPCC, 2023) emphasizes that delaying climate action will lead to substantially higher costs, as economies risk locking themselves into carbon-intensive infrastructure with fewer future options for mitigation.<sup>39</sup> Given the uncertainties at both international and national levels, strengthening national legislation would prove advantageous in the long term. At this critical juncture, developing a robust climate legislative framework is essential, as postponement could result in additional legal complexities. Moreover, from an economic perspective, it would be more beneficial for Qatar to take action now rather than delay.

Given Qatar's heavy reliance on energy market prices, the nation faces unique challenges in balancing economic growth with environmental sustainability. Furthermore, since the annual budget for each fiscal year is approved by the Shura Council and calculated based on energy market prices, Qatar's economy continues to

<sup>&</sup>lt;sup>38</sup> Ammar Abulibdeh, 'Time Series Analysis of Environmental Quality in the State of Qatar' (2022) 168 Energy Policy 113089.

<sup>&</sup>lt;sup>39</sup> Intergovernmental Panel on Climate Change (IPCC), *Synthesis Report of the IPCC Sixth Assessment Report* (AR6) Summary for Policymakers (2023) https://report.ipcc.ch/ar6syr/pdf/IPCC\_AR6\_SYR\_SPM.pdf.

depend on hydrocarbon exploration.<sup>40,41</sup> This reliance of the budget on energy market prices indicates that Qatar cannot entirely abandon its LNG expansion plans but can instead develop complementary measures to regulate its GHG emissions. Consequently, Qatari literature emphasizes the need for Qatar to implement a range of strategies to diversify its economy and transition away from a hydrocarbon-based economic model. Therefore, we propose the following definition of sustainable development in Qatar: it is the strategic pursuit of balanced economic growth through reducing dependency on hydrocarbons, diversifying economic sectors, implementing climate-resilient solutions, fostering innovation, and ensuring environmental protection, all within the context of a robust legislative framework aligned with international climate commitments and aimed at long-term resilience in both the economy and environment.

# 2.2 Growth Trend: Population Increase and Demands

To understand the impact of population growth on Qatar's environmental sustainability, it is essential to explore how legislative trends align with these demographic shifts. To foster sustainable development in Qatar, it is essential to align evolving legislative trends with the nation's growing population and rising demands, while ensuring a balance between economic growth and environmental sustainability, as these trends are the foundation of effective legislation. The literature has extensively debated whether nations should pursue growth or degrowth While this article does not advocate for any specific growth pattern, it acknowledges that Oatar's rapid population growth has resulted in overconsumption lifestyles and highlights the pressing need for agile environmental legislation.<sup>42</sup> In particular, despite Qatar's wealth of hydrocarbon resources, such as oil and gas, the country faces a scarcity of essential natural resources like water and food. Consequently, this imbalance poses significant challenges, particularly in the context of population growth and urbanization. The following analysis explores how Qatar's population growth over the last century has impacted the environment. In this regard, population growth is a critical factor in evaluating the capacity of environmental legislation, as it leaves a lasting negative environmental impact, with protecting human health being a primary concern.

Shifts in global attention and economic perspectives have played a pivotal role in shaping Qatar's environmental and developmental strategies. Various factors from the past century have shaped Qatar's growth narrative on the international stage. For

<sup>&</sup>lt;sup>40</sup> Khalid Al-Jaber, 'Governance and the State in Qatar' in *Contemporary Qatar: Examining State and Society* (Springer Singapore 2021) 23–38.

<sup>&</sup>lt;sup>41</sup> Christopher M Blanchard, *Qatar: Background and US Relations* (Library of Congress, Congressional Research Service 2010).

<sup>&</sup>lt;sup>42</sup> Yehia Manawi and others, 'Evaluation of the Current State and Perspective of Wastewater Treatment and Reuse in Qatar' (2017).

instance, during the 1940s, global attention centered on the exploitation of depletable resources.<sup>43</sup> By contrast, by the 1980s, the focus had shifted to human capital, as noted by the World Bank (1984). The Brundtland Report on development, published on April 27, 1987, identified economic development as a key element in slowing Malthusian population growth trends.<sup>44</sup> Specifically, the report emphasized two fundamental pillars: social and environmental dimensions. Interestingly, Qatar National Vision aligns closely with the Brundtland Report, as both frameworks are built upon these shared pillars. Echoing the principles of the Brundtland Report, Loumi, in her book The Gulf Monarchies and Climate Change: Abu Dhabi and Qatar in an Era of Natural Unsustainability, argued that population growth has significantly harmed desert ecosystems and marine environments while driving unsustainable consumption patterns.<sup>45</sup>

Despite historical patterns, the importance of population growth remains central to Qatar's environmental challenges in the context of resource scarcity. Despite its Malthusian roots in the 1990s, population growth remains a crucial factor for Qatar, particularly in relation to the scarcity of non-hydrocarbon natural resources.<sup>46,47</sup> Therefore, Malthus's theories are particularly relevant to Qatar, given its early stages of economic development.<sup>48</sup> On this basis, rapid population increase is an ultimate product of rapid economic development. In turn, rapid economic growth results in rapid population growth. Therefore, we argue that human health is also increasingly vulnerable to these unprecedented industrial activities. Studies have shown a direct correlation between industrial activities like oil and gas refining and respiratory illnesses like asthma and bronchitis.<sup>49</sup> Further, a recent study also highlighted the impact of environmental factors, such as humidity and temperature, on mosquito breeding and distribution in specific regions. This study suggests that an elevated population of

<sup>48</sup> Basem Shomar, Mohamed Darwish and Candace Rowell, 'What Does Integrated Water Resources Management from Local to Global Perspective Mean? Qatar as a Case Study, the Very Rich Country with No Water' (2014) 28 Water Resources Management 2781.

<sup>49</sup> Kevin Teather and others, 'Examining the Links Between Air Quality, Climate Change and Respiratory Health in Qatar' (2013) 2013(1) Avicenna 9.

<sup>&</sup>lt;sup>43</sup> Samuel H Preston, 'The Effect of Population Growth on Environmental Quality' (1996) 15 Population Research and Policy Review 95.

<sup>&</sup>lt;sup>44</sup> Brian R Keeble, 'The Brundtland Report: "Our Common Future" (1988) 4(1) Medicine and War 17.

<sup>&</sup>lt;sup>45</sup> Eckart Woertz, 'The Gulf Monarchies and Climate Change: Abu Dhabi and Qatar in an Era of Natural Unsustainability' (2016) 121.

<sup>&</sup>lt;sup>46</sup> Samuel H Preston, 'The Effect of Population Growth on Environmental Quality' (1996) 15 Population Research and Policy Review 95.

<sup>&</sup>lt;sup>47</sup> Eckart Woertz, 'Environment, Food Security and Conflict Narratives in the Middle East' (2014) 7(2) Global Environment 490.

certain mosquito species could contribute to the spread of various vector-borne diseases, unless appropriate and timely preventive measures are implemented.  $^{50}$ 

The rapid growth of Qatar's population has led to increased demands on resources, exacerbating environmental and socio-economic pressures. According to Malthus, rapid population growth can lead to the depletion of natural resources and an increase in poverty levels.<sup>51</sup> Applying his principle to Qatar, it is evident that population growth has led to a significant rise in essential living demands.<sup>52</sup> Thus, we argue that poverty is comparable to the scarcity of crucial natural resources such as water and food. Furthermore, Qatar's population has grown exponentially since the mid-20th century. For example, between 1950 and 2014, the population increased by a factor of 9.8.<sup>53</sup> The 1949 census recorded approximately 16,000 residents, down from around 27,000 in 1908.<sup>54</sup> By the 1970 census, prior to Qatar's independence in 1971, the population had grown to 111,113, with 45,039 nationals and 66,094 non-nationals.<sup>55</sup> After 2003, demographic growth rates peaked at 17.3% in 2008, with a resurgence in growth since 2010, largely attributed to the significant increase in foreign worker recruitment in 2013, following Qatar's award of the FIFA Men's World Cup.<sup>56</sup>

With Qatar's rapid population expansion, the demand for essential resources such as water, energy, and land has placed immense pressure on the environment. Qatar's rapid population growth in recent decades has resulted in higher demand for water, energy, and land.<sup>57</sup> As a consequence, due to the extraction of groundwater, the water table has lowered, exacerbating the challenges posed by the hot climate.<sup>58</sup> Consequently, as the

<sup>55</sup> Jill Crystal, *Coalitions in Oil Monarchies: Rulers and Merchants in Kuwait and Qatar* (Cambridge University Press 1990).

<sup>&</sup>lt;sup>50</sup> Furqan Tahir and others, 'Assessing the Impact of Climate Conditions on the Distribution of Mosquito Species in Qatar' (2023) 10 Frontiers in Public Health 970694.

<sup>&</sup>lt;sup>51</sup> Maureen Cropper and Charles Griffiths, 'The Interaction of Population Growth and Environmental Quality' (1994) 84(2) The American Economic Review 250.

<sup>&</sup>lt;sup>52</sup> Hayashi Toshihiko, 'Population as a Source of Long-Term Growth: From Malthus to Japan's Postmodern Regime'.

<sup>53</sup> ibid.

<sup>&</sup>lt;sup>54</sup> Richard Fletcher and Robert A Carter, 'Mapping the Growth of an Arabian Gulf Town: The Case of Doha, Qatar' (2017) 60(4) Journal of the Economic and Social History of the Orient 420.

<sup>&</sup>lt;sup>56</sup> Françoise De Bel-Air, Demography, Migration, and Labour Market in Qatar (Gulf Labour Markets and Migration 2018)

https://www.researchgate.net/publication/323129801\_Demography\_Migration\_and\_Labour\_Market\_in \_Qatar-\_UPDATED\_June\_2017 accessed 1 May 2020.

<sup>&</sup>lt;sup>57</sup> Husam Musa Baalousha and Omar KM Ouda, 'Domestic Water Demand Challenges in Qatar' (2017) 10 Arabian Journal of Geosciences 1.

<sup>&</sup>lt;sup>58</sup> Hazrat Bilal, Rajesh Govindan and Tareq Al-Ansari, 'Investigation of Groundwater Depletion in the State of Qatar and Its Implication to Energy, Water and Food Nexus' (2021) 13(18) Water 2464.

population expands, environmental footprints also grow.<sup>59</sup> Given the pace of population growth, it is essential to evaluate the effectiveness of existing legislation and regulations in implementing meaningful reforms.

It is important to recognize that while population growth itself does not directly affect the environment, human activity and consumption patterns do. Moreover, population growth may not directly affect the environment. For instance, if 3 million people gathered in Qatar, they would fill several stadiums. However, it is human activity that places strain on infrastructure and ecosystems, while also impacting human health. The biological needs of humans are primarily linked to calorie intake, with an average person requiring 1,700 calories per day to sustain basic metabolic functions.<sup>60</sup> In nondesert climates, existing agricultural land and efforts to expand cultivation can fulfill the dietary needs of a growing population. However, Qatar's desert ecosystem can be overwhelmed by these demands if not properly regulated.

Qatar's agricultural challenges, particularly in the face of climate change, have compounded environmental pressures. The food industry and agriculture represent significant pressures on the natural environment. In hot climates, combined with the effects of climate change, rapid population growth will primarily drive food insecurity.<sup>61</sup> Moreover, this growth acts as a threat multiplier, exacerbating the impact of climate disruption.<sup>62</sup> In Qatar, where agricultural conditions are limited, legislation is crucial to address the demands of rapid population growth.<sup>63</sup> Natural agricultural conditions can have both direct and indirect ecological effects, especially when accumulated globally and compounded by Qatar's unprecedented growth.<sup>64</sup> For example, groundwater, a vital resource for agriculture, is facing increasing salinity at an alarming rate of 5% per year due to over-exploitation.<sup>65</sup> This overuse has also led to a significant rise in soil salinity, from 71% to 1,160%, as a result of saltwater intrusion, causing extensive land

<sup>64</sup> Tarek Ben Hassen, Hamid El Bilali and Mohammed Al-Maadeed, 'Agri-food Markets in Qatar: Drivers, Trends, and Policy Responses' (2020) 12(9) Sustainability 3643.

<sup>65</sup> Yehia Manawi and others, 'Evaluation of the Current State and Perspective of Wastewater Treatment and Reuse in Qatar' (2017).

<sup>&</sup>lt;sup>59</sup> Zouhair Mrabet, Mouyad AlSamara and Shaif Hezam Jarallah, 'The Impact of Economic Development on Environmental Degradation in Qatar' (2017) 24 Environmental and Ecological Statistics 7.

<sup>&</sup>lt;sup>60</sup> Samuel H Preston, 'The Effect of Population Growth on Environmental Quality' (1996) 15(2) Population Research and Policy Review 95.

<sup>&</sup>lt;sup>61</sup> C Hall and others, 'The Impact of Population Growth and Climate Change on Food Security in Africa: Looking Ahead to 2050' (2017) 15(2) International Journal of Agricultural Sustainability 124.

<sup>&</sup>lt;sup>62</sup> Jenna C Dodson, Patrícia Dérer, Philip Cafaro and Frank Götmark, 'Population Growth and Climate Change: Addressing the Overlooked Threat Multiplier' (2020) 748 Science of the Total Environment 141346.

<sup>&</sup>lt;sup>63</sup> Salah Basem Ajjur and Sami G Al-Ghamdi, 'Towards Sustainable Energy, Water and Food Security in Qatar under Climate Change and Anthropogenic Stresses' (2022) 8 Energy Reports 514.

degradation.<sup>66</sup> These compounded challenges, therefore, further complicate the environmental situation in Qatar.

To meet the growing demands of its population, Qatar has developed ambitious strategies focused on food security and self-sufficiency. To address the demands of its expanding population, Qatar has outlined ambitious plans to achieve self-sufficiency. In this regard, in countries like Qatar, where there is rapid population growth, it should be acknowledged that services and living conditions-such as access to water and food—are crucial factors that must be incorporated into environmental legislation. The country's food security strategy consists of four primary approaches: self-sufficiency, imports, land acquisition, and foreign agro-investment In 2008, the Qatari Government initiated a plan to boost food production.<sup>67</sup> The National Food Security Program (QNFSP) aimed to fulfill 40% of Qatar's food requirements domestically by 2030. However, our research has not identified any explicit integration of these critical factors-water and food security-into existing or proposed environmental legislation. For instance, a study analyzing Qatar's 2008 domestic food production strategy revealed that agricultural land is severely limited due to poor water quality, limited water resources, and infertile soils.<sup>68</sup> Therefore, any future and potential environmental legislation must recognize and address these essential services as fundamental pillars of sustainable development. Consequently, the financial and environmental costs associated with the QNFSP may place additional pressure on already scarce natural resources like water and agricultural land. Rapid growth has also led to inadequate sewerage and waste disposal systems, contributing to poor environmental management.<sup>69</sup> These legislative gaps, particularly concerning the intersection of population growth, resource availability, and legal frameworks, will be further examined in Section 3 of this paper, where potential policy responses and legal considerations are discussed.

# 2.3 Growth Trend: Urbanization and Infrastructure

Urbanization and environmental degradation have been extensively analyzed as consequences of Qatar's economic boom. In the literature, Qatar's urbanization is often

<sup>68</sup> Zahoor Ul Hassan and others, 'Evidence of Low Levels of Aflatoxin M1 in Milk and Dairy Products Marketed in Qatar' (2018) 92 Food Control 25.

<sup>69</sup> Sarah F Clarke and Salah Almannai, 'Sustainable Waste Management in Qatar' in *Sustainable Development: An Appraisal from the Gulf Region* (1st edn, Berghahn Books 2014) 367.

<sup>&</sup>lt;sup>66</sup> Michael C Brook and others, 'Physical and Environmental Setting of the Arabian Peninsula and Surrounding Seas' in *Policy Perspectives for Ecosystem and Water Management in the Arabian Peninsula* (UNESCO Doha and United Nations University 2006) 1.

<sup>&</sup>lt;sup>67</sup> Tarek Ben Hassen, Hamid El Bilali and Mohammed Al-Maadeed, 'Agri-food Markets in Qatar: Drivers, Trends, and Policy Responses' (2020) 12(9) Sustainability 3643.

described as "oil urbanization," highlighting the connection between economic growth and urban development.<sup>70</sup> This characterization stems from the fact that urbanization in Qatar was driven by economic prosperity and rapid population expansion.<sup>71</sup> Studies indicate that Qatar's urbanization has led to the establishment of industrial zones, skyscrapers, and residential areas, which have significantly impacted the environment through increased air and water pollution and challenges in waste management.<sup>72</sup> There has been a significant impact on the environment from these activities in terms of air pollution, water pollution, and waste management. Additionally, the term "oil urbanization" underscores the notion that such urban growth would not have been possible without hydrocarbon extraction.



Figure 1: This figure shows Qatar's urbanization stages (1949–2032) covered in literature. The figure was constructed based on Rizzo's (2013) and Adham's (2008) statements on the development of urbanization stages in Qatar. The last phase aligns with the necessity of developing a climate change legislative framework in accordance with the current growth pattern.

Numerous scholars have sought to understand and document Qatar's rapid urbanization. Drawing parallels with Elsheshtawy's (2004) and Pacione's (2005) analyses of Dubai, Adham (2008) identifies four distinct urban phases for the city of

<sup>&</sup>lt;sup>70</sup> Nadine Scharfenort, 'The Msheireb Project in Doha: The Heritage of New Urban Design in Qatar' in *Cultural Heritage in the Arabian Peninsula* (Routledge 2016) 189–204.

<sup>&</sup>lt;sup>71</sup> Nadeem Hashem, 'Assessing Spatial Equality of Urban Green Spaces Provision: A Case Study of Greater Doha in Qatar' (2015) 20(3) Local Environment 386–399.

<sup>&</sup>lt;sup>72</sup> Richard Phelps, 'Qatar: A Modern History' (2013) 20(2) Middle East Quarterly 94.

Doha between 1949 and the early 1990s. <sup>73,74</sup> The first phase, termed "urbanity of transition" (1949–1955), featured narrow streets and dense urban plots, reflecting a preoil, colonial urban form grounded in vernacular principles and utilizing traditional resources, materials, and knowledge. The second phase, "urbanity of necessity" (1956– 1971), marked rapid urban growth driven by the initial wave of immigration from Iran and South Asia. The third phase, "urbanity of modernization" (1972–1984), saw significant urban developments, including large reclamation projects and the establishment of the New District of Doha. The fourth phase, "urbanity of stagnation" (mid-1980s to early 1990s), reflected slowed urban development due to declining oil prices in the 1980s. This stagnation highlights the crucial role of natural wealth in linking development to the hydrocarbon economy. Consequently, it can be argued that phasing out fossil fuels may result in slower development in Qatar.

Rizzo (2013) identified three additional phases in Doha's urban development, aligning with the Qatar National Development Framework (QNDF).<sup>75</sup> The QNDF, guided by the directives and vision of the General Secretariat for Development Planning, encompasses strategies for the ongoing National Master Plan and Municipal Structure Plans. These plans include a national environmental plan, a plan for the Metropolitan Doha area and other municipalities, a plan for action areas in city and town centers, and zoning and planning codes. Within the QNDF framework, three phases are outlined (see Figure 1): immediate actions (to be completed by 2012), short- to medium-term goals (targeted for completion by 2017), and medium- to long-term objectives (to be achieved by 2032).

In his book *Environmental Law in Arab States*, Olawuyi dedicates an entire chapter to construction and town planning, emphasizing land use, zoning, health, safety, and environmental standards in the design and execution of construction projects. His approach is proactive, based on the premise that the Arab region's climate, including Qatar, is expected to become hotter and drier, exacerbating water stress and leading to potential infrastructure failures. <sup>76</sup> This perspective prompts the critical question of whether Qatar's legislation has adequately kept pace with the rapid urbanization boom.

Similar to population growth, Qatar's urbanization phase experienced exponential expansion, further accelerated by increased revenues from the oil and gas sector. For

<sup>&</sup>lt;sup>73</sup> Yasser Elsheshtawy (ed), *Planning Middle Eastern Capital Cities: A Twentieth Century Urban Kaleidoscope* (Routledge 2004).

<sup>74</sup> M Pacione, 'Dubai' (2005) 22 Cities 255-265.

<sup>&</sup>lt;sup>75</sup> Agatino Rizzo, 'Rapid Urban Development and National Master Planning in Arab Gulf Countries: Qatar as a Case Study' (2014) 39 Cities 50–57.

<sup>&</sup>lt;sup>76</sup> Damilola S Olawuyi, Environmental Law in Arab States (Oxford University Press 2022).

instance, Qatar ambitiously aimed to construct 180 towers in Doha by 2009.<sup>77</sup> To manage construction and urban planning, legislation was introduced to outline the permits required for such projects.<sup>78</sup> Key laws included Law No. 3/1975 on commercial, industrial, and public buildings, Law No. 8/1974 on public hygiene, and Law No. 2/1989 on the transport of solid and liquid waste. Notably, these laws date back to the 1970s and 1980s, highlighting a time lag between the developmental ambitions of 2009 and the existing legal framework. This gap indicates that environmental legislation has not consistently evolved to match the pace of urban development.

The surge in construction activities has arguably resulted in a negative environmental legacy tied to urban expansion. The various phases of urban development indicate that the number of development plans grew significantly alongside the revenue boom from natural wealth. This trend highlights the link between economic growth and the necessity for infrastructural developments. Within this broader context, the interplay between economic progress and environmental preservation presents a contentious challenge in evaluating Qatar's environmental regulatory framework.

Between 2006 and 2016, economic development and population growth collectively drove an average 9.9% increase in electricity generation. This rise can be partly attributed to the substantial subsidies offered to both citizens and non-citizens.<sup>79</sup> Consequently, it is essential to review and refine regulations to ensure sustainable growth. Regarding housing, Qatar has implemented various policy tools to address the demands of expansion. These include Law No. 2/2007 on the Housing System, Qatar Construction Specification (QCS), and the Qatar National Housing Strategy (QNHS).<sup>80</sup>

Qatar has also made substantial investments in Doha's development plans. The Qatar National Master Plan (QNMP) outlines strategies for managing future urbanization, including commercial, industrial, and private real estate, with policies designed to guide development through 2032.<sup>81</sup> Critics of the QNMP contend that Doha has evolved into a car-dependent city, lacking sustainable transportation options such as walking and

<sup>&</sup>lt;sup>77</sup> Yasser Mahgoub and Bothayna Abbara, 'Tall Buildings Legislations in Doha, Qatar' (2012) 36 Procedia-Social and Behavioral Sciences 640–649.

<sup>78</sup> ibid.

<sup>&</sup>lt;sup>79</sup> Ebubekir S Sahin, I Safak Bayram and Muammer Koc, 'Demand Side Management Opportunities, Framework, and Implications for Sustainable Development in Resource-Rich Countries: Case Study Qatar' (2019) 241 Journal of Cleaner Production 118332.

<sup>&</sup>lt;sup>80</sup> Qatar National Housing Strategy (QNHS) https://www.mm.gov.qa/QatarMasterplan/English/strategicplans.aspx?panel=housing#:~:text=It%20see ks%20to%20support%20the,environment%20for%20the%20future%20generations accessed 6 June 2023; Law No 2 of 2007 on the Housing System.

<sup>&</sup>lt;sup>81</sup> Khondker Rahman, 'The Qatar National Master Plan' (2014) 19 Sustainable Development: An Appraisal from the Gulf Region 82.

cycling.<sup>82</sup> Additionally, some scholars argue that Gulf cities like Doha, Dubai, and Manama often overlook environmental considerations.<sup>83</sup> Therefore, it is crucial to evaluate the existing environmental legislation governing construction activities.

As part of its urban planning framework, Qatar has been divided into eight municipalities. By 2015, these municipalities were further subdivided into 98 zones, which are partially broken down into districts and blocks.<sup>84</sup> Metropolitan Doha, a sprawling urban area with a population of 1.4 million, extends across the municipalities of Doha, Al Wakra, Al Rayyan, Umm Salal, and Al Daayen. Notably, between 1997 and 2010, the population of Greater Doha surged from 425,462 to 1,174,437, representing a 176% increase within a relatively short timeframe.

It is noteworthy that Qatar's municipalities exhibit diverse urban characteristics. Some are predominantly residential with retail establishments, others are residential but industrialized with factories, while some remain undeveloped, earmarked for future urbanization projects. Consequently, it can be hypothesized that these municipalities could serve as key analytical units if Qatar considers assigning them greater responsibilities and proactive roles in enforcing environmental legislation and formulating climate strategies.<sup>85</sup> Scholars of environmental law emphasize the importance of clearly defining terms such as "environment" and "environmental law."<sup>86</sup> In this context, defining parameters like "area," "population size," and "population density" is crucial for identifying the geographical units that Qatar's climate change legislative framework will address. For instance, Table 1 below outlines the area, population size, and population density of Qatar, which are the units for which environmental laws and regulations are intended to be developed.

<sup>&</sup>lt;sup>82</sup> Raffaello Furlan and Asmaa Al-Mohannadi, 'An Urban Regeneration Planning Scheme for the Souq Waqif Heritage Site of Doha' (2020) 12(19) Sustainability 7927.

<sup>&</sup>lt;sup>83</sup> Ali A Alraouf and Sarah F Clarke, 'From Pearling to Skyscrapers: The Predicament of Sustainable Architecture and Urbanism in Contemporary Gulf Cities' *in Sustainable Development* (Berghahn Books 2017).

<sup>&</sup>lt;sup>84</sup> Nadeem Hashem and Perumal Balakrishnan, 'Change Analysis of Land Use/Land Cover and Modelling Urban Growth in Greater Doha, Qatar' (2015) 21(3) Annals of GIS 233–247.

<sup>&</sup>lt;sup>85</sup> Peter H Lehner, 'Act Locally: Municipal Enforcement of Environmental Law' (1993) 12 Stan Envtl LJ 50.

<sup>&</sup>lt;sup>86</sup> Damilola S Olawuyi, Environmental Law in Arab States (Oxford University Press 2022).

Municipality	Area (km²)	No. of Population	Population Density
Doha	219.7	957,457	4353
Al-Rayyan	2450.1	605,457	247.2
Al-Wakra	2577.6	299,031	116
Um Slal	318.4	90,835	285.3
Al-Khor	1602.2	202,031	126.1
Al-Shamal	859.9	8,794	10.2
Al-Dhyain	290.2	54,339	187.2
Al-Shayhania	3308.9	187,571	206.8
Total	11627	2,405,515	

#### Table 1:

# The table shows the area, number of population, and population density of the State of Qatar.

Qatar spans an area of 11,627 km<sup>2</sup>, but the distribution of its eight municipalities is not uniform. As shown in Table 1, the area of Doha municipality is approximately 220 km<sup>2</sup>, and it has a notably higher population density compared to other municipalities. This higher population density highlights the significant pressure placed on essential services and infrastructure, particularly roads, in Doha. According to secondary data, the average daily waste generated per capita in Qatar is 1.135 kg.<sup>87</sup> For instance, the excessive strain on the waste management system led to the Umm-Alfai landfill reaching its capacity and ultimately being closed.<sup>88</sup>

As a result, Doha municipality is likely to experience significant pollution and infrastructure pressure. Following Doha, Al-Rayyan Municipality has the secondlargest population, with a relatively high-medium population density. This highlights the need for environmental regulation in densely populated areas and at the municipal level. Additionally, these divisions can be utilized to assess emissions per municipality, which can contribute to the development of a climate change legislative framework.

Several pieces of primary and secondary legislation could potentially be integrated into Qatari environmental law, such as the National Climate Change Action Plan (NCCAP). As of the 2019 baseline, the building and construction sector emits 9.2 MTCO2 Eq., highlighting the need for regulation in construction and urban planning. Urbanization is often defined as the process of population growth and city

<sup>&</sup>lt;sup>87</sup> Perumal Balakrishnan, Mohammed Harish, and MKMZ Al-Kuwari, 'Urban Solid Waste Management Using Geographic Information Systems (GIS): A Case Study in Doha, Qatar' (2019) 8(1) Int J Adv Remote Sensing & GIS 2901.

<sup>&</sup>lt;sup>88</sup> ibid.

development.<sup>89</sup> In Qatar, urbanization has accelerated due to rapid economic growth.<sup>90</sup> Recent studies have demonstrated significant urban expansion in Doha over the past three decades.<sup>91</sup> A growing body of literature has explored the relationship between urbanization and environmental law. As paraphrased by Harlow and Rowling, "behind every theory of planning law is a theory of environmental quality." <sup>92,93</sup> In practice, however, we argue that urbanization has also contributed to various environmental challenges, such as overconsumption, housing shortages, and congestion, all of which exacerbate climate change.

In conclusion, the expansion of Qatar, driven largely by the discovery of oil and gas as a vital economic resource, has been accompanied by the evolution of the Qatari constitution, necessitating a closer examination of the existing environmental legislation. This growth and legislative transformation must be integrated into a cohesive policy to ensure alignment with Qatar's international commitments. This stagnation highlights the crucial role of natural wealth in linking development to the hydrocarbon economy. Consequently, it can be argued that phasing out fossil fuels may result in slower development in Qatar, and as the previous subsection has demonstrated, hydrocarbons are deeply entrenched in Qatar's economic structure. The economic stagnation experienced between the 1980s and 1990s serves as evidence of this dependency, making a complete phase-out of fossil fuels an impractical option for the country. However, it should be acknowledged that sustainable urbanization is a key component of both sustainable development and Qatar's continued growth. Therefore, any potential legislation should integrate sustainable urbanization as a fundamental pillar, an aspect that will be further elaborated on in Section 3.

# 3. CONSTITUTIONAL AND LEGAL CIRCUMSTANCES

Analysing the legal context of environmental legislation in Qatar requires reviewing existing research to understand the frameworks and dynamics shaping legislative development. This includes examining key laws, policies, and regulations on environmental protection. The second section of this article focuses on exploring the origins of Qatar's legal framework to assess the effectiveness and capacity of its

<sup>93</sup> Carol Harlow and Richard Rawlings, Law and Administration (Cambridge University Press 2006).

<sup>&</sup>lt;sup>89</sup> Thomas Elmqvist and others, Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities: A Global Assessment (Springer Nature 2013).

<sup>&</sup>lt;sup>90</sup> Florian Wiedmann, Ashraf M. Salama and Alain Thierstein, 'Urban Evolution of the City of Doha: An Investigation into the Impact of Economic Transformations on Urban Structures' (2012) 29(2) METU Journal of the Faculty of Architecture 35.

<sup>&</sup>lt;sup>51</sup> Mohammed Al-Marzooqi and others, 'Impact of the Urban Heat Island Effect on the Climate of the State of Qatar' (2021) 24(3–4) International Journal of Global Warming 400.

<sup>&</sup>lt;sup>92</sup> Elizabeth Fisher, Bettina Lange and Eloise Scotford, *Environmental Law: Text, Cases & Materials* (Oxford University Press 2013).

environmental legislation and presents a commentary to identify gaps highlighted by scholars, particularly in relation to environmental legislation as it pertains to climate change laws.

# 3.1 Scholarly Comments on Environmental Legislation in Qatar

Compared to academic works that have quantified environmental degradation in Qatar, there has been limited attention given to environmental legislation. This is primarily because environmental law is a relatively emerging field.<sup>94</sup> Nevertheless, in this section, we consolidate findings from search engine results for terms such as "Environmental law in Qatar" or "Environmental legislation in Qatar." It is crucial to examine scholarly works, as they provide the foundational insights into the challenges that environmental lawmakers in Qatar face.

Research has explored the impacts of industrial development on the environment.<sup>95</sup> In her work, she highlighted the environmentally sensitive areas in Qatar and addressed the legislative aspects of environmental protection. It has been noted that while Qatar is currently developing the legislation, regulatory bodies, and management agencies for successful ecosystem management and conservation efforts, the full implementation of these protective measures has yet to be achieved. This is in part due to a lack of scientific expertise and trained personnel, as well as the early stage of environmental development in the country. Although Qatar has swiftly ratified international conventions and established regulatory bodies, their implementation has been much slower. It can be inferred that environmental legislation in Qatar is underperforming, with a significant gap between enforcement and actual implementation.

Research reviewed the total amount of municipal waste in Qatar,<sup>%</sup> and explored the significant role in regulating waste management, highlighting the gaps in environmental legislation. The study noted: 'It must be stressed that the lack of environmental legislation itself is not the heart of the problem. Rather, it is the lack of enforcement and/or the availability of viable alternatives.' Furthermore, the study traced the evolution of Qatar's environmental regulatory bodies, from the establishment of the Permanent Environmental Protection Committee (PEPC) in 1981 to the formation of the Supreme Council for the Environment and Natural Reserves (SCENR) in 2000, and the creation of the Ministry of Environment in 2008. This ongoing transformation likely influenced the development and scope of environmental legislation in Qatar.

<sup>&</sup>lt;sup>94</sup> Elizabeth Fisher, Bettina Lange, Eloise Scotford and Cinnamon Carlarne, 'Maturity and Methodology: Starting a Debate about Environmental Law Scholarship' (2009) 21(2) J Env't L 213.

<sup>&</sup>lt;sup>95</sup> Renee Richer, 'Conservation in Qatar: Impacts of Increasing Industrialization' (2009) 2 CIRS Occasional Paper.

<sup>&</sup>lt;sup>96</sup> Mohammed Al-Maaded et al, 'An Overview of Solid Waste Management and Plastic Recycling in Qatar' (2012) 20 J Polymers & Env't 186; Mohammed Al-Maaded et al. 'An overview of solid waste management and plastic recycling in Qatar' Journal of Polymers and the Environment, 20 (2012): 186–194.

A comprehensive chapter addressing the challenges associated with implementing environmental legislation in Qatar.<sup>97</sup> In contrast to earlier and later academic works, it made a significant contribution by identifying key environmental laws. For instance, Qatari environmental legislation dating back to the 1970s, including laws such as Law No. 8/1974 concerning public health and Law No. 3/2002 aimed at protecting the country from radiation hazards. However, the focus was primarily on the legislative aspects of these laws, with the key question being: "What are the main obstacles to the successful development of environmental legislation in Qatar?"

Several gaps that hinder the successful implementation of environmental legislation. For instance, the shortage of specialized professionals needed to assess, develop, implement, and enforce environmental laws, such as legal experts and trained personnel to monitor and ensure compliance with existing legislation. Additionally, the absence of capacity building, which has led to two types of legislation: one that remains incomplete and others that require amendments. As a result, their analysis of environmental legislation in Qatar is confined to its enactment and development stages, rather than examining its type, capacity, and effectiveness.

An analysis of environmental law principles within the Qatari legal system, marking one of the first studies focused on environmental law in Qatar.<sup>98</sup> The work primarily addressed two types of legislation: laws and international conventions. Although they traced environmental law principles within the constitution, Environmental Protection Law No. 30/2002, and Qatari civil law, their study did not encompass other environmental laws. In their recommendations, they emphasized that "The appearance of environmental law principles needs to be more expressly reorganized." From their analysis, it can be concluded that research on environmental legislation in Qatar is still in its early stages, with the exception of Environmental Protection Law No. 30/2002, most other environmental laws in Qatar remain largely overlooked.

National environmental law requires amendments to align with Qatar's environmental goals.<sup>99</sup> His analysis highlighted several gaps within the environmental legal framework, with a particular focus on the importance of human environmental rights. Among his numerous recommendations, he suggested that the Qatari legislature introduce provisions addressing civil liability for environmental damage and establish an environmental court. While the work provides valuable insights for improving environmental law, it primarily outlines theoretical foundations for restructuring the

<sup>&</sup>lt;sup>97</sup> Wesam Al Othman and Sarah F Clarke, 'Charting the Emergence of Environmental Legislation in Qatar' (2014) 19 Sustainable Development: An Appraisal from the Gulf Region 116.

<sup>&</sup>lt;sup>98</sup> Abdelnaser Hayajneh, Hassan Elbarrawy, Yassin El Shazly and Tarek Rashid, 'Tracing Environmental Law Principles within the Qatari Legal System' (2017) 18(2) Brit J Humanit & Soc Sci.

<sup>&</sup>lt;sup>99</sup> Abdelnaser Zeyad Hayajneh, 'Filling the Gaps: Proposed Review to Improve Qatar Environmental Law' (2019) 91 JL Pol'y & Globalization 8.

environmental law regime, including the establishment of environmental courts, a public environmental fund, economic incentives, and tax exemptions.

In light of a discernible emphasis placed on identifying specific shortcomings within the current environmental legal framework, it becomes imperative to recognize that such gaps can be effectively rectified through the comprehensive conceptualization of a climate change legislative framework in Qatar. This endeavor represents a paramount stride towards the enhancement of the broader environmental law regime.

Additionally, an analysis of Qatar's environmental and climate change regulations reveals that Qatar has adopted a top-down approach to regulating these issues.<sup>100</sup> The study highlighted several limitations within the existing legislation. Specifically, certain deficiencies in Qatar's legal framework concerning climate change, social justice, pollution, and other environmental matters. A key gap identified was the lack of a quantifiable damages mechanism that would allow individuals or corporations to pursue legal action against those responsible for environmental harm. Under the current Qatari Civil Code and the Environmental Protection Decree Law, individuals and organizations do not have the legal standing to file lawsuits to protect their personal interests regarding climate change and related concerns.

As an academic work, this article develops a legislative framework in line with scholarly standards of analysis and argumentation. By examining the legal deficiencies highlighted by the study, this research contributes to the ongoing dialogue on climate change legislation and policymaking in Qatar. It stresses the importance of establishing a strong legal foundation that can effectively address environmental challenges and safeguard the rights and interests of all stakeholders involved. The general liability rules under the civil code could impede climate litigation. Reforms could be made through the legislative and executive authorities, given their ability to introduce regulations and enforce compliance.

# 4. RECOMMENDATIONS: BRIDGING THE GAPS IN QATAR'S ENVIRONMENTAL LEGAL FRAMEWORK: CHALLENGES AND SOLUTIONS

The following sections outline key areas for strengthening Qatar's environmental legal framework, including enforcement, legal capacity, litigation, governance, and climate change mitigation. Each provides actionable recommendations for a more effective and sustainable system.

<sup>&</sup>lt;sup>100</sup> Aaron Richard Harmon and Jon Truby, 'Climate Change Law, Policy and Litigation in Qatar' in Comparative Climate Change Litigation: Beyond the Usual Suspects (2021) 337, 345.

# 4.1 Enhancing Law Enforcement

Qatar has made notable progress in developing its environmental legal framework, yet several critical gaps remain in the effective implementation and enforcement of these laws. Despite the ratification of international conventions and the establishment of various regulatory bodies, enforcement mechanisms continue to fall short. The primary issue is the weak regulatory capacity, which hampers compliance and undermines the effectiveness of existing laws in addressing pollution, protecting biodiversity, and promoting sustainable development. A comprehensive approach is required to bolster enforcement capabilities, including empowering regulatory agencies, increasing inspections, introducing more stringent penalties for non-compliance, and establishing independent oversight bodies. Furthermore, integrating advanced digital tools for monitoring and enhancing public participation in environmental governance will improve transparency and ensure greater accountability in the enforcement process.

identified Gap	Technical	Proposed Solution
	Deficiency	
Enforcement Deficits	Weak regulatory capacity, inadequate penalties, and lack of independent oversight hinder compliance.	Enhance regulatory agency authority, implement digital enforcement tools, increase penalties, and establish independent compliance oversight.
Capacity Constraints	Limited expertise in environmental law results in suboptimal legislative drafting and enforcement.	Develop specialized legal training, integrate environmental law into curricula, and fund scholarships for legal and regulatory expertise.
Legal Barriers to Environmental Litigation	Absence of statutory standing, quantifiable damages mechanisms, and liability frameworks restricts judicial recourse.	Establish environmental courts, codify legal standing for affected entities, and implement damage valuation frameworks.
Regulatory Fragmentation	Overlapping mandates among environmental agencies create inefficiencies and	Form an inter-ministerial regulatory body and consolidate oversight under a central environmental authority.

		enforcement inconsistencies.	
Insufficient Climate Integration	Law	Existing legislation lacks explicit carbon regulation, green financing mechanisms, and corporate	Enact a dedicated climate law, integrate sustainability incentives, and establish a public environmental fund.
		accountability frameworks.	

# 4.2 Building Legal Expertise

Another critical gap in Qatar's environmental legal framework is the shortage of specialized legal and environmental professionals. Clarke and Al Othman (2014) emphasized that environmental law remains an emerging field, with limited professionals available to draft, assess, and enforce legislation. This capacity gap results in incomplete or ineffective environmental laws, weakening the country's ability to address complex environmental challenges. A long-term solution to this issue would be to invest in education and training programs focused on environmental law and governance. Qatar could establish government-sponsored scholarships, collaborate with universities to introduce environmental law curricula, and develop training programs for legal practitioners and environmental regulators. Such initiatives would not only enhance local expertise but also ensure a more robust and informed approach to legislative development and enforcement.

# 4.3. Strengthen Legal Accountability

Furthermore, Qatar's current legal system does not provide sufficient avenues for climate and environmental litigation. Harmon and Truby (2021) noted that the absence of a quantifiable damages mechanism and legal standing for individuals and corporations limits access to justice for environmental harm. Without a clear framework for liability and compensation, environmental polluters remain largely unaccountable. To close this gap, Qatar should introduce legislative reforms that establish environmental courts and expand the legal standing of affected parties. A dedicated environmental court system, modelled after international best practices, would provide a forum for addressing environmental disputes, holding violators accountable, and ensuring proper compensation for damages. Additionally, integrating a quantifiable damages mechanism into Qatari law would empower citizens and businesses to take legal action against environmental violations, fostering greater accountability and deterrence.

Another major challenge is the fragmentation of governance and lack of coordination among institutions responsible for environmental regulation. Over the years, Qatar has established multiple agencies, such as the Permanent Environmental Protection Committee and the Supreme Council for the Environment and Natural Reserves, yet their overlapping mandates often result in regulatory inconsistencies. Al-Maaded et al. (2011) argued that the real issue is not a lack of environmental laws but rather the inefficiency in enforcing them due to disjointed governance. To address this, Qatar should establish an inter-ministerial environmental committee that integrates policies across relevant sectors, ensuring a unified and coordinated approach to environmental regulation. Additionally, creating a centralized environmental authority with the power to oversee and streamline regulatory actions would enhance policy coherence and operational efficiency.

Lastly, Qatar's environmental legislation lacks comprehensive integration of climate change mitigation, environmental justice, and economic incentives for sustainable practices. While existing laws such as Environmental Protection Law No. 30/2002 provide some foundational principles, they do not adequately address emerging challenges such as carbon emissions, greenwashing, and corporate accountability. Hayajneh recommended that Qatar introduce provisions that explicitly recognize environmental rights, create economic incentives for sustainable development, and establish a public environmental fund. A comprehensive climate change law should be enacted to regulate emissions, promote green technologies, and integrate environmental justice principles into legal frameworks. Moreover, developing a public environmental fund would help finance projects that support sustainable initiatives, climate adaptation, and environmental restoration efforts. By incorporating these measures, Qatar can strengthen its legal framework and advance its long-term environmental and sustainability goals.

# **5. CONCLUSION**

This article organizes the discussion into two sections: economic and legal circumstances. The first section concludes that Qatar's economic development is closely tied to its hydrocarbon resources. However, Qatar is pursuing a decarbonization strategy to reduce its reliance on hydrocarbons. Given Qatar's membership in the Paris Agreement, particularly Article 6.2, this reliance will further complicate matters. Additionally, the literature highlights that delays in climate action may result in both economic and physical losses.

Building on the fact that economic development has led to exceptional growth, this article explores how population growth is exerting pressure on Qatar's environment. This pressure is driven by the scarcity of essential resources such as water and food. As Qatar progresses through its developmental stages, significant energy and water

consumption will be required, along with careful management of natural resources amidst the increasing global climate threat. Therefore, population growth is a primary driver for enacting climate legislation. The first part concludes by analyzing the stages of urbanization, highlighting that legislation has lagged behind this rapid development. As a result, urbanization emerges as a significant factor driving the need for climate legislation.

The second part examines Qatar's constitutional framework and legal environment. It concludes that Qatar's constitution has evolved in its recognition of the environment and sustainable development, marking a growing awareness at the constitutional level, the country's highest legislative authority. The section also examines the roles of three key authorities—legislative, executive, and judicial—and details the legislative process in Qatar, from the constitution to ministerial resolutions. Based on this, it is concluded that five key legislative bodies are involved in environmental lawmaking: the Emir, the Council of Ministers, the members of the Shura Council, the Prime Minister, and the Minister of Environment and Climate Change.

The final section emphasizes scholars' critiques of Qatar's environmental legislation. It is concluded that there is a gap between enforcement and implementation, weak capacity building, a lack of comprehensive studies covering all environmental legislation, and a top-down approach to the legislation process. Scholars suggest that reforms can be made through both legislative and executive authorities.

#### Legislative Trends: Responsive Measures in Hydrocarbon

Qatar's heavy reliance on hydrocarbons, while a cornerstone of its economic prosperity, presents growing challenges, especially in light of global sustainability goals and climate change. As the nation continues to expand its hydrocarbon production capacity, the need for a legislative framework that supports sustainable development becomes paramount. Existing laws regulating the oil and gas sector, such as Law No. 4/1977, have become outdated and do not align with the commitments made under international agreements like the Paris Agreement. A modernized legislative framework would not only ensure compliance with these international standards but also safeguard Qatar's long-term economic stability. With the global energy landscape evolving, Qatar's current dependence on hydrocarbon revenues is increasingly vulnerable to price fluctuations, making it crucial to foster economic diversification and reduce reliance on fossil fuels. By implementing proactive legislative measures that regulate greenhouse gas emissions, promote climate-resilient technologies, and incentivize sustainable growth, Qatar can secure both environmental protection and continued economic development.

Moreover, Qatar's constitutional framework, particularly Articles 29 and 33, provides the necessary authority to balance economic growth with environmental sustainability. The government's commitment to climate-resilient solutions, such as the construction of the Middle East's largest CO2 capture and storage facility, highlights the potential for innovation within the energy sector. However, this innovation must be supported by comprehensive legislation that not only addresses the immediate environmental impact of hydrocarbon extraction but also sets the foundation for a green transition. The development of such a framework would align Qatar's economic interests with global climate goals, ensuring that future generations inherit a stable, diversified, and environmentally responsible economy. By taking decisive legislative action now, Qatar can position itself as a leader in sustainable development, while continuing to meet its economic objectives and global climate commitments.

Proposed Article	Main Amendment
Article 1: Definitions	Clarified definitions to align with modern
	environmental standards, including terms like
	sustainable petroleum operations and "environmental impact assessment."
Article 2: Scope and	Expanded scope to include offshore drilling and
Geographic Application	environmental impact considerations for
	international operations, including the continental
	shelf.
Article 3: Adherence to Best	Revised to emphasize adherence to environmental
Environmental and Safety	best practices alongside technical and safety
Practices	standards.
Article 4: Environmental	Strengthened safeguards against pollution, with an
Safeguards and Operational	enhanced focus on environmental protection (air,
Safety	The deterd to include compliance with high
International	technical standards and environmental
Environmental Standards	certifications (e.g. ISO 14001 for environmental
	management).
Article 6: Project Submission	Introduced a requirement for environmental risk
and Environmental Risk	assessments and impact studies, in addition to
Assessment	technical descriptions, before project approval.
Article 7: Reporting,	Added mandatory periodic environmental audits
Monitoring, and	and independent monitoring of operations to
Environmental Audits	ensure compliance with sustainability goals.
Article 8: Monitoring and	Expanded enforcement powers to ensure
Enforcement	environmental compliance and broadened
	regulations
Article 9. Delegation to	Updated to include specific environmental
Contractors with	protection clauses in delegation agreements.
Environmental Oversight	ensuring external monitoring.

Article 10: Penalties and	Increased penalties for environmental violations,	
Reparation for	with added restoration and reparation measures	
Environmental Harm	for damage to ecosystems.	
Article 11: Penalties for	Strengthened penalties for repeated violations and	
Violation and Restoration	expanded restoration requirements for ecological	
Obligations	damage.	
Article 12: Administrative	Incorporated provisions for environmental	
Resolutions and	remediation and restoration alongside financial	
<b>Environmental Remediation</b>	penalties.	
Article 13: Appeal Process for	Updated to allow appeals related to environmental	
Environmental Violation	violations, with provisions for suspending harmful	
Decisions	operations if necessary.	
Article 14: Additional	Expanded to require the issuance of specific	
Regulations and	environmental regulations and sustainability-	
<b>Environmental Directives</b>	focused bylaws.	
Article 15: Implementation	Expanded roles for environmental authorities to	
and Environmental	monitor implementation and ensure compliance	
Oversight	with environmental provisions.	

# Legislative Trends: Reactive Strategies for Population Growth

Qatar's rapid population growth and environmental challenges necessitate comprehensive legislative reforms to ensure long-term sustainability. While national strategies for food security, water management, and environmental protection exist, these efforts often lack explicit legal integration into a cohesive environmental legislative framework. One significant gap is the absence of explicit links between water and food security within environmental laws. To address this, amending the Environmental Protection Law to mandate sustainable water usage policies and agriculture-friendly regulations is essential. This would balance resource efficiency with food production, ensuring that legislative measures support both environmental sustainability and the nation's food security goals.

Furthermore, there is a pressing need for a comprehensive legal framework addressing the impact of industrial pollution on public health. Enacting an Environmental Health Law that incorporates mandatory air quality standards and pollution mitigation measures for industrial activities is crucial. Such legislation would safeguard public health by ensuring that industrial operations adhere to environmental standards designed to minimize pollution and its associated health risks.

Legislative Gap	Proposed Reform	Intended Outcome
Water and Food	Amend Environmental	Ensure food and water
Security	Protection Law to integrate	security through legal
	sustainable resource	frameworks.
	management.	
Climate-Resilient	Introduce water quotas and	Prevent land degradation
Agriculture	enforce salinity control	and groundwater
_	regulations.	depletion.
Waste and	Implement a National Waste	Improve waste disposal
Sewerage	Management Law with	and reduce
Infrastructure	recycling mandates.	environmental hazards.
Human Health	Enact an Environmental Health	Protect public health
and Pollution	Law with mandatory air quality	from industrial pollution
	standards.	impacts.

# Legislative Trends: Adaptive Action for Urbanization

Qatar's rapid urbanization, driven by economic prosperity from its hydrocarbon wealth, has resulted in environmental degradation, primarily through increased air and water pollution, waste management challenges, and a strain on infrastructure. Despite this growth, there is a noticeable lag in the alignment of environmental legislation with the urbanization trajectory. A major gap in Qatar's legislative framework lies in the absence of a cohesive, forward-looking legal structure that comprehensively addresses urbanization's environmental impacts while promoting sustainable development.

One key gap is the fragmentation of laws governing urban planning and environmental protection. For instance, laws like Law No. 3/1975 on commercial and industrial buildings and Law No. 8/1974 on public hygiene are outdated and do not reflect modern urbanization needs, especially in the context of massive construction projects. These laws need to be integrated into a unified legal framework, ensuring that environmental and urban planning considerations are aligned and responsive to the challenges of urbanization.

A proposed solution is the formal codification of Qatar's existing strategies, such as the National Climate Change Action Plan (NCCAP), into the country's legal framework. The NCCAP outlines the necessary actions to reduce greenhouse gas emissions, and legally embedding its strategies into urban planning and construction regulations will ensure long-term sustainability. For example, in 2019, the building and construction sector emitted 9.2 MTCO2 Eq. This figure underscores the urgent need for a robust regulatory structure that mandates sustainability practices in the construction sector, such as energy-efficient designs and the use of renewable materials.

Additionally, the incorporation of a legal requirement for municipalities to assess and address their unique environmental needs—such as emissions and waste generation—can help in addressing regional disparities in environmental performance. With the highest population density in Doha at 4353 people per km<sup>2</sup>, the city faces substantial challenges in waste management and pollution control, further underscoring the need for targeted legislative action.

By unifying fragmented laws, embedding sustainability goals into the legal framework, and ensuring that urbanization aligns with Qatar's environmental commitments, the country can transition toward a more sustainable urban future.

Legislative Gap	Proposed Solution	Justification
Fragmentation of urban planning and environmental laws	Unify existing laws and integrate environmental considerations into a single, cohesive legal framework	Ensures consistency and coordination between urban development and environmental protection.
Lack of codified sustainability strategies	Codify the National Climate Change Action Plan (NCCAP) and integrate it into construction and urban planning laws	Formal integration of sustainability goals into urbanization policies to address carbon emissions and resource use.
Outdated urban planning regulations	Update laws such as Law No. 3/1975 and Law No. 8/1974 to reflect current urbanization challenges	Addresses the current scale of construction and environmental impact, especially in the rapidly growing Doha.
Municipal environmental oversight gaps	Establish legal requirements for municipalities to assess and address environmental challenges, including emissions and waste management	Targets the unique challenges of each municipality, ensuring localized solutions to environmental degradation.