

SEA for Petroleum Activities in Lebanese Waters 2011/2012

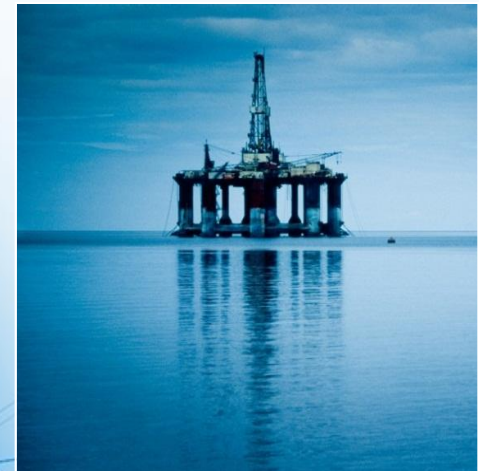
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Initial SEA Report:

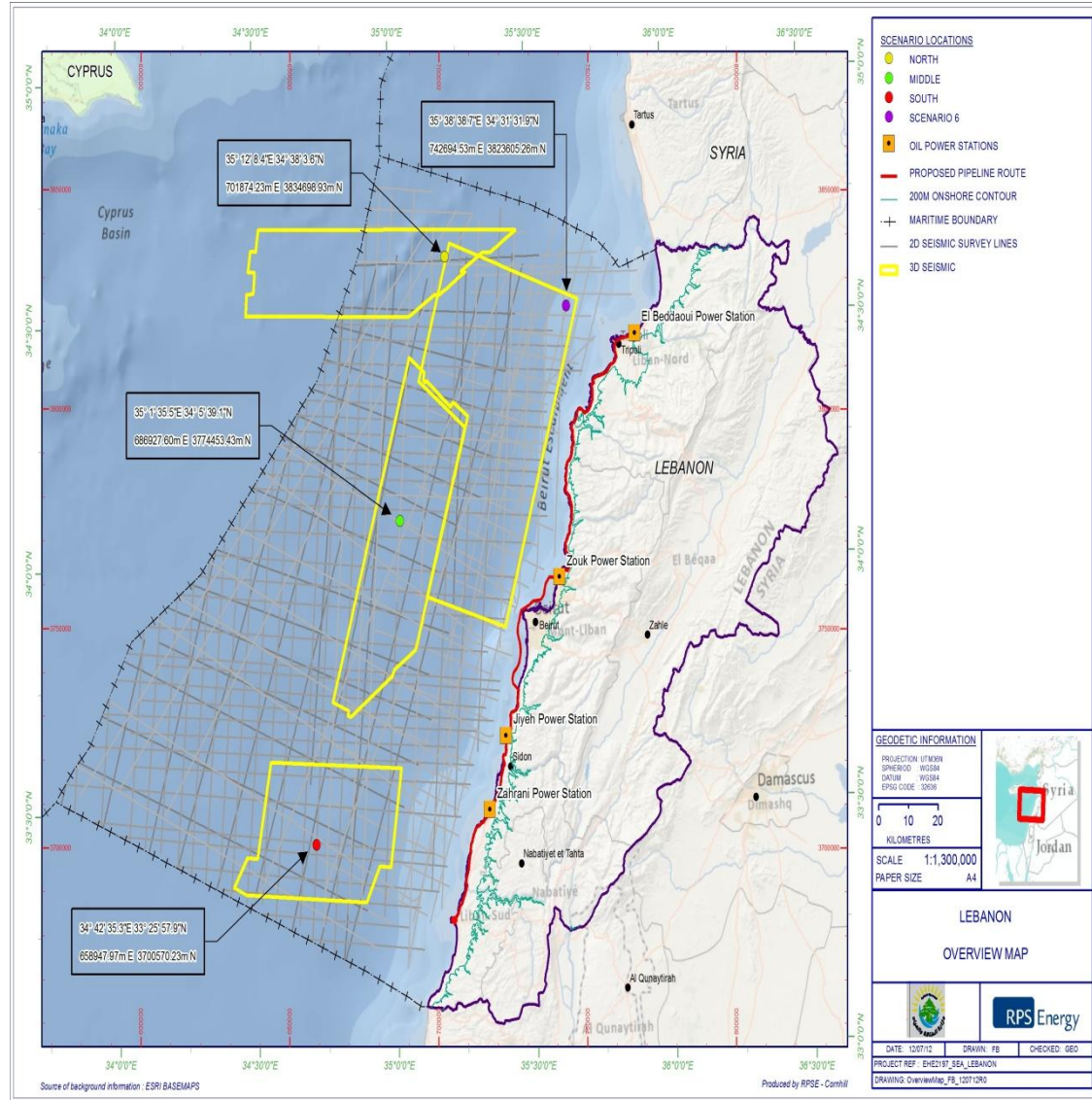
- 5 month project, completed March 2012

Geographic Scope:

- Lebanese Waters, 22,730sq km
- Inland to the 200m Contour

Map Illustration:

- Seismic survey areas
- Scenario Locations
- Proposed Gas Pipeline
- Existing Power Stations



RPS Energy

An SEA has been defined as 'the formalised, systematic and comprehensive process for evaluating the environmental effects of a public policy, plan or programme and its alternatives, in order to ensure they are fully included and appropriately addressed at the earliest possible stage of decision making on par with economic and social considerations'.

The Plan associated with this SEA Report is the development of an oil and gas industry in Lebanon.

One of the main drivers for this Plan is the energy crisis that exists in Lebanon which creates impediments to Lebanon's economic and social development.

This Plan includes seismic survey, establishing License blocks, exploratory and production drilling, hydrocarbon processing and transportation, as well as associated infrastructure development onshore.

Environmental Assessment is a continuing process requiring an integrated and multi-disciplinary approach.

The SEA Report has been produced in 8 Volumes

SEA for Petroleum Activities in Lebanese Waters	
Volume 1	SEA REPORT
Volume 2	NATIONAL CONTINGENCY PLAN
Volume 3	STAKEHOLDER MANAGEMENT
Volume 4	GAP ANALYSIS & ESIA REQUIREMENTS
Volume 5	GIS
Volume 6	REGISTERS
Volume 7	ONSHORE PIPELINE ROUTE
Volume 8	FIELD SURVEY INSTRUCTION MANUAL

Oil and Gas Scenarios – Risks and Opportunities Assessed

Scenario 1	No Commercial Findings
Scenario 2	Lean/Rich Gas and Petroleum Liquids – Onshore bias
Scenario 3	Lean/Rich Gas and Petroleum Liquids – Offshore bias
Scenario 4	Crude Oil and Rich Gas
Scenario 5	Multiple and Successive Field Developments
Scenario 6	Onshore Gas Transportation and Use
Scenario 7	Nearshore Oil/Associated Gas

Assumptions:

- Expert opinion based on other discoveries in this area
- Experience from similar conditions elsewhere
- Lead time from licensing to production for gas fields: at least 10 years
- Lead time for oil fields development: at least 6 -8 years

13 Key Issues emerged from an analysis of the Scenarios, the Consultation process and a comprehensive review of existing data. These should be addressed as part of the general preparation for an oil and gas industry :

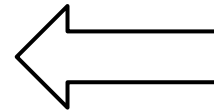
- **Relevant HSE legislation in place**
- **National Contingency Plan**
- **Capacity deficiency within authorities**
- **Landtake**
- **Data Deficiency**
- **Waste Management**
- **Infrastructure**
- **Environmental Awareness**
- **Building Trust among decision makers**
- **Security**
- **Air Emissions**
- **Resettlement**
- **Expectations**

Detailed Recommendations focus on a smaller number of identified issues that:

- 1 Are of immediate relevance, as opposed to aspects that relate to activities some years hence;
- 2 Are relevant to Lebanon's preparation for successfully managing an exploration and production oil and gas industry;
- 3 Should be addressed in order to maximize the benefits that international oil and gas operating companies can bring to Lebanon;
- 4 Should be the subject of an Action Plan for the next phase of work.

DETAILED RECOMMENDATIONS FOR IMMEDIATE ISSUES

Scenarios & Consultations & Data Review



Timeline and Priority

Issues
National Contingency Plan
Relevant HSE legislation and Regulatory Framework
Data Deficiency and Data Management
Increase Environmental Awareness and Protection
Onshore Pipeline Construction
Transboundary Issues and Cumulative Impacts

Issue:

At present Lebanon has a National Emergency Plan with a scope covering natural disasters and foreign invasion. A risk assessment associated with oil and gas development scenarios has been undertaken and the results highlighted the need for a National Contingency Plan covering oil spills in Lebanese waters.

Recommendation:

RPS has presented a draft National Contingency Plan to facilitate the establishment of a National Plan. The NCP should be appropriately resourced to reflect risks associated with the oil and gas industry presence in Lebanon.

Issue:

- Lack of a coherent and integrated regulatory framework to deal with environmental issues;
- Lack of internal government consistency towards the regulatory process;
- Lack of clarity as to which ministerial body is responsible and accountable for which regulatory sector;
- Operators will require confidence in the national regulatory framework and assurance that they can operate effectively within it.

Recommendation:

- Passing of outstanding Decrees that enable implementation of the law.
- Development of a robust regulatory framework which includes a well thought out enforcement scheme in which legislation is enforced in a clear and consistent manner, and according to open and established criteria.
- Effective implementation of Standards is best undertaken by a politically independent regulatory body; in the absence of such a body capacity building within the existing framework should be strengthened in order to meet the challenges of a developing in-country oil and gas industry.
- Familiarity with internationally recognized and integrated suites of standards – such as the Equator Principles and IFC Performance Standards – facilitates dialogue with the major oil and gas operators. These standards could be adopted with confidence into the regulatory framework.

Issue:

- Deficiency of available and scientifically robust offshore and coastal data sets, especially in deep water;
- Lack of co-ordination between the various survey programmes;
- Lack of centralised, national data bank with responsibilities for quality control and management of scientific data.

Recommendation:

- Comprehensive ESIA Baseline surveys to be carried out by operators as part of contractual agreement prior to seismic surveys and exploratory drilling;
- Data management, coordination and quality assurance to be provided by Ministry of Environment;
- Ministry of Environment to co-ordinate a specialist, technical steering group.

RPS Energy **Increase Environmental Awareness and Protection**

Issue:

- Poor provision for the protection of habitats and species in Lebanon; habitats and species are not afforded adequate protection from the pressures of urbanization and development;
- The Biodiversity goals of the 1998 Biodiversity agreement are not being implemented;
- Lack of land use planning;
- General and widespread lack of environmental awareness and sustainable development.

Recommendation:

- Development of a strong policy of environmental protection and habitat creation;
- Afford legal status for proposed MPAs - Marine Protected Areas – as soon as possible;
- Maximising Biodiversity investment programmes funded by international oil and gas operating companies;
- Enhancing public environmental awareness programmes;
- Capacity building and knowledge transfer within Ministry of Environment;
- Selective choice of oil and gas operating companies with robust pre-qualification criteria.

Issue:

- Construction of 36", 75 barg pipeline with no ESIA;
- Proposed Route uses 14m wide disused train track; eroded onto beach in parts, and built over in parts, traverses densely populated areas;
- Aerial crossings proposed.

Recommendation:

- Carry out a full ESIA as soon as possible to comply with recently passed EIA Decree;
- Review constructability report;
- Selective choice of oil and gas operating/construction companies. Pre-qualification criteria should include having well developed management systems and a respectable international reputation as regards Safety, Social and Environmental issues.

Transboundary Issues and Cumulative Impacts

Transboundary issues and cumulative impacts have not been addressed within this initial SEA Report. However, they are of significance as the following examples indicate:

- Geo-political instability of the region in relation to national boundaries will have consequences for a National Contingency Plan relating to oil spills;
- Possibility that Lebanese nearshore waters host the sole nursery grounds of a species of pelagic fish which support the fishing industry in other countries;
- At present Hazardous Waste has to be exported under the Basle Convention.