



VALIDATION REPORT

INTEGRATED ENERGY LTD.

INTEGRATED ENERGY LTD. GRID
CONNECTED ELECTRICITY GENERATION PLANT
USING NATURAL GAS

Report No.: 8000355604 – 07/169

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Client: Integrated Energy Ltd.	Client ref.: Mr. Gabriel Kenan (Executive V.P.)
<p>Summary/Opinion:</p> <p>Integrated Energy Ltd has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: "Integrated Energy Ltd. Grid Connected Electricity Generation Plant using Natural Gas" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords and the relevant decisions by COP/MOP and CDM Executive Board.</p> <p>The project intends to reduce GHG emissions by reducing use of electricity generated in the Power Grid of Israel, which predominantly uses fossil fuels, by construction of a new grid-connected natural gas power plant, using co-generation technology with a capacity of approximately 205 MW.</p> <p>In the course of the validation 18 Corrective Action Requests (CARs), 7 Clarification Requests (CRs) were raised and successfully closed. A Forward Action Request (FAR) was raised in view of the fact that the project verifier needs to review the appropriateness of the installed equipment and to assure that the methodological and regulatory requirements are met as intended.</p> <p>The review of the project design documentation (Version 2 dated January 7, 2008) and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.</p> <p>In detail the conclusions can be summarized as follows:</p> <ul style="list-style-type: none"> - The project is in line with all relevant host country criteria (Israel) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from National CDM Authority as DNA of Israel vides the Host Government Approval (LOA-H) dated 19th September 2007. - The project additionality is sufficiently justified in the PDD. - The monitoring plan is transparent and adequate. - The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 5,782,430 tCO₂e is most likely to be achieved within the 10 years (fixed) crediting period. 	

Report No.: 8000355604 – 07/169	Subject Group: Environment
<p>Report title:</p> <p>"Integrated Energy Ltd. Grid Connected Electricity Generation Plant using Natural Gas"</p>	
<p>Work carried out by:</p> <p>Mr. Rainer Winter Mr. Evgeni Sud Mr. Pankaj Patel</p>	
<p>Technical review by:</p> <p>Mr. Eric Krupp</p>	
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Indexing terms

Climate change
CDM
Validation
Kyoto Protocol

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Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
CR	Clarification Request
DNA	Designated National Authority
FAR	Forward Action Request
EB	CDM Executive Board
EIA	Environmental Impact Assessment
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producer
kW	Kilowatt
kWh	Kilowatt hour
m	meter
m³	Cubic meter
MW	Megawatt
MWh	Megawatt hour
NCV	Net Calorific Value of Fuel
ODA	Official Development Assistance
PDD	Project Design Document
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change

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1 INTRODUCTION

Integrated Energy Ltd has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project:

"Integrated Energy Ltd. Grid Connected Electricity Generation Plant using Natural Gas"

with regard to the relevant requirements for CDM project activities.

1.1 Objective

The purpose of this validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol; the CDM modalities and procedures as agreed in the Marrakech Accords under decision 17/CP.7; the annex to the decision; subsequent decisions made by COP/MOP & CDM Executive Board,
- other relevant rules, including the host country (Israel) legislation and sustainability criteria

are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

1.2 Scope

The validation scope is given as an independent and objective review of the project design, the project's baseline study and monitoring plan (based on AM0029 / Version 01: "Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas"), which are included in the PDD and other relevant supporting documents.

The items covered in the validation are described below:

- **UNFCCC & Host Country Criteria**

- UNFCCC/Kyoto Protocol requirements, in particular, the requirements of the CDM as set out in decision 17/CP.7 (Marrakech Accords), the present annex, and relevant decisions by COP/MOP & CDM Executive Board
- Host country requirements / criteria

- **CDM Project Description**
 - Project design
 - Project boundaries
 - Predicted CDM project GHG emissions
- **Project Baseline**
 - Baseline methodology
 - Baseline GHG emissions
- **Monitoring Plan**
 - Monitoring methodology
 - Indicators/data to be monitored and reported
 - Responsibilities
- **Background investigation and follow up interviews**
- **Stakeholder consultation**
 - Publishing the PDD on TUV NORD website
 - Review of comments
- **Draft validation reporting with CARs, CRs and FARs, if any**
- **Final validation reporting.**

The information included in the PDD and the supporting documents were reviewed against the requirements and criteria mentioned above. The TÜV NORD JI/CDM CP has, based on the recommendations in the Validation and Verification Manual^{VVM}, employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs. The validation is based on the information made available to TÜV NORD JI/CDM CP and on the contract conditions. TÜV NORD JI/CDM CP can not be held liable by any entities for making its validation opinion based on any false or misleading information supplied to it during the course of validation.

The validation is not meant to provide any consulting to the project participant. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

1.3 GHG Project Description

1.3.1 Project Scope

The considered GHG project can be classified as a CDM project in the sector given in Table 1-1 (according to List of Sectoral Scopes of UNFCCC).

Table 1-1: Project Scope(s)

No.	Project Scope
1	Energy Industries (renewable - / non-renewable sources)

1.3.2 Project Parties

Israel as a non Annex-I party is involved in the project activity.

1.3.3 Project Entities

The following entities are involved in the developing of the project:

Project Participant 1 Integrated Energy Ltd
Industrial Zone P.O.B. 142
38101 Hadera
Israel

Contact person: Mr. Gideon Liberman
Operation Vice President
Mobile. 972-52-360-9059
Direct Telephone: 972-4-634-5358
Gideon@aipm.co.il

Project Participant 2 EcoTraders Ltd.
Saadia Gaon 24, 9th Floor
Tel Aviv 67135
Israel

Contact Person: Adi Dishon
CEO
Tel: +972-3-561-6224
Fax: +972-3-561-6225

1.3.4 Project location

The project site is located in Hadera industrial zone in the northern part of Israel. The details of the project location are given in table 1-2:

Table 1-2: Project Location

No.	Project Scope
Host Country	Israel
Region:	Haifa region
Project location address:	Hadera industrial zone
Latitude:	32°27'10 N
Longitude:	35°54'55 E

1.3.5 Technical project description

The project activity involves construction of a new grid-connected natural gas power plant, using co-generation technology, which will be constructed by Integrated Energy Ltd., an affiliated company of the American Israel Paper Mill (AIPM) Company.

The project is in the initial planning stage and is expected to be operational in 2011. Development of the project activity under CDM rules has been conducted based on the technical configuration and the price proposal as included in the commercial proposal for engineering, procurement and construction of a most likely supplier^{TS/}.

The technology being considered is for a co-generation system of approximately 200MW^{TS/}. The overall plant capacity including auxiliary consumption is 205MW. The plant will contain one gas turbine (with a nominal power of 150 MW) for the production of electricity; one Heat Recovery Steam Generator; one single entry steam turbine (with a nominal power of 70MW), for electrical power generation and steam production for industrial purposes.

As per the PDD, NG based CCPP project envisages generation of 1.5 TWh per year of electricity based on 95 per cent plant availability. The estimated NG consumption in terms of thermal equivalent is 14.129 TJ per year.

The company has opted for a fixed crediting period of 10 years starting from 01.01.2011. The estimated annual average emission reduction of the project activity over the crediting period is 578,243 tCO₂e.

Table 1-3: Key parameters of the Natural gas power plant

Key parameters.	Project activity
Manufacturer:	Will be identified after financial closure
Type:	Cogeneration power plant
Configuration	1 Gas Turbines (150MW),

	1 Heat Recovery Steam Generator (HRSG) 1 Steam Turbine (70 MW)
Design capacity	200 MW (excluding auxiliary consumption)
Design steam pressure (HRSG)	100 bar
Commissioning date:	Expected commissioning date is 2011

2 VALIDATION TEAM

The validation team is led by:

- **Rainer Winter.** Mr. Winter works at TÜV NORD CERT GmbH as ISO 9001/ 14001 Auditor and environmental verifier for EMAS. He is also an approved emission verifier within the European Emission Trading Scheme. Mr. Winter is an authorized JI/CDM assessor and is in charge of the TÜV NORD JI/CDM Certification Program.

For this validation he was assisted by:

- **Evgeni Sud,** TÜV NORD CERT GmbH, is an appointed JI/CDM Expert in the JI/CDM Certification Program of TÜV NORD.
- **Pankaj Patel,** TÜV Nord - Baroda, India is TÜV-CERT auditor for ISO 9001/14001 and TS 16949. He has performed a number of CDM validation and verification functions of several projects. He is an appointed expert for JI/CDM certification program of TÜV NORD.

The technical review and the final approval of this project activity was done by:

- **Eric Krupp.** Mr. Krupp works at TÜV NORD as an approved emission verifier within the European Emission Trading Scheme. Mr. Krupp is an authorized JI/CDM assessor and deputy head of the JI/CDM Certification Program of TÜV NORD.

3 METHODOLOGY

The validation of the project was carried out from 2007-12-17 and 2007-12-18. The validation consisted of the following three phases:

- A desk review of the PDD (incl. annexes) and supporting documents with the use of a customised validation protocol according to the Validation and Verification Manual;
- Background investigation and follow-up interviews with personnel of the project proponent, the consultant, legal authorities and other stakeholders;
- Reporting of validation findings taking into account the public comments received on TUV NORD website.

The report includes Corrective Action Requests, Clarification Requests and Forward Action Requests (CAR, CR and FAR) identified in the course of this validation.

A **Corrective Action Request** is established if

- mistakes have been made in assumptions or the project documentation which directly will influence the project results,
- the requirements deemed relevant for validation of the project with certain characteristics have not been met or
- there is a risk that the project would not be registered by the UNFCCC or that emission reductions cannot be verified and certified.

A **Clarification Request** is issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request** is issued when certain issues related to project implementation should be reviewed during the first verification.

The final validation started after issuance of proposed corrective action (CA) of these CARs and CRs by the project proponent. The validator has assessed the proposed CA with a positive result and after the closure of these CARs and CRs the project proponent has issued the final version of the PDD. On the basis of this the final validation report and opinion were issued.

3.1 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol was used. The protocol shows, in a transparent manner, criteria and requirements, means of verification and the results from pre-validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM project is expected to meet;
- It ensures a transparent validation process where the independent entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol consists of three tables: Table 1 (Mandatory Requirements); Table 2 (Requirement Checklist); and Table 3 (Resolution of Corrective Action and Clarification Request) as described in Figure 1.

The completed validation protocol is enclosed in Annex I to this report identifying 18 Corrective Action Requests, 7 Clarification Requests and 1 Forward Action Request.

Validation Protocol Table 1: Mandatory Requirements			
Requirement	Reference	Conclusion	Cross reference
<i>The requirements the project must meet.</i>	<i>Gives reference to the legislation or agreement where the requirement is found.</i>	<i>This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) of risk or non-compliance with stated requirements. The corrective action requests are numbered and presented to the client in the Validation report.</i>	<i>Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is validated. This is to ensure a transparent Validation process.</i>

Validation Protocol Table 2: Requirement checklist				
Checklist Question	Reference	Means of verification (MoV)	Comment	Draft and/or Final Conclusion
<i>The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found.</i>	<i>Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.</i>	<i>This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification is used when the validation team has identified a need for further clarification.</i>

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	Ref. to checklist question in table 2	Summary of project owner response	Validation conclusion
<i>If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.</i>	<i>The responses given by the Client or other project participants during the communications with the validation team should be summarised in this section.</i>	<i>This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".</i>

Figure 1: Validation protocol tables

3.2 Review of Documents

The draft PDD submitted by Integrated Energy Ltd. and supporting background documents related to the project design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.3 Follow-up Interviews

On 2007-12-17 and 2007-12-18, the TÜV NORD JI/CDM CP performed on-site visits. During these visits, as well as earlier and after, interviews with the project proponent, the consultant and project stakeholders were carried out to confirm selected information and to resolve issues identified in the document review.

The main topics of the interviews are summarized in **Table 3-1**.

Table 3-1: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project participant representatives	<ul style="list-style-type: none"> - Chronological description of the project activity with documents of key steps of phased implementation. - Technical details of the project realization, project feasibility, designing, engineering, operational life time, Instrumentation details for GHG monitoring of the project - Host Government Approval - Post registration involvement of Annex-I Party - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects, Government policy for NG projects, equity: loan; fuel costs. - Crediting period - Project activity starting date - CER allocation / ownership - Baseline study assumptions - Sustainable development issues - EIA Study - Power Generation, Evacuation, Metering system - Analysis of local stakeholder consultation - Salient operational data – technical specification (capacity of turbines, boiler), plant load factor, operating parameters of boiler / turbine, usage of auxiliary fuels - Roles & responsibilities of the staff members w.r.t project management, monitoring, calibration and reporting

Interviewed Persons / Entities	Interview topics
	<ul style="list-style-type: none"> - Natural gas availability - Emergency Response Plan
Consultant (Eco Traders Limited)	<ul style="list-style-type: none"> - Editorial aspects of PDD - Methodology selection aspects - Baseline study, leakage and additionality - Details of emission reduction calculation

3.4 Resolution of Clarification and Corrective Action Requests

In order to remedy any mistakes, problems or any other outstanding issues which needed to be clarified for positive conclusion on the project design, CARs and CRs were raised. These requests were resolved or “closed out” by the project proponent by providing the corresponding response in the column 3 of the table three as meant in Figure 1 and submission of revised PDD and supporting documents.

A Forward Action Request related to project implementation should be reviewed during the first verification.

In this validation report 18 CARs, 7 CRs and 1 FAR were raised.

The CAR(s) / CR(s) / FAR(s) are documented in Annex I and addressed in section 4.

3.5 Public Stakeholder Comments

The PDD was made publicly available through TÜV NORD JI/CDM CP website www.global-warming.de. Comments on the PDD were invited within 30 days. The results are documented in chapter 5 of this report.

3.6 Finalising the report

The draft validation report was submitted to the project proponents. After reviewing the revised and resubmitted project documentation; resolving the CRs & CARs raised and outstanding concerns TÜV NORD JI/CDM CP issues the final validation report and opinion.

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the draft PDD, visits, interviews and supporting documents are summarised in **Table 4-1**:

Table 4-1: Summary of CARs, CRs and FARs issued

Validation topic ¹⁾	No. of CAR	No. of CR	No. of FAR
General description of project activity (A) - Project boundaries - Participation requirements - Technology to be employed - Contribution to sustainable development	6	2	-
Project baseline (B) - Baseline Methodology - Baseline scenario determination - Additionality determination - Calculation of GHG emission reductions Project emissions Baseline emissions Leakage - Emission reductions - Monitoring Methodology - Monitoring of Project emissions Baseline emissions Leakage Sustainable development indicators / environmental impacts - Project management planning	12	5	1
Duration of the Project / Crediting Period (C)	-	-	-
Environmental impacts (D)	-	-	-
Stakeholder Comments (E)	-	-	-
SUM	18	7	1

¹⁾ The letters in brackets refer to the validation protocol

For an in depth evaluation of all validation items it should be referred to the validation protocol (Annex). This annex also includes all CARs, CRs and FARs (Table 3).

4.1 General Description of the Project Activity

4.1.1 Project Boundaries

The project's spatial and system boundaries are clearly defined in the project documentation. The spatial extent of the project boundary includes the project site, and all the power plants connected physically to the baseline Grid (i.e. National grid of Israel). The boundary definition is in line with the applied methodology.

Nevertheless the full address of the power plant was requested. CR A1 was raised under this context and successfully closed (ref Annex: Validation Protocol – Table 3).

4.1.2 Participation Requirements

The project is a unilateral project involving Israel (Host Country). The project developer is the Integrated Energy Ltd and the CDM manager and consultant is EcoTraders Ltd^{/LOA/}.

The considered project activity is a unilateral project. Annex 1 party will be identified in due time.

The project title in the draft PDD slightly deviated from the project title as per the Host Country Approval. The PDD was adjusted accordingly and provides now the same title of the project activity. CR A2 was raised under this context and successfully closed out (ref Annex: Validation Protocol – Table 3).

4.1.3 Technology to be employed.

The project activity involves construction of a new grid-connected natural gas power plant, using co-generation technology, which will be constructed by Integrated Energy Ltd., an affiliated company of the American Israel Paper Mill (AIPM) Company.

The project is in the initial planning stage. The registration as a CDM project is a prerequisite to achieve financial closer. Development of the project activity under CDM rules has been conducted based on the technical configuration and the price proposal as included in the commercial proposal for engineering, procurement and construction of a cogeneration power plant of a most likely supplier^{/TS/}. The technical configuration as per the commercial proposal is described in the relevant sections of the PDD.

In the course of the validation a sufficient confidence was gained that technology implemented within the project activity will be consistent with the technology specified in the commercial proposal of a most likely supplier and will be consistent with technology specified and described in the PDD.

The technology being considered within this project is for a co-generation system of 200MW (excluding auxiliary consumption). The plant will contain one gas turbine (with a nominal power of 150 MW) for the production of electricity; one Heat Recovery Steam

Generator; one single entry steam turbine (with a nominal power of 70MW), for electrical power generation and steam production for industrial purposes^{/TS/}.

The power plant will supply the total steam generated and approximately 35MW of electrical power to the American Israel Paper Mill. The remaining part of the electricity generated is envisaged to be exported to private consumers as well as to Israel Electric Corporation (IEC) a government owned company.

The project is expected to be operational in 2011. As per the PDD, NG based CCPP project envisages generation of 1.5 TWh per year of electricity based on 95 per cent plant availability. The estimated NG consumption in terms of thermal equivalent is 14.129 TJ per year.

The project activity helps in reducing the power deficit in the region and reduces the GHG emission by using natural gas in place of predominantly used fossil fuels (mainly coal) in Israel.

The NG based grid connected power generation project intends to reduce GHG emissions to the extent of the difference of (a) baseline emission (multiplication of net electricity generated by the project plant with the baseline emission factor calculated based on IEC data) and (b) the sum of project emissions (multiplication of fuel quantity and CO₂ emission coefficient of NG) and (c) leakage.

The company has opted for a fixed crediting period of 10 years starting from 01.01.2011. The estimated annual average emission reduction of the project activity over the crediting period is 578,243 tCO₂e.

The CAR A1 was raised because the technical configuration of the proposed project activity was not exactly specified in the published PDD and successfully closed (ref Annex: Validation Protocol – Table 3).

4.1.4 Contribution to Sustainable Development

The project activity is expected to have positive effects on the employment situation and the socio-economic well being. Apart from GHG emission reduction, the project will contribute to a decrease of a gap between electricity supply & demand in Israel will be achieved.

In the Letter of Approval dated 19 September 2007 from DNA of Israel it is confirmed that the project contributes to sustainable development in Israel^{/LOA/}.

4.1.5 General Topics

In general the PDD has been duly filled. Nevertheless some mistakes had to be corrected and not all information could have been made available to the validation team at the stage of the draft validation.

For this reason corresponding Clarification Requests CAR A3, CAR A4, CAR A5 and CAR A6 had to be raised and were successfully closed out (ref Annex: Validation Protocol – Table 3).

4.2 Application of Baseline and Monitoring Methodology

4.2.1 Baseline Methodology

The applied baseline methodology is the approved baseline methodology AM0029 (Version 1) entitled “Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas”.

The applicability criteria as stated in AM0029 are fulfilled and discussed below in the table:

Table 4-2 Applicability criteria assessment

Applicability Criteria	Assessment
<p><i>"The project activity is the construction and operation of a new natural gas fired grid-connected electricity generation plant¹."</i></p> <p><i>Footnote 1: Natural gas should be the primary fuel. Small amounts of other startup or auxiliary fuels should be used, but can comprise no more than 1% of total fuel use.</i></p>	<p>"The project activity involves a construction of a new natural gas fired grid-connected electricity generation plant.</p> <p>In the course of validation a sufficient confidence was gained that natural gas will be the primary fuel. It should be also kept in mind that due to the Israel regulation power plants with of over a 100 MW capacity are required to be dual fuel for emergency purposes. Project participant stated that if a fuel other than natural gas will be used no emission reductions will be claimed.</p> <p>For this reason the first applicability criterion including the provisions of the footnote 1 can be considered as fulfilled.</p>
<p><i>"The geographical/ physical boundaries of the baseline grid can be</i></p>	<p>The boundaries of the Israel's grid can be considered as the boundaries of the</p>

<p><i>clearly identified and information pertaining to the grid and estimating baseline emissions is publicly available."</i></p>	<p>baseline grid. This is mainly because the Israel grid is not interconnected and there are no electricity imports from neighbourhood countries.</p> <p>Furthermore, the information pertaining to the grid and estimating baseline emissions is available from Israel Electric Corporation (IEC).</p> <p>For this reason the second requirements of the second applicability criterion can be considered as fulfilled</p>
<p><i>"Natural gas is sufficiently available in the region or countries, e.g. future natural gas based power capacity additions, comparable in size to the project activity, are not constrained by the use of natural gas in the project activity."</i></p> <p><i>Footnote 2: In some situations, there could be price-inelastic supply constraints (e.g. limited resources without possibility of expansion during the crediting period) that could mean that a project activity displaces natural gas that would otherwise be used elsewhere in an economy, thus leading to possible leakage. Hence, it is important for the project proponent to document that supply limitations will not result in significant leakage as indicated here.</i></p>	<p>In the section B.2 of the PDD the project proponent has also duly documented that natural gas is sufficiently available in the region and the project activity will not result in price-inelastic supply constraints.</p> <p>The recent positive development in Israel-Egypt relation enables Israel to purchase natural gas from Egypt. Natural gas reserves of Egypt can be considered as sufficient. This is also because Egypt may purchase natural gas from other Middle East countries. In addition, natural gas reserves have been discovered off the coast of Israel. Based on comparison of the natural gas demand and supply side as presented in the PDD and background investigation ^{/ISE/ /INS/} it can be concluded that natural gas reserves in region are able to supply demand of natural gas in Israel.</p> <p>For this reason the third applicability criterion including the provisions of the footnote 2 can be considered as fulfilled.</p>

CAR B.1 was raised under the context of Baseline applicability because the published PDD did not address the applicability condition of the methodology AM0029 version 1

Note 1 related to maximum auxiliary fuel consumption of 1%. CAR B1 was successfully closed out (ref Annex: Validation Protocol – Table 3).

Also CAR B2 was raised under this context because the natural gas demand had be also considered for an appropriate justification of the sufficient availability of natural gas in the region as per the third applicability criterion (and the note 2). CAR B2 was successfully closed out (ref Annex: Validation Protocol – Table 3).

4.2.2 Baseline Scenario Determination

A stepwise approach for the baseline determination has been carried out as per the methodology.

Step 1: Identification of plausible baseline scenarios

In accordance to the **Step 1** of the methodology following alternatives were analyzed:

- The project activity not implemented as a CDM project;
- Power generation using natural gas, but technologies other than the project activity;
- Power generation technologies using energy sources other than natural gas;
- Import of electricity from connected grids, including the possibility of new interconnections.

The project activity not implemented as a CDM project was correctly identified as a plausible baseline scenario.

Gas turbines without heat recovery and the **diesel generators** (gas engines) were analysed and correctly excluded as plausible baseline alternatives for power generation using natural gas, but technologies other than the project activity.

Gas turbines without heat recovery do not deliver the similar output as the project activity. This kind of technology is mainly used for the peak-load electricity generation ^{/IEA-CHP/,T-CHP/,T-GT/}. For this reason the exclusion of gas turbines without heat recovery deemed to be duly elaborated and appropriate.

Diesel generators (gas engines) are available mainly in a range of few kilowatts to over 5 MW capacities. Thus capacity of 205MW can be achieved only with a very high number (approx. 37) of installations. Diesel generators are mainly used for standby purposes, peak-load electricity generation and for hot water, low-pressure steam generation ^{/IEA-CHP/,T-CHP/,T-IC/}. For this reason it can be conducted that this type of technology does not deliver the similar output as the project activity. For this reason the exclusion of diesel generators deemed to be duly elaborated and appropriate.

Within the next step it was analyzed whether technologies with fuels other than natural gas can be considered as plausible baseline scenarios. Under this context **HFO-fired** power plant, **diesel-fired** co-generation combined cycle power plant and **renewable technologies** were examined

Diesel-fired power plant was correctly identified as a plausible baseline scenario.

As per the PDD there are no plans for construction of power plants based on HFO. For this reason **HFO-fired** power plants were excluded as plausible scenarios

In particular the results of the background investigation to verify this issue on this issue can be summarized as follows: While the share of diesel-fired power generation remained almost the same in the time period between 1995 and 2005 power generation based on fuel oil in Israel has a clear decreasing tendency^{/INS/, /MP/, IEA-S/}. The IEC - Israel's monopoly national utility that represents more than 99% of the total installed electrical capacity in Israel has no plans to add power generation capacity based on fuel oil^{/IEC/}. The installed IEC power generation capacity for HFO and coal power plants is expected to remain constant till 2011^{/IEC-IP//EIA-CA/}. HFO and diesel are expected to be used mainly as back up fuels for operational reasons^{/INS/, /MP/, IEA-S/}. For this reason the exclusion of HFO-fired power plants deemed to be duly elaborated and appropriate. It is also in line with information available from official data sources^{/IEC-IP/, /EIA-CA/, /IEA-S/, /INS/, /MEP/}.

Other power generation technologies like **wind, solar and other renewable** technologies were also correctly excluded as plausible baseline scenarios. These types of technologies cannot deliver output and services similar to the project activity (in particular steam). The first solar power facility is expected to become operational in 2008^{/EIA-CA/}. Israel's wind potential is also rather low and faces some additional difficulties with respect to location and grid connections^{/INS/}. Furthermore due to an unpredictable capacity renewable energy sources are not appropriate for the project activity. For this reason the exclusion of wind, solar and other renewable technologies deemed to be duly elaborated and appropriate.

The **Import of electricity** from neighbourhood grids was also correctly excluded as a plausible baseline scenario because Israel's grid is not interconnected.

Hence as per the PDD the three plausible baseline scenarios have been identified.

- The project activity not implemented as a CDM project (natural gas)
- Coal-fired power plant
- Diesel-fired power plant.

Step 2: Identification of the most attractive baseline scenario alternative

In accordance to the **Step 2** of the methodology, an investment analysis including the sensitivity analysis for all alternatives was carried out to identify the economically most attractive scenario out of the three plausible alternatives. The levelized power costs were correctly identified as a financial indicator and were calculated for all three alternatives within the investment analysis.

The calculation of the levelized power costs and the project IRR deemed to be duly elaborated. Assumptions the investment analysis is based on deemed to be appropriate. The conservative nature of the assumptions is justified in the PDD and deemed to be appropriate elaborated. In particular:

- Basic **technical design data** of the considered power generation technologies deemed to be appropriate elaborated and is also in line with other official and publicly available data sources ^{/TS//IEA CCT//IEA-FFFF/}.
- Basic **financial assumptions** in particular with respect to capital expenditures, and operating expenditures of the considered power generation technologies deemed to be appropriate elaborated and are also in line with other official and publicly available data sources ^{/IEA CCT//IEA-FFFF//T-GT//T-ST/}.
- Assumptions made with regard to the **fuel prices** as well as the development of the fuel prices are deemed to be appropriate and conservative. They are also in line with other official and publicly available data sources ^{/IEA-S//IEA/}.

Within the Step 2 of the methodology out of the three plausible baseline scenarios, the coal fired power plant has been identified as most economic attractive and thus as the most plausible baseline scenario.

CAR B3, CAR B4, CAR B5 CAR B6, and CAR B.7 as well as CR B.5 were raised under the context of the baseline determination and were successfully closed (ref Annex: Validation Protocol – Table 3.

4.2.3 Additionality Determination

The additionality of the considered project activity is addressed as per the approved methodology for large scale CDM projects, AM0029 Version 1. An **assessment of additionality that comprises 3 steps** was carried out under the section B.5 of the PDD.

Step 1: Benchmark investment analysis:

As per step 1 of the AM0029 the sub-steps 2b, 2c and 2d of the “Tool for the demonstration and assessment of additionality” (Version 4) were carried out and the results are presented in the PDD.

Sub-step 2b) Option III: Apply benchmark analysis:

To demonstrate that the proposed CDM project activity is unlikely to be financially attractive a benchmark analysis as per the Additionality Tool was carried out.

The **equity IRR** was identified as financial indicator. This is in line with the Additionality Tool Version 4.

The project participants elaborated the value of the benchmark based on the publicly available information for electric utilities and insured the conservativeness of the identified value through the benchmark values derived from the government bond rates increased by suitable risk premium as per Additionality Tool Version 4. As a result the equity IRR of 11,7% was correctly identified as the benchmark that represents the standard return in the market.

There is no publicly available official information about the financial benchmarks (neither for the Equity IRR, nor for the Project IRR) for independent power producers (IPPs) in Israel. This is mainly because the number of IPPs in Israel is very low. The independent power producers in Israel constitute approx. 0.7% of the installed generation capacity in Israel¹. Approximately 99% of the installed capacity belongs to the IEC - Israel's monopoly national utility.

The identified equity IRR of 11,7% has been elaborated as per Additionality Tool Version 4. The identified value deemed to be also in line (or in certain cases even below) the Equity IRRs values for power generation projects in other developing, Non-Annex-I countries like India and China which are available from official data sources. A sufficient confidence was gained that the equity IRR value was appropriately elaborated, conservative and thus in line with requirements of the Additionality Tool.

Sub-step 2c) Calculation and Comparison of financial indicators:

The **calculation and comparison of financial indicators** – the Internal Rate of Return on Equity - as per the sub-step 2c has been carried out in the supporting excel worksheets and the results are presented in the PDD. Financial indicators deemed to be appropriately computed.²

¹ Please refer to: <http://www.israel-electric.co.il/bin/en.jsp?enDispWhat=Zone&enZone=IRRIP&enDispWho=IRRIP&enPage=IRRWP&enDisplay=view&>

² The appropriateness of the investment analysis and assumption the analysis is based on has been already discussed under section 4.2.2 Baseline Scenario Determination of this report.

Sub-step 2d) Sensitivity analysis:

The **sensitivity analysis** of the Equity IRR for variation of fuel price and electricity tariffs was carried out as per the sub step 2d of the Additionality Tool. The variation fuel price and electricity tariffs in a range of +/-5% deemed to be conservative mainly because of the high correlation between these two parameters. For this reason sensitivity analysis of the Equity IRR value with regard to the variation of the relevant parameters in a range of +/- 5% deemed to be duly elaborated and appropriate.

The outcome of the Step 1 (benchmark investment analysis) is that financial indicator of the project activity is below the identified benchmark and for this reason cannot be considered as financially attractive. The financial indicator of the project activity - equity IRR – remains below the identified benchmark also after variation of the key parameter (fuel price and electricity price) within the sensitivity analysis.

Step 2: Common practice analysis

The **common practice analysis** as per the Step 4 of the Additionality Tool has been carried out and is presented in the PDD in the section B.5.

According to official and publicly available data sources of Israel's power sector the power generation in Israel is mainly based on Coal, HFO and Diesel^{/IEA-S//IEC-IP//IMS/}. Natural gas has been used for power generation since few years (approximately since 2004^{/IEA-S/}). Till 2004 there was almost no natural gas based power generation in Israel^{/INS/}. Institutional barriers and lack of infrastructure remain still significant barriers for using natural gas in the power sector^{/IEA-CA//BFAI/}.

Since 2004 natural gas power generation has an increasing tendency and constituted in 2005 11,5% to the total electricity generation in Israel. This is mainly ascribed to the increasing natural gas based power generation of the IEC -the Israel's monopoly national utility that represents more than 99% of the total installed electrical capacity in Israel. There is no publicly available statistics on the power generation by fuel of the independent power producers in Israel. However the share of the IPPs is very low. At the end of 2006 the total installed capacity of the IPPs was approximately 71 MW which definitely below the capacity of the proposed project activity^{/iec/}.

For this reason it can be concluded that natural gas based power generation has an increasing tendency but its share is still very low. The increase is mainly ascribed to the monopoly utility-IEC and not to independent power producers. Thus it can be concluded that natural gas based power generation has not diffused to a significant extent in this country³.

³ For further results of the background investigation carried out on this issue please refer also to section 4.2.2 of the Validation Report

Step 3: Impact of CDM registration

Subsequently the impact of CDM registration has been discussed in the section B.5. of the PDD. It was concluded that the CDM revenues raise the financial indicator (equity IRR) and make the project activity financially viable.

In addition, during the site visit the validation team found out that the registration of the project activity as a CDM project is a prerequisite to achieve financial closer. The project activity is in the initial planning stage and has not yet been commissioned. The financing of the proposed project activity significantly depends on the successful registration as a CDM project. Taking this also into account a sufficient confidence was gained that the incentive from the CDM is seriously considered in the decision to proceed with the project activity and thus the project activity can be considered as additional.

CAR B6, and CAR B.7 as well as CR B.5 were raised under the context of the additionality determination and were successfully closed (ref Annex: Validation Protocol – Table 3).

4.2.4 Calculation of GHG Emission Reductions

According to the final PDD the project is expected to reduce emissions of **5,782,430 tCO_{2e}** over the 10 years crediting period.

The calculation of the GHG emission reductions is carried out in the section B.6 of the PDD and supporting documents. The calculation is in line with the applied methodology and is presented in a complete and transparent manner. **Emission reductions** have been calculated as difference between the Baseline emissions, minus the project emissions and leakage.

The **project emissions** result from the on-site natural gas consumption. They are defined as the volume of natural gas combusted for electricity generation multiplied by an emission factor for natural gas.

The **baseline emissions** are calculated by multiplying the electricity generated in the project plant with a baseline emission factor. For the Baseline emission factor three options as per the methodology were calculated. The lowest emission factor out of the these three options – Combined margin - was applied for the baseline emissions calculation.

The **leakage** calculations haven been carried out in supporting excel sheets and presented under section B.6 of PDD. The leakage calculations were carried out in line with AM0029 requirements. The relevant parameters for fugitive methane emissions calculations deemed to be duly elaborated. In particular, emission factor for upstream fugitive methane emissions (EF_{BL, upstream, CH₄}) is calculated in a conservative manner in accordance with the methodology. CO₂ emissions from LNG were not considered because LNG will not be used in the project activity.

CR B1, and CR B2 as well as CR B.3 were raised under the context of the calculation of GHG Emission Reductions and were successfully closed out (ref Annex: Validation Protocol – Table 3).

4.2.5 Monitoring Methodology

The applied monitoring methodology is the approved methodology AM0029 (Version 1) entitled “Grid Connected Electricity Generation Plants using Non-Renewable and Less GHG Intensive Fuel”.

Since the same applicability criteria are to be applied as for the baseline methodology all criteria for applying the monitoring methodology are met (see 4.2.1).

4.2.6 Monitoring Plan

The monitoring plan is documented according to the applied methodology. It provides for the collection and archiving of all relevant data as listed in AM0029. The measurement equipment and the measurement methods are described in the monitoring plan and presented under section B.7.2 and the Annex 4 of the PDD.

According to the PDD all relevant GHG emissions will be measured continuously with appropriate and state of the art equipment. The procedure for calibration & maintenance of monitoring equipment are duly elaborated in the PDD.

The monitoring of all **baseline parameters** is sufficiently addressed in the PDD. Net electricity supplied by the project to the end user will be measured by the electricity meters. Billing to clients will be based on the reading of the electricity meters.

The **baseline emission** factor was identified out of three options as per the methodology. According to AM0029, if either option 1 (BM) or option 2 (CM) is selected, the baseline emission factor will be estimated ex post, according to the methods described in ACM0002. Relevant provisions under this context are addressed in the PDD.

Annual quantity of natural gas consumed in the project activity will be monitored to calculate the **project emissions**. For this purpose a Turbine meter and an Ultrasonic meter will be installed on each pipeline in order to verify and cross-check their readings.

For the purpose of the monitoring of **leakage** emissions the ex-post determination of the carbon emission factor of the electricity generated is necessary. As per the PDD the emission factor for upstream fugitive CH₄ emissions occurring in the absence of the project activity will be calculated consistent with the baseline emission factor. The carbon emission factor of the electricity generated will be carried out according to ACM0002 version 06 and AM0029 version 1.1.

Due to the early stage of the project implementation decisions which monitoring equipment will be installed have not yet been taken. Therefore not every applied measuring method is precisely settled at this stage of the project development. The

measurement equipment will be exactly specified in the final stage before the power plant will become operational. The issue was discussed during the site visit and sufficient confidence was gained that the project developer will

- a) meet the methodological requirements applicable for monitoring, as well as regulatory and permitting requirements and
- b) install latest state-of-the-art equipment for measurement, monitoring recording, reporting and control of data.

A Forward Action Request was raised (FAR B1) under this context because the project verifier needs to review the appropriateness of the installed equipment and to assure that the methodological and regulatory requirements are met as intended.

Furthermore CAR B8, CAR B9, CAR B10, CAR B11 and CAR B12 as well as CR B4 were raised under the context of the monitoring plan and were successfully closed out (ref Annex: Validation Protocol – Table 3).

4.2.7 Project Management Planning

The responsibilities for the project management are defined. Corresponding proposals between the project participant and the equipment supplier and fuel supplier exist.

The training of monitoring personnel is addressed in the PDD. As per PDD section B.7.2. details will be developed in the time before the project becomes operational. The issue was discussed during the site visit and sufficient confidence was gained that enough effort will be spent on this issue

No CARs/CRs were raised under this context.

4.2.8 Crediting Period

The intended fixed crediting period of the project is 10 years (2011 to 2020). As per the PDD the starting date of the crediting period is 01/01/2011.

The starting date of the project activity is estimated to be on 01/01/2009.

No CARs/CRs were raised under this context.

4.2.9 Environmental Impacts

The project activity complies with environmental legislation of Israel. Section D.2 of the PDD provides a sufficient analysis of the environmental impacts of the project activity.

An Environment Impact Assessment (EIA) is mandatory for all new power plants in Israel. An EIA was carried out by the project proponent. It is in line with the "Regulations for Planning and Construction (Environmental Impact Assessments), 2003"^{EIA/EIA}.

The environmental impacts has been sufficiently addressed in the PDD. Electricity generation from fossil fuel always leads to environmental impacts (esp. emissions of NO_x, noise, etc.). Nevertheless, esp. in comparison to the baseline scenario these effects can be assessed as comparatively low.

No CARs/CRs were raised under this context.

4.2.10 Comments by Local Stakeholders

According to the Israeli laws, prior the construction of a new power plant the concerns and or opposition perceived by the public has to be accounted for. The process to receive feedback from the public was carried out in line with Host Country requirements.

An information sheet was sent to local stakeholders including representatives of the local municipality, management of adjacent industry, representatives of environmental groups and local residents.

The website was open for comments for the time period of 30 days and the stakeholders were invited to submit their comments via e-mail address^{/LSC/}.

During the site visit sufficient evidence was provided to the validation team that no comment has been received within the stakeholder consultation process.

No CARs/CRs were raised under this context.

5 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

According to the modalities for the validation of CDM projects, TÜV NORD JI/CDM CP published the draft PDD on its website www.global-warming.de on 30 October 2007 and invited comments within 30 days, until 29 November 2007 by parties, stakeholders and UNFCCC accredited non-governmental organisations.

No comments were received. In case comments would have been received, they would have also been made publicly available on this web site.

6 VALIDATION OPINION

Integrated Energy Ltd has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the project: “Integrated Energy Ltd. Grid Connected Electricity Generation Plant using Natural Gas” with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords and the relevant decisions by COP/MOP and CDM Executive Board.

The project intends to reduce GHG emissions by reducing use of electricity generated in the Power Grid of Israel, which predominantly uses fossil fuels, by construction of a new grid-connected natural gas power plant, using co-generation technology with a capacity of approximately 205 MW.

In the course of the validation 18 Corrective Action Requests (CARs), 7 Clarification Requests (CRs) were raised and successfully closed. A Forward Action Request (FAR) was raised in view of the fact that the project verifier needs to review the appropriateness of the installed equipment and to assure that the methodological and regulatory requirements are met as intended.

The review of the project design documentation (Version2, dated January 7, 2008) and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarized as follows:

- The project is in line with all relevant host country criteria (Israel) and all relevant UNFCCC requirements for CDM. Project activity approval has been obtained from National CDM Authority as DNA of Israel vides the Host Government Approval (LOA-H) dated 19th September 2007.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 5,782,430 tCO₂e is most likely to be achieved within the 10 years (fixed) crediting period .

Essen, 2008-05-14



Rainer Winter

TÜV NORD JI/CDM Certification Program

Essen, 2008-05-14



Eric Krupp

7 REFERENCES

Table 7-1: Documents provided by the project proponent

Reference	Document
/EIA/	Environmental Impact Assessment Report for 400 MW Natural Gas Power Plant in AIPM, Hadera, carried out on 13.12.2005.
/EIA-I/	Instruction for preparation for of an Environmental Impact Assessment for a National Plan 2020 – Cogeneration power plant in AIPM.
/EGAE/	Electricity Generation from Alternative Energy in Israel
/EPA/	Environmental Footprints and costs of coal based integrated Gasification Combined Cycle and pulverized coal technologies. (U.S. Environmental Protection Agency EPA))
/GP/	Proof for natural gas price
/IA/	Investment analysis calculation sheets
/IRR/	Proof for the benchmark IRR
/INGL/	License to establish and operate the Delivery System to the company Israel National Gas Lines Ltd.
/License/	Permission of the production of electricity through cogeneration for Integrated Energy Ltd.
/LoA/	Letter of Approval
/LSC/	Proof of local stakeholder consultation process.
/MOC/	Modalities of communication
/MP/	Master Plan for the Energy Sector in Israel
/NGIL/	Natural Gas Industry Law of Israel, 2002

/NP/	National Plan 2020 of Israel. Cogeneration power plant on the grounds of AIPM in Hadera. Instructions of the plan.
/PED/	Projection of Energy Demand
/PDD/	<ol style="list-style-type: none"> 1. Project Design Document entitled “Integrated Energy Ltd Natural Gas Power Plant Project” Version 1 dated October 24, 2007. ”(hosted for public comments during 29/10/07 – 29/11/07. 2. Project Design Document entitled “Integrated Energy Ltd Natural Gas Power Plant Project” Version 2 dated January 7, 2008.
/PPA/	Standardized power purchased agreement with Israel Electric Corporation (IEC)
/PUA/	Public Utilities Authority, Electricity, State of Israel – Time frame for the calculation and validity of the electricity tariffs
/SC/	Proof of Stakeholder consultation process
/STD/	The proof of the international standards used by gas suppliers and transporters for production, processing/liquefaction, transmission of NG
/TS/	Technical specification and commercial proposal.
/XCS/	Supporting Excel calculation sheets of baseline & emission reduction.

Table 7-2: Background investigation and assessment documents

Reference	Document
/AM0029/	Baseline methodology for Grid-Connected Electricity Generation Plants using Natural Gas and Monitoring Methodology for Grid Connected Electricity Generation Plants using Non-Renewable and Less GHG Intensive Fuel. (Version 01.1: 19 May 2006)
/ACM 0002/	Consolidated methodology for grid-connected electricity generation from renewable sources (Version 06: 19 May 2006)
/AT/	Tool for the demonstration and assessment of additionality (Version 03).

Reference	Document
/BFAI/	Power generation in Israel. German Office for Foreign Trade.
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/EIA-CA/	Energy Information administration, Country Analysis, Eastern Mediterranean, October 2006 (available on internet: http://www.eia.doe.gov/emeu/cabs/East_Med/Background.html)
/GCP/	UNFCCC: Guidelines for completing CDM-PDD and CDM-NM (Version 06.1)
/GofFT/	The German Office for Foreign Trade, Background information on Electricity sector in Israel
/IEA-CHP/	International Energy Agency: Combined Heat und Power Evaluating the benefits of greater global investment
/IEACCT/	International Energy Agency: Clean Coal Technologies. 2008
/IEA-FFFP/-	International Energy Agency. Fossil Fuel-Fired Power Generation. Case studies of recently constructed coal- and gas-fired plants. Executive Summary. 2007
/IEA-S/	International Energy Agency, Energy Statistics
/IEC-IP/	Israel Electric Corporation, Investment Program
/IMS/	Israel National Study, Energy Efficiency and Renewable Energy, EcoEnergy Study, March 2, 2007 (http://www.planbleu.org/publications/atelier_energie/IL_National_Study_Final.pdf)
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPPC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories 2000.
/ISE/	Israel's experience in Sustainable Energy, Ministry of Environment of Israel, Jan. 2006
/MA/	Decision 17/CP. 7 (Marrakesh – Accords & Annex to decision 17/CP.7)

Reference	Document
/MNES/	Baseline Guidelines
/MEP/	Ministry for Environmental protection, The path toward sustainable development in Israel, 2007
/NATCOM/	National Communication to UNFCCC (Chapter 2 on NCV value)
/T-CHP/	Catalog of CHP Technologies. Environmental Protection Agency Climate Protection Partnership Division Washington, DC
/T-IC/	Technology Characterization: Reciprocating Engines Environmental Protection Agency Climate Protection Partnership Division Washington, DC
/T-GT/	Technology Characterization: Gas Turbines. Environmental Protection Agency Climate Protection Partnership Division Washington, DC
/T-ST/	Technology Characterization: Steam Turbines. Environmental Protection Agency Climate Protection Partnership Division Washington, DC
/VVM/	IETA, PCF Validation and Verification Manual (V. 4)

Table 7-3: Websites used

Reference	Link	Organisation
/bfa/	http://www.bfai.de/	The German Office for Foreign Trade
/cbs/	http://www1.cbs.gov.il/reader/ http://www.nrg.co.il/online/16/ART1/614/920.html	Central Bureau of Statistics
/dna-i/	http://www.sviva.gov.il/bin/en.jsp?enPage=e_BlankPage&enDisplay=view&enDispWhat=Zone&enDispWho=CDM_Designated_Authority&enZone=CDM_Designated_Authority	Israel Ministry of Environmental Protection
/eia/	http://www.eia.doe.gov/	Energy Information Administration
/iea/	http://www.iea.org/Textbase/country/n_country.asp?COUNTRY_CODE=IL	International Energy Agency, Country Information, Israel
/iec/	www.israel-electric.co.il	Israel Electric Corporation

Reference	Link	Organisation
/mge/	http://mg-wind.starwebz.com/	Mei Golan Wind Energy Ltd
/nmi/	http://www.mni.gov.il/mni/he-il/Energy/NaturalGas/NGGeneralData/NGMiddleEastReserves.htm	Ministry of National Infrastructure
/sph/	http://www.mni.gov.il/mni/he-il/Energy/Messages/SpokesmanEnergyConference.htm	Speech given by Minister Ben Eliezer at the Energy Conference, May 2007
/sur/	http://www.maalot.co.il/content.asp?PageId=229	Survey of the NG Sector in Israel. Conducted by Ma'a lot
/unfccc/	http://cdm.unfccc.int	UNFCCC
/usaid/	http://www.state.gov/g/oes/rls/or/2006/77196.htm	US department of state, Fact Sheet: Clean Coal Technology Ushers In New Era in Energy
/ynet/	http://www.ynet.co.il/articles/0,7340,L-3340910,00.html	Ynet News Service

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organisation / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Gabriel Kenan	Executive V.P. of AIPM
/IM01/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Shiri Pri-Tal	Economist of AIPM
/IM02/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Adi Dishon	CEO, EcoTraders Ltd.
/IM02/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Omer Tamir	Head of Engineering and Monitoring, EcoTraders Ltd.
/IM02/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Edith Molot	Senior Project Manager EcoTraders Ltd

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

Validation Protocol

ANNEX: VALIDATION PROTOCOL

Table 1: Mandatory Requirements for (CDM) Project Activities

Requirement	Reference	Conclusion
Parties		
The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3.	Kyoto Protocol Art.12.2	The project is a unilateral type. Annex 1 party will be identified in due time. The post registration involvement by Annex I party will be as per provisions (decision no 57) made in 18th EB meeting.
The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC.	Kyoto Protocol Art.12.2.	OK
The project shall have the written approval of voluntary participation from the designated national authority of each Party involved.	Kyoto Protocol Art. 12.5a, CDM Modalities and Procedures §40a	In the Letter of Approval dated 19 September 2007, the authorized representative of DNA for Israel under Kyoto Protocol authorized participation of the project developer in the proposed CDM project activity. As it is a unilateral project, there is no written approval of an annex I country
The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof.	Kyoto Protocol Art. 12.2, CDM Modalities and Procedures §40a	OK. The Letter of Approval was received from the Israel DNA for the proposed project activity. The Letter of Approval contains a confirmation that the proposed project activity contributes towards realization of Israel's sustainable development goals.
In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of	Decision 17/CP.7, CDM Modalities and Procedures Appendix B, § 2	As stated by the project participant, there are no Official Development Assistance for the project activity.

Requirement	Reference	Conclusion
these Parties.		
Parties participating in the CDM shall designate a national authority for the CDM.	CDM Modalities and Procedures §29	OK. The Israel DNA is the Ministry of Environmental Protection.
The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol.	CDM Modalities §30/31a	The host party (Israel) is party to Kyoto protocol. Israel ratified the Kyoto Protocol on 15/03/2004.
The participating Annex I Party's assigned amount shall have been calculated and recorded.	CDM Modalities and Procedures §31b	N/A
The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7.	CDM Modalities and Procedures §31b	N/A
Additionality		
Reduction in GHG emissions shall be additional to any that would occur in the absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity.	Kyoto Protocol Art. 12.5c, CDM Modalities and Procedures §43	OK.
Forecast emission reductions and environmental impacts		
The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.	Kyoto Protocol Art. 12.5b	OK

Requirement	Reference	Conclusion
Environmental impacts (only for large scale projects)		
Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	CDM Modalities and Procedures §37c	OK
Stakeholder involvement		
Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received.	CDM Modalities and Procedures §37b	OK
Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available.	CDM Modalities and Procedures §40	OK
Other		
The baseline and monitoring methodology shall be previously approved by the CDM Executive Board.	CDM Modalities and Procedures §37e	OK
A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances.	CDM Modalities and Procedures §45c,d	OK.
The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or	CDM Modalities and Procedures §47	N/A.

Requirement	Reference	Conclusion
due to force majeure.		
The project design document shall be in conformance with the UNFCCC CDM-PDD format.	CDM Modalities and Procedures Appendix B, EB Decision	OK. The latest PDD format (Ver 03.1) has been used.
Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP.	CDM Modalities and Procedures §37f	OK.
Issues related to the project implementation which are to be reviewed during the first verification should be identified during the validation.		One FAR was raised in the course of the validation.
Requirements for small-scale projects only		
The proposed project activity shall meet the eligibility criteria for small scale CDM project activities set out in § 6 (c) of the Marrakech Accords and shall not be a debundled component of a larger project activity.		N/A
The proposed project activity shall confirm to one of the project categories defined for small scale CDM project activities and use the simplified baseline and monitoring methodology for that project category.		N/A
If required by the host country, an analysis of the environmental impacts of the project activity is carried out and documented.		N/A

Table 2: Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity <i>The project design is assessed.</i>					
A.1. Project Boundaries <i>Project Boundaries are the limits and borders defining the GHG emission reduction project.</i>					
A.1.1. Are the project's spatial boundaries (geographical) clearly defined?	/PDD/ (A.4) /EIA/	DR	The Integrated Energy power plant is located in the Hadera industrial zone, Haifa Region. Israel. The co-ordinates of the project are 32°27'10 N and 35°54'55 E. Full address of the power plant should be provided. (CR A1)	CR A1	OK
A.1.2. Are the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	/PDD/ (B.3) /IM01/	DR, I	The system boundaries of the project are clearly defined. The spatial extent of the project boundary includes the project site, and all the power plants connected physically to the baseline Grid (i.e. National grid of Israel).	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A.2. Participation Requirements <i>Referring to Part A, Annex 1 and 2 of the PDD as well as the CDM glossary with respect to the terms Party, Letter of Approval, Authorization and Project Participant.</i>					
A.2.1. Which Parties and project participants are participating in the project?	/PDD/ (A.3)	DR	<p>The project is a unilateral project involving Israel (Host Country). The project developer is the Integrated Energy Ltd. Limited. The CDM manager and consultant is EcoTraders Ltd.</p> <p>Annex 1 party will be identified in due time. The post registration involvement by Annex I party will be as per provisions (decision no 57) made in 18th EB meeting.</p>	OK	
A.2.2. Have all involved Parties provided a valid and complete letter of approval and have all private/public project participants been authorized by an involved Party?	/PDD/ A.3) /HCA/ /IM01/	DR, I	<p>Yes, the Israel DNA with the Letter of Approval dated 19 September 2007 authorizes both Integrated Energy Ltd. and EcoTraders Ltd. As it is a unilateral project, there is no written approval of an Annex I country.</p> <p>The Host Country Approval indicates a slightly different title of the Project Activity. It should be adjusted in the PDD. Section A.1. should provide the same title of the project activity. CR A2 was raised under this context.</p>	CR A2	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
<p>A.2.3. Do all participating Parties fulfil the participation requirements as follows:</p> <ul style="list-style-type: none"> – Ratification of the Kyoto Protocol – Voluntary participation – Designated a National Authority 	<p>/PDD/ /LoA/ /dna-i/ /unfccc/</p>	DR,	<p>Yes. Israel (Non-Annex I) as a host fulfils the relevant participation requirements.</p> <p>Israel has ratified Kyoto Protocol in February 2004. Israel participates voluntary in CDM and established the Designated National Authority.</p>	OK	
<p>A.2.4. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance.</p>	<p>/PDD/ (A.4.5) /TS/ /IM01/</p>	DR, I	The project does not involve any public funding from Annex 1 country.	OK	
<p>A.3. Technology to be employed</p> <p><i>Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.</i></p>					
<p>A.3.1. Does the project design engineering reflect current good practices?</p>	<p>/PDD/ (A.2., A.4.3. (Section D)</p>	DR, I	Yes. The project activity involves the installation of the natural gas based grid connected power plant using cogeneration technology. The project activity intends to incorporate the latest/state-of-the-art cogeneration technology. The power plant will consist of two gas turbines heat recovery boiler and a steam turbine.		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	/IM01/ /TS/ /SC/		<p>The power plant will be capable to produce the steam flow at requested pressure and temperature to be exported to the AIPM production facilities. The expected net electrical capacity of the power plant is 205 MW.</p> <p>The generated electricity will be sold to AIPM and private consumers. There is also an option to sell the generated electricity to Israel Electric Company (IEC).</p> <p>The CAR A1 was raised because the technical configuration of the proposed project activity was not exactly specified in the PDD.</p>	CAR A1	OK
A.3.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	/PDD/ (A.2, A.4.3.) /IM01/ /TS/	DR,I	<p>The project activity intends to incorporate the latest/state-of-the-art natural gas based cogeneration technology.</p> <p>The project activity is expected to meet international standards for environmental quality and safety. Commonly used power generation technologies in Israel are coal based and/or do not make use of a cogeneration. For this reason, the project activity would result in a less carbon intensive electricity generation in Israel.</p> <p>However the section A.4.3. should include a description of how environmentally safe and sound is the used technology. CAR A2 was raised under this context.</p>	CAR A2	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A.3.3. Does the project make provisions for meeting training and maintenance needs?	/PDD/ /IM01/	DR,I	As per the PDD, training and maintenance procedures related to this technology will be provided by project owner and manufacturer in the time before the power plant has become operational. The issue was discussed during the site visit. Sufficient confidence was gained that enough effort will be spent on this issue.	OK	
A.4. Contribution to Sustainable Development <i>The project's contribution to sustainable development is assessed.</i>					
A.4.1. Has the host country confirmed that the project assists it in achieving sustainable development?	LoA/ /dna-i/	DR,	In the Letter of Approval dated 19 September 2007 from DNA of Israel it is confirmed that the project contributes to sustainable development in Israel. Please refer also to CR A2	CR A2	OK
A.4.2. Will the project create other environmental or social benefits than GHG emission reductions?	PDD, A-2., /IM01/ /LoA/		Yes, the project activity is expected to have positive effects on the employment situation and the socio-economic well being. The project activity will also have significantly lower NOx emissions due to use of advanced burner technology. Apart from GHG emission reduction, contribution to meet the gap between electricity supply & demand in Israel will be achieved.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
Small scale project activity <i>Is it assessed whether the project qualifies as small-scale CDM project activity</i>					
A.4.3. Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 17/CP.7 on the modalities and procedures for the CDM?		PDD, A.4.2	N/A. This is a large scale project	--	
A.4.4. Is the small scale project activity not a debundled component of a larger project activity?		PDD, A.4.2	N/A. This is a large scale project	--	
A.5. General Topics					
A.5.1. Has the PDD been duly filled?	/PDD/	DR	<p>The PDD is as per CDM- PDD version 03.1.</p> <p>The indicated crediting period as well as annual estimation of emission reductions in section A.4.4. should be corrected. (CAR A3)</p> <p>Under section B.1 in the PDD the references to any methodologies or tools which the approved methodology draws upon should be indicated. (CAR A4).</p> <p>The reference of the 'Tool for demonstration assessment and of additionality' version 02 is given the section B.5. of the PDD should be</p>	<p>CAR A3</p> <p>CAR A4</p> <p>CAR A5</p>	<p>OK</p> <p>OK</p> <p>OK</p>

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			corrected. (CAR A5) Information on participants of the project activity provided in Annex 1 of the PDD is not complete. Details of Annex 1 should be completed. (CAR A6)	CAR A6	OK
A.5.2. Has all necessary information been made available to the validator?	/PDD/ /IM01/ /IM02/	DR, I	Yes, all necessary information has been made available to the validation team during the site visit.	OK	
B. Project Baseline <i>The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.</i>					
B.1. Baseline Methodology <i>It is assessed whether the project applies an appropriate baseline methodology.</i>					
B.1.1. Does the project apply an approved methodology and the correct version thereof?	/PDD/ (B.1, B.4) /AM0029/	DR	Yes, the project applies the baseline methodology AM0029 Version 1: "Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas".		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.1.2. Are the applicability criteria in the baseline methodology all fulfilled?	/PDD/ (B.2.) /IM02/ /Appendix- 1,2/ /IM01/ /MEP/ /IMS/ /IEC-IP/ /EIA-CA/ /IEA/ /EIA/ /MPBFA	DR,I	<p>The baseline methodology AM0029 was developed for project activities that involve construction and operation of a new natural gas fired grid-connected power plants.</p> <p>Project activity encompasses construction of a new natural gas fired CCGT power plant as per the first applicability criterion.</p> <p>Nevertheless, the PDD does not address the applicability condition of the methodology AM0029 version 1 Note 1 related to maximum auxiliary fuel consumption of 1%. CAR B1 was raised under this context.</p> <p>The boundaries of the Israel's grid can be considered as the boundaries of the baseline grid because the Israel grid is not interconnected and there are no electricity imports from neighbourhood countries. Furthermore, the information pertaining to the grid and estimating baseline emissions is available from Israel Electric Corporation (IEC). For these reasons, the second applicability criterion deemed to be fulfilled.</p> <p>The recent positive development in Israel-Egypt relation enables Israel to purchase natural gas from Egypt. Natural gas reserves of Egypt can be considered as sufficient. This is also because Egypt may purchase natural gas from other Middle east countries. In addition, natural gas reserves</p>	CAR B1	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			have been discovered off the coast of Israel. Nevertheless, the natural gas demand should be also considered for an appropriate justification of the sufficient availability of natural gas in the region as per the third applicability criterion (and the note 2). CAR B2 was raised under this context.	CAR B2	OK
B.2. Baseline Scenario Determination <i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i>					
B.2.1. What is the baseline scenario?	/PDD/ (B.2., B.4) /IM02/ /XCS/	DR,I	The baseline scenario identified by project participant is the installation and construction of a coal-fired power plant. Refer also to CAR A1.	CAR A1	OK
B.2.2. What other alternative scenarios have been considered and why is the selected scenario the most likely one?	/PDD/ (B.2., B.4) /IM02/ /XCS/	DR,I	The baseline scenario identified by project participant is the installation and construction of a coal-fired power plant. In addition, project activity without CDM was identified as a plausible baseline scenario.		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	/EPA/ /MEP/ /IMS/ /IEC-IP/ /EIA-CA/ /IEA/ /EIA/ /MPBFA		<p>Alternative 1:</p> <p>Project activity not implemented as a CDM project was identified as a plausible baseline scenario.</p> <p>Efficiency value in the PDD section B.4. alternative 'a' (70-80 %) should be consistent with the technical configuration of the project activity. (CAR B3)</p> <p>Alternative 2:</p> <p>The next alternative to be analyzed according to the methodology is the power generation based on natural gas but with technologies other than the project activity.</p> <p>According to the PDD diesel generators as well as gas turbines without heat recovery were excluded as a plausible baseline scenario because this kind of technology generates only electricity and not the steam and thus, does not deliver the similar output.</p> <p>Nevertheless, the justification for exclusion of other natural gas based technologies under "Option b)" needs a more detailed elaboration. In particular, with regard to other technologies e.g. gas fired boiler with a steam turbine. CAR B4 was raised under this context.</p>	CAR B3	OK
				CAR B4.	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			<p>Alternative 3:</p> <p>The next alternative to be analyzed is the power generation with technologies using fuels other than natural gas.</p> <p>Within this alternative a coal-fired power plant was correctly identified as a plausible baseline scenario.</p> <p>As per PDD HFO and diesel power plants were excluded as plausible scenarios because there are no plans for construction of power plants based on these fuels.</p> <p>CAR B5 was raised under this context because this argument needs a more detailed elaboration.</p> <p>Other power generation technologies like wind, solar and other renewable technologies were excluded because they cannot deliver output and services similar to the project activity (in particular the steam). Furthermore, due to an unpredictable capacity renewable energy sources are not appropriate for the project activity and are not a realistic baseline scenario.</p>	CAR B5	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			<p>Alternative 4</p> <p>As per PDD Import of electricity from neighbourhood grids was excluded as a plausible baseline scenario because Israel's grid is not interconnected.</p> <p>As per the PDD the two plausible baseline scenarios have been identified. Out of the two plausible baseline scenarios, the coal fired power plant has been identified as most economic attractive and thus as the most plausible baseline scenario.</p> <p>Under this context, CAR B6 and CAR B7 were raised because the justification for selected values and parameters within the sensitivity analysis was not provided. Furthermore, financial calculation should be corrected with regard to tax calculation and assumption of fuel price development over the project lifetime. Please refer also to CR B5</p> <p>Conclusion whether the selected scenario is the most likely one can be provided after successful closure the CARs raised under this context.</p>	<p>CAR B6</p> <p>CAR B7</p> <p>CR B5</p>	<p>OK</p> <p>OK</p> <p>OK</p>
B.2.3. Has the baseline scenario been determined according to the methodology?	/PDD/ (B.4.)	DR	<p>The stepwise approach for the baseline determination has been carried out.</p> <p>Within the step 1 of the methodology, the plausible baseline scenarios were identified.</p> <p>Within the step 2 of the methodology, the most</p>	<p>CAR B3,</p> <p>CAR B4,</p>	<p>OK</p> <p>OK</p>

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			<p>economically attractive scenario was selected as a most plausible baseline scenario. Furthermore, the levelized power costs were correctly identified as a financial indicator and the investment analysis including the sensitivity analysis has been carried out as per the methodology.</p> <p>However, conclusion whether the selected baseline scenario is the most plausible alternative to project activity can be provided after successful closure of the relevant CARs. Please also refer to the comments made under section B.2.1 and B.2.2.</p>	CAR B5 CAR B6 CAR B7 CR B5	OK OK OK OK
B.2.4. Has the baseline scenario been determined using conservative assumptions where possible?	/PDD/ (B.4.)	DR	Conclusion whether the baseline scenario been determined using conservative assumptions can be provided after successful closure the CARs raised under this context. Please also refer to the comments made under section B.2.1 and B.2.2.	CAR B3, CAR B4, CR B5 CAR B6 CAR B7 CR B5	OK OK OK OK OK OK
B.2.5. Does the baseline scenario sufficiently take into account relevant	/PDD/ (B.5)	DR I	Yes, the section B.5 of PDD provides the relevant national and sectoral policies adopted by the	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
national and/or sectoral policies, macro-economic trends and political aspirations?	/PED/ /MP/ /NGIL/ /INGL/ /dna-i/ /IM01/ /IM02/		Israeli government for the introduction of the NG to the industrial sector.		
B.2.6. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	/PDD/ (B.5) /EPA/ /NP/ /PED/ /EGAE/ /MP/ /IM02/	DR I	<p>Yes, the considered baseline scenario is based on the data provided by Israel official data sources. These data sources are clearly indicated in the PDD. They are available and/or were provided during the site visit.</p> <p>For the data available only in Hebrew a translation of the relevant passages was provided.</p> <p>Please also refer to the comments made under section B.2.1 and B.2.2.</p>	CAR B3, CR B5 CAR B4, CR B5 CAR B6 CAR B7	OK OK OK OK OK OK
B.2.7. Have the major risks to the baseline been identified?	/PDD/ (B.4.)	DR	All CARs/ CRs raised in the context of baseline scenario selection in above section are to be resolved before providing the conclusion.	CAR A1,	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			Please also refer to the section B.2.1	CAR B3, CAR B4, CR-B5 CAR B5 CAR B6 CAR B7	OK OK OK OK OK OK
B.3. Additionality Determination <i>The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.</i>					
B.3.1. Is the project additionality assessed according to the methodology?	/PDD/ (B.5.) /AM0029/	DR	<p>Yes, the project additionality is addressed as per the approved methodology for large scale CDM projects, AM0029 Version 1.</p> <p>An assessment of additionality that comprises 3 steps was carried out under the section B.5 of the PDD.</p> <p>As per step 1 of the AM0029 the sub-steps 2b, 2c and 2d of the "Tool for the demonstration and</p>	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			assessment of additionality" (Version 3) have been considered. As per step 2 of the AM0029 the common practice analysis have been carried out in accordance with the "Tool for the demonstration and assessment of additionality" (Version 3). Subsequently the impact of CDM registration have been considered as per step 3 of the AM0029.		
B.3.2. Are all assumptions stated in a transparent and conservative manner?	/PDD/ (B.5.) /IM01/ /IM02/ /IA/ /IRR/ /PUA/ /IEC/ /TS/	DR I	The relevant assumptions for additionality assessment are indicated under section B.5 of the PDD. The justification for selected values and parameters within the sensitivity analysis should be provided (CAR B6). Financial calculation should be corrected with regard to tax calculation and assumption of fuel price development over the project lifetime.	CAR B6 CAR B7 CR-B5	OK OK OK
B.3.3. Is sufficient evidence provided to support the relevance of the arguments made?	/PDD/ (B.5.) /IM01/ /IA/ /IRR/ /PUA/	DR I	Yes, all relevant data sources and information were provided to the validation team during the site visit to support the relevance of the arguments made.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	/IEC/ /TS/ /GP/				
B.3.4. If the starting date of the project activity is before the date of validation, has sufficient evidence been provided that the incentive from the CDM was seriously considered in the decision to proceed with the project activity?	/PDD/ (B.5.) /IM01/	DR, I	<p>The project activity has not yet been commissioned – the starting date of the project is not before the date of validation.</p> <p>Furthermore, during the site visit the validation team found out that the financing of the proposed project activity significantly depends on the successful registration as a CDM project.</p> <p>Thus, the incentive from the CDM was seriously considered in the decision to proceed with the project activity.</p>	OK	
B.4. Calculation of GHG Emission Reductions – Project emissions <i>It is assessed whether the project emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>					
B.4.1. Are the calculations documented according to the approved	/PDD/ (B.6.)	DR,I	Yes, the calculation of project emissions was carried out according to the methodology and		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
methodology and in a complete and transparent manner?	/AM0029/ /ACM0002/ /XCS/ /IM02/		documented in a complete and transparent manner under section B.6 of the PDD. Project emissions result from the on-site natural gas consumption. There is a minor discrepancy between the quantity of fuel to be consumed by the power plant indicated in financial calculation and in the emission reduction calculation sheet.	CR-B1	OK
B.4.2. Have conservative assumptions been used when calculating the project emissions	/PDD/ (B.6.)	DR	Please refer comments made under section B.4.1	CR-B1	OK
B.4.3. Are uncertainties in the project emission estimates properly addressed?	/PDD/ (B.6.)	DR	Please refer comments made under section B.4.1	CR-B1	OK
B.5. Calculation of GHG Emission Reductions – Baseline emissions <i>It is assessed whether the baseline emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>					
B.5.1. Are the calculations documented according to the approved methodology and in a complete and transparent manner?	/PDD/ (B.6.) /CBS/	DR	The baseline emissions are a product of the electricity generated in the project plant and the baseline emission factor as per methodology.		

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	/AM0029/ /ACM0002/ /XCS/ /IEC/		The calculation of the baseline emissions was carried out according to the methodology and documented in the section B.6 of the PDD. Conclusion whether the calculations have been documented according to the approved methodology can be provided after successful closure the CRs (CR B2 and CR B3) raised under this context.	CR-B2 CR-B3	OK OK
B.5.2. Have conservative assumptions been used when calculating the baseline emissions	/PDD/ (B.6.) /CBS/ /AM0029/ /ACM0002/ /XCS/ /IM02/	DR,I	Please refer comments made under sections B.5.1	CR-B2 CR-B3	OK OK
B.5.3. Are uncertainties in the baseline emission estimates properly addressed?	/PDD/ (B.6.) /CBS/ /AM0029/ /ACM0002/ /XCS/ /IM02/	DR I	Please refer comments made under sections B.5.1 and B.5.2.	CR-B2 CR-B3	OK OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.6. Calculation of GHG Emission Reductions – Leakage <i>It is assessed whether leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>					
B.6.1. Are the leakage calculations documented according to the approved methodology and in a complete and transparent manner?	/PDD/ (B.6.) /CBS/ /AM0029/ /XCS/ /IM02/ /STD/	DR I	<p>The leakage calculations are presented under section B.6 of PDD and are in line with AM0029. CO₂ emissions from LNG were not considered because LNG will not be used in the project activity.</p> <p>The relevant parameters for fugitive methane emissions calculations are duly elaborated. In particular, emission factor for upstream fugitive methane emissions (EF_{BL, upstream, CH4}) is calculated in a conservative manner in accordance with the methodology.</p>	OK	
B.6.2. Have conservative assumptions been used when calculating the leakage emissions?	/PDD/ (B.6.) /AM0029/ /XCS/ /STD/	DR	Please refer comments made under section B.6.1	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.6.3. Are uncertainties in the leakage emission estimates properly addressed?	/PDD/ (B.6.) /CBS/ /AM0029/ /XCS/ /STD/	DR	Please refer comments made under section B.6.1	OK	
B.7. Emission Reductions <i>The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.</i>					
B.7.1. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change.	/PDD/ (B.6.)	DR	The CARs/CRs given in section B have to be closed satisfactorily before forming an opinion.	Not OK	OK
B.8. Monitoring Methodology <i>It is assessed whether the project applies an appropriate baseline methodology.</i>					
B.8.1. Is the monitoring plan documented according to the approved methodology and in a complete and transparent manner?	/PDD/ (B.7.) /CBS/ /AM0029/ /XCS/	DR I	Yes, the monitoring plan includes all monitoring parameters as listed in AM0029— except PE _y . CAR B8 was raised under this context. Nevertheless the parameters EF _{CO2,fy} and OXID _f should be transferred from chapter 6.2 to 7.1. (CAR B9).	CAR B8 CAR B9	OK OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	/IM02/ /STD/ /IM02/		<p>Furthermore the following has to be rectified.</p> <p>a) The source of data for NCV_{fy} should be identified unambiguously – or if not possible the preferences have to be indicated.</p> <p>b) The section “description of measurement methods” should be completed for all parameters to be measured.</p> <p>c) The unit is missing for the values given in the table in context of EGPJ,y. CAR B10 was raised under to this context.</p> <p>As per the PDD, the details of the operation and maintenance procedures for the equipment to be installed will be exactly specified in due time before the power plant will become operational.</p> <p>Though confidence was gained that the project developer will a) meet the methodological requirements applicable for monitoring, as well as regulatory and permitting requirements and b) install latest state-of-the-art equipment for measurement, monitoring recording, reporting and control of data, this could not be verified during the validation. Therefore the project verifier needs to review the appropriateness of the installed equipment and to assure that the methodological and regulatory requirements are met as intended. A corresponding FAR was raised (FAR B1)</p>	CAR B10	OK
				FAR B1	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.8.2. Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance of CERs, for this project activity, whichever occurs later?	/PDD/ (B.7.) /AM0029/	DR	Yes, archival period indicated under section B.7.1. of the PDD is in line with the methodology.	OK	
B.9. Monitoring of Project Emissions <i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i>					
B.9.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/PDD/ (B.7.) /AM0029/ /TS/ /STD/ /IM01/ /IM02/	DR I	see B.8.1 and B.8.2	CAR B8 CAR B9 CAR B10 FAR B1	OK OK OK OK
B.9.2. Are the choices of project GHG indicators reasonable and conservative?	/PDD/ (B.7.)	DR	The major indicator for the project emissions is FC _y . This parameter is measured continuously.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	/AM0029/				
B.9.3. Is the measurement method clearly stated for each GHG value to be monitored and deemed appropriate?	/PDD/ (B.7.) /AM0029/	DR	Due to the early stage of the project implementation decisions which monitoring equipment will be installed have not yet been taken. Therefore not every applied measuring method is settled at this stage of the project development. Nevertheless all instrumentation to be implemented has to meet the high quality standards applicable esp. for gas quantity measurement in Israel if the measured values are used for invoicing.	OK	
B.9.4. Is the measurement equipment described and deemed appropriate?	/PDD/ (B.7.) /AM0029/ /STD/	DR	Please refer to section B.9.3.	OK	
B.9.5. Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	/PDD/ (B.7.) /AM0029/ /NGIL/ /INGL/	DR	Under the section B.7. and Annex-4 of the PDD of the PDD, the measurement accuracy is addressed. However, the accuracy of the monitoring equipment can only be specified in a later stage of the project development. The issue was discussed during the site visit and sufficient confidence was gained that enough effort will be spent on this issue. Please refer to section B.9.3. and the FAR B1	FAR B1	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.9.6. Is the measurement interval identified and deemed appropriate?	/PDD/ (B.7.) /AM0029/ /NGIL/ /INGL/	DR	Yes, under section B.7 and annex-4 of PDD the measuring intervals are duly elaborated. The information given can be assessed as appropriate.	OK	
B.9.7. Is the registration, monitoring, measurement and reporting procedure defined?	/PDD/ (B.7.) /AM0029/ /NGIL/ /INGL/ /STD/	DR	In the section B.7. and annex-4 of the PDD monitoring, measurement and reporting procedures have been addressed. However, the measurement equipment will be exactly specified in the final stage before the power plant will become operational. The issue was discussed during the site visit and sufficient confidence was gained that enough effort will be spent on this issue. Please refer to section B.9.3. and the FAR B1	FAR B1	OK
B.9.8. Are procedures identified for maintenance of monitoring equipment and installations? Are the calibration intervals being observed?	/PDD/ (B.7.) /AM0029/ /IM01/ /NGIL/ /INGL/ /STD/	DR, I	In the annex-4 of the PDD provisions regarding maintenance of monitoring equipment and intervals between calibrations are addressed and deemed appropriate. Please refer to section B.9.3. and the FAR B1	FAR B1	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.9.9. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/PDD/ (B.7.) /MP/ /AM0029/ /NGIL/ /INGL/ /STD/ /IM01/	DR I	The section B.7.2 and annex-4 of the PDD provide procedures for day to day monitoring and record of the project emissions. However, the procedures for day-to-day record handling will be exactly implemented during a later stage of the project development. Please refer to section B.9.1. and the FAR B1	FAR B1	OK
B.10. Monitoring of Baseline Emissions <i>It is established whether the monitoring plan provides for reliable and complete baseline emission data over time.</i>					
B.10.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?	/PDD/ (B.7.) /AM0029/ /TS/ /IM01/ /IM02/ /PPA/ /IEC/	DR I	The generated electricity will be monitored as an essential feature of the power plant. The measured data will be recorded and archived at least as per the requirements of the monitoring plan. Nevertheless the monitoring plan should ensure, that only the net production of electricity is considered, for baseline emission calculation. The calculation standard for the net production should also be mentioned, if available.	CAR B11	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			The applicable grid emission factor has to be determined on the basis of ACM0002 for which all data can be achieved from publicly available sources.		
B.10.2. Are the choices of baseline GHG indicators reasonable and conservative?	/PDD/ (B.7.) /AM0029/	DR	Yes, see 10.1. To calculate the grid emission factor option 2 (CM) has delivered the lowest value so that baseline emission results based on this value can be assessed as conservative.	OK	
B.10.3. Is the measurement method clearly stated for each baseline indicator to be monitored and also deemed appropriate?	/PDD/ (B.7.) /AM0029/	DR	Please refer also comments made under section B.8.1.	CAR B8 CAR B9 CAR B10 FAR B1	OK OK OK OK
B.10.4. Is the measurement equipment described and deemed appropriate?	/PDD/ (B.7.)	DR	The measurement equipment regarding the monitoring of baseline emissions deemed to be duly elaborated and appropriate.	FAR B1	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
	/AM0029/ /NGIL/ /INGL/ /TS/ /IEC/		Under section B.7 and of the PDD, provisions were made for the measurement of the amount of electricity generated in the project activity and exported to the third party (e.g. one or more electricity gauges). However, details of the electricity meters to be installed will be settled at a later stage of the project realisation.		
B.10.5. Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	/PDD/ (Annex-4) /AM0029/ /NGIL/ /INGL/ /IEC/	DR	The accuracy of the envisaged electricity meters or the corresponding legal requirements should be specified in the PDD (section 7.2) Please refer to section B.9.1. and the FAR B1	CR B12	OK
B.10.6. Is the measurement interval for baseline data identified and deemed appropriate?	/PDD/ (B.7.) /AM0029/	DR	Yes, the electricity generated will be measured continuously.	OK	
B.10.7. Is the registration, monitoring, measurement and reporting procedure defined?	/PDD/ (B.7.) /AM0029/	DR	Though electricity metering is an essential feature of the project performance monitoring and not only used for CDM purposes the PDD should include – if possible - a more detailed description of the measurement, registration and reporting procedure esp. w.r.t. data integration intervals and data handling in case of measurement downtimes. (CR B4)	CR B4	OK

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
B.10.8. Are procedures identified for maintenance of monitoring equipment and installations? Are the calibration intervals being observed?	/PDD/ (B.7.) /AM0029/	DR	Electricity meters will be calibrated annually as per annex 4 of the PDD. This interval is assessed to be appropriate.	OK	
B.10.9. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	/PDD/ (B.7, Annex-4) /AM0029/	DR	See 10.7	FAR B1	OK
B.11. Monitoring of Leakage <i>It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.</i>					
B.11.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/PDD/ (B.7.) /AM0029/ /XCS/	DR	<p>Yes, the monitoring plan of the fugitive methane emissions is elaborated in accordance with the methodology and deemed appropriate.</p> <p>CO₂ emissions from LNG were not considered because LNG will not be used in the project activity.</p> <p>The relevant parameters for fugitive methane emissions calculations are duly elaborated. In particular, emission factor for upstream fugitive methane emissions (EF_{BL, upstream, CH4}) is calculated in a conservative manner and according to the</p>	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			methodology..		
B.11.2. Are the choices of project leakage indicators reasonable and conservative?	/PDD/ (B.7.) /AM0029/ /XCS/	DR	Yes, please refer comments made under section B.11.1	OK	
B.11.3. Is the measurement method clearly stated for each leakage value to be monitored and deemed appropriate?	/PDD/ (B.7.) /AM0029/ /XCS/	DR	Yes, please refer comments made under section B.11.1	OK	
B.12. Monitoring of Sustainable Development Indicators/ Environmental Impacts <i>It is assessed whether choices of indicators are reasonable and complete to monitor sustainable performance over time.</i>					
B.12.1. Is the monitoring of sustainable development indicators/ environmental impacts warranted by legislation in the host country?	/PDD/ (B.7.) /dna-i/ /LoA/	DR	For the measures implemented under the project activity, Israel does not require the monitoring of sustainable development indicators/ environmental impacts.	OK	
B.12.2. Does the monitoring plan provide for the collection and archiving of relevant data concerning environmental, social and economic	/PDD/ (B.7.) /dna-i/	DR	Please refer comments made under section B.12.1.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
impacts?	/LoA/				
B.12.3. Are the sustainable development indicators in line with stated national priorities in the Host Country?	/PDD/ (B.7.) /LoA/ /dna-i/	DR	The proposed project activity received the Host Country Approval. The Host Country Approval indicates a slightly different title of the Project Activity. It should be adjusted in the PDD. Section A.1. should provide the same title of the project activity	CR-B3	OK
B.13. Project Management Planning <i>It is checked that project implementation is properly prepared for and that critical arrangements are addressed.</i>					
B.13.1. Is the authority and responsibility of overall project management clearly described?	/PDD/ /TS/ /IM01/	DR, I	Please refer comments made under section A.3.3.	OK	
B.13.2. Are procedures identified for training of monitoring personnel?	/PDD/ (B.7.) /TS/ /IM01/	DR	The training of monitoring personnel is addressed in the PDD. As per PDD section B.7.2. details will be developed in the time before the project becomes operational. The issue was discussed during the site visit and sufficient confidence was gained that enough effort will be spent on this issue.	OK	
B.13.3. Are procedures identified for	/PDD/	DR, I	Unintended emissions are not foreseeable in the	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
emergency preparedness for cases where emergencies can cause unintended emissions?	(B.7.) /TS/ /IM01/		framework of the regular project performance.		
B.13.4. Are procedures identified for review of reported results/data?	/PDD/ (B.7.) /TS/ /IM01/	DR, I	The procedures for handling and reviewing of the data have been sufficiently described in the PDD section B.7.	OK	
B.13.5. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?	/PDD/ (B.7.) /TS/ /IM01/	DR, I	Procedures are not yet defined, nevertheless they are under purview of the designated on-site engineer.	OK	
C. Duration of the Project/ Crediting Period <i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
C.1. Are the project's starting date and operational lifetime clearly defined and evidenced?	/PDD/ (C.1.) /TS/ /IM01/	DR,I	Yes, starting date of the project activity is 2010.07.01 and the operational lifetime is 20 years.	OK	
C.2. Is the start of the crediting period clearly defined and reasonable?	/PDD/ (C.1.) /TS/ /IM01/	DR, I	Yes, the crediting period will start after the power plant has become operational.	OK	
D. Environmental Impacts <i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.</i>					

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	/PDD/ (D.1.) /EIA/ /EIA-I/	DR	Yes, the section D.2 of the PDD provides a sufficient analysis of the environmental impacts of the project activity.	OK	
D.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/PDD/ (D.1.) /EIA/ /EIA-I/ /IM01/	DR I	An EIA was carried out by the project proponent. The EIA is in line with the "Regulations for Planning and Construction (Environmental Impact Assessments), 2003" as it is mandatory for all new power plants.	OK	
D.3. Will the project create any adverse environmental effects?	/PDD/ (D.1.) /EIA/ /EIA-I/ /IM01/	DR, I	Electricity generation from fossil fuel always leads to environmental effects (esp. emissions of NO _x , noise, etc.). Nevertheless, esp. in comparison to the baseline scenario these effects can be assessed as comparatively low.	OK	
D.4. Are transboundary environmental impacts considered in the analysis?	/PDD/ (D.1.) /EIA/ /EIA-I/ /IM01/	DR, I	Power plant is located on the Mediterranean coast hence, no trans-boundary impacts have been envisaged from this project activity.	OK	

CHECKLIST QUESTION		Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
D.5.	Have identified environmental impacts been addressed in the project design?	/PDD/ (D.1.) /EIA/ /EIA-I/ /IM01/	DR, I	See D.2 and D.3.	OK	
D.6.	Does the project comply with environmental legislation in the host country?	/PDD/ (D.1.) /LoA/ /EIA/ /License/	DR	Yes, the project activity complies with environmental legislation of Israel.	OK	

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
For Small-scale projects					
D.7. Does host country legislation require an analysis of the environmental impacts of the project activity?			N/A	N/A	
D.8. Does the project comply with environmental legislation in the host country?			N/A	N/A	
D.9. Will the project create any adverse environmental effects?			N/A	N/A	
D.10. Have environmental impacts been identified and addressed in the PDD?			N/A	N/A	
E. Stakeholder Comments <i>The validator should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i>					
E.1. Have relevant stakeholders been consulted?	/PDD/ (E.1.) /SC/ /IM01/ /IM02/	DR, I	<p>An information sheet was sent to local stakeholders including representatives of the local municipality, management of adjacent industry, representatives of environmental groups and local residents.</p> <p>The website was open for comments for the time period of 30 days and the stakeholders were</p>	OK	

CHECKLIST QUESTION		Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
				invited to submit their comments via e-mail address. During the site visit sufficient evidence was provided to the validation team that no comment has been received within the stakeholder consultation process.		
E.2.	Have appropriate media been used to invite comments by local stakeholders?	/PDD/ (E.1.) /SC/ /IM01/ /IM02/	DR, I	Please refer comments made under section E.1	OK	
E.3.	If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/PDD/ (E.1.) /SC/ /IM01/ /IM02/	DR, I	Yes, according to the Israel laws, prior the construction of a new power plant the concerns and or opposition perceived by the public has to be accounted. The process to receive feedback from the public was carried out in line with Host Country requirements. No comments or feedback was received.	OK	
E.4.	Is a summary of the stakeholder comments received provided?	/PDD/ (E.1.) /SC/ /IM01/ /IM02/	DR, I	No comment or feedback was received. Please refer comments made under section E.1 and E.3.	OK	



CHECKLIST QUESTION		Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
E.5.	Has due account been taken of any stakeholder comments received?	/PDD/ (E.1.) /SC/ /IM01/ /IM02/	DR, I	No comments or feedbacks was received. Please refer comments made under section E.1 and E.3. Please refer comments made under section E.1	OK	

Table 3: Resolution of Corrective Action and Clarification Requests

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
CAR A1 Technical configuration of the proposed project activity should be exactly specified.	A.3.1. B.2.1. B.2.6.	The technical description of the power plant has been changed to reflect the configuration on which the financial analysis was conducted. The project is still in the initial planning stage and is seeking for CDM recognition in order to reach financial closer. The project's financial analysis has been conducted based on the complete price proposal and technical configuration provided by one likely supplier. This technical configuration is now described in section A.4.3.	Technical configuration has been specified in the relevant sections of the PDD (in particular section A.2 and A.4.3.) Development of the project activity under CDM rules has been conducted based on the technical configuration and the price proposal as included in the commercial proposal of a most likely equipment supplier.
CAR A2 The section A.4.3. of the PDD should include description of how environmentally safe and sound is the technology employed by the project activity.	A.3.2.	A paragraph outlining the Environmental and safety standards of the plant has been added to section A.4.3.	The required information has been included to the PDD.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
CAR A3 The indicated crediting period as well as annual estimation of emission reductions in section A.4.4. should be corrected.	A.5.1.	It is estimated that the PP will become operational only in 2011 and this change has been implemented throughout the PDD.	The PDD is appropriately corrected.
CAR A4 Under section B.1 the references to any methodologies or tools which the approved methodology draws upon should be indicated.	A.5.1.	Section B.1 has been refined and now includes all methodologies and tools used by the project in the PDD: - AM0029 Version 1.1 - ACM0002 Version 6 - "The tool for the demonstration and assessment of additionality" Version 04	References to any methodologies or tools which the approved methodology draws upon are indicated under the Section B.1.
CAR A5 The reference of the 'Tool for demonstration assessment and of additionality' <u>version 02</u> is given the section B.5. of the PDD should be corrected.	A.5.1.	The PDD has been corrected throughout and now refers to version 4 of the additionality tool.	The PDD is appropriately corrected.
CAR A6 Information on participants of the project activity provided in Annex 1 of the PDD is not complete.	A.5.1.	Annex 1 has been completed with the project participants' information.	Annex 1 has been completed and includes' information on project participants.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
<p>CAR B1</p> <p>The PDD does not address the applicability condition of the methodology AM0029 version 1 Note 1 related to maximum auxiliary fuel consumption of 1%.</p>	B.1.2.	<p>Under section B.2, the applicability of the methodology to the project has been updated to include footnote 1 on bullet 1 (auxiliary fuel). The applicability to bullet 1, that only natural gas is used in the plant with the possibility of auxiliary fuel in the amount of up to 1% of total fuel use, is now explained as follows: <i>The power plant's license does not permit the use of a fuel other than natural gas except when ordered to do so by the government in the case of national emergencies. All NG power plants of over a 100 MW capacity are required by the Israeli law to be dual fueled for emergency purposes. If such an emergency arises and a fuel other than natural gas is used, no emission reductions will be claimed. In</i></p>	<p>Under Section B.2. of the PDD applicability condition of the methodology AM0029 version 1 Note 1 related to maximum auxiliary fuel consumption of 1%.is addressed.</p>

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
		<i>the project only natural gas will be used and no other fuel will be used for auxiliary purposes.</i>	
CAR B2 The natural gas demand should be also considered for an appropriate justification of the sufficient availability of natural gas in the region as per the third applicability criterion (and the note 2). CAR B2 was raised under this context.	B.1.2.	To explain that there is sufficient natural gas in the region considering the demand forecast the explanation with regards to bullet 3 is as follows: <i>Natural gas availability in the region is sufficient that the project activity will not limit the natural gas supply to other users. The project's consumption of natural gas does not displace natural gas from other consumers because there is sufficient natural gas supply in the region, which is defined as the Middle East. In 2001, total natural gas reserves in the Middle East were estimated at 17,625 BCM. The estimated natural gas reserves available in Israel is</i>	In the section B.2 of the PDD the project proponent has duly documented that Natural gas is sufficiently available in the region and the project activity will not result in price-inelastic supply constraints.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
		<p>50 BCM and in Egypt, 1,204 BCM. In the Middle East, Israel can purchase natural gas from Egypt and other countries can purchase natural gas from each other. Industry in Israel is operating under the assumption that the gas availability in Egypt is such that it will not limit the development of natural use in Israel or limit economic development in Egypt. According to the Israeli Energy Sector Master Plan, developed by the Ministry of Infrastructure, the projection is that by 2025 the expected demand in Israel for natural gas will be 19,032,000 metric tones, or 26,551,339,286 cubic meters (density of methane is 0.0007168 [Ton/m3]), which is 26.5 BCM. Israeli demand at a level of 26.5 BCM will consume 2.2% of the Egyptian natural gas</p>	

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
		<p><i>reserves and 0.15% of the natural gas reserves in the Middle East region, thus proving that the natural gas reserves in the region are sufficient to supply the entire Israeli demand even 20 year from now, according to the governments forecast.⁴</i></p> <p><i>According to the Israeli Energy Sector Master Plan, the projection is that on average, demand for natural gas in Israel will increase at a rate of 33% per year between the years 2001 – 2025, thus showing an energy market that is not operating under any supply limitations. Therefore, there are no price-inelastic supply constraints.</i></p>	
<p>CAR B3</p> <p>Efficiency value in the PDD section B.4. alternative 'a' (70-80 %) should be consistent with the technical configuration of the project activity.</p>	B.2.2.	<p>The (thermal) efficiency of the PP is estimated to be 65%. The efficiency calculations are sent along with this document.</p>	<p>The PDD is appropriately corrected.</p>

⁴ "[Energy Demand Projections, 2001-2025](#)". National Ministry of Infrastructure, p.4. Accessed November 27, 2007. Translation provided to the DOE.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
CAR B4 The justification for exclusion of other natural gas based technologies under “Option b)” needs a more detailed elaboration. In particular, with regard to other technologies e.g. gas fired boiler with a steam turbine.	B.2.2.	The PDD was updated to include a case-by-case analysis of each natural gas option, including a gas fired boiler with a steam turbine.	The PDD is appropriately corrected. Further technologies were added to the analysis.
CAR B5 The justification for exclusion of “Option d)” (Power generation technologies with fuel other than natural gas) under table in section B.4. of the PDD needs a more detailed elaboration.	B.2.2	The PDD was updated to analyze the diesel and HFO powered plants separately. HFO was determined not to be a viable option due to common practice barriers, while diesel was deemed a viable alternative.	Separate analysis of HFO and Diesel has been carried out under context of Option d).
CAR B6 The justification for selected value and parameter within the sensitivity analysis should be provided. The benchmark value of 12% might not be within the complete range of parameters as resulted in the sensitivity analysis. Further clarification to be provided.	B.2.2.	The additionality section has been revised. Due to changes in version 4 of the additionality tool which allow the consideration of Equity IRR as the financial indicator for benchmark analysis, this parameter has been changed in the PDD to better reflect the project developer's dilemma when deciding on a CDM project. The benchmark parameter chosen, which	The justification for selected parameters (Fuel price and electricity price) and variation of these parameters (+/-5%) within the sensitivity analysis is now provided in the context of the additionality discussion.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
		represents standard returns in the electric utilities market, is thoroughly explained in the PDD according to the additionality tool and is backed by returns on government bonds increased by a suitable risk premium.	
CAR B7 Financial calculation should be corrected with regard to tax calculation and assumption of fuel price development over the project lifetime.	B.3.2.	Tax calculations were corrected. In addition, an increase in fuel prices over the years has been adopted and implemented in the financial models as is thoroughly explained in section B.4 of the PDD.	The required corrections were provided in the financial calculation excel worksheet. Relevant correction were provided in the PDD.
CAR B8 The project emission due to combustion of fuel (PE _y) should be included to the monitoring plan.	B.8.1., B.9.1, B.10.3.	The following clarification was added to the monitoring plan: <i>As explained in section B.2 of the PDD, the power plant's license does not permit the use of a fuel other than natural gas except when ordered to do so by the government in the case of a national emergency. All NG power plants of over a 100 MW capacity are required by</i>	The project emission due to combustion natural gas are included to the monitoring plan. Natural gas is the only fuel to be used except of emergency cases. In case of emergency where other fuels will be used no CO2 emission reduction will be claimed.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
		<i>the Israeli law to be dual fueled for emergency purposes. In the unlikely event that such an emergency arises and a fuel other than natural gas is used, no emission reductions will be claimed for the electricity generated. In the project only natural gas will be used and no other fuel will be used for auxiliary purposes.</i>	
CAR B9 The parameters $EF_{CO_2, fy}$ and $OXID_f$ should be transferred from chapter 6.2 to 7.1.	B.8.1., B.10.3	B.9.1, The parameters were transferred to the appropriate chapter.	The PDD is appropriately corrected.
CAR B10 a) The source of data for NCV_{fy} should be identified unambiguously – or if not possible the preferences have to be indicated. b) The section “description of measurement methods” should be completed for all parameters to be measured. c) The unit is missing for the values given in the table in context of $EGPJ, y$. (CAR Bx3)	B.8.1., B.10.3	B.9.1, All three remarks were dealt with. NCV will be measured using a gas chromatograph, the description of the measurement methods along with the units to each parameter have been completed.	a) The source of data for NCV_{fy} is now included under section B.7.1. of the PDD. b) Measurement methods are addressed for the relevant parameters under section B.7.1. of the PDD.

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
			c) The PDD is appropriately corrected
CAR B11 The monitoring plan should ensure, that only the net production of electricity is considered, for baseline emission calculation. The calculation standard for the net production should also be mentioned, if available	.B.10.1	It has been added to the PDD that the amount of electricity calculated for the CDM project activity will be the net electricity produced in the PP. To insure that net electricity is used we have also stated in the PDD that a cross check be made to the receipts which show the electricity sold to the plant's customers (which naturally pay for the net electricity produced).	The PDD is appropriately corrected with regard to the monitoring of the net electricity generation.
CAR B12 The accuracy of the envisaged electricity meters or the corresponding legal requirements should be specified in the PDD (section 7.2)	B.10.5	An explanation was added to section B 7.2 that: IPPs are required by law in Israel to continuously read meters and store metering information at the 30-minute level. The IEC is held accountable as the ESP (essential services provider) to read the metering data stored at the IPP's meter.	The PDD is appropriately corrected with regard to the accuracy of the electricity meters. It should be also born in mind that due to the early stage of the project implementation not every applied measuring method is

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
		The ESP is also authorized to read the competitive producer's meter remotely whenever necessary to fulfil its obligations as stipulated in its license. The Translation of the relevant legal requirements as set by the PUA (Public Utilities Authority) from both the IPP and the IEC is sent along with this document.	precisely settled The measurement equipment will be exactly specified in the final stage before the power plant will become operational. During the validation sufficient confidence was gained that the measurement equipment will be in line with national requirements, CDM rules and lead to appropriate and conservative emission reduction calculations
Clarification requests			
CR A1 Full address of the power plant should be provided	A.1.1.	Provided in section A.4.1.4 of the PDD.	Full address of the power plant has been provided in the section A.4.1.4 of the PDD.
CR A2 The Host Country Approval indicates a slightly different title of the Project Activity. It should be adjusted in the PDD.	A.2.2., B.12.3	A.4.1., Title adjusted in the PDD.	The name of the project under the Section A.1 is now fully consistent with the name in the Host

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
Section A.1. should provide the same title of the project activity.			country Approval.
CR B1 There is a minor discrepancy between the quantity of fuel to be consumed by the power plant indicated in the Financial calculation excel file and the supporting excel sheet of baseline and emission reduction calculation.	B.4.1.	The minor discrepancy was resolved.	The quantity of fuel indicated in the Financial calculation excel file is consistent with the supporting excel sheet of baseline and emission reduction calculation.
CR B2 Clarification is required why the Dispatch data analysis method was not selected for calculation of Operating Margin /cp ACM002)	B.5.1.	This subject has been addressed and thoroughly explained in section B.6 and annex 3 of the PDD. Dispatch Data Analysis was not chosen for the calculation of the OM because the required information is not publicly available.	Clarification with regard to this issue has been provided in the PDD.
CR B3 Percentage of the total grid generation produces by the low-cost/must run resources as per ACM0002 should be indicated.	B.5.1., B.12.3	This subject has been addressed and thoroughly explained in section B.6 and annex 3 of the PDD. 0.09% of the total electricity generation in the Host Country is from renewable sources.	The PDD is appropriately corrected.
CR B4	B.10.5.	An explanation was added to	Additional information

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
<p>Though electricity metering is an essential feature of the project performance monitoring and not only used for CDM purposes the PDD should include – if possible - a more detailed description of the measurement, registration and reporting procedure esp. w.r.t. data integration intervals and data handling in case of measurement downtimes.</p>		<p>section B 7.2 that: IPPs are required by law in Israel to continuously read meters and store metering information at the 30-minute level. The IEC is held accountable as the ESP (essential services provider) to read the metering data stored at the IPP's meter. The ESP is also authorized to read the competitive producer's meter remotely whenever necessary to fulfil its obligations as stipulated in its license. The Translation of the relevant legal requirements as set by the PUA (Public Utilities Authority) from both the IPP and the IEC is sent along with this document.</p>	<p>with respect to monitoring of electricity generation has been provided in the PDD. Sufficient confidence was gained that the electricity metering will be in line with national requirements, CDM rules and lead to an appropriate and conservative emission reduction calculations.</p>
<p>CR B5</p> <p>Clarification within financial analysis is required with regard to</p> <p>a) Considering of the availability of the power plant within financial calculation and</p>	B.2.1.	<p>a. The availability of the PP is considered in the financial analysis as can be seen in the excel sheet "Work Assumptions" cells D31 and D65. Due to Integrated Energy's commitment to</p>	<p>a) Availability of the power plant has been appropriately addressed within financial calculations.</p> <p>b) The electricity sales prices to particular</p>

Draft report clarification requests and corrective action requests by validation team	Ref. To checklist question in table 2	Summary of project owner response	Validation team conclusion
b) The electricity sales prices to particular consumer groups should be presented in a more clear and transparent way (e.g. summarized under the excel sheets "Main assumption" or "Work assumptions").		supply electricity to its customers, during those times of unavailability electricity will have to be purchased from the grid. b. The excel sheet "Main Assumptions" now includes a summary of the electricity price forecasts along with the transportation price and the price Integrated Energy expects to receive for the sale of electricity given a 5% discount to market rates. The new model is sent along with this document.	consumer groups are now summarized within financial calculation excel sheet.
Forward action requests			
FAR B1 The project verifier needs to review the appropriateness of the installed equipment and to assure that the methodological and regulatory requirements are met as intended.	B.8.1., B.9.1, B.9.5, B.9.7, B.9.8, B.9.9, B.10.3, B.10.4, B.10.9, B.13.5.		This issue should be reviewed during the first verification