

Environmental Policy in Jamaica's Oil and Gas Sector Critical Analysis

Posted on December 5, 2023

Oil and gas across the globe remain significant raw materials in numerous production processes. Both natural and renewable sources are primary energy resources across the globe and even have the largest share in the global energy sector. In Jamaica, the oil and gas sector aims to increase the competitiveness of the industry at a global scale by increasing the share of clean and renewable oil sources in Jamaica's overall energy and petroleum sector. The sector in Jamaica is considered to be evolving and bright because of the fact that Jamaica's population and its energy consumption have increased dramatically through the oil industry. Since the boom of this sector and its contribution to Jamaica's economy at the beginning of the 21st century, buyers of oil and gas products have been increasing in significant numbers. The sector is enhancing its prospects of meeting the country's growing energy demand (Gordon, 2001). However, this will have great impacts and risks on Jamaica's environment and society. This paper explores and reviews environmental policies, models, and strategies in Jamaica's oil and gas sector while assessing the Jamaican oil and gas industry's challenges, efficiency, gains, and prospects.

Theoretical Insight

The theoretical insight behind this paper is the prospects, challenges, gains, and opportunities in Jamaica's oil and gas sector through the environmental implementation of effective strategies and policies that are different from the rest of the world. The theory depicts the significance of the historical, environmental, and geographical lens of Jamaica for the implementation of strategies and policies. The economic situation of Jamaica depends on the good health and impacts of the oil and gas industry as a dominant sector, but the sharp increase in the real prices of oil and gas across the world has greatly impacted the business cycle through increased productivity and interest rates (Ramcharran, 1990). Resultantly, the volatility in the oil prices has accounted for approximately 35% of the total value of Jamaican imports over the past 5 years for the stability of domestic oil prices and other macroeconomic variables, including GDP, interest rates, nominal exchange rate, inflation, etc which are warranted in Jamaica's oil and gas sector. Some of the challenges and risks contributing to the ineffective implementation of environmental policies and strategies in the Jamaican oil and gas sector are lack of political will, inadequate logistics, insufficient community participation, and lack of contribution on the part of governmental institutions. Despite these challenges, much of Jamaica's economic activities, such as infrastructure development, are supported significantly and directly by the oil and gas industry's revenues in the region (Binger, 2011).

Environmental Policies, Models, and Strategies – Prospects, Challenges, Gains, and Opportunities in Jamaica’s Oil and Gas Sector

Challenges of Environmental Implementations in Jamaica’s Oil and Gas Industry

Oil and gas is the dominant sector in Jamaica as the country’s economy is highly dependent on it. Environmental implementation in terms of prospects, challenges, and gains depends on environmental and political pressure that greatly affects oil extraction practices. One of the dire environmental impacts of oil extraction includes oil pollution that is dangerously threatening the environmental resources as well as the health of the Jamaican population. Nowadays, upstream activities of oil and gas companies in the Jamaican oil sector have expanded greatly in the deep waters over the past few years because of the rapid depletion of accessible resources due to the advancements in deep-sea technologies related to the gas and petroleum fields. However, the extraction of oil and petroleum is not always governed by laws that reflect global protection practices for the environment.

Oil products are noxious to all forms of living bodies, whether they come from water or the Earth. Activists have noticed that oil products are damaging marine ecosystems at a great rate due to the oil spills in the water bodies. Marine pollution is strengthening its roots in the deep waters as physical aspects of marine habitats of animals and plants are compromised, which is also affecting the earthly ecosystem. Therefore, environmental pollution caused by the oil and gas sector of Jamaica has grabbed worldwide attention due to the non-consideration of environmental protection laws. The extensive exploitation of the oil and gas resources is further challenging the sector offshore due to the fluctuation of prices of crude oil and gas, and Jamaica’s economy suffers from that. The major differences in oil and gas companies’ activities associated with the infrastructural development of oil and gas domains include lack of investor relations, inability to deploy financial capital, lack of communication no shareholder motivation, and the compromised quality energy transition policies of the Jamaican government in key petroleum markets (Gordon, 2001).

In order to resolve these key issues in the oil and gas industry of Jamaica, the sector should build a broader statement of value by closing the trust gaps of the common people of Jamaica in the energy decarbonization system where the country could share global challenges and prospects to varying extents. Furthermore, best global practices and strategies should be created to implement the creative models in oil and gas companies with a special set of opportunities and solutions to improve the environmental quality in the oil and gas industry of Jamaica.

Prospects and Opportunities of Policies, Strategies, and Models in the Jamaican Oil and Gas Sector

In regard to the prospects of environmental policies and strategies, renewable energy is gaining momentum for power generation due to decarbonization on the supply side. The successful development of advanced plastics and non-metallic materials, which are the new products in the petroleum industry, are likely to consume small fractions of the crude oil resources. In feedstock, a significant volume of oil barrels seeks to be disposed of at questionable amounts. So, the energy transition can be hindered by cleaning fuels to compete with Jamaica's oil and gas markets. The supply of renewable oil and gas resources at the international scale would reduce the significance of domestic energy needs and consumption of the Jamaican energy sector as a foreign policy issue. This would maximize potential export earnings for Jamaica's economy because the major exporters of the energy market want to preserve renewable resources as much as they can, regardless of future market trends in the energy industry. The Jamaican industry is re-injecting large natural gas export potential to reduce gas loads in order to meet the energy demand at the domestic level in Jamaica (Burger et al., 2010). The country is also using a wide range of oil extraction technologies to increase the availability of oil production.

Gains of Implementations of Environmental Policies, Strategies, and Models in Jamaica

Jamaica's economy is significantly dependent on the oil and gas sector. It is evident that this industry would play a vital part in meeting the energy needs of Jamaica's population. The oil and gas sector of Jamaica currently accounts for more than half of the country's total consumption of crude oil, natural gas, and other renewable and accounts for less than 40% of Jamaica's GDP as the sector is the competitive option for the power generation and consumption in the country. Jamaica is a natural gas exporter to the world, but it is increasingly one of the most important importers of oil from Mexico and Venezuela to fuel its energy needs. The imported oil then transforms into a variety of energy goods such as blended gasoline with ethanol, auto diesel fuel oil, liquid petroleum gas (LPG), and Kerosene (Burger et al., 2010). The Energy Ministry of Jamaica is also working days and nights to diversify the country's energy mix by emphasizing indigenous energy resources. Moreover, the oil sector of Jamaica continues to play a significant global role through the energy transition for the economic transformation of Jamaica at the domestic level. Jamaica is a high-consumption society driven by high-efficiency considerations such as oil and gas consumption in household appliances, personal commodities, and motor vehicles that increase the risk of carbon footprints (Binger, 2011). To maintain a vital role in the global market, Jamaica's oil and gas sector should promote ways to fight corruption at the local as well as international level, support technological developments in the oil-exporting regions within and around Jamaica, aid transparent actions to promote accountability and invest in foreign aid to ensure stable energy supplies. It is a fact that corruption and uneven distribution of resources threaten political stability, civil unrest in the country, a hike in the prices of

raw materials, and increases energy instability. However, the risk can be mitigated by exporting more hydrocarbons in order to supply a growing share of domestic consumption of energy resources and maximize potential earnings (Gordon, 2001).

Analysis of the Environmental Policies, Strategies, and Models in Jamaica's Oil and Gas Industry

Environmental Policies of Jamaica

Jamaica is blessed with a clean, healthy, and enabling environment in the hands of the Divine Spirit, which supports a greener economy with a bunch of renewable energy resources. The Petroleum Corporation of Jamaica (PCJ) assures the preservation of the environment as the top priority of the search entity for oil and gas resources. PCJ emphasizes that the searching entity is undertaking its engagements on Jamaica's south coast while ensuring environmental protection is the pivotal part of harmonizing environmental policies in the oil and gas sector, including the extraction and refining of resource development as well as pricing, marketing, and exploitation of natural gas and crude oil resources. PCJ mentioned that in the meeting with the United Nations, Jamaica adopted development strategies for future environmental activities in order to become a "greener leader" in the international oil and gas industry. The aim of this initiative is to enhance the managed use of the Jamaican marine environment to raise enough marine resources for domestic consumption. Jamaica has started working on creating and implementing new environmental policy initiatives with the important motive of promoting clean and sustainable energy resources within Jamaica for domestic energy consumption needs and around the globe. Jamaica's management sector in the oil and gas industry assures that the country has committed to protecting the environment through an environmental governance framework to fulfil Jamaica's multilateral commitments to the energy resources available to the country (Davies, 1986).

Environmental Models of Jamaica

Jamaica's environmental model for the oil and gas industry to ensure a better economy for the country is built on the concept of revenue transparency for the improvement and adoption of environment-friendly oil and gas operations countrywide and also in the global context. One of the key environmental models that are beneficial for investors in the oil and gas field is the component of credit rating, which can be achieved when oil and gas resources are under stronger state control. This promotes revenue transparency in Jamaica's oil and gas sector as a key component of a better governance model. Moreover, the environmental models depend on the demand for energy consumption as Jamaica, over the past 10 years, has responded to the growing demand for energy resources with the combination of natural gas and coal. Both are important and renewable sources of energy which are adopted by Jamaica in the hope of reducing its carbon footprints of Jamaica

(Bernanke et al., 1997). The third most important environmental model is the companies' policy to carry out oil and gas extraction and production onshore and offshore. The major oil and gas companies in Jamaica, including Petroleum Company of Jamaica (PCJ) and RUBiS Energy Jamaica Ltd., together account for the extraction, production, and provision of primary energy resources at reasonable costs in order to minimize the dire resulting environmental effects.

Environmental Strategies of Jamaica

The environmental strategies of Jamaica, in terms of the implementation and elevation of the environmental standards in the country and worldwide, aim to increase the global competitiveness of the Jamaican oil and gas sector through a holistic perspective of the renewable and alternative energy mix for meeting the domestic needs of the country. PCJ directs this strategy to build strong recycling for several waste-to-energy alternatives through waste management businesses for the introduction of environment-friendly energy products through the use of technology. The strategy, as devised by PCJ, would construct huge plants for water desalination to improve the efficiency of the "reduce and reuse water" initiative by replacing energy-intensive thermal plants that have been working for decades with reverse osmosis processes in the seas.

The environmental strategy would also utilize integrated Gas management in the Jamaican oil and gas sector to enable Jamaica to be self-sufficient in its energy needs. Jamaica has also invested in several other international oil and gas companies in developed countries, including the United States, United Kingdom, Germany, China, and South Korea, in the hope of potentially becoming a net oil and gas exporter in the future. However, proven conservation tools would be required by Jamaica's oil and gas sector in deep-sea environments to develop and implement sound environmental management strategies. In Jamaica, several individual oil and gas operators have introduced restrictions in the deepwater operations considering the high variability rules of local counties of Jamaica. These operators have restricted their liability in the areas with no or less governance to ensure the implementation of best domestic practices. Jamaican oil and gas operators in the deep water can strengthen their artillery of optimized models and strategies to conserve marine resources with proven environmental conservation tools (Baumeister et al., 2010).

Strategy Analysis of the Jamaican Oil and Gas Sector

In order to manage the energy transition in Jamaica, the country's environmental policies and strategies that are developed by the global oil and gas industry should be analyzed. However, the term "energy transition" in the Jamaican oil and gas sector has a negative environmental impact due to the growing energy demand of the Jamaican population. Therefore, it is expected that the Jamaican energy sector should complement the renewable energy strategy traded and developed by the global oil and gas sector rather than comparing it with the region's renewable resources available to the

country in the existing oil and gas markets. In order to cope with the environmental hazards contributing to declining of renewable resources, including natural gas and crude oil, Jamaica should develop a voluntary methane emission reduction framework through the help of companies such as the Petroleum Company of Jamaica (PCJ) to ensure tighter decarbonization trends and fewer emissions standards.

In addition, given the exposure to the challenges of the Jamaican oil and gas sector that subsequently result in hikes in petroleum prices, it could stem from supply- and demand-related developments that heavily impact the oil and gas sector of Jamaica. Moreover, significant changes in oil prices due to the impacts of various oil shocks on the Jamaican economy stem from increased aggregate demand at the global level, which is perceived as a potential threat to Jamaica's future oil supplies. This would ultimately result in the deterioration of the Jamaican economy overall because the country depends heavily on the oil and gas sector, which is undeniably reflected in the Jamaican inelastic demand for oil and gas products (Baumeister et al., 2010). However, of note, the shocks in the oil prices in Jamaica are due to the relative dependence on the oil, but if appropriate policy measures are not taken to mitigate the short-term shocks of increased oil prices, Jamaica will suffer a permanent economic deterioration due to the negative challenges and impacts on the overall economy.

Given the conclusion, it would be useful to determine the impacts of price shocks. Against this background of the negative impacts on the macroeconomic variables of the oil and gas sector, this paper recommends that monetary policy initiatives, as well as environmental policies and strategies, should be aimed at curtailing the increased oil and gas-specific demands and the adverse environmental impacts (Bernanke et al., 1997). To stimulate domestic output, if the objectives of expansionary monetary policy are threatened, it is advised that price-stabilizing policies should be implemented to mitigate the effects of specific oil and gas demand shocks.

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