

Environmental and Social Impact Assessment (ESIA) for developing a 200 MWac PV Power Plant Project Al-Muwaqqar



Scoping Session Report

February 2017

APPENDIX A

Document Title: Scoping Session Report

Project : ESIA for Developing a 200 MWac PV Power Plant Project in Al-Muwaqqar

Code 1733

Client: Abu Dhabi Future Energy Company PJSC- MASDAR

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1 INTRODUCTION

Abu Dhabi Future Energy Company PJSC – Masdar, which is the lead developer for this project / represented by Baynouna Solar Energy PSC – as the project company, has been granted an approval from the Government of Jordan, represented by the Ministry of Energy and Mineral Resources (MEMR), to develop a 200 MWac grid connected Photovoltaic project in Muwaqqar.

Baynouna aims to develop the solar energy project using PV technology to generate electricity in Jordan. The project will help to decrease the country's dependency on traditional forms of energy by increasing the availability and use of solar energy. The generated electricity will be injected into the national grid to support the country in meeting its renewable energy target of 10% by 2020.

MEMR and the National Electric Power Company (NEPCO) have successful track record with independent power projects (IPPs) that include top international power developers with active projects in Jordan

Arabtech Jardaneh (AJ) was appointed by Baynouna to prepare the Comprehensive Environment Impact Assessment (ESIA) Study for the project activities during the three phases of the project construction, operation and decommissioning. The ESIA will be prepared in accordance with the requirements of the Jordanian Environmental Impact Assessment (EIA) Regulation no. 37 of 2005, and the International Finance Corporation (IFC) Performance Standards (PSs), in addition to both EBRD Performance Requirements (PRs) and Equator Banks Principles in order to support the application for an environmental permit from the Ministry of Environment (MoEnv).

The Scoping Session is part of the Final Term of Reference (TOR), meanwhile, it is considered as essential part of the ESIA process. The scoping session includes all stakeholders potentially affected by the project, the Ministry of Environment (MoEnv) invited the public and the concerned private sectors to attend the session.

1.1 ESIA Objectives

The ESIA study will be used to support the application for an environmental permit from the MoEnv in line with the Jordanian Environmental Impact Assessment Regulation 37/2005.

In accordance with MoEnv's requirements, the EIA assignment consists of the following phases:

- Preparation of Preliminary ToR (**completed**);
- Attend and document scoping session with stakeholders (**completed**);
- Stakeholders scoping session (**completed**).
- Finalize and submit ToR following input from MoEnv (**this document**);
- Perform ESIA study and prepare ESIA Report;

- Preparation of an environmental and Social Management Plan (ESMP), to be incorporated into the EIA report.

The overall objective of the ESIA is the evaluation of the likely environmental and social impacts for the project activities during the three project phases, construction, operation and decommissioning, then to minimize/eliminate negative impacts and maximize positive impacts, in order to ensure that the environmental & social factors are considered in the decision-making process.

2 PURPOSE OF SCOPING SESSION

The Scoping Session is an essential part of the ESIA process that includes all stakeholders potentially affected by the project, whether from the public or private sectors. The main purpose of the session is to present the proposed project and to solicit feedback concerning environmental and socio-economic impacts.

The objectives of the ESIA scoping session can be summarized as follows:

- Identify the main project stakeholders and their concerns;
- Inform the public about the project;
- Provide the opportunity for identified stakeholders to participate in the process of scoping significant environmental impacts;
- Identify those environmental and social impacts/concerns which are considered to be of key relevance and importance for the ESIA;
- Ensure appropriate approach and adequate focus are adopted during the ESIA;
- Establish the final Terms of Reference for the ESIA study.

The final output of the scoping process is the Final Terms of Reference (ToR) and a Scoping Statement Report which complies with the regulations of MoEnv, and which will further aid the consultant with the ESIA Study.

This Scoping Summary Report has been prepared in order to provide a brief description of the Project, record the feedback and comments received from stakeholders during the scoping session.

The scoping session for this project was held on Thursday, January 26th 2017 at Geneva Hotel in Amman; taking stakeholders comments and feedback into consideration throughout the ESIA in order to produce a comprehensive study that assess and covers all aspects of the Project.

3 SCOPING METHODOLOGY

3.1 Invitations and Logistical Arrangements

Prior to commencement of the ESIA Scoping Session, a Preliminary Terms of Reference (ToR) document was prepared by AJ team and submitted to the MoEnv during the first week of January 2017. The Preliminary ToR provided the MoEnv with a project description, proposed approach to completing the required ESIA study, including provisions of impact assessment criteria and methods for establishing mitigation measures to control (eliminate and/or minimize) those impacts identified as significant, and a list of identified project-related key issues. The ToR Document was submitted to MoEnv before the scoping session in order to facilitate the scoping process.

AJ team coordinated with the MoEnv to hold the Scoping Session on January 26th, 2017. The MoEnv prepared and sent the official invitations to relevant stakeholders including representatives from various ministries and governmental institutions, academia, Non-Governmental Organizations (NGOs), relevant municipalities, National Electric Power Company (NEPCO), The Royal Society for the Conservation of Nature (RSCN) and many others.

The location, date and time of the session were as follows:

Location: Geneva Hotel, at 7th Circle – Amman, Jordan

Date: Thursday, January 26th 2017

Time: 10:00 am – 1:30 pm.

3.2 Scoping Session Components

The Scoping Session consisted of the following:

- Opening Statements by:
 - Eng. Izzat Abu Hamrah, Director of Licensing and Guidance Directorate at the Ministry of Environment.
 - Eng. Basel Dahleh, Project Manager / Clean Energy, MASDAR.
- ESIA Presentation:
 - A Scoping Presentation addressing Project Description and ESIA approach and potential impacts conducted by Ms. Rasha Tomaira– Senior Environmentalist - Environment Section, AJ.
 - Presentation of the project description, operations, and decommissioning in addition to project layout and Project Alternatives considered the Jordan Energy Strategy 2020, the detailed presentation is included in Annex 2.

The following is a general outline of the presentation:

- Introduction (ESIA Scoping)
 - Explanation of Scoping
 - Explanation of ESIA and its Purpose
 - ESIA Report Components
- Project Description
- Legislative Framework
 - Relevant Laws and Regulations to the Project, including MoEnv's Legislation as well as national Legislation.
- Approach to Establishing Baseline Conditions
 - Physical Environment
 - Biological Environment
 - Socio-economic Conditions
 - Cultural Heritage and Archeology
- Impact Assessment
 - ESIA Process
 - Environmental Aspects
 - Impact Significance
- Project Alternatives
- Key Potential Issues
- Environmental and Social Management Plan

Figure 1 below presents some pictures from the scoping session:



Figure 1: Pictures from the Scoping Session

- Discussions and Feedback period during which the stakeholders raised their issues of concern. The detailed comments, deliberations and issues raised are included in Section 3 below. Responses were provided by:
 - Eng. Izzat Abu Hamrah, Director of Licensing and Guidance Directorate at the Ministry of Environment.
 - Eng. Basel Dahleh, Project Manager, MASDAR.
 - Ms. Rasha Tomaira, Senior Environmentalist, AJ.
 - Mr. Khaled Nassar, Environmental Specialist Advisor, AJ.
 - Eng. Ahmad Al-Duhni, Generation's Contracts and Agreements Section Head, NEPCO.

4 MAIN ISSUES OF CONCERN

The scoping session was attended by stakeholders from a number of organizations including, but not limited to: Ministry of Environment, Ministry of Interior, Civil Defense, Ministry of Water and Irrigation, Ministry of Health, Ministry of Energy and Mineral Resources, NGOs, and many others. A detailed list of participants who attended the scoping session is provided in **Annex 1**. A number of representatives from the above entities raised comments, questions and concerns; a summary of these deliberations is provided in the next Section.

The main issues of that were tackled during the session can be summarized as follows:

- The positive impact on the local community and employment opportunity;
- Panels cleaning method and source of cleaning water;
- The project is considered as a green project.

AJ and MASDAR team will be committed to taking these issues into consideration during the ESIA Study, where relevant.

4.1 Deliberations

A summary of the deliberations is provided below, which includes the outcome from the working groups. All attendees were divided into three working groups, each group introduced their comments and discussed them in front of the remaining attendees. Eng. Basel Dahleh, the representative of MASDAR provided input as well to answer some inquiries.

Table 1: Summary of comments and feedback discussed during the session

Name	Organization	Contact	Comment/Feedback	Response
Dr. Motasem Saidan	Water, Energy, and Environment Center Director / The University of Jordan	0777680086	<ul style="list-style-type: none"> • Why did this project require a full environmental impact assessment study? • Suggested that the scoping session could have been held somewhere near the project area so more locals can participate in the session. • Commented that given the dusty nature of the project area; more than 4 water cleaning cycles for the PV panels will be required. 	<p>Eng. Izzat clarified that the project produces 200 MWac, and any project that produces more than 20 MWac requires a full environmental impact assessment study as per the ministry of environment requirements.</p> <p>Eng. Izzat stated that MoEnv's role includes preparing invitations to all relevant stakeholders including local community representatives, and added that the venue shall be somewhere suitable even if in Amman, given that the project area (Muwaqqar) belongs to Amman Governorate.</p> <p>Masdar stated that they are aware of this issue. And plan not to exceed 2,000 m³ limit of water per cleaning cycle. As a result, a dry cleaning process will be implemented in case the 2000m³ limit is exceeded to fortify the cleaning process.</p>

Name	Organization	Contact	Comment/Feedback	Response
			<ul style="list-style-type: none"> Emphasized that conducting a Grid impact assessment study is essential to such project. 	<p>Masdar clarified that a preliminary grid assessment study has been already conducted, and a more advanced and detailed study is currently in progress. Eng. Ahmed Al-Dohni/NEPCO added that Masdar in the process of preparing an advanced and detailed grid assessment in coordination with NEPCO.</p>
Ms. Samia Al-Jbour	Nuqera Organization “(Local community organization)”	0777671002	<ul style="list-style-type: none"> Inquired whether the project will have any influence on health? Will the project take into account wind speed calculations? 	<p>AJ stated that solar projects are not associated with significant emissions/pollutants, in fact they are green projects with lesser impacts than other conventional electricity producing plants. Also with regards to glaring effects, the PV panel technology consists of an anti-reflecting coating, significantly reducing any glaring effects. Hence, there will be no health impacts.</p> <p>Masdar stated that all required studies and measurements regarding wind speed and direction have been conducted and been taken in consideration in project design.</p>

Name	Organization	Contact	Comment/Feedback	Response
			<ul style="list-style-type: none"> • Which source of water will be used? • How will this project benefit the local community? 	<p>Masdar clarified that a limit of 2000m³ per cleaning is set, if proven to be not sufficient other alternatives such as dry cleaning will be considered.</p> <p>Masdar clarified that 70% of project's labor shall be dedicated for Jordanian workforce, with prioritizing locals for these job opportunities, should their qualification match the needed requirements. Moreover, Masdar will be committed to implement a Corporate Social Responsibility (CSR) program where a certain budget will be allocated for such community development activities.</p>
Eng. .Izzat abu Hamra	Ministry of Environment	0799914652	<ul style="list-style-type: none"> • Inquired whether there will be any on site labor camps? • Emphasized that backfill is a critical issue that requires special attention on site so it 	<p>Masdar stated that they will use the close accommodation facilities available in Amman or within the surroundings of the project area.</p> <p>Masdar clarified that the sloppy terrain of the project layout was designed to be in favor of the project area, so the construction team will try to keep conditions as is. Furthermore, a surface water hydrology study was conducted</p>

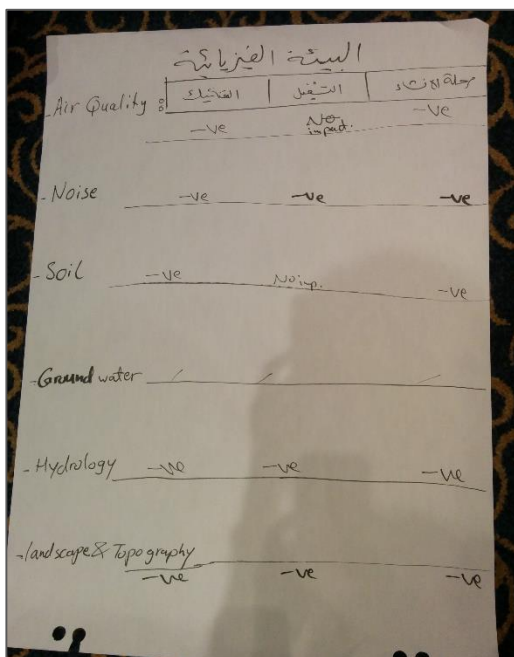
Name	Organization	Contact	Comment/Feedback	Response
			does not result in blocking wadis' paths.	for the project and Masdar is committed to apply the recommendations mentioned in the study – some of these recommendations include using rip raps and also culverts will be used where wadis cross internal and access roads.
Eng. Ali Khawaldeh	Ministry of Energy and Mineral Resources (MEMR)	0777680086 ali@memr.gov	<ul style="list-style-type: none"> High wind speed can result in breaking panels, has this been taken in consideration in project design? 	Masdar clarified that wind speed and direction are some of the many parameters that were taken in consideration in project design.

4.2 Groups Deliberations

The scoping session attendees were split into three discussion groups (Physical Environment / Biological Environment and Socio-economics), each group was responsible to brainstorm and discuss the potential positive and negative impacts generated on its relevant parameters from all project phases (construction, operation and decommissioning). Towards the end of the group work activity, each group nominated a person to present their discussion outcomes.

Group One: Physical Environment

This group discussed the anticipated positive and negative impacts on the physical environment during all project phases (Construction, Operation, and decommissioning) and the required mitigation measures to reduce these impacts.

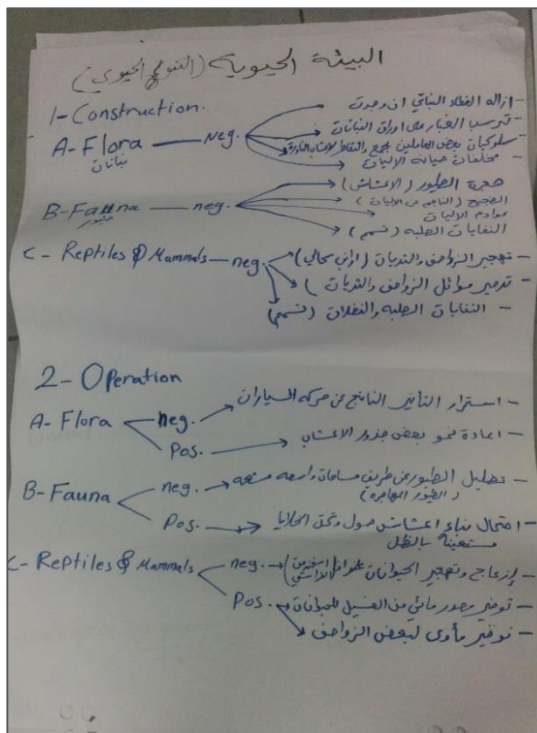


Key Issues and Concerns	Comments Response
<ul style="list-style-type: none"> • Air quality: low impact during the construction phase as a result of site levelling and construction vehicles. • Noise: low impact during construction and decommissioning since there are almost no surrounding facilities of the project – during operations noise impacts are negligible. • Soil: Negative impact caused by potential oil spillage, wastewater leakage, and chemicals in panels. • Ground Water: No impact 	<p>All these comments shall be taken in consideration where applicable during the preparation of ESIA Report</p>

Key Issues and Concerns	Comments Response
<ul style="list-style-type: none"> • Hydrology: Negative impact if no precautions to be taken in consideration to protect wadis. • Landscape and Topography: Negative impact due to leveling activities. <p>Impacts during construction and decommissioning are expected to be similar.</p>	

Group Two: Biological Environment

This group discussed the anticipated positive and negative impacts on the biological environment during all project phases (Construction, Operation, and decommissioning) and the required mitigation measures to reduce these impacts.

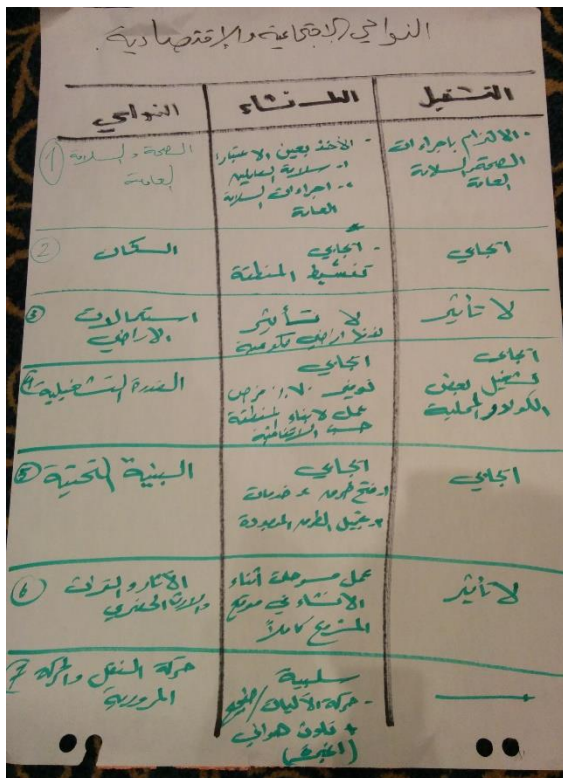


Key Issues and Concerns	Comments Response
<ul style="list-style-type: none"> • Flora: negative impact during the construction phase, positive and some negative impacts during operation phase. • Fauna (Birds): Negative impact on birds, noise and vehicles emissions affecting life forms negatively. Induced shade from panels is reflected as a positive impact. • Reptiles and Mammals: Negative impact represented by relocation of 	<p>All these comments shall be taken in consideration where applicable during the preparation of ESIA Report</p>

<p>mammals and reptiles due to project activities and the different types of wastes produced during project phases. Water used for cleaning can be a drinking water source for some species making a positive impact. On the other hand, if dry cleaning is to be used negative impacts might rise like noise emissions.</p> <p>After the decommissioning phase all above impact will disappear.</p>	
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Group Three: Socio- economic

This group discussed the anticipated positive and negative impacts on the Socio- economic conditions during all project phases (Construction and Operation) and the required mitigation measures to reduce these impacts.



Key Issues and Concerns	Comments Response
<ul style="list-style-type: none"> Public Health and Safety: Occupational health and safety must be taken in consideration during construction and operation. 	<p>All these comments shall be taken in consideration when applicable during the preparation of ESIA Report</p>

<ul style="list-style-type: none">• Population: Positive due to employment opportunities.• Land use: no impact• Workforce and employment: positive impact since the project will provide employment of which 70% will be dedicated to Jordanians with prioritizing locals.• Utilities and Infrastructure: Positive impact by improvement of the existing utilities.• Transportation and Traffic: Negative impact from heavy vehicles movement and air pollution induced by these vehicles.• Cultural and Archaeology Heritage: No Impact if all necessary surveys are conducted and proven that there's no archeology within the site.	
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ANNEX 1: List of Attendees

الموضوع: الحلقة التشارورية لدراسة تقييم الأثر البيئي والاجتماعي لمشروع توليد الكهرباء من الطاقة الشمسية في منطقة الموقر
٢٦ كانون ثاني ٢٠١٧، فندق جنيقا / عمان

الرقم No.	الإسم Name	المسمى الوظيفي Title	الشركة / المنظمة Organization / Company	رقم الهاتف / الموبايل Telephone Number	البريد الإلكتروني E-mail
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الموضوع: الحلقة التشارورية لدراسة تقييم الأثر البيئي والاجتماعي لمشروع توليد الكهرباء من الطاقة الشمسية في منطقة الموقر 2
٢٦ كانون ثاني ٢٠١٧، فندق جنيفا / عمان

الرقم No.	الاسم Name	المسمى الوظيفي Title	الشركة / المنظمة Organization / Company	رقم الهاتف / الموبايل Telephone Number	البريد الإلكتروني E-mail
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4	سيف الدين هنيدي عطية	عضو هيئة استشارية	مجلسه السيدات الاردني	٧٩٧٣٤٥٥٥٧	Zain al-Hayat@yahoov.jo
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الموضوع: الحلقة التشارورية لدراسة تقييم الأثر البيئي والاجتماعي لمشروع توليد الكهرباء من الطاقة الشمسية في منطقة الموقر
٢٦ كانون ثاني ٢٠١٧، فندق جنيقا / عمان

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2	صبري عراجيد	شريك محاسب	الشركة	١٣٨٨٦١٠٠٤	
3	نخام علي الجبو	عضو فريق لمتابعة		٥٩٨٣٨٠٣٩٨	gharam.debbas@alibnawaga.com.jo
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7	ابن محمود القرني	مهندس	هيئة تخطيط قطاع الطاقة الاعلانية	٥٧٩٥٧٥٩٧٥٥	quraini.ahmad@yako.com.jo
8					
9					
10					