

RENEWABLES
READINESS
ASSESSMENT

HONDURAS

EXECUTIVE SUMMARY



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ABOUT IRENA

The International Renewable Energy Agency (IRENA) is an intergovernmental organisation that supports countries in their transition to a sustainable energy future and serves as the principal platform for international co-operation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy. IRENA promotes the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy, in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity.

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Executive summary

Honduras has outlined a national strategic framework in its Country Vision 2010-2038, which aims to foster inclusive economic growth through a focus on enhancing labour capabilities, bolstering infrastructure, improving access to finance and strengthening resilience to climate change. The energy sector is well integrated into the Country Vision framework through the Energy Roadmap 2050 and the National Plan 2010-2022. These documents include targets such as the achievement of an 80% share of renewable energy in the country's total electricity generation by 2038, up from the current 60%.

In accordance with the 2015 Paris Agreement on climate change, the Government of Honduras has established sector-specific commitments towards reducing greenhouse gas emissions in the energy, forestry, agriculture, waste and industrial processing sectors. The country's initial Nationally Determined Contribution (NDC), submitted to the United Nations Framework Convention on Climate Change, outlined a commitment to reduce carbon emissions 16% below 2000 levels by 2030.

National ambitions for sustainable development in Honduras face important infrastructure constraints. Significant investment is needed to enhance the quality of energy and water services, including improvements in coverage and connectivity. By the end of 2020, close to 90% of the population had access to electricity, but less than half of Hondurans were using modern energy sources for cooking purposes. Limited connectivity and service levels affect access to production areas, internal and external markets, tourism areas, and health and education services, resulting in inequitable development and low national and regional integration.

The country has high exposure to hurricanes and tropical storms. In 2020, the Economic Commission for Latin America and the Caribbean estimated that hurricanes Eta and Iota resulted in economic losses of USD 2 billion, affecting key economic sectors such as crops and livestock, which serve as critical sources of sustenance and food security for already marginalised households. In 2019, droughts, heavy rains and flooding affected agricultural businesses and impacted livestock production. Climate change forecasts for 2030 point to significant risks for Honduras, including a potential 9% decrease in gross domestic product, higher living costs, reduced food security and damage to critical infrastructure.

Honduras was among the countries most severely impacted by extreme weather events during the period 1998-2017, and it regularly experiences a broad range of climate-related impacts, which have adverse implications for various sectors. Hydropower production faces challenges due to changing climatic patterns, and the agricultural and fishing sectors experienced significant effects on productivity and yields; these two sectors, together with the forestry sector, employ 35% of the economically active population and represent 36% of total exports.

The Renewables Readiness Assessment (RRA) process for Honduras included the development of a background paper and a consultative process led by the Energy Secretariat (SEN), facilitated by the International Renewable Energy Agency (IRENA). This process generated a set of actions, where the main challenges for an accelerated uptake of renewable energy have been identified.

Challenges and key recommendations

The role of energy sector institutions and governance

The Energy Secretariat (SEN) faces difficulties in promoting policy coherence across public institutions, systematising dialogues with local communities and creating local capacities to empower under-served communities in developing renewable energy projects. The Electric Energy Regulatory Commission (CREE), in addition to overseeing the main activities of the sector, is responsible for establishing regulations and ensuring compliance. Other secretariats or ministries are in charge of additional activities within the energy sector (hydrocarbons, biofuels, geothermal energy, firewood, water) and are working with limited regulatory capacities and budgets.

The National Dispatch Center (CND) operates the electricity system and market, and is responsible for the operation and management of electricity dispatch. Because the CND is mandated to provide reliable electricity at the lowest cost, it has a reduced authority to pursue the decarbonisation and resilience of the electricity system; this limits the CND's ability to promote trust and transparency in the actions taken.

These and other institutions face difficulties co-ordinating their policies in areas where mandates are shared across secretariats and agencies, which is a particularly salient barrier for developing environmental, climate and energy policy. Public and private renewable energy projects that rely on local natural resources and land areas face complicated dialogues with local communities around energy expansion plans and agriculture industry development, among other issues.

In this context, it is important to more clearly define the responsibilities and regulatory functions of existing entities linked to the energy sector. Some of the challenges faced by national institutions include independent decision making, enhanced governance, capacity building and expanded abilities for policy implementation. Achieving a well-defined regulatory landscape through the creation of a comprehensible and actionable framework would attract relevant stakeholders that can help transform the market and identify opportunities for further development of the national energy sector.

Energy policy and regulatory framework for the renewable energy sector

National ambitions and intentions to accelerate renewable energy use are on the right track. Nevertheless, there is a need to better align policy ambitions with the likely outcomes of existing energy programmes. The country's energy policy is impacted by the Energy Roadmap 2050, and a disconnect exists between its goals and the budgets associated with the incorporation of renewables. Furthermore, the objectives and actions outlined in the NDC are detached from the necessary funding and human resources, as well as from the institutions responsible for achieving climate change targets.

Laws created to facilitate the promotion of low-carbon technologies and renewable energy remain under-enforced due to a lack of regulations and implementation mechanisms. Addressing the current conditions of power purchase agreements (PPAs) is paramount to bring certainty to the development of infrastructure in the short term.

It is important to identify the appropriate mechanism for the implementation of national public policy that targets climate goals and includes an energy transition based on renewable technologies. Comprehensive, long-term energy planning that is both resilient to political shifts and inclusive of local communities' validation will bring certainty to potential investors.

Sustainable development and energy efficiency

The government has prioritised several urgent actions in its development agenda, including poverty alleviation, education, health care, gender equality, and more robust infrastructures for water, electricity, sanitation and roads. Moderate execution of programmes and limited access to financing have prevented national institutions from keeping pace with the United Nations' Agenda 2030 and its 17 Sustainable Development Goals (SDGs). Many challenges remain in assessing investments and maintaining the envisioned funding that has a direct impact on programmes and budgets.

Government institutions can create a favourable environment for identifying solutions to accomplish the targets of both the country's NDC and the SDGs. The inclusion of renewable-based solutions in the process can facilitate the visualisation of pathways to developing critical energy infrastructure.

Other challenges to achieving national climate goals include addressing oil dependency, energy access, forest deforestation and the restoration of degraded ecosystems. People in rural areas face limitations on energy access and other basic needs interlinked with the SDGs, and appropriate regulations to prevent forest degradation and funding for reforestation are lacking. Distributed generation using variable renewable energy could help increase energy access and reduce fossil fuel use in isolated communities.

Actions taken to meet NDC targets should include analysing pathways to energy-related goals, such as defining energy standards and modernising carbon-based and inefficient technologies used in industry, private and public buildings, and households. The recently presented bill to promote rational and efficient use of energy will facilitate the government's efforts to establish regulations for the use of more efficient energy-consuming products.

Strengthening the electricity industry

Originating from a law approved in 2007, a new tariff scheme integrated into PPAs contracted with the National Electric Energy Company (ENEE), the state electricity provider, left the company in deep financial trouble. Recovering the cost of services is at the core of the energy sector's challenges, and inadequate cost-recovery mechanisms are a key driver of ENEE's financial under-performance. Further, energy policies that lack thorough assessments of their economic implications have worsened the company's financial situation.

Existing debt and expensive PPAs are the main drivers limiting ENEE's ability to finance new investments in generation, transmission and distribution infrastructure. Specifically, insufficient investment in transmission and distribution networks constrains the ability to develop renewable energy prospects; it also affects electricity losses, quality of service and the fulfilment of investment commitments in the Central American Electrical Interconnection System (SIEPAC).

Significant progress to address these issues could be achieved by separating and reducing the operational costs of ENEE, which would be among the first steps towards generating returns that would allow the company to improve its service. Restructuring the company's outstanding debt would also provide relief for future endeavours.



Investment in renewable energy technologies and infrastructure

As the production costs of renewable energy technologies continue to fall, and as demand increases steadily, the prospect of further uptake of renewables in Honduras is very much evident. The country has substantially increased its adoption of renewables in the electricity industry over the last two decades, with investors embracing the financing of a diverse set of technologies. However, government incentives are lacking to expand the use of renewables beyond the electricity sector.

Among the factors hindering progress towards widespread adoption of renewables are a lack of co-ordination among institutions as well as the absence of roadmaps and specific measures to advance the uptake of low-carbon technologies. The prospects of developing geothermal energy and a national green hydrogen industry have not been fully explored, and an updated assessment of solar and wind power resources could greatly benefit the accuracy of current energy models and development plans. Adding complementary data analytics could provide useful insights to attract new energy developers.

Local private banks understand the energy sector and have a track record of financing renewable energy projects. However, this needs to be coupled with a stronger understanding of the associated environmental and social risks, which could result in higher costs of capital. Development banks and the government can work together on finding pathways to expand financing for small- and medium-scale projects with a larger scope than the activities of the conventional electricity industry.

Institutional and human capacities

Honduras has a well-developed network of universities gathering knowledge on regulatory issues and policy making to tackle the most difficult challenges in energy and climate change. The modernisation and diversification of the country's energy sector demands more in-depth knowledge of modelling, data collection, design of business models and additional complexities connected to the fast-growing energy-related sectors.

By collaborating with academia in mapping existing and future capacity gaps in the energy sector, the government could address gaps through current academic programmes. Involvement of the finance sector would further the efforts towards identifying specific knowledge gaps among professionals.

The government can also support the implementation of training programmes run by private or public educational institutions, addressing relevant areas such as the energy transition, sustainable energy access and security, and energy technologies, among others.

Capacity building programmes can be extended to local communities focused on increasing access to financing renewables. These plans can include providing business development support and financial literacy training, with equal opportunities for women.





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