

Completing Lebanon's Environmental Protection Regime

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Potentially extensive petroleum reserves in the Lebanese offshore have many people contemplating how extracting the lucrative resource could benefit the country. But when exploration begins in earnest and as the prospect of extraction remains on the horizon, it must be recognized that the establishment of a petroleum sector would bring with it a range of environmental risks that Lebanon needs to be prepared for.

Due to the remote and harsh environment in which it takes place, offshore petroleum extraction can lead to a range of adverse impacts on wildlife, seawater, and even humans. Offshore exploration can damage habitats which marine life depend on, such as during the drilling of exploratory wells, or even cause behavioral changes in certain animals when using air guns during seismic surveys. During the production stage, the presence of offshore platforms can affect migratory birds' travelling patterns and emissions can negatively affect air quality. Disposal of produced water can deteriorate seawater quality or cause induced seismicity when injected in deep formations. In a worst-case scenario, gas wells can experience a blowout or there could be a petroleum spill or chemical spill, all of which could have sustained and long-lasting negative effects on not only the marine environment, but also on tourism and fisheries. Petroleum activities would also significantly increase Lebanon's carbon footprint and emissions of greenhouse gases during a period when global efforts are being made to curb climate change.

In short, there is a range of environmental risks which can arise from petroleum extraction, meaning there is a need for adequate regulation. Already, Lebanon's environmental protection regime meets international standards in many aspects, a promising sign for the country. However, there are gaps which need to be addressed to ensure concerned state institutions are prepared to manage potential environmental challenges related to governance of the sector.

To this end, there are various pieces of legislation which need to be adopted and the capacity of

relevant institutions must be strengthened.

Although existing legislation covers the majority of environmental aspects related to the oil and gas sector, some requirements are not covered, such as the management and disposal of drill cuttings and fluids, produced water, and Normally Occurring Radioactive Materials (NORM) wastes. These are the main pollutant streams that arise from the offshore petroleum sector and legislation covering their management should be issued to establish specific guidelines for the oil and gas sector in this respect.

In terms of permitting procedures, although the requirements for different types of permits are included in relevant Lebanese legislation, the limits, conditions, and procedures for issuing these permits have yet to be specified. This must be considered a priority as oil and gas activities should not be initiated in the absence of specific environmental permitting procedures.

With regard to environmental impact assessment (EIA) studies, it is important to agree on whether an EIA study will be required for the exploration phase, and particularly for exploratory drilling activities, which can have significant environmental impacts if not properly managed. Mishandling of this issue could lead to major public opposition and delays in the exploration phase. The prevalent EIA legislation is also appropriate and does not require amendments. Rather, specific guidelines to perform EIA studies for different petroleum activities should be developed.

In terms of monitoring, enforcement, and assurance mechanisms, responsibilities should be defined among different stake-holders. This can be achieved by signing memorandums of understanding between the Lebanese Petroleum Administration (LPA) and concerned ministries, especially the Ministry of Environment (MOE). While the LPA is responsible for monitoring and inspection at the activity level, the MOE should be empowered to monitor changes in environmental indicators, and should conduct regular and unannounced audits and inspections to ensure compliance with the requirements of granted permits and environmental management plans proposed in EIA studies, in addition to issuing annual compliance reports as a basis to maintain the petroleum licenses of oil and gas companies. Additionally, the option of using a

third party for inspection can be considered, while investigations of incidents and accidents should be done by an independent organization.

It is also necessary to develop a detailed guidance document for emergency preparedness and response which specifies emergency procedures and roles and responsibilities for different tiers of emergencies, and build the capacity of relevant authorities to fill these roles. Mechanisms for increased transboundary cooperation in environmental management also need to be established, while taking into account the complex geopolitical situation in the East Mediterranean.

Extracting petroleum need not be unduly risky in environmental terms if the necessary safety and environmental measures are in place. For Lebanon to ensure that it can fully capitalize on this potential resource, the country's environmental protection regime needs to be fortified by taking into account experiences from other countries. This, in conjunction with adequate training for those government institutions tasked with carrying out oversight would complement what is already a relatively sound environmental protection regime.