



DOMINICAN REPUBLIC

1. INTRODUCTION

The Dominican Republic is one of the fastest-growing economies in Latin America. A reliable and continuous energy supply is essential for the development of all productive sectors. Thus, energy security is of the utmost importance. In contrast to the Latin American and Caribbean region's concerns listed in the World Energy Trilemma 2024 Report, the Dominican Republic faces unique challenges, most notably the absence of exploitable fossil fuel reserves or significant hydropower resources. Consequently, the country has historically depended on imported fossil fuels, exposing it to risks related to price volatility and supply disruptions.

To address these challenges, the Dominican Republic is actively pursuing strategies presented in the report to balance the dimensions of the Trilemma—energy security, equity, and environmental sustainability—through the diversification of energy sources and enhanced access in partnership with the private sector. This approach seeks to minimize the negative environmental impacts associated with energy production and consumption but also aims to foster energy independence and affordability. The government has set ambitious targets for renewable energy generation, aiming for 30% of energy to come from renewable sources by 2030. Currently, over 2,000 MW of natural gas capacity is in development, alongside approximately 1,000 MW from non-conventional renewable energy projects. Since 2020, renewable energy generation has more than doubled and is projected to double again by 2027. This transition, combined with other measures, is expected to enhance sustainability and reduce costs in the long term.

A higher penetration of renewable energy presents several challenges, particularly in maintaining high levels of supply security, as well as the stability and reliability of the energy system. As World Energy Trilemma 2024 Report highlights, the integration of storage technologies, particularly batteries, is essential for facilitating the energy transition while ensuring service stability. In line with this, the National Energy Commission of the Dominican Republic mandates that new renewable energy projects with installed capacities of 20 MWac or more must include battery storage systems with a capacity of at least 50% of their output, and these systems must have a minimum discharge duration of four hours. The regulatory agency faces the crucial responsibility of ensuring that this deployment occurs within the necessary timeframe and at optimal costs, leveraging the most efficient technologies available.

In terms of energy equity, the Dominican Republic recognizes the necessity of providing all citizens with access to affordable energy. Significant disparities exist, particularly in rural areas, where households often rely on costly and inefficient energy sources. Bridging this gap is vital for ensuring that all citizens can participate in and benefit from the nation's economic growth. Perhaps the most valuable lesson from this phase of innovation and cooperation is the importance of placing people at the center of decision-making. Projects that foster active citizen participation not only have a longer-lasting impact but also promote social development with tremendous potential for transformative change. Prioritizing the needs of vulnerable populations, incorporating a gender perspective, and protecting biodiversity are foundational pillars for a sustainable future.

2. POLICY PATHFINDING FOR MANAGING THE TRILEMMA

The insights offered in the 2024 Trilemma Report by the World Energy Council are highly relevant to the energy transition process in the Dominican Republic, highlighting both the challenges and opportunities the country faces. Many of these signals reflect critical policy decisions that the Dominican Republic is currently grappling with as it seeks to modernize its energy infrastructure and align itself with global sustainability efforts.



The recently released draft of the National Energy Plan¹ underscores the importance of the Trilemma pillars: Environmental Sustainability, Energy Security, and, to a somewhat lesser extent, Energy Equity. While affordability remains a core consideration, the emphasis on Environmental Sustainability and Energy Security is particularly pronounced. The draft indicates a commitment to reducing greenhouse gas emissions and transitioning to renewable energy sources, aiming to create a resilient energy system that can withstand future shocks, whether they be economic, environmental, or social. As the report further elaborates, “To better reflect specific local circumstances, there’s a need for collaborative efforts.” This sentiment resonates deeply in the Dominican context, where local insights and stakeholder engagement are crucial for developing effective and sustainable energy policies.

In the context of the Dominican Republic, as outlined in the National Energy Plan, strengthening the legal and institutional framework emerges as a major challenge. The country must navigate a complex landscape of regulatory models, rates, and business practices that not only ensure competitiveness but also foster innovation and investment in the energy sector. This requires a holistic approach that includes updating regulations, improving transparency, and enhancing the capacity of institutions tasked with overseeing the energy transition. Ensuring that the legal framework is robust and adaptable will be essential for attracting both domestic and international investment, which is vital for the successful implementation of renewable energy projects.

One of the most pressing issues highlighted in the report is the question of "Who Pays for Energy Transition?" This concern is particularly significant throughout the region, where the public sector has long relied on subsidies to provide affordable energy to its citizens. These subsidies have been crucial in maintaining energy accessibility, especially during times of economic hardship, such as the COVID-19 pandemic, when additional relief measures were implemented. However, while there are ongoing initiatives to expand energy access, equity does not receive the same level of focus as energy security, creating an imbalance that could hinder long-term sustainability.

The reliance on subsidies raises critical questions about the cost of decarbonization, which is increasingly becoming a central theme in energy policy discussions. The debate surrounding the use of taxpayer money versus ratepayer money poses significant challenges. On one hand, using taxpayer funds to subsidize energy costs may provide immediate relief and accessibility for the population, but it also raises concerns about fiscal sustainability and the long-term viability of such measures. On the other hand, relying on ratepayer money to fund the transition may lead to higher costs for consumers, particularly affecting low-income households who are already vulnerable to energy price fluctuations.

Moreover, the concern for equity and the dependence on subsidies mean that the cost of decarbonization becomes a key driver of energy policy. Policymakers must navigate the delicate balance between promoting renewable energy investments and ensuring that the burden of these costs does not disproportionately fall on the most vulnerable segments of the population. As the country progresses in its energy transition, addressing these equity concerns will be paramount to fostering social acceptance and ensuring that no one is left behind.

3. BEYOND TRADITIONAL DIMENSIONS

As highlighted in the 2024 World Energy Trilemma Report, the increased penetration of renewables into the energy grid presents several significant challenges. These challenges include the necessity of maintaining grid stability due to the intermittent nature of renewable energy sources, the urgent requirement for effective energy storage solutions to manage excess generation during peak hours, the need for substantial upgrades and expansion of infrastructure and transmission lines, and the imperative for regulatory framework reforms in energy markets to promote flexibility through ancillary services or capacity markets.

In response to these challenges, the Dominican government has prioritized the creation of enabling conditions that will attract investment in new technologies while also expanding and strengthening the transmission system to facilitate the safe interconnection of upcoming projects. Among the ambitious plans is an investment of approximately \$460 million in the national transmission system, which includes several critical projects. Noteworthy initiatives include the Naranjo-Manzanillo



345kV transmission line, the construction of the 345kV Guayubín substation, the Azua II-Punta Catalina 345kV transmission line, and the Azua II substation, also at 345kV. The government is also considering Public-Private Partnerships (PPPs) as a key strategy to mobilize the necessary resources and expertise for these initiatives.

In this transformative scenario, the decisions made are in alignment with the global shift towards green technologies and the emergence of a disruptive industrial ecosystem associated with modern electrical infrastructures. The commitment to enhancing access to low-cost financing and exploring innovative approaches to attract the capital required for this transition is essential. Achieving the country's carbon neutrality goals while ensuring energy affordability will depend on strategic investments and the adoption of creative financial models. According to estimates, transitioning to a renewable-heavy grid will necessitate a staggering \$5.4 billion investment. Therefore, pursuing innovative market-based approaches to stimulate capital inflow is critical, especially in the context of tightening financial conditions, high levels of government indebtedness, and the elevated cost of capital for clean energy projects.

Moreover, through various international collaborations, the Dominican Republic has facilitated the exchange of experiences that contribute to the development and application of resilient, agile, sustainable, and replicable solutions. These cooperative efforts have not only enhanced the country's technological capabilities but have also fostered a spirit of dialogue with counterparts across Latin America and the Caribbean. This collaborative exchange is evident in many aspects of the current Dominican energy policy, and the relationships built among nations will serve as a lasting legacy, enabling continued progress toward sustainable energy solutions.

As the Dominican Republic navigates this complex energy transition, it stands to benefit from a multifaceted approach that integrates technological innovation, infrastructure development, and financial strategies with an emphasis on international cooperation. By fostering a robust and resilient energy system, the country can ensure that its energy transition is not only successful but also equitable and sustainable for all its citizens. The journey will be challenging, but with determined efforts and strategic partnerships, the Dominican Republic will continue to emerge as a leader in the region's transition to a sustainable energy landscape.