

TERMS OF REFERENCE (TOR)

SODEL PROJECT COMPONENT II: ENABLING ENVIRONMENT FOR THE USE OF ALTERNATIVE FUELS IN THE ENERGY AND TRANSPORT SECTORS

Project Name: Sustainable Oil and Gas Development in Lebanon “SODEL”

Reference Number: 00083213

Subject: Transport Expert- Short term consultancy for the preparation of a Cost Benefit Analysis (CBA) for the use of natural gas and other low carbon fuels in the transport sector in Lebanon.

1 DEFINITIONS

CBA	Cost Benefit Analysis
Consultant	The Expert that will be awarded this contract
Consultancy Services	The preparation of a Cost Benefit Analysis (CBA) for the use of natural gas and other low carbon fuels in the transport sector in Lebanon
GoL	Government of Lebanon
HSE	Health, Safety, and Environment
LPA	Lebanese Petroleum Administration
MoE	Ministry of Environment
MoEW	Ministry of Energy and Water
MoPWT	Ministry of Public Works and Transport
Project Manager	SODEL Project Manager
Project Committee	Committee formed by MoEW, LPA & UNDP that will review and validate the Consultant 's deliverables
SEA	Strategic Environmental Assessment
SODEL Project	Sustainable Oil and Gas Development in Lebanon, is a UNDP Project being executed by the LPA and the MoEW
ToRs	Terms of Reference
UNDP	United Nations Development Programme

2 BACKGROUND INFORMATION

During the last decade, the Ministry of Energy and Water (MoEW) has recognized the offshore hydrocarbon potential in Lebanon and has commissioned several studies to further analyze this potential.

On the technical side, and in preparation for launching the first offshore licensing round, the MoEW and the Lebanese Petroleum Administration (LPA) assigned geophysical service companies to perform seismic surveys that covered the entire Lebanese offshore. The results of these surveys showed that there are prominent oil and gas reserves, with **gas being dominant**.

On the environmental side, the Government of Lebanon (GoL) represented by the MoEW commissioned, in collaboration with the Ministry of Environment (MoE), the preparation of a Strategic Environmental Assessment (SEA) of the offshore petroleum sector. This assessment identified several environmental recommendations that created the *first component* of the project entitled "**Sustainable Oil and Gas Development in Lebanon**" (SODEL).

In its *second component*, SODEL will look at the uses of the potential gas resources and other low carbon fuels in different sectors in Lebanon, namely the transport and energy sectors, in order to develop an upstream gas policy paper that would maximize economic benefits to Lebanon while safeguarding the environment.

Ultimately, this would ensure that all decisions taken in the upstream gas exploration and production sectors as well as in the downstream use of natural gas and other hydrocarbon fuels, if found, take environmental, economic and social considerations into account in order to protect both the environment and the local communities.

SODEL is being implemented by the United Nations Development Programme UNDP (Energy and Environment Portfolio) in partnership with LPA and the MoEW.

This document constitutes the Terms of Reference for the provision of consultancy services for the preparation of a Cost Benefit Analysis (CBA) for the use of natural gas and low carbon fuels in the transport sector in Lebanon.

3 SCOPE OF WORK, RESPONSIBILITIES, AND DESCRIPTION OF THE PROPOSED ANALYTICAL WORK

3.1 SCOPE OF WORK

In preparation for the expected offshore oil and gas activities, the MoEW is developing a National Hydrocarbon Strategy. The Strategy would include the technical, environmental, safety, social, legal, as well as infrastructural aspects and impacts of the introduction of natural gas into the Lebanese energy market on the short, medium and long terms.

In this context, the SODEL project will support in undertaking some of the required technical and environmental studies that would help in setting policy recommendations for the uses of the potential natural gas resources and low carbon fuels, as alternative fuels, in Lebanon. Particular focus will be on the use of these fuels in the transport sector in Lebanon, whether for private or public use.

The role of this Consultancy is to provide clear guidance on the use of natural gas (assuming that an abundant supply of natural gas is available for use) and other low carbon and alternative fuels that can best be applicable to Lebanon **in the transport sector**, with a specific evaluation of the environmental, social, and economic benefits of the use of these fuels in the future plans and policies.

3.2 METHODOLOGY OF WORK

3.2.1 General Issues

The Methodology of work will consist of desk review, in addition to consultations with the stakeholders involved directly or indirectly with the transport sector in Lebanon, particularly the MoEW, LPA, MoE, CDR, MoPWT.

The main challenges that will encounter the Consultant will be data gaps/discrepancies as well as and setting assumptions and extrapolations. All assumptions used have to be approved by the Project Committee.

3.2.2 Reports Validation Modalities

Provisional approval of submitted deliverables shall take place at each of the defined milestones shown in the delivery schedule (to be agreed with the Consultant at the start of the project). It is expected that the Project Committee comments shall not exceed Ten (10) Working days from the receipt of the deliverable of a specific milestone.

On submittal of the deliverable, the Project Committee shall respond and its decision may either be:

- a) Approval, or
- b) Approval with reservations upon which the Consultant shall reply **within ten working days** under penalty of rejection
- c) Rejection with clear justifications.

3.3 TASKS

The following sections detail the expected outputs from the Consultant for each required activity. They are intended as general guidelines only. The Consultant is expected to provide further input based on their own knowledge and experience.

The assignment requires deskwork, research, meetings, as well as coordination between the different related entities.

Under the direct supervision of the SODEL Project Manager, the Consultant's responsibilities are, but not limited to, the following:

- **Task 1: Overview of the current use of hydrocarbons in the transport sector in Lebanon**
 - The Consultant shall identify existing studies, initiatives, and trends related to the use of fuel products in the transport sector.
 - The Consultant shall meet with related Governmental bodies and other institutions/organizations (private sector, research centers, academia, etc.) to discuss the existing fuel consumption trends in the transport sector, predicted forecasts, including the current and foreseen challenges. The list of stakeholders to be consulted shall be approved by the Project Committee.

- **Task 2: Define the various options for the use of gas and other low carbon fuels applicable to the Lebanese transport sector** for various fleet types and for both the public and private fleets.

- **Task 3: Conduct an assessment of the existing infrastructure in Lebanon and provide recommendations to upgrade/rehabilitate the infrastructure as needed**
 - The Consultant shall review and analyze the existing fuel distribution infrastructure for the transport sector in Lebanon.
 - Recommendations on a new infrastructure plan should be developed, and divided according to the different geographical zones in Lebanon: mountain, coast, and inland. These recommendations should take into account:
 - Health, Safety and Environment (HSE) issues,
 - Existing and proposed relevant Government plans (for the public and private sectors).
 - Technical and financial assessments needed to develop the new required infrastructure should be also provided and evaluated by the Consultant.
 - The Consultant shall describe possible roles of the private sector in implementing and funding the new infrastructure.

- **Task 4: Conduct a Cost Benefit Analysis (CBA) on the possible use of natural gas and other low carbon fuels in the transport sector:**
 - The Consultant shall, based on all the above findings, use the appropriate tools, to prepare a CBA for the use of natural gas and other low carbon fuels in the transport sector.
 - Results of comparing the costs, outcomes/benefits, strengths and weaknesses of the considered options shall be provided for the **short, medium and long terms**.
 - Scenarios of the effects of oil price fluctuations should be addressed within the CBA (low, medium, and high prices). The effect of oil prices on natural gas prices,

if at all, should be determined taking into account policy, supply and demand, technology, weather, and market structure...).

- The priority infrastructure options identified in Task 3 here above, shall be considered within the CBA study.
 - The Consultant shall, and based on the attained results, describe the envisaged challenges related to the use of natural gas and other low carbon fuels in the transport sector, and recommend means to overcome them.
 - A full report of the CBA studies shall be developed comprising the following:
 - The full conducted studies,
 - An executive summary of the results/findings, in English and Arabic,
 - A findings/results matrix presented in a clear and concise manner.
- **Task 5: Provide recommendations to update or develop new legislation to implement the new scenarios:**
 - As part of the SODEL project, a legal Consultant shall be recruited in a separate but parallel Consultancy Service in order to perform a substantial legislative framework study related to the existing legislation governing the transport sector in Lebanon. The Legal Consultant shall analyze the legislative framework and accordingly suggest the development of a new or updated one.
 - The Consultant shall provide the above mentioned Legal Consultant all technical information and analysis needed, based on the outputs of this Consultancy Service, to assist in analyzing the legislative framework and accordingly in the development of possible new or updated legislation in the transport sector.
 - **Task 6: Provide policy recommendations:**
 - Based on the findings and the analysis of Tasks 1 to 5 above (legal, technical, fiscal, environmental, social...), the Consultant shall prepare policy recommendations and a draft policy paper that would guide decision makers on the optimal use of natural gas and low carbon fuels in the transport sector in Lebanon.
 - **Task 7: Conduct consultation workshop to verify the attained results:**
 - The Consultant shall, once all the above studies and analysis have been conducted, hold one consultation workshop in order to discuss the findings with the relevant stakeholders and validate the recommendations.
 - Inputs from the workshop shall be used to further develop and update the findings and recommendations. A revised version of the results shall be submitted accordingly.
 - **Task 8: Design a pilot study on the use of gas or low carbon fuels:**
 - The Consultant shall, and based on the identified results and recommendations, prepare the terms of reference (ToRs) for a pilot study for the use of natural gas

and/or other low carbon fuels in the transport sector in Lebanon. The scope of this study shall be approved by the Project Committee with the purpose of assessing the applicability of the suggested policy recommendations.

- The Consultant shall also estimate the costs and technical needs required for implementing the Pilot study.
- The Consultant shall describe possible roles of the private sector in implementing and funding the pilot study.
- The Consultant shall develop a detailed proposal and action plan for the implementation of the pilot study.

4 DELIVERABLES:

4.1 DELIVERABLES AND REPORTING

All deliverables should be handed out in five hard copies as well as one soft copy (word and PDF format). Copies of high resolution maps and graphics (if any) should also be handed out to the SODEL project management team.

The deliverables are to be submitted and reviewed according to section 3.2.2. All deliverables are to be submitted in the English language. An Executive summary of the findings of Task 4 only shall be submitted in Arabic language as well.

During the fulfilment of the assignment, the Consultant will ensure regular communication with the project team, and will ensure a timely delivery of the expected outputs and will regularly inform the project team of the progress as well as any obstacles that might occur.

The required deliverables under the terms of reference are:

Deliverable	Date
Minutes of Kick off meeting	Week 1
Work Plan	Week 4
Minutes of Stakeholders Meeting	Months 2
Literature Review and Challenges Report	Month 4
Infrastructure Analysis Report	Month 6
CBA Reports	Month 7
Minutes of Consultation Workshop and final CBA reports	Month 10
Pilot Study proposal	Month 11
Final Results and Draft Policy Paper with a summary Power Point Presentation	Month 12