

Document of
The World Bank

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Report No: 43097-MA

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF €92.1 MILLION
(US\$ 150 MILLION EQUIVALENT)

TO THE

OFFICE NATIONAL DE L'ELECTRICITE

WITH THE GUARANTEE OF THE KINGDOM OF MOROCCO

FOR AN

OFFICE NATIONAL DE L'ELECTRICITE (ONE) SUPPORT PROJECT

MAY 14, 2008

Sustainable Development Department (MNSSD)
Middle East and North Africa (MNA)

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CURRENCY EQUIVALENTS
(Exchange Rate Effective February 1, 2008)

Currency Unit = Moroccan Dirham
US\$1 = 7.4DH

Morocco Government Fiscal Year
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AFD	Agence Française de Développement	IMF	International Monetary Fund
AfDB	African Development Bank	IPP	Independent Power Producer
CAS	Country Assistance Strategy	KfW	German state-owned development bank
CDG	National Compensation Fund	LNG	Liquefied Natural Gas
CFAA	Country Financial Accountability Assessment	MAEG	Ministry of Economic and General Affairs (<i>Ministère des Affaires Economiques et Générales du Gouvernement</i>)
CFL	Compact Fluorescent Lamp	MEMEE	Ministry of Energy, Mining, Water and Environment (<i>Ministère de l'Energie, des Mines, de l'Eau et de l'Environnement</i>)
DDR	(<i>Direction Projet Réseau</i>)	MEF	Ministry of Economy and Finance (<i>Ministère de l'Economie et des Finances</i>)
DIR	(<i>Direction Ingénierie Réseaux</i>)	MNA	Middle East and North Africa
DPL	Development Policy Loan	mtoe	Million Tons of Oil Equivalent
DR	(<i>Directions Régionales</i>)	ONE	Office National de l'Electricité (Moroccan Electricity Company)
DSCR	Debt Service Coverage Ratio	QCBS	Quality and Cost based Selection
DSM	Demand Side Management	PDO	Project Development Objective
EIB	European Investment Bank	PERG	National Rural Electrification Program (<i>Programme National d'Electrification Rurale</i>)
EMP	Environmental Management Plan	PSO	Public Service Obligation
EPIC	Public Establishment, Legally and Financially autonomous entity (<i>Etablissement public à caractère industriel et commercial</i>)	PMU	Project Management Unit
ESIAF	Environmental and Social Impact Assessment Framework	RAP	Resettlement Action Plan
EU	European Union	RPF	Resettlement Policy Framework
GDP	Gross Domestic Product	SIL	Specific Investment Loan
GEF	Global Environment Fund	TA	Technical Assistance (TA)
GHG	Greenhouse Gas	toe	Tons of Oil Equivalent
IBRD	International Bank for Reconstruction and Development	TSO	Transmission System Operator
ICB	International Competitive Bidding	USE	Un-served energy
IEC	International Electrotechnical Commission	VEP	Value Enhancement Performance
IFC	International Finance Corporation	VER	Valorisation of Rural Electrification (Valorisation de l'électrification rurale)

Vice President: Country Director: Acting Sector Director: Sector Manager: Task Team Leader:	Daniela Gressani Mats Karlsson Jonathan Walters Jonathan Walters Silvia Pariente-David
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MOROCCO: OFFICE NATIONAL DE L'ELECTRICITÉ (ONE) SUPPORT PROJECT

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MOROCCO

OFFICE NATIONAL DE L'ELECTRICITE (ONE) SUPPORT PROJECT

PROJECT APPRAISAL DOCUMENT

MIDDLE EAST AND NORTH AFRICA

MNSSD

Date: May 15, 2008	Team Leader: Silvia Pariente-David
Country Director: Mats Karlsson	Sectors: Power (90%);Renewable energy (10%)
Sector Manager/Director: Jonathan Walters	Themes: State enterprise/bank restructuring and privatization (P)
Project ID: P104265	Environmental screening category: Partial Assessment
Lending Instrument: Specific Investment Loan	

Project Financing Data			
☒ Loan ☐ Credit ☐ Grant ☐ Guarantee ☐ Other:			
For Loans/Credits/Others:			
Total Bank financing (€ m.): 92.10			
Proposed terms: Fixed Spread Loan, with 5 years grace and 25 years to full repayment			
Financing Plan (€ m)			
Source	Local	Foreign	Total
Borrower	0.00	0.00	0.00
International Bank for Reconstruction and Development	0.00	92.10	92.10
Total:	0.00	0.00	92.10
Borrower: Office National de l'Electricité 65, Rue Othman Ben Affan Morocco 20 000 Tel: 011 212 22 668333 Fax: 011 212 22205698 Maamar@one.org.ma			
Responsible Agency: Office National de l'Electricité 65, Rue Othman Ben Affan Casablanca Morocco 20 000 Tel: 011 212 22 668333 Fax: 011 212 22205698 Maamar@one.org.ma http://www.one.org.ma/			

Estimated disbursements (Bank FY/US\$000)									
FY	2008	2009	2010	2011	2012	2013	2014		
Annual		20 300	40 000	44 700	30 000	10 000	5 000		
Cumulative		20 300	60 300	105 000	135 000	145 000	150 000		
Project implementation period: Start October 1, 2008 End: December 31 2013									
Expected effectiveness date: September 10,2008									
Expected closing date: March 31,2014									

Does the project depart from the CAS in content or other significant respects?	☐ Yes ☒ No
Does the project require any exceptions from Bank policies?	☐ Yes ☒ No
Have these been approved by Bank management?	☐ Yes ☐ No
Is approval for any policy exception sought from the Board?	☐ Yes ☒ No
Does the project include any critical risks rated "substantial" or "high"?	☒ Yes ☐ No
Does the project meet the Regional criteria for readiness for implementation?	☒ Yes ☐ No

Project development objective The objective of the Project is to increase the efficiency and reliability of electricity supply. This objective will be achieved through: ➤ Strengthening of the transmission and distribution infrastructure and supporting reductions in overall technical losses. ➤ Support to DSM programs to reduce electricity demand growth. ➤ Promotion of wind generation. ➤ Assistance to ONE to adjust to a new market environment.
Project description The Project will consist of the following main components: (a) Reinforcement of the electricity transmission network to reduce bottlenecks and improve system's reliability; (b) Strengthening of the distribution system through the addition of substations; (c) Promotion of CFLs as part of ONE's DSM program; (d) Equipment in hardware and software of a trading desk; (e) Creation of a database of certified wind data; (f) Technical assistance
Which safeguard policies are triggered, if any? Environmental Assessment (OP/BP 4.01) Natural Habitats (OP/BP 4.04) Involuntary Resettlement (OP/BP 4.12)
Significant, non-standard conditions, Board presentation: Streamlined

Loan/credit effectiveness:

Covenants applicable to project implementation:

Financial Covenant:

Except as the Bank shall otherwise agree, the Borrower shall take, in consultation with the Guarantor, all actions necessary to ensure that its Cumulative Debt to equity ratio shall be lower than 5 by closing of fiscal year 2010, and lower than 4.5 by closing of following fiscal years. This ratio is calculated as the sum of Long-term borrowings (*Dettes de financement*) and Short-term borrowings (*Dettes du Passif Circulant*) divided by total Equity (*Capitaux Propres & Assimilés*).

Others

- ONE to prepare a project report semi-annually for every year during project implementation, presenting progress on the project, monitoring and evaluation indicators and financial situation, as well as projections of the same.

I. STRATEGIC CONTEXT AND RATIONALE

A. Country and sector issues

Morocco is in urgent need of new electricity infrastructure (power generation, transmission and distribution). With GDP growth of 3.4 percent p.a. on average since the early 1990s and increased electrification, Moroccan electricity demand has been growing rapidly, with growth accelerating over the last 3 years from 6 percent p.a. during 1997-2002 to 8 percent during 2003-2007. GDP is expected to continue growing at 4.3 percent p.a. until 2010, and could be boosted even more by integration into EU and Maghreb markets. Even with intensified electricity conservation and demand side management (DSM) efforts, electricity demand is expected to continue growing at around 8 percent p.a. until 2015. The “Office National de l’Électricité” (ONE) projects that peak demand will grow from 3550MW in 2006 to between 7100MW and 8200MW in 2015 depending on economic growth assumptions and energy conservation efforts.

1. Meeting this fast growing electricity demand requires substantial investment in power generation capacity, as well as in transmission and distribution infrastructure. ONE’s capacity expansion plan calls for the addition of 3500MW-4500 MW of power generation capacity between 2006 and 2015. The base case scenario includes addition of 1400MW of wind, 1320 MW of coal fired and 860 MW of natural gas fired capacity. Developing the wind potential and solar potential is critical to avoid a dramatic increase in emissions of both local pollutants and greenhouse gases, especially if lack of access to natural gas increases the reliance on coal.

2. The transmission and distribution networks already fail to ensure secure and reliable supply of electricity to all consumers. ONE conducted several studies that demonstrate the urgency of the investment in transmission and distribution infrastructure before additional capacity is commissioned. Failing that, supply would become unreliable, with the risk of creating costly disruptions to industrial production and other productive economic activities.

3. ONE has initiated a demand side management (DSM) program to tap the large potential for energy savings. This initiative is in line with the objectives of the Moroccan energy policy, as reflected in the Bank Energy Development Policy Loan (DPL), and consistent with efforts advocated by the Bank and other lenders to give priority to measures that reduce energy demand growth. The program significantly reduces the need for investment in generation and transmission/distribution infrastructure. In order to successfully implement the program, ONE has set up a DSM department, as part of its reorganization. Tariff adjustment plays a key role in the success of that program.

4. ONE’s strategy is to: (a) meet electricity demand at least cost, while diversifying its power generation mix (the development of wind power and the introduction of natural gas are essential to achieve the diversification objective); and (b) achieve the government’s objective of universal access to electricity. In addition, the company is preparing to operate in an increasingly liberalized market, as called for by a draft law under discussion and consistent with the objectives of regional market integration with the Maghreb and the European Union. ONE is planning to initiate some operations in international markets, in order to leverage its know-how in areas such as rural electrification and the skills and capabilities of its labor force.

5. However, ONE's most pressing and immediate challenge is to redress its financial situation, which has deteriorated substantially over the last two years, mostly because of rising fuel costs which have not been matched by tariff increases, as well as by the burden of the rural electrification program. ONE has requested an increase in the average tariff, as well as a complete revision in the tariff structure. It has also requested a write-off of its debt by the government. However, energy price increases are socially sensitive, and must be coordinated with compensatory measures to protect the low income populations.

Box 1 Energy Sector Development Policy Loan

On 29 May 2007, the World Bank approved a DPL of US\$100 million (the first in a programmatic series of Energy DPLs) to Morocco to support the country's energy reform program. The objectives of the DPL are three-fold: (i) help the Moroccan Government improve energy security through energy efficiency improvement and the development of domestic renewable energy aiming at substitution for imported fossil fuels, the enforcement of policy and regulation supporting renewable energy, and the formulation of a long-term energy supply strategy; (ii) foster competition in the energy market through regional system integration, liberalization of the high-voltage electricity market, and open access of competitors in the petroleum downstream market; and (iii) reduce Government subsidies for petroleum products—and hence indirectly for electricity-- while protecting low-income consumers.

The conditionality and triggers that are relevant to the electricity sector, and therefore the proposed electricity transmission project are:

- Prior actions to the first DPL: approval by the Council of Government of the law raising the ceiling for self-generation and creation of an Inter-ministerial Committee for Implementation of Electricity Sector Reform
- Agreed triggers for second DPL: presentation of the electricity liberalization law to Parliament and approval of a plan and timetable for implementation of the regulatory function. This will need to be enhanced by financial recovery measures for ONE to function effectively in a liberalized market.

More details on the DPL can be found in Annex 1, including extracts of the policy matrix with key actions relevant for the electricity sector.

B. Rationale for Bank involvement

6. The investment required in transmission and distribution (T&D) over the next several years to meet the fast growing electricity demand is very large. Given the regulatory risk specific to T&D, it is very unlikely that the needed fund could be provided by the private sector, or fully mobilized without involvement of international financing institutions.

7. The Bank is already active in supporting power sector reforms and the development of a sustainable energy policy, through a series of programmatic energy DPL. The policies and regulations supported by the DPL include an energy efficiency and renewable law, which was

approved by the Council of Government in 2007, and a law for electricity liberalization which is under preparation.

8. Other donors, especially AfDB, AFD, KfW and EIB, are actively involved in Morocco. AFD, AfDB, and EIB have all participated in the financing of the power interconnections with Spain. They will continue to be involved in the financing of the network expansion, together with the World Bank.

9. The proposed project is clearly complementary to the Bank DPL and the activities of the other donors in Morocco. The TA components of the project are complementary to actions undertaken under the DPL. In particular, the energy efficiency and renewable measures contemplated by the law would complement ONE's DSM program to moderate electricity demand growth. Finalization and approval of the electricity law and restructuring of ONE are key actions planned under the second DPL. The second DPL is currently under preparation and will be designed taking into consideration the need to restructure ONE and to ensure its financial viability .

C. Higher level objectives to which the project contributes

10. The proposed project is consistent with the CAS objectives of (a) accelerated growth and job creation and (b) reduction of poverty and exclusion. It will ensure uninterrupted and high quality supply of electricity to households and firms. As a result, households will enjoy a higher quality of life, industry will avoid losses due to supply interruptions and, more generally, economic growth will be sustained.

II. PROJECT DESCRIPTION

11. The Project will consist of the following main components:

- (a) Reinforcement of the electricity transmission network to reduce bottlenecks and improve system's reliability;
- (b) Strengthening of the distribution system through the addition of substations;
- (c) Promotion of CFLs as part of ONE's DSM program;
- (d) Equipment in hardware and software of a trading desk;
- (e) Creation of a database of certified wind data;
- (f) Technical assistance.

A. Lending instrument

12. The project will be financed through a Specific Investment Loan (SIL) to ONE. A SIL is well suited to finance capital intensive infrastructure and to directly support the incumbent utility to adapt to the evolving market structure. It is a good complement to the DPL that supports reforms for the overall energy sector and of the electricity sector in particular, including restructuring of ONE in order to restore profitability.

B. Project development objective and key indicators

13. The objective of the Project is to increase the efficiency and reliability of electricity supply to all electricity consumers.

14. The improved efficiency and reliability of the electricity supply will be monitored and evaluated through two key performance indicators: the transmission loss reduction and reduced unserved energy (USE). A third indicator is the energy savings achieved thanks to the use of CFLs.

C. Project components

1. Infrastructure Investment Components

15. **Transmission and distribution network (loan amount \$123 million):** The transmission network is already overloaded and congested. With fast growing demand, the situation is expected to deteriorate even further, unless the network is reinforced before the commissioning of additional power plants. ONE estimates the level of investment required at 7567 MDH (approx. \$ 1023 million) over the period 2008-2013. The Bank will finance part of this program in the provinces of Casablanca, Settat, El jadida, Safi, Chichaoua, Marrakech, Essaouira, Tarroudant, Agadir and Beni Mellal, and more specifically for the transmission part:

- a) Construction of 392km of 400kV lines and 76 km of 225kV lines
- b) A 400/225 kV substation in Chamaia (2x450MVA)
- c) Expansion of substations at Mediouna (400/225 kV) and Tensift II (225/60kV).

The distribution network is already saturated for the major cities in the country and reinforcement of the interface transmission/distribution is required. ONE has identified the need for 18 new substations 60/22 kV to be commissioned between 2008 and 2010, for a total investment cost estimated at 710 MDH (\$ 96 million). The Bank will finance the following substations:

- a) 225/22 kV substation at Dar Bouazza (2x70MVA)
- b) 60/22 kV substation at Dar Ouled Zidouh (2x20MVA)
- c) 60/22 kV substation at Tamansourt (2x20 MVA)

16. **Compact Fluorescent Lamps (CFL)-(loan amount: \$ 8.4 million):** As part of its DSM program, ONE has launched the "INARA" initiative to introduce CFLs on a large scale. The program started with a pilot for 40 000 lamps. Under the proposed component, ONE will procure 5 million lamps and distribute them through accredited marketers to its customers. The lamps will be guaranteed by ONE for two years. Customers will pay the lamps over a period of 12 months through deductions from their electricity invoices. This program is expected to reduce peak demand by about 200 MW and total annual electricity demand by 300 GWh, for an annual saving of \$15 million.

17. **Trading Desk (loan amount: \$ 7 million):** ONE is setting up a trading desk for fuel purchasing for its own power plants and for trading electricity with Spain, as well as for price risk management.

18. **Wind data base (loan amount: \$ 1 million):** ONE is preparing a data base of certified wind data to support the development of wind capacity by IPPs. A supplier has already been selected and the development of the wind data base will be subject to retroactive financing. The Bank has already given the “no objection”.

2 *Technical Assistance Components*

Adaptation of ONE to the new market environment (loan amount: \$ 1.1 million):

19. *Development and implementation of contractual arrangements* with other operators in the sector: ONE has already undertaken a study with a major international law firm to conduct a diagnostic of the legal and regulatory framework. This analysis has indicated that contractual arrangements between ONE and other operators in the energy market, as well as between different entities within ONE, are not in line with commercial and business practices. ONE has incorporated in the project technical assistance on the following topics: (a) diagnostic on the relations between ONE and other distributors, (b) definition of ONE’s roles and obligations as transmission system operator (TSO), (c), contractual arrangements between ONE-TSO and distributors, (d) contractual arrangements between distributors and municipalities, (e) transmission tariffs, including ancillary services, (f) contractual arrangements between generators and ONE-TSO, and (g) definition of appropriate regulatory and governance framework for the sector. The development of contractual relations between the different players in the Moroccan electricity sector is one of the actions in the matrix of the DPL.

20. *Tariff study*: The current tariff system has been put in place in 1997. The last tariff study has been initiated out under a Bank project in 1988 and finalized in 1992. Since then, tariffs have been adjusted on a piecemeal basis and have not been comprehensively reviewed despite the major changes in the sector during the last decade. The current tariff structure has two major shortcomings: (a) inadequate level to cover supply costs and (b) a structure that fails to provide the right incentives for effective use of the installed capacity, electricity savings and load management. A revision in tariff is also critical to ensure the financial viability of the company ONE and adapt the tariff system to the prevailing cost and demand structure. Before implementation of a new tariff structure, the social and economic implications of the tariff increase will be analyzed. This work will be coordinated with analysis under way in the DPL to evaluate the implications of petroleum product price increases following subsidy removal. Safety nets would be designed to safeguard vulnerable consumer categories from price increases during the reform process.

21. **Upgrade of procurement function (loan amount \$1 million):** ONE procurement and purchasing function is already certified ISO9001 2000 version. ONE is seeking technical assistance to ensure its procurement processes are “state of the art” and are adjusted to the evolving requirements of the company as the market liberalizes, in order to ensure the best possible performance in terms of cost, timeliness and quality. ONE is launching a study covering the following activities:

- Diagnosis of current procedures
- Evaluation of the procurement cycle and optimization of stock management procedures
- Development of an e-procurement function: need identification, formulation of a strategy, implementation and knowledge transfer

22. **Valorization of rural electrification (loan amount: 400 000 \$):** Access to electricity for rural population is already very high in Morocco, with 85 percent of the population having access to

electricity in 2006 and an estimated 100 percent in 2008. However, the extension of the network is mostly for residential use and is moreover a burden for ONE finances, as the cost of connecting rural populations is high while tariffs are not set at a level that covers costs. The objective of this initiative is to promote new uses which have a higher value added. Several activities have been already identified by ONE, such as participation in regional and local development initiatives or using the network to develop telecommunication services. The project will finance (probably retroactively) a study to be launched soon for overall project design and development of information systems to support the program.

D. Lessons learned and reflected in the project design

23. Lessons learned from other electricity transmission projects at the Bank that are relevant to the current project include:

- Need to prepare the project in tandem with energy policy dialogue and capacity building (including DPL support)
- Adequate technical design and early attention to procurement activities are essential to the success of electricity transmission projects.
- Financial covenants need to be relevant and achievable.
- Appropriate performance indicators need to be designed and adequately monitored during implementation.
- Attention needs to be given to cost estimates (with appropriate contingencies) as well as to availability of counterpart funding.

24. Particular attention was paid to:

- Ensuring simple and transparent project design, not dependent on any related components financed by other donors.
- Adopting realistic implementation and disbursement schedules.
- Preparing a detailed procurement plan, involving a relatively small number of packages under single responsibility contracts.
- Providing a small set of focused but realistic financial covenants.
- Assessing the technical capability and staffing of the implementing entities and requesting the designation of a focal point for the proposed project with full responsibility for coordination and management of the Project.
- Assessing the Environmental Direction's capacity for overseeing all aspects of the Environmental Management Plan (EMP) and Land Acquisition and Resettlement Policy Framework.

E. Alternatives considered and reasons for rejection

25. The strengthening of the transmission and distribution network is imperative. Without the project, electricity supply will deteriorate with the ensuing negative impacts on economic development and the quality of life of the population.

26. During the planning stage, a 225 kV alternative was considered and evaluated. It was rejected because it would have led to higher network losses and is less cost effective than the retained 400 kV option.

27. Several routes, tower structure of the lines and sites of the substations were considered during pre-feasibility and only the one that minimizes the cost and resettlement and environmental impacts of the project was retained.

III. IMPLEMENTATION

A. Institutional and implementation arrangements

28. **Executing Agency:** ONE is the borrower (with a guarantee provided by the Kingdom of Morocco) and the executing agency of the project. ONE was created by Dahir 163-226 on 5 August 1963 as a legally and financially autonomous entity (Etablissement public à caractère industriel et commercial—EPIC). The Dahir entrusts ONE with the public service responsibility for generation, transmission and distribution of electricity, imposes the public service obligation of serving customers in the absence of any other suppliers such as concessions or Régies and provides exclusivity to ONE for power plants above a certain size (10 MW presently—an increase of the ceiling to 50 MW has been approved by Council of Government). ONE operates under the technical supervision of the Ministry of Mines, Energy, Water and Environment and the financial supervision of the Ministry of Economy and Finance (MEF). A decree in September 1994 modified the initial Dahir, giving ONE the possibility of contracting with IPPs for power generation, and a new Dahir in January 2002 authorized ONE to create subsidiaries, or take participations in other companies, both in Morocco and abroad.

29. Attention was given during the evaluation of the project to its technical and implementation capabilities. It has qualified personnel to: (a) prepare, implement and operate the transmission and distribution infrastructure to be financed under the proposed project; and (b) prepare, supervise and ensure the quality control of all studies and activities to be carried out under the TA component. The organization chart of ONE is presented in Annex 6.

30. Attention was also given during project preparation to anti-corruption measures adopted by ONE within its own organization and in its dealing with consultants and other suppliers. It was noted that all contracts between ONE and its suppliers include anti-corruption language to be signed by the contractors. ONE procedures are in agreement with the provisions of the Bank Anti-Corruption Guidelines which are applicable to the project.

31. **Project Management:** The “Pôle Réseaux” has the overall responsibility over the studies and implementation of the infrastructure component:

- The “Direction Projet Réseaux” (DDR) is responsible of the implementation of the transmission (400 and 225 kV lines). The DDR Director and the managers of the line and substation units oversee the overall implementation of the transmission lines and substations to be constructed under the proposed project. The DDR is supported by: (a) other units in the “pôle” to address network engineering, legal, technical, and management and administrative issues related to the project and (b) functional units for procurement, environmental and social issues, financial transactions and disbursement. The Director and line and substation managers oversee the coordination with other units during the project implementation.

- The responsibility over the construction of the distribution substations is under the regional units where the substations are situated.
- Within, the “pole”: (a) the oversight of the project implementation is the responsibility of the “Comité de Pilotage” consisting of the DDR, the “Direction Ingénierie Réseaux” (DIR) and the concerned “Directions Regionales” (DR); and (b) the coordination of the project is carried out by the “Comité de Coordination et de Suivi” including the line and substation managers of the DDR and the network, substation and control command managers of the DIR.
- The implementation of the TA activities is entrusted to the concerned units.
- The Environmental Department is in charge of monitoring the implementation of the Environmental Management Plan and the Resettlement Policy Framework, in coordination with relevant departments.
- *The overall coordination of the project is entrusted to the Value Enhancement Performance (VEP) unit whose head is designated as the focal counterpart of the World Bank team. The focal unit will be responsible for the coordination of all activities even when implemented by units outside the “Pôle Réseaux”.*

B. Monitoring and evaluation of outcomes/results

32. Annex 3 provides a full description of the project’s monitoring and evaluation framework. The main indicators of project outcomes are:

- Reduction of transmission losses from 4.7 percent in 2007 to 3 percent in 2012
- Reduction of un-served energy (USE) from 833 MWh in 2007 to 400 MWh in 2012
- Electricity savings of 300 GWh, and reduction of peak demand by 200MW, following completion of the CFL program

All these indicators will be monitored annually and are readily available or easily calculated using ONE’s statistics. ONE’s project management unit (PMU) will have responsibility for collating the data for communication to the Bank.

33. The key outputs leading to the above outcome are:

- Timely completion of the transmission and distribution component. This will be monitored based on the construction schedules prepared by ONE;
- Placement of CFLs by the marketers;
- Establishment of an operating trading desk;
- Timely completion of the TA activities, including preparation of implementation plans of the recommendations.

The outputs will be monitored twice a year during supervision missions based on the implementation schedule proposed by ONE and agreed by the Bank.

C. Sustainability

34. The reinforcement of the transmission grid is essential for the sustainability of efficient and reliable power supply. A strong transmission system is also a prerequisite for further opening of the sector and gradual transition towards a competitive market.

35. From a technical/engineering perspective, there are very limited issues regarding sustainability. ONE has a demonstrated capability in implementing similar transmission projects and operating 400 and 225 kV lines and large high voltage substation.

36. The weak financial situation of ONE is the major issue that needs to be addressed to ensure achievement and sustainability of the PDO. The DPL calls for restructuring of the electricity sector to ensure its sustainable development and financial viability; measures will be implemented to guarantee ONE's financial recovery. The study included in the project will provide the required justification for power tariff increases and/or required public service obligation (PSO) subsidy if the government, for any reason, is reluctant to increase prices to allow cost recovery and other financial measures fail to achieve financial viability. The financial covenants referred to in paragraph E below will ensure that ONE's financial situation will be gradually improved.

D. Critical risks and possible controversial aspects

Risks to PDOs or component results	Mitigation Measure	Risk level
Reduced government commitment to electricity market reform.	The project focuses on activities that are needed even if the reform program slows down. It will strengthen the infrastructure to guarantee quality of supply. The DPL supports the Government in its reform program, lowering the likelihood of reduced government support to reform.	Low- Medium
Lack of implementation capacity, and delays in project implementation	A strong counterparty team is already in place. (a) proper attention has been given during preparation to project management, including preparation of a Project Implementation Plan, and procurement activities (procurement packages ready) (b) it has been agreed that counterpart funds be secured prior to inception of construction work (c) other donors are already committed to financing the other components of the program	Low
Delays in commissioning new power plants, making transmission investment unnecessary	The program to be proposed by ONE is linked to power plants which are under construction or in final stages of project preparation.	Low
Difficulty to secure right of way because of environmental or social	During preparation, special attention has been given to the preparation of the	Low-Medium

impact, or because of change of location of power plants	Resettlement Action Plan framework. It was agreed to provide proper contingencies to cover increases in resettlement costs	
No tariff increase and restructuring granted by Government	The DPL supports reform of electricity sector, including a cost reflective tariff system. Financial covenants to gradually improve ONE's financial situation.	High
Overall		Medium

E. Loan conditions and covenants

Financial Covenant:

- Except as the Bank shall otherwise agree, the Borrower shall take, in consultation with the Guarantor, all actions necessary to ensure that its Cumulative Debt to equity ratio shall be lower than 5 by closing of fiscal year 2010, and lower than 4.5 by closing of following fiscal years. This ratio is calculated as the sum of Long-term borrowings (*Dettes de financement*) and Short-term borrowings (*Dettes du Passif Circulant*) divided by total Equity (*Capitaux Propres & Assimilés*).

Others:

- ONE to prepare a project report semi-annually for every year during project implementation, presenting progress on the project, monitoring and evaluation indicators and financial situation, as well as projections of the same.

IV. APPRAISAL SUMMARY

A. Economic and financial analyses

37. *Economic Analysis.* The strengthening of the transmission network is imperative. Without the project, future load requirements will not be met. The economic justification is therefore based on a two step cost effectiveness approach: (a) a least cost study using two established models to determine the optimal generation mix to meet the future demand (taking into accounts savings due to electricity conservation measures initiated by ONE); (b) a justification of the need and timing of the reinforcement of the transmission system using load flow and stability models leading to the definition of two feasible strategies (400 kV and 225 kV).

38. The studies showed that the 400 kV-strategy is most cost effective in meeting the future load flows within the reliability criteria. The NPV (at 10 percent discount rate) of the 400 kV-strategy is about 20 percent lower if the losses are valued at the short term marginal cost of the system and about 30 percent lower if the losses are valued at the average sale price of the system.

39. The country is suffering losses from inadequate electricity supply and will benefit greatly from the proposed project. Cost/benefit analysis has not been conducted because electricity prices are still bundled and consumers' willingness to pay for transmission services cannot be assessed from available data. The reforms under way, with Bank support through a programmatic DPL, aim to unbundled electricity tariffs and to develop an appropriate transmission pricing system.

Financial Analysis

Diagnostic

40. ONE's financial situation has worsened over the past four years, as indicated by a negative net profit margin, which declined from US\$ -5 millions in 2004 to US\$ -19.5 millions in 2007. This deterioration can be explained by a combination of factors, both external and structural to ONE.

41. A steep increase in fuel costs, especially fuel oil, coal and natural gas, has increased ONE's production costs, heavily dependent on oil-fired generation (fuel purchases by ONE have more than doubled in value over 2004-2007). While ONE's operating costs have experienced substantial and steady increases, tariffs increases have only been moderate and have not reflected increased fuel costs (the average tariff grew by a modest 7 percent over the period). The situation is further exacerbated by the fact that a large proportion of ONE's new customers fall in low consumption tariff categories since most of them are rural households connected thanks to Morocco's national rural electrification program (PERG). To meet its public service obligations and fast growing demand during recent years, ONE had to invest an average of US\$ 680 million a year. These investments were financed through borrowings, whose financial costs inevitably burdened ONE's financial balance (borrowing expenses have grown by 26 percent in four years and total debt is now close to 70 percent of its balance sheet).

42. In addition, ONE's corrective payment obligations under a fiscal adjustment, declining hydro-generation due to repeated poor hydrological conditions (a 18 percent drop in production over 2004-2007), the existence of long-standing arrears owed to ONE (including US\$ 127.5 millions owed by the ex-Régie of Casablanca, US\$ 9.2 millions owed by the ex-Régie of Tétouan, and US\$ 94 millions in PERG-related arrears), and the provisioning of ONE's planned externalization of its pension management have all contributed to weakening ONE's financial position.

Outlook

43. Given that the strong and steady growth in electricity demand will continue to require heavy investments and that fuel prices are expected to remain high on international markets in the near and mid-term, financial projections indicate that with no corrective actions, the financial situation is likely to further deteriorate.

44. ***Base case scenario.*** Indeed, with no significant and cost-reflective tariff adjustments and aggressive financial restructuring measures, the future financial viability of ONE and, in turn, the sustainability of its investment program could be seriously compromised, threatening the operator's

capacity to meet its mandated obligations. In such scenario, ONE's net losses are estimated to drop from MAD 189 millions in 2007 to 2,5 billions in 2008, and to over MAD 4.4 billions by 2012.

Table 1. Base Case Scenario – Key Financial Indicators

Indicators		ACTUAL				PROJECTED				
		2004	2005	2006	2007	2008	2009	2010	2011	2012
Net Electricity Supplied	GWh	17,945	19,518	21,105	22,608	24,121	26,060	28,290	30,586	33,032
Net Electricity Billed	GWh	16,288	17,829	19,258	20,635	22,175	23,951	26,011	28,102	30,367
Electricity Sales	millions MAD	11,148	12,116	14,050	15,106	16,293	17,658	18,874	19,964	21,719
Fuel Purchases	millions MAD	1,849	3,198	3,838	3,831	5,545	5,155	5,481	5,532	6,450
Electricity Purchases	millions MAD	5,003	5,868	6,179	6,765	8,726	8,508	8,087	9,089	9,244
EBIT (EBE)	millions MAD	3,080	2,586	2,600	3,311	1,003	2,831	4,089	4,068	4,688
Operating Income	millions MAD	599	(69)	(196)	631	(1,700)	(1,581)	(1,222)	(862)	(1,253)
Debt Service Obligations	millions MAD	1,580	1,390	1,300	1,421	1,552	2,155	2,999	3,742	4,111
of which interest	millions MAD	582	602	657	737	865	1,258	1,851	2,340	2,588
Net Income	millions MAD	(41)	(242)	(1,734)	(187)	(2,513)	(3,162)	(3,442)	(3,626)	(4,416)
Corresponding Average Tariff	MAD cents/KWh	68.4	68.7	73.0	73.2	73.5	73.7	72.6	71.0	71.5
Corresponding Average Tariff	USD cents/KWh	9.0	9.0	9.6	9.6	9.7	9.7	9.5	9.3	9.4
New Investments	millions MAD	4,446	7,035	4,102	5,320	10,224	10,739	8,860	3,380	3,135
Equity	millions MAD	17,845	19,893	17,952	18,046	15,784	12,789	9,451	5,891	1,572
Long Term Borrowings	millions MAD	24,916	26,687	27,968	32,328	40,835	49,919	56,395	59,056	60,567
of which financing debt	millions MAD	13,717	14,746	16,208	19,599	27,096	34,930	39,985	41,182	41,961
of which provisions (incl. pensions)	millions MAD	10,962	11,829	11,760	12,729	13,739	14,989	16,410	17,873	18,606
Accounts Receivable	millions MAD	7,158	8,163	9,629	11,133	11,092	11,093	11,059	10,995	11,088
Debt Service Coverage Ratio (DSCR)		1.95	1.86	2.00	2.33	0.65	1.31	1.36	1.09	1.14
Debt to Equity Ratio		1.84	1.82	2.13	2.29	3.14	4.52	6.74	11.27	43.29
Debt Ratio		63%	62%	63%	66%	71%	77%	81%	86%	92%
Current Ratio		1.0	1.0	0.9	1.0	0.9	0.9	0.9	1.0	1.0

Source: ONE, World Bank 2008

45. Financial Improvement scenario. In order to reverse the negative trend, ONE's Board of Directors agreed in October 2007 on a set of financial restructuring measures (see Annex 9 for details), which was submitted to the Government for consideration and validation, as most proposed measures would require direct government intervention.

- Based on financial simulations, measures such as the implementation of an ambitious Demand-Side Management (DSM) program, optimization of the Afourer pumped storage and the removal of custom duty on ONE's natural gas consumptions would have a positive but limited on ONE's net result (a financial relief estimated at MAD 50 millions a year over the Base Case scenario)
- The resolution of the old arrears related to the ex-régies of Casablanca and Tétouan, in addition to improving ONE's short-term cash position, would bring an additional financial relief of MAD 80 millions a year in short-term overdraft financing costs. Given their high probability to be recovered, the arrears related to the PERG program were already assumed under the Base Case scenario.
- Tariff increases to better reflect supply costs, or a public service obligation (PSO) subsidy, would have a more significant impact on ONE's financial results. Financial simulations show that a positive operating profit could be reached with an average tariff increase of 10.45 percent in 2008, while a positive net profit could be attained with an average tariff increase of 15.45 percent that same year. Though ONE would still experience losses over the following years, such tariff increases would reduce cumulated net losses over 2008-2012 by 57 percent and 85 percent, respectively, compared with the base case scenario. An average tariff increase of 20.4 percent would keep ONE's net result positive throughout 2012.

Table 2. Impact of selected financial measures on ONE's Net Income and Debt Service Ratio (DRSC)

Net Income	2007	2008	2009	2010	2011	2012
Base Case	(187)	(2,513)	(3,162)	(3,442)	(3,626)	(4,416)
I. DSM Measures	(187)	(2,503)	(3,152)	(3,432)	(3,616)	(4,406)
II. Afourer STEP optimization	(187)	(2,501)	(3,150)	(3,430)	(3,614)	(4,404)
III. No custom duty on Natural Gas consumption	(187)	(2,485)	(3,134)	(3,414)	(3,598)	(4,388)
IV. Recovery of arrears of ex-Régies	(187)	(2,434)	(3,083)	(3,363)	(3,547)	(4,337)
V. Tariff Increase of 10.45% in 2008	(187)	(811)	(1,317)	(1,469)	(1,539)	(2,146)
VI. Tariff Increase of 15.45% in 2008	(187)	4	(434)	(525)	(541)	(1,060)
VII. Combined Measures (I + II + III + IV + VI)	(187)	133	(305)	(396)	(412)	(931)
DSCR	2007	2008	2009	2010	2011	2012
Base Case	2.33	0.65	1.31	1.36	1.09	1.14
I. DSM Measures	2.33	0.65	1.32	1.37	1.09	1.14
II. Afourer STEP optimization	2.33	0.65	1.32	1.37	1.09	1.14
III. No custom duty on Natural Gas consumption	2.33	0.66	1.33	1.37	1.09	1.15
IV. Recovery of arrears of ex-Régies	2.33	0.70	1.35	1.39	1.11	1.16
V. Tariff Increase of 10.45% in 2008	2.33	1.74	2.17	2.02	1.64	1.69
VI. Tariff Increase of 15.45% in 2008	2.33	2.27	2.58	2.34	1.91	1.96
VII. Combined Measures (I + II + III + IV + VI)	2.33	2.35	2.64	2.38	1.95	1.99

46. Given that each of these measures alone will not be sufficient to ensure the financial recovery of ONE, only a well-thought financial plan that would combine these various measures can prove effective over the medium-term. Only such concerted approach would allow for a more sustainable control over ONE's debt levels and costs, while restoring the financial strength necessary to undertake the investments required to cover demand and meet ONE's public service obligations. It is therefore critical that ONE and the Government formally agree on a financial recovery plan promptly.

B. Technical

47. The project has been designed according to internationally accepted technical criteria and standards (IEC standards with latest updates). A very small number of specifications have been adapted by Moroccan authorities to the country's climatic and geographical conditions.

48. The project implementation will be carried out according to written and well established procedures and according to strict specifications. The specifications for very high and high voltage lines and substations have been prepared with the assistance of high caliber international consultants in the early 1990s before the introduction of the 400 kV voltage level.

49. *A quality assurance plan is prepared for each project.* The first level of quality control is carried out by the Director and managers in the "Direction du Développement Réseaux". The second level of quality control is carried out by the "Direction Performance Opérationnelle" which includes an industrial audit unit (technical aspects of the project) and an implementation audit unit (management aspects of the project). These units carry out regular audits to ensure that projects are implemented in accordance with ONE's procedures and specifications and sound management rules.

50. The cost estimate of the project was prepared by ONE according to the latest tendering information available for similar equipment and work. Physical contingencies of about US\$ 8 million have been included in cost estimate.

C. Fiduciary

51. The financial management system was appraised to determine if it complies with the requirements of the Bank in respect to OP/BP10.02. The financial management evaluation of the ONE covered the areas of accounting and financial management, as well as the reporting and auditing process of the project. The financial management system, including necessary arrangements to respond to the needs of the financial monitoring of the project, satisfies the requirements of the Bank.

52. The financial management system presents a low fiduciary risk. The project will be carried out while being based on the procedures and the accounting and financial organization of the ONE, which has a financial management system considered to be satisfactory. As an autonomous public entity with commercial and industrial characteristics, the ONE has financial autonomy and is subjected to the financial control of the State. The law 69-00 dated November 11, 2003, has deeply modernized this financial control for the enterprises that fulfill a certain number of pre-conditions (issuing manuals of procedures, Organization chart, statute of HR, certified rules for procurement, certified accounting with no significant reserves by external auditors, annual report). The ONE has fulfilled these conditions and is thus submitted to this kind of control (called « Performance Control »). It is a serious guarantee of accountability.

53. As a result, its accounting system is based on the rules applicable to the state owned enterprises and its financial statements are submitted to an annual external audit. In addition, the ONE has acquired a substantial experience in management of Bank financed project.

54. The financial management will be ensured by the finance and treasury divisions within the financial department of the ONE, in coordination with the concerned technical departments. Specific arrangements for the needs for financial reporting were approved during the evaluation. Interim unaudited financial report , which will cover all the activities and sources of funds of the project, will be prepared biannually by the ONE and transmitted to the World Bank 45 days after the end of each period. The final format of these reports has been transmitted to the ONE during appraisal.

55. The external audit report of annual financial statements of ONE, an annual audit report of the project accounts and the management letter covering recommendations to improve the internal controls and the accounting system will be transmitted by the Office to the Bank no latter than six months after the end of each exercise. Moreover, the annual audit report of the project accounts will be carried out in accordance with the Bank guidelines by an acceptable auditor and according to acceptable terms of references by the Bank.

56. The project is financed by the World Bank and ONE. Financial flows will come from the loan funds of the Bank, and counterpart funds financed by the ONE. Flows of funds between the World Bank and the ONE will be organized according to normal disbursement procedures of the Bank. No Designated account is required for this project. ONE will use the direct payment, special commitment and the reimbursement procedures to finance project activities.

D. Social

57. It was established that the component related to transmission lines and sub-stations (400 and 225 kV network) will require some land acquisition and trigger the Bank's policy on involuntary resettlement (OP 4.12), as follows:

- Some land acquisition for the sub-stations
- The loss of agricultural revenue due to the placement of tower bases
- The possible re-location of structures underneath transmission lines (in case the legal height restrictions are not observed)
- The temporary use of cultivated land during project construction works

58. The transmission lines and sub-stations will mainly be situated in sparsely populated rural areas, with the exception of 2 sub-stations (Dar Bouazza and Tamansourt), which are located in urban areas. None of the proposed sub-station sites are inhabited, consequently there is no resettlement expected. The procedure for compensation for the space taken by the transmission towers as well as by the necessary reservations is described in the Resettlement Policy Framework (RPF) prepared for this project. The remote possibility of dwellings located beneath high voltage lines is also being addressed and will be considered for compensation by ONE.

59. Since the exact placement of the substations and lines has yet to be determined, an RPF was prepared to outline (a) the legal framework, (b) the land tenure system, (c) resettlement principles and screening procedures, (d) methods of evaluation and compensation, (e) consultations and grievance procedures, and (f) monitoring the implementation of the Resettlement Action Plan (RAP).

61. Once the detailed plans are finalized, a census survey of all affected peoples will be carried out, after which a RAP will be prepared by ONE, the implementing agency, to determine those eligible for compensation. This process will involve the dissemination of information and consultations by ONE with the affected communities through their local representatives to ensure that they are both informed and able to provide inputs to the compensation process. There are clear recourse procedures that are available to the affected persons if these are needed. ONE has experience with regard to acquisition of land and compensation, and has followed these in the past including in the Ain Beni Mathar project, which required a resettlement plan. Finally, both the RPF, and the RAP – once prepared – will be disclosed to the affected communities as well as placed on the ONE website.

E. Environment

62. The transmission lines and sub-stations (400 and 225 kV network) to be financed by the project will entail potential impacts on the natural and human environment of the areas on and through which these infrastructures will be established. The other components of the project have not been found to have significant environmental nor social negative impacts.

63. Considering the fact that the exact lay-out of the proposed transmission lines are not known at the time of project preparation an environmental and social impact assessment framework

(ESIAF) has been commissioned by ONE. The ESIAF is comprised of four volumes corresponding to each component of the main infrastructure part of the project:

- Report #1 : EIA line 2T 400 kV MEDIUMA – GHANEM (1x120 km)
- Report #2 : EIA lines 1T à 400 kV BIR LHAR – CHAMAIA (2x55 km)
Line 2T à 225 kV CHAMAIA – TENSIFT II (1x60 km)
Connection line 225 kV to CHAMAIA (6 km)
Connection line 400 kV to CHAMAIA (1 km)
Sub-station 400/225 kV in CHAMAIA (13 hectares)
- Report #3 : EIA line 2T 400 kV CHICHAOUA - AGADIR (1x160 km)
- Report #4 : EIA sub-station DAR BOUAZZA (225/22 kV), de DAR OULED ZIDOUH (60/22 kV), and TAMANSOURT (60/22 kV).

And a report # 5 : Resettlement Policy Framework : RPF. see social aspects section above.

64. The main environmental impacts have been found to be related essentially with the issue of the layout of the proposed lines. Some of the corridors proposed by ONE pass very close to areas of ecological and general environmental significance thus triggering the World Bank Policy 4.04 relative to Natural Habitats. Alternative routing has been proposed and will be taken into consideration in the execution of the project hence addressing OP 4.04 requirements.

65. In addition to the environmental impacts mentioned above, the ESIAF reports are including precise recommendation for limiting the impacts during execution of the works both for lines and sub-stations, as well as for limiting impacts (health) during operation of the lines.

66. The ESIAF reports includes environmental management plans and monitoring plans indicating the mitigating and monitoring measures, responsible parties and timing (project phase for the EMP and frequency for the monitoring plan).

67. General inter-agency consultation was conducted during preparation of ESIAF reports and targeted public consultation will be carried out at the level of each area to be impacted by the project and will include information of the population, concerned governmental agencies as well as municipalities. Registers will be available in each of the concerned municipalities for collecting comments by the population.

68. The capacity of ONE regarding its environmental responsibilities as established by the Moroccan law as well as on the basis of the World Bank requirements has been found satisfactory. The Directorate of Environment and Renewables has a long experience in commissioning Environmental Impact Assessments, the last of which is the Solar-Thermal Power Plant of Ain Beni Mathar co-financed by a GEF grant implemented by the World Bank.

F. Safeguard policies

69. The environmental Safeguards category for this project is “B”. The applicable Safeguards Policies are the following:

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (<u>OP/BP</u> 4.01)	☒ [X]	☐ []
Natural Habitats (<u>OP/BP</u> 4.04)	☒ [X]	☐ []
Pest Management (<u>OP</u> 4.09)	☐ []	☒ [X]
Physical Cultural Resources (<u>OP/BP</u> 4.11)	☐ []	☒ [X]
Involuntary Resettlement (<u>OP/BP</u> 4.12)	☒ [X]	☐ []
Indigenous Peoples (<u>OP/BP</u> 4.10)	☐ []	☒ [X]
Forests (<u>OP/BP</u> 4.36)	☐ []	☒ [X]
Safety of Dams (<u>OP/BP</u> 4.37)	☐ []	☒ [X]
Projects in Disputed Areas (<u>OP/BP</u> 7.60)*	☐ []	☒ [X]
Projects on International Waterways (<u>OP/BP</u> 7.50)	☐ []	☒ [X]

G. Policy Exceptions and Readiness

The project does not require any exception from the Bank policies and is ready for financing.

* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

Annex 1: Country and Sector Background

MOROCCO: ONE SUPPORT PROJECT

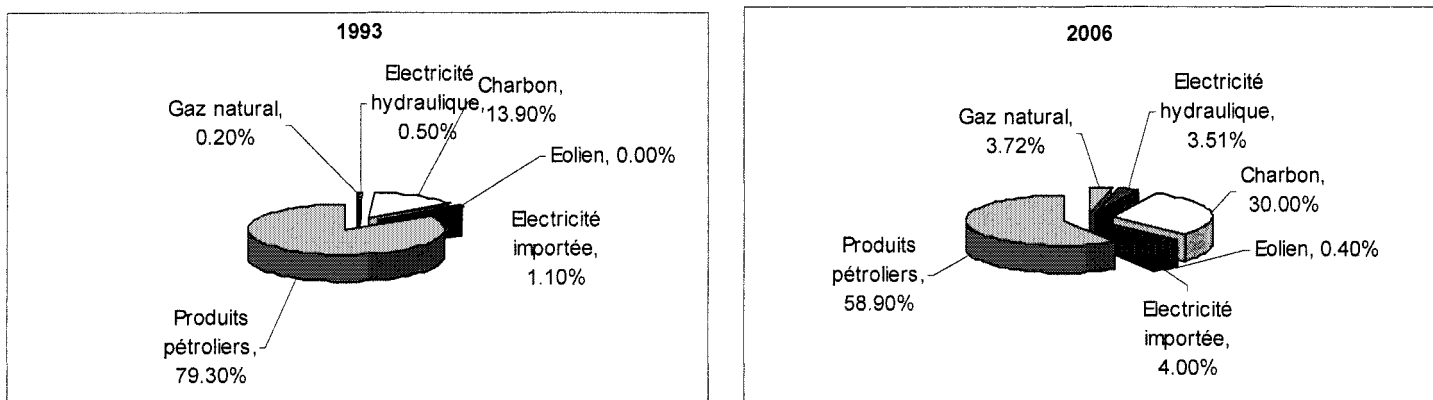
Overview of Morocco's energy sector

70. Morocco is almost entirely dependent on imports to satisfy its energy demand, with 95 percent of primary energy demand (excluding non-commercial forms of energy) covered by imports. Although Morocco has diversified its energy mix over the last fifteen years, first by increasing coal use and, more recently, with the introduction of natural gas, oil still covers 59 percent of the country's energy needs (compared to 79 percent in 1993).

71. Increased use of natural gas, especially in the power sector, is a cornerstone of the country's energy policy, aiming at the diversification of the sources of energy, the provision of energy at the lowest cost and the reduction of the environmental impact. The commissioning of a CCGT in Tahaddart has resulted in an increase in the share of natural gas in Morocco's primary energy demand to 3.5 percent in 2006, from less than 1 percent in 2004. The commissioning of Ain Beni Mathar planned for 2009 will further lift that share to 6 percent, but it will also absorb the remainder of the Algerian transit gas available. Further natural gas penetration requires an agreement with Algeria on contracting additional gas volumes or the development of additional gas import infrastructure.

72. Given the high level of import dependency and strong reliance on oil, Morocco is highly exposed to international oil price fluctuations, which have a destabilizing effect on its balance of payments.

Figure1: Structure of primary energy demand by fuel, 1993 & 2006



Source: Secteur de l'Energie en Chiffres, Direction de l'Observation et de la Programmation, MEMEE.

73. The increase in energy prices is estimated to have reduced Morocco's gross domestic product (GDP) growth by 1 percent over the 2000–2005 period.¹ Moreover, the government has sought to shield the population from the effect of increasing prices on international oil markets by

¹ This estimate is based on the evaluation by the Development Economics (DEC) unit of the Bank on the impact of a \$30 increase of oil prices on growth for middle-income countries.

reestablishing price control in 2000. The resulting subsidies on consumer prices for petroleum products have been a burden on the country's budget, with net subsidies increasing from 0.25 percent of GDP in 2004, to 0.92 percent in 2005, and 1.61 percent in 2006. In 2006, the government reestablished the principle of reflecting international price variations in domestic prices to reduce the amount of subsidies, and implemented two consumer price increases. After a small reduction in early 2007 (reflecting a small decline in international oil prices), consumer prices have since remained frozen to avoid social unrest, despite persistently increasing international oil prices (reaching \$100/barrel at the end of 2007/beginning of 2008). The resulting increase in subsidies is worsening the fiscal burden and undermining the prospects for structural reform in the oil sector

74. Given that energy demand is projected to grow 4.5 percent per year (from 11 million tons of oil equivalent (mtoe) in 2006 to 14 mtoe in 2014), import dependency is unlikely to decline.

In this context, the major issues that face the Moroccan energy sector include:

- Reducing import dependency and ensuring security of supply through, among other things, diversification of the energy mix, development of indigenous sources of supply such as the large untapped wind potential and diversification of import sources;
- Securing access to gas resources, which is necessary to feed growing energy demand without increasing the reliance on expensive oil or on environmentally damaging coal;
- Curbing growth in energy demand, and especially electricity demand, through intensified energy efficiency efforts;
- Linking the prices of petroleum products to international prices, even when they increase, in order to implement a gradual reduction in subsidies while protecting the poor population from the potentially negative effect of a sudden increase in consumer prices;
- Revising the electricity tariff to recover costs;
- Access to financial resources to develop the infrastructure needed to meet growing energy demand and remove bottlenecks.

Morocco's Energy Policy

75. A national energy debate was initiated at National Energy Day on October 30th 2006. Since then, the participation in the debate has widened to include, besides the government and the energy industry, non-governmental organizations (NGOs) such as Forum des Centraliens, industry associations, and large energy users. The main elements of the debate continue to be:

- Security of supply: diversification of supply, development of infrastructure to facilitate cross-border exchanges, and strategic reserves;
- Diversification of the energy mix through the development of renewables, the creation of a gas market, the use of nuclear power, and the intensification of oil and gas exploration;
- Access to energy for all at a competitive price: rural electrification so that all of the population has access to electricity, prices as low as possible to ensure competitiveness of Moroccan industry;

- Energy demand management; and
- Protection of the environment and security of energy facilities through strengthened technical control.

76. The Government of Morocco is taking a number of measures to address issues of concern and implement this energy policy:

- In November 2007, following nomination of the new government, the King announced a budget of 20 million Dirham from the Hassan II Fund to support the program of reform in the energy sector;
- The framework law on energy efficiency and renewables was approved by the Council of Government in May 2007, and is progressing through the legislative process. Secondary legislation is now under development. The institutional framework is being strengthened to achieve ambitious plans to increase the contribution of renewable energy (RE) to 10 percent of the primary energy demand in 2012, with the creation of an energy efficiency agency. Renewable energy equipment is being exempted from custom duties and subject to a reduced rate of value-added tax (VAT);
- The ceiling for self-generation by industry was increased from 10MW to 50MW, to help face the shortage in power generation capacity and facilitate investment by private participants in the power generation sector;
- An inter-ministerial committee was created to supervise the preparation of the electricity law that would introduce competition gradually and restructure the sector;
- A process of reform of prices and subsidies is underway, so that consumer prices reflect variations in international oil prices to avoid permanent price subsidies, provide correct price signals to consumers, and prepare for full liberalization of the petroleum product market. The program is to be defined by mid-2008, with implementation expected to continue through 2009;
- A feasibility study for new gas infrastructure has been completed and has identified two possible sites for a liquefied natural gas (LNG) terminal, as a way to diversify sources of natural gas supply and secure access to new large volumes of natural gas after 2012 in particular to fuel the power generating sector;
- Oil and gas exploration is being intensified;
- A dialogue is being established with energy producing countries, starting with Nigeria and Mauritania.

77. In addition, cooperation with the EU is being intensified, and integration into a Maghreb energy market seems an option to achieve security of supply and optimize use of resources. A protocol was signed in 2003 to create a Maghreb regional energy market that would integrate gradually with the EU energy markets, and the European Commission is financing a study on regional power market integration.

78. The Bank's DPL supports Morocco's new energy policy initiated in 2006 which is focused on reducing the country's dependency on fossil energy imports, alleviating the budgetary burden of energy subsidies and integrating gradually the Moroccan power sector in a competitive and liberalized Mediterranean power market, while protecting the environment. The primary objectives

of the DPL are to support the implementation of Morocco's energy policy over the period 2007-09. This policy has three pillars : (i) the first pillar is to improve energy security through the development of domestic renewable energy resources, particularly wind energy for which Morocco has an exceptional endowment and solar, efficient use of energy particularly in industries and the formulation of a long-term energy supply strategy; (ii) the second pillar is to support actions to increase productivity and cost effectiveness in the power sector through regional power system integration with Maghreb and the European Union, the gradual liberalization of the electricity market in Morocco under the overseeing of a new regulatory agency and the restructuring of the incumbent power utility, ONE and the preparation of a competitive petroleum downstream market; and (iii) the third pillar is to reduce Government subsidies for petroleum products, while protecting low-income consumers through a combination of competition enhancing measures to reduce the cost of supply, reduction of subsidies and pegging of domestic petroleum prices to international prices. Reform of the electricity sector is covered under Pillar 2 and the key actions of the DPL matrix are reproduced in next Table.

Extracts from Morocco Energy DPL Operations Matrix

OBJECTIVES	ACTIONS				EXPECTED RESULTS
	Achieved	2007 <i>PPD1</i>	2008 <i>PPD2</i>	2009 <i>PPD3</i>	
A. Integration of regional power networks	Establishment of a power trading capacity with Spain and Algeria	Reinforce local power trading capacity		Harmonize regional dispatch and SCADA systems Regulation of regional exchanges - pricing system for regional transmission - non-discriminatory access to transmission network - common dispatch rules	Reach power exchange capacity of 1400 MW with Europe and 1,300 MW with Algeria Development of regional power exchanges
	Decision to engage power sector reforms, taking into account EU principles on power sector liberalization and harmonization of regulatory frameworks		Presentation to Parliament of the draft law for the liberalization and modernization of the electricity sector Secondary legislation adopted	Law for the liberalization of the electricity sector adopted by Parliament	Reorganization of the power sector and partial opening of a competitive market for high voltage and very high voltage from 2010 onward.
B. Integration and liberalization of Moroccan power system		Setting-up of an Interministerial Steering group for electricity sector reorganization coordinated by MEMEE	Implementation of a training program for system integration and modernization	ONE restructuring	Transparency in the management of generation, transmission and distribution Interministerial cooperation for electricity sector reforms
		Preparation of a national « Grid Code »	- Preparation of term sheet for contractual relations between operators in the power sector -organization of contractual relations between generators, transmission function and distributors - Organization of the regulatory function in the power sector		Transparent transactions in the power sector

Electricity Demand

79. With a growing population, strong economic growth and a policy of universal access to electricity, Morocco's electricity demand is increasing rapidly. Over the 1996-2006 period, electricity demand grew on average 6.7 percent p.a., whereas GDP was growing on average 3.4 percent p.a, indicating an elasticity of electricity demand to GDP well above 1. The electricity intensity of GDP increased from 0.077 kWh/1980MAD in 1980 to 0.105 kWh/1980MAD in 2006. Electricity consumption per capita has increased over the same period from 365 kWh to 610 kWh.

80. Access to electricity, a priority of the Moroccan government, is already high and increasing further with a rapid growth in rural electrification: from only 18 percent in 1995, it has increased to 72 percent in 2005 and 93 percent in 2007 and is projected to reach 100 percent in 2008. This rapid growth in rural electrification will contribute to boosting electricity demand growth. Although the industrial sector continues to dominate the electricity demand, the share of electricity consumed in the residential sector has increased from 30 percent in 1996 to 38 percent in 2006.

81. The rising trend in electricity demand has accelerated over the last 3 years, with growth in Moroccan electricity demand increasing from 6 percent p.a. on average during 1997-2002 to 8 percent p.a. during 2003-2007. Electricity demand reached 18.6 TWh in 2006 and 21.1 TWh in 2007. Even under the most conservative scenario, electricity demand is expected to grow at 8 percent p.a. until 2015 (assuming GDP growth of 5 percent p.a.) and to reach 45 TWh in 2015. Annual growth could be as much as 10 percent if economic growth is stronger or if efforts at curbing electricity demand growth are unsuccessful. ONE projects that peak demand will grow from 3550MW in 2006 to between 4810MW and 5200 MW in 2010 and 7100MW and 8200MW in 2015 depending on assumptions on economic growth and energy conservation.

82. ONE has initiated a demand side management (DSM) program to tap the large potential for energy savings which has been identified. This initiative is in line with the objectives of the Moroccan energy policy and consistent with efforts advocated by the Bank and other lenders to give priority to measures that reduce growth in energy demand. If successful, the program would reduce peak demand by 200 MW in 2010 and 250 MW in 2015, reducing the need for massive investment in generation and transmission/distribution infrastructure. In order to successfully implement the program, ONE has set up a DSM department.

83. The ONE DSM program is conducted in close cooperation with other institutions involved in energy conservation and do not distract ONE from its core business. The main elements of ONE DSM program are:

- Institutional measures:
 - Change in time in summer or adopting the European continental time (GMT+1)
 - Adaptation in working schedules
 - Change in public lighting practices
- Measures affecting equipment:
 - INARA: introducing CFL, starting with a pilot program in 2007/08 with 5 million lamps
 - Chourouk: introducing solar electricity in urban zones connected to the grid
- Measures in the industrial sector, among which encouraging industrial self-generation (program Energipro)
- Tariff measures:

- Introduction of peak tariffs for industry (encouraging load shedding or self generation)
- Contracting sales to distributors and introducing a capacity component in the tariffs to distributors
- Introduction of two-part tariff for large consumers.

84. These measures could reduce peak demand by as much as 420 MW when having reached their full effect (2020 or beyond).

Electricity Supply

85. In 2007, Morocco had to rely extensively on imports from Spain to meet electricity demand, given poor hydro conditions. Production from thermal power plants covered nearly 80 percent of the demand, with the majority of production generated from coal.

Table 3. Moroccan power generation in 2007

	GWh	% of demand
Hydropower	1318	5.8
Thermal of which	17994	79.6
<i>Coal</i>	12457	55.1
<i>Natural gas</i>	2823	12.5
<i>Oil</i>	2715	12.0
Wind	279	1.2
Pumping, auxiliaries	-490	
Net production available	19102	
Net imports from Spain	3506	15.5

Source: ONE

86. The installed power generating capacity was 5 283 MW in 2006, of which 3489 MW exploited by ONE and the rest by private operators. The parc is composed of 3561 MW of thermal plants and 1273 MW of hydro plants.

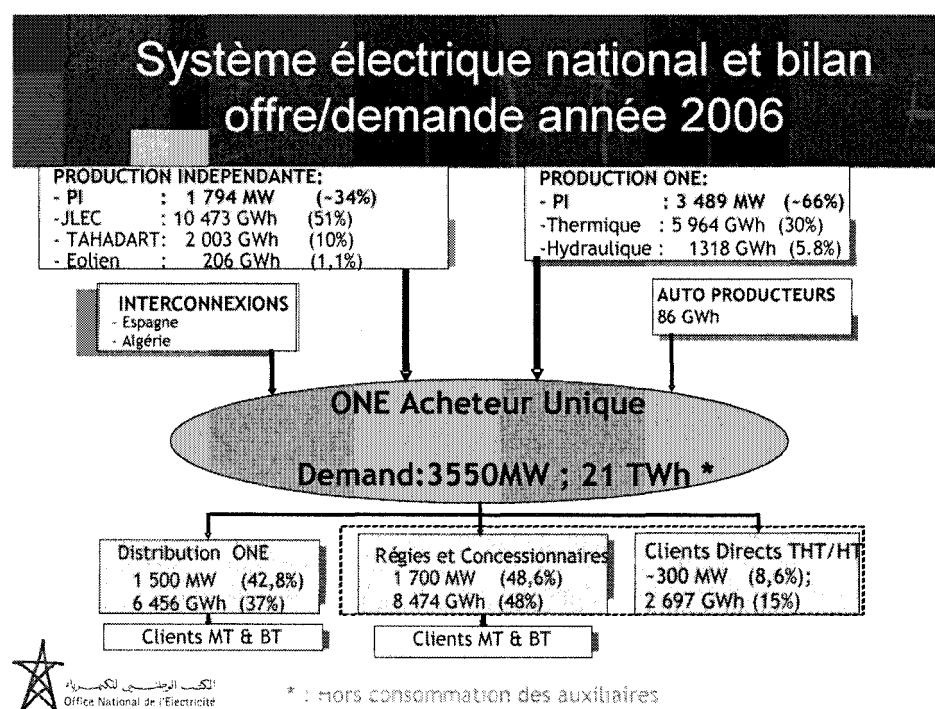
87. Privately operated plant includes coal-fueled Jorf Lasfar power plant (1,356 MW), initially developed and operated by ABB/CMS and sold to Abu Dhabi National Energy Company in 2006, the Al Baida wind farm (50 MW) and the Tahaddart combined cycle gas fueled plant, operated by ONE (48 percent), Endesa (32 percent) and Siemens (20 percent). The two first units of the Jorf Lasfar plant (2 x 330 MW) were commissioned in 1994 and 1995; units 3 and 4 in 2000 (2 x 348 MW). The Al Baida wind farm at Koudia near Tetouan (50 MW) was commissioned in August 2001. The first gas combined cycle power plant (400 MW) was commissioned at Tahaddart in April 2005.

Table 4. Installed power generating capacity at end-2007 (MW)

Hydro, 26 hydro plants	1266
Thermal plants, of which	3561
<i>CCGT in Tahadart</i>	280
<i>Coal steam plants (incl Jorf Lasfar)</i>	1785
<i>Fuel oil steam plant</i>	600
<i>GT</i>	615
<i>Diesel</i>	69
Wind	114
STEP (pumped storage)	466
Total installed capacity	5294

Source: ONE

Figure 2: Organization of the Moroccan electricity sector



88. Since then, there has been no major capacity addition. Between 1999 and 2005, capacity addition has amounted to 1682 MW, instead of the 2468 MW which had been planned at that time in the capacity expansion plan. Moreover electricity demand growth has been stronger than assumed in the capacity expansion plan. The investment delay have had two major causes: (1) difficulties in getting new sites authorized and permitted mostly for coal plants, but also for expansion of the Tahaddart CCGT, and (2) lack of availability of natural gas to commission new gas plants. As a result of commissioning delays and stronger than expected demand growth, a supply/demand gap has developed and Morocco has increasingly relied on imports to meet demand.

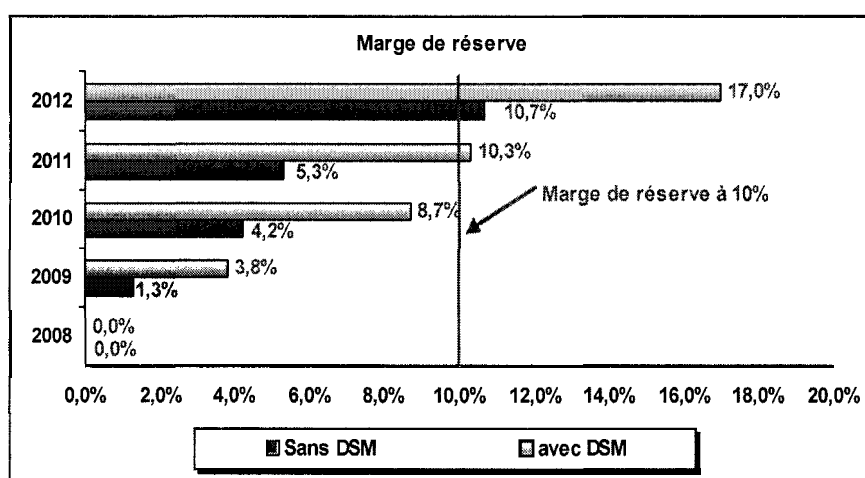
Figure 3: Capacity additions between 1999 and 2005, planned vs actuals

Capacity installed (MW)		1999	2000	2001	2002	2003	2004	2005	Total
thermal	actual		660		21			385	1066
	planned		660		21	385	200	400	1666
hydro	actual					98	232	232	562
	planned				98		450		548
Wind	actual		54						54
	planned		54			60	140		254
Total	actual		714		21	98	232	617	1682
	planned		714		119	445	790	400	2468

89. This has put considerable stress on the electricity system, and the reserve margin² has fallen to 3 percent in 2007, well below the desirable level of 10 percent. The situation is expected to deteriorate further in 2008. To meet the demand in 2008, Morocco will have to increase its reliance on imports, while adopting emergency DSM measures to curb demand.

90. The transit capacity of the interconnection between Morocco and Spain has been doubled in 2006, from 700 to 1,400 MW. The interconnection with Algeria has also been increased to 1,200 MW in 2007 from 300MW.

Figure 4: Reserve Margins



Source: ONE

91. Besides DSM measures, ONE is also adopting emergency measures to face the tight supply/demand situation:

- Adjustment in maintenance schedules
- Reduction of losses
- Increase in diesel generation capacity
- Retrofit of the Mohamedia plant

92. ONE is also encouraging self generation by large industrial users and the government has increased the ceiling for autoproduction capacity from 10MW to 50MW. However this is unlikely to result in substantial capacity additions before 2009 at best.

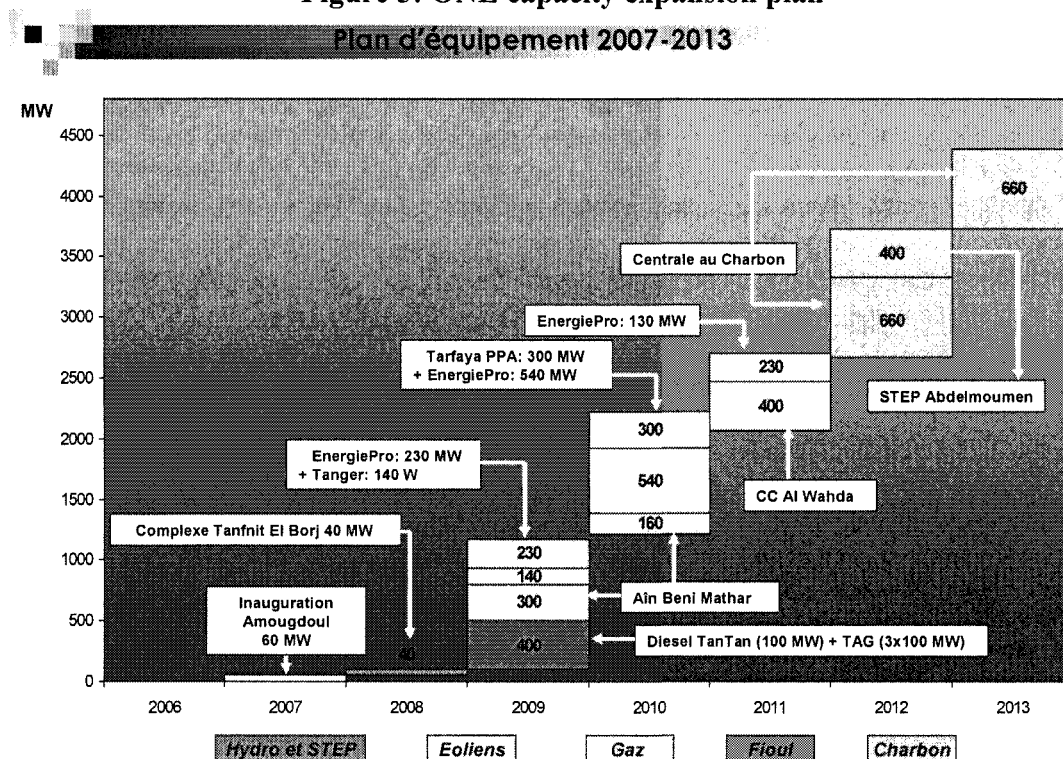
² Reserve margin is calculated as the ratio between available capacity, assuming a dry year, and peak demand, taking into account import capacity of 600MW only.

93. The latest capacity expansion plan (see Figure 3) calls for the commissioning of the following plants before 2012:

- 40 MW of hydro in Tanafnit-El Borj in late 2008
- The solar assisted CCGT of Ain Beni Mathar (470 MW) in mid-to-late 2009
- Gas turbines in Tan Tan and Mohamedmedia in mid-2009 (400MW)
- Addition of 1340 MW of wind capacity between 2009 and 2011: 440 MW of IPPs (140 MW in Tanger already under development and 300 MW in Tarfaya) and 900 MW under the Energipro initiative.
- A 400 MW CCGT in 2011 in Al Wahda, assuming the gas supply can be secured

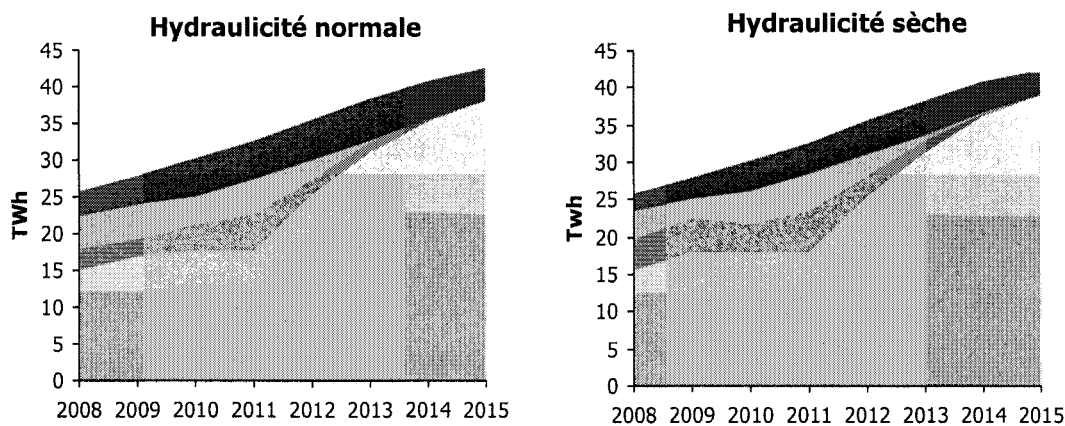
Beyond 2012, the majority of the capacity addition will be in the form of a 1320 MW coal plant and 400 MW hydro.

Figure 5: ONE capacity expansion plan



94. As a result of this capacity expansion plan, imports will not decrease substantially as a proportion of demand until 2013 or beyond, especially in case of low hydro availability. Coal-based generation will mark a step increase in 2012/13 with the commissioning of the Bir Ela Har plant. Production based on natural gas will increase only after 2013 when, and if, new sources of gas supply are developed through LNG terminals or existing or new pipelines.

Figure 6: Moroccan power generation by fuel type (TWh)



95. The elec **Charbon importé** **Gaz** **Fioul** rapidly, **Importation** **Hydraulique** **Eoliens** as a result of the PERG. The total length of the network is now 19000 km for high voltage, 47 000 km for medium voltage and 145 000 km for low voltage. The network will have to continue expanding to connect new power plants and meet fast growing demand. Investments of 5.6 billion MAD are planned between 2008 and 2013. This investment program is expected to contribute to reducing network losses from 6 percent to 4 percent.

Table 5. The Moroccan electricity transmission and distribution network

	1999	2006	%
HV (km)	15,000	19,000	27%
MV (km)	25,000	47,000	88%
LV (km)	46,000	145,000	215%

Electricity Regulation and Reforms

96. The regulatory functions applied to the electricity sector are currently spread between the following institutions:

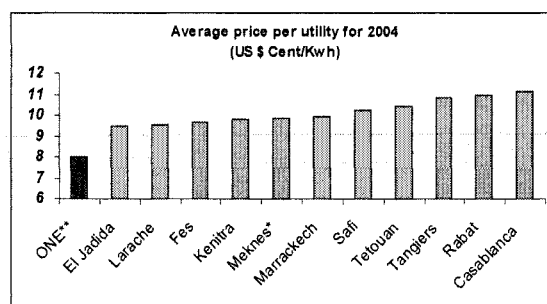
- Ministry of Energy, Mines, Environment and Water defines and implements national energy policy and is responsible for the technical supervision of ONE.
- The Ministry of Economy and Finance has the financial supervision of ONE and of the electricity distributors (“régies”).

- Ministry of Interior is supervising the private concessions of water and electricity distribution and the “régies”.
- Ministry of Economic and General Affairs studies and sets tariffs, based on recommendations of the inter-ministerial price committee.
- The National Office for Electricity (ONE), a state owned company, plans the production and transmission system, and proposes tariffs changes, regulatory and legal texts required to achieve its missions.

97. In 1994, a new electricity law was adopted allowing foreign private investments in independent electricity production with guaranteed power purchases by ONE. The country launched in 1995 an important Rural Electrification program (PERG); the target is the electrification of 1500 to 2000 villages per year. The rate of rural electrification of the country should reach 100 percent in 2008 (82 percent in 2005 against 17 percent in 1994).

98. While ONE and Régies’s tariffs are the same and subject to adjustment decisions made by the Interdepartmental Commission on Prices, private concession tariffs are different and regulated by contract. Concession tariffs are on average about 7 percent higher (see figure below). Morocco electricity prices are high compared to those that prevail in other countries of North Africa, but are lower than those in the Northern part of the Mediterranean.

Figure 7: Average Electricity Tariffs in Morocco per operator



Source: World Bank calculation based on data from ONE and other operators

99. Morocco electricity sector faces four main challenges:
- To meet strongly growing electricity demand, at 8 percent p.a or more.
 - To ensure price competitiveness for industrial customers in the context of opening up of the Moroccan economy. Future electricity prices must be aligned on those practiced on neighboring markets, in particular in Spain.
 - To implement a more responsive and less fragmented institutional framework to facilitate the formulation of a comprehensive sector-wide vision.
 - To implement a regulatory framework and incentives for monopolistic activities for higher cost efficiency.
100. A draft law, presently under discussion by the Government, calls for: (i) gradual liberalization of the electricity market, starting with eligibility of high-voltage customers, (ii) establishment of an electricity regulator who will advise on price revisions, attribution of licenses for new generators and distributors, supervision of existing and new concessions, setting of technical and commercial standards, supervision of calls for tenders for new capacity in the context of sector planning by the Transmission System Operator, and regulation of competition and (iii)

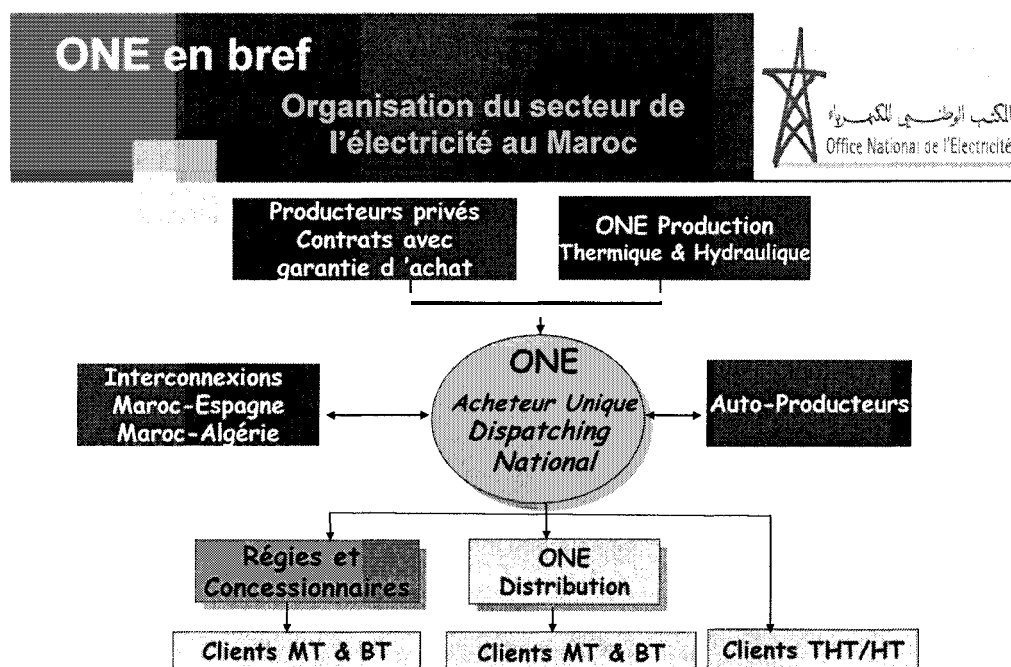
restructuring of ONE and unbundling into three or four commercially separated activities: generation for the regulated market, dispatch and transmission, and distribution (and possibly retail supply). The draft law is one of the actions under the DPL.

101. The electricity market reform is part of the Neighborhood Partnership Agreement with the EU which calls for gradual liberalization to harmonize with European markets. Morocco could benefit significantly from integrating in the regional power system through larger interconnections capacity and third party access to the electricity grid. This would enable Morocco to receive back-up services and benefit from reserve capacity at a lower cost, purchase/sell electricity from/to neighboring countries on the best financial terms, and possibly, export “green electricity” from wind farms. The potential gains in terms of avoided investment in reserve capacity, improved security of supply, and access to cheaper electricity will contribute to lower the cost of electricity.

Electricity sector organization

102. The private sector already plays a key role in the electricity sector in Morocco, with over 50 percent of the power generating capacity in the hands of IPPs (contributing to over 70 percent of generation) and 55 percent of electricity sales to end users done by private operators. Over 50 percent of the electricity produced in the country is distributed via 12 autonomous utilities of distribution. Distribution was delegated to “Régies” in 1997 and three private concessions (Casablanca, Rabat and Tangier).

Figure 8: Electricity Sector Organization



103. Although private sector financing in Morocco has been deemed a success story³, recent experience has been less positive, in particular with no private bidder for the Ain Beni Mathar plant.

³ See for instance “Moroccan Independent Producers- African Pioneers”, by Issac Malgas, Katharine Gratwick and Anton Eberhard, Management Program in Infrastructure Reform and Regulation, January 2007

It is expected that interest will be revived once the electricity liberalization law is fully implemented and enforced. Moreover, the interest in wind energy of domestic and international investors has remained vivid. The interest of large industrial companies to further expand autoproduction in units of increasing size is a sign of a dynamic market keen to experience competition.

ONE strategy

104. ONE strategy is articulated around four main dimensions:

- Supplying electricity at the lowest possible cost
- Diversifying the fuel mix
- Providing universal access to electricity
- Expanding internationally.

105. In order to meet its stated objectives, ONE is focusing on improving its own performance, while using a variety of instruments to reduce the cost of producing electricity: better adapted tariffs, optimal investment planning, DSM programs and risk management. To diversify the fuel mix, it is developing the hydro and wind potential of the country, while attempting to secure new supplies of natural gas. Finally, after having been very active in the PERG, it has set up the VER to develop value enhancing activities made possible by the general access to electricity. ONE is now making its expertise available to sub-Saharan countries. To become an international company, it is attempting to exploit its position as a cornerstone of Mediterranean energy markets.

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

MOROCCO: ONE SUPPORT PROJECT

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
Bank-financed GEF Grant for an Integrated Solar Combined Cycle Power Project Energy Development Policy Loan Bank Guarantee Jorf Lasfar Power Plant	Generation Policy support for energy sector reforms and subsidy removal Generation	Implementation Progress (IP) Effective March 30, 2008 Satisfactory	Development Objective (DO) Add power generation capacity Increase contribution of renewables Demonstrate new technology Increase energy security Foster energy market competition Reduce subsidies on petroleum products Bridge the financing gap, by helping the Sponsor borrow at more favorable terms
Other development agencies			
African Development Bank - Integrated Solar Combined Cycle Power Plant (to be co-financed with GEF) - Network Interconnection	Generation Transmission		Increase supply of electricity Increase transfer capacity and enhance security of supply
EIB, FADES, Kuwait Fund - Pumped Storage	Generation		Increase transfer capacity and enhance security of supply
KfW - Essaouira wind farm	Renewable energy		Increase the share of renewable energy in the energy mix and reduce GHG emissions
AFD, JBIC, KfW, EU and IsDB	Rural electrification		Improve access

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

Annex 3: Results Framework and Monitoring
MOROCCO: ONE SUPPORT PROJECT

Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
Increase efficiency and reliability of electricity supply	1. reduced transmission losses 2. reduction of un-served energy 3. electricity savings due to CFLs deployment	Input to assess achievement of the PDO Monitoring by ONE of the performance (efficiency and reliability) of the transmission and distribution system. Annual Report and other ONE statistical documents Input to the Implementation Completion Report
Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
Progress in implementation of the transmission and distribution infrastructure	Length of HV lines added Number of substations added	Assessment, by both ONE PMU and Bank, of progress towards achievement of PDO and formulation of corrective actions if needed
Progress in marketing CFLs	Number of CFLs distributed	Assessment of progress towards achievement of PDO and formulation of corrective actions if needed
Progress in establishing the trading desk	Trading desk operational, number of screens, number of transactions	Assessment of progress towards achievement of PDO and formulation of corrective actions if needed
Progress in implementing the TA subcomponents	Progress in tariff, contractualisation and VER studies	Assessment of progress towards achievement of PDO and formulation of corrective actions if needed

Arrangements for results monitoring

Project Outcome Indicators	Baseline 2007	Target Values				Data Collection and Reporting		
		2008	2009	2010	2011	2012	Frequency and Reports	Responsibility for Data Collection
1- Transmission losses 2- USE (MWh) 3- Electricity savings due to CFLs use	4.7% 832.7 0 0	600 100MW 150 GWh		4.1% 500 200 MW 300GWh		3% 400 200 MW 300GWh	annual annual annual Statistical reports Statistical reports Number of CFLs placed and ensuring electricity savings (progress reports)	ONE ONE ONE
Intermediate Outcome Indicators								
Transmission component								
Progress milestones of HV lines						468 km	Annual	Progress reports ONE
*One line 400 kV (double circuit) -- Mediouna -- Ghanem (120 km)		13% of total line= 100% Studies of Environmental impact +33%Topographic studies+22%Supply and delivery	40 %of total line 66%*Topographic studies completed +40%*Civil works+44%Supply and delivery	67% of total line 60%*Civil works completed +40% Mounting+33%Supply and delivery	88% of total line 60%Mounting completed +60% Unrolling	100%of the line (120 km 40% Unrolling+100%Reception)		ONE
*Two lines 400 kV (single circuit) -- Safi/Essouira -- Chamaia (2x55 km) AND Connection of line 400 kV (double circuit) Ghanem -- Chichaoua, to substation Chamaia		13% of total line 100% Studies of Environmental impact +33%Topographic studies+22%Supply and delivery	40 %of total line 66%*Topographic studies completed +40%*Civil works+44%Supply and delivery	67% of total line 60%*Civil works completed +40% Mounting+33%Supply and delivery	88% of total line 60%Mounting completed +60% Unrolling	100%of the line (2*55+2 km) 40% Unrolling+100%Reception		ONE
*One line 225 kV (double circuit) -- CHAMAIA -- TENSIF II (1x 70 km) AND Connection of lines 225 kV (single circuit) Chichaoua -- Jorf Lasfar and Chichaoua -- Bougedra, to substation Chamaia		13% of total line 100% Studies of Environmental impact +33%Topographic studies+22%Supply and delivery	40 %of total line 66%*Topographic studies completed +40%*Civil works+44%Supply and delivery	67% of total line 60%*Civil works completed +40% Mounting+33%Supply and delivery	88% of total line 60%Mounting completed +60% Unrolling	100%of the line (1*70+6 km) 40% Unrolling+100%Reception		ONE
*One line 400 kV (double circuit) -- Chichaoua -- Agadir (1x160 km)		13% of total line 100% Studies of Environmental impact +33%Topographic studies+22%Supply and delivery	40 %of total line 66%*Topographic studies completed +40%*Civil works+44%Supply and delivery	67% of total line 60%*Civil works completed +40% Mounting+33%Supply and delivery	88% of total line 60%Mounting completed +60% Unrolling	100%of the line (160 km) 40% Unrolling+100%Reception		ONE
Progress milestones of substation								
*Chamaia substation -- 400/225 kV & extension of substations Mediouna, and Tensif II		6% of total substation 100%Studies of Environmental impact +33%Topographic studies	35% of total substation 66%Topographic studies completed +40% Civil	65% of total substation 60%Civil works completed+29% Mounting+43%Supply and delivery	79% of total substation 57% Mounting	100% of total substation (2*450 MVA) 14% Mounting +100% Control & essays Reception=		ONE

Annex 4: Detailed Project Description

MOROCCO: ONE SUPPORT PROJECT

106. The proposed project encompasses the following components:

- Strengthening the electricity transmission network to reduce bottlenecks and improve system's reliability ;
- Construction of three high to medium voltage stations;
- Acquisition of CFLs for distribution to support ONE's DSM program;
- Equipment in hardware and software of a trading desk;
- Creation of a data base of certified wind data;
- Technical assistance.

2. Transmission and distribution network (loan amount \$ 123 million):

107. ONE's transmission network is overloaded and operating at the limit of its capacity. ONE is experiencing operational problems such as stability problems, voltage and frequency drops and high transmission losses. As a result, the security and quality of supply are inadequate. With fast growing demand, the situation is expected to deteriorate even further, unless the network is reinforced before the commissioning of several power plants under construction or planned. ONE has already conducted studies of the network expansion required to meet quality and security requirements, considering two options whether the new production capacities are connected to the 400 kV or 225 kV lines. The existing studies indicate that both options will deliver the required quality and security of supply but that the 400 kV option would be more cost effective. ONE estimates the level of investment required at 7567 MDH (approx. \$ 1023 million) over the period 2008-2013.

108. Bank will finance a well defined part of this program, not dependent on any related components financed by other donors and ONE. Given parallel financing, the Bank will finance 100 percent of those contracts that it finances.

2.1 Construction of 392km of 400kV lines and 76 km of 225kV lines

- Two 400 kV simple circuit lines: Safi/Essouira - Chamaia (2 x 55 km)
- One double circuit 400 kV Mediouna – Ghanem (1 x 120 km)
- One double circuit 400 kV line Chichaoua – Agadir (1 x 160km)
- One double circuit 225 kV line Chamaia – Tensift II (70 km)
- Connection of 400 and 225 kV lines to the 400/225 kV substation in Chamaia

109. The transmission lines will use two-bundle conductors per phase and an earth wire with fiber cable for protection and communication. For all lines 570 mm² aluminum conductors will be used at the maximum operating temperature of 70° Celsius, at which there is no risk of loss of strength due to annealing of the steel core; each circuit will have thermal rating of about 1300 MVA. All towers are in galvanized steel (E24 and E36). Composite and glass insulators will be used, the former especially in polluted areas.

2.2. Construction and expansion of high voltage substations

- Construction of a 400/225 kV substation at Chamaia (6 outgoing lines, 2x450 MVA transformers, 2x125 MVAR reactances)
- Expansion of the 400/225 kV substation at Mediouna (2 outgoing lines)
- Expansion of the 225/60 kV substation at Tensift II (2 outgoing lines)

The main transformers are three-phase units. The project also includes installation of all associated protection and communication equipment.

2.3. Construction of three substations to improve supply in Casablanca

110. The proposed project includes expansion or construction of the following substations:

- 225/22 kV substation at Dar Bouazza (2x70MVA)
- 60/22 kV substation at Dar Ouled Zidouh (2x20MVA)
- 60/22 kV substation at Tamansourt (2x20 MVA)

3. Compact Fluorescent Lamps (CFL)-(loan amount \$ 8.4 million):

111. As part of its DSM program, ONE has launched the INARA initiative to introduce expand CFL use. The program started with a small scale pilot and was quite successful. The lamps acquired by ONE under the proposed project will be distributed to customers (through small local marketing enterprises) with a one year guarantee from ONE. The marketers are paid a fee per CFL installed. The customers pay a fixed fee during 12 months deducted from their electricity monthly bills. This component is already under implementation and will benefit from retroactive financing.

4. Trading Desk (loan amount: \$ 7 million):

112. ONE is setting up a trading desk for purchasing the fuel supply required for its own power plants and for trading electricity with Spain, as well as for risk management. Required equipment and software are being acquired following bank procurement rules and would be financed retroactively under the proposed project.

5. Wind data base (loan amount: \$ 1 million):

113. To support the development of wind capacity by IPPs, ONE is preparing a data base of certified wind data. A supplier has already been selected and the development of the wind data base will be subject to retroactive financing. The Bank has already given the “no objection”.

6. Technical Assistance Component (loan amount \$ 2.5 million)

114. The technical assistance (TA) component aims at enhancing ONE’s procurement capacity in and preparing it to operate in a more open and, in the longer term, competitive environment. The TA component includes the following activities:

- *Development and implementation of contractual arrangements (loan amount 500 000 \$) with other operators in the sector:* ONE has already undertaken a study with a major international law firm to conduct a diagnostic of the legal and regulatory framework. This analysis has indicated that contractual arrangements between ONE and other operators in the energy market, as well as between different entities within ONE, are

not in line with commercial and business practices. ONE has requested technical assistance from the World Bank on the following topics: (a) diagnostic on the relations between ONE and other distributors, (b) definition of ONE's roles and obligations as transmission system operator (TSO), (c), contractual arrangements between ONE-TSO and distributors, (d) contractual arrangements between distributors and municipalities, (e) transmission tariffs, including ancillary services, (f) contractual arrangements between generators and ONE-TSO, and (g) definition of appropriate regulatory and governance framework for the sector to function properly. *The development of contractual relations between the different players in the Moroccan electricity sector is one of the actions in the matrix of the DPL.*

- *Tariff study (loan amount \$ 600 000):* The current tariff system has been put in place in 1997. The last tariff study has been initiated out under a Bank project in 1988 and finalized in 1992. Since then, tariffs have been adjusted on a piecemeal basis and have not been comprehensively reviewed despite the major changes in the sector during the last decade. The current tariff structure has two major shortcomings: (a) inadequate level to cover supply costs and (b) a structure that fails to provide the right incentives for effective use of the installed capacity, electricity savings and load management. A revision in tariff is also critical to ensure the financial viability of the company ONE and adapt the tariff system to the prevailing cost and demand structure. An inter-ministerial committee led by MAEG has been created to supervise the study and agreement has been reached on terms of reference. As the consultation is to be launched before the summer 2008, this component is subject to retroactive financing.
- *Upgrading of procurement activities (loan amount \$ 1 million):* ONE's procurement and purchasing function is already certified ISO9001 2000 version. However, TA is provided under the proposed project to adjust ONE's procurement to the evolving requirements of the company as the market liberalizes and to bring them to a best practice level to achieve the best possible performance in terms of cost, timeliness and quality. ONE is launching a study covering the following activities:
 - Diagnosis of current procedures
 - Evaluation of the procurement cycle and optimization of stock management procedures
 - Development of an e-procurement function: need identification, formulation of a strategy, implementation and knowledge transfer.

This component is subject to retroactive financing.

- *Valorization of the rural electrification program (loan amount \$ 400 000):* Access to electricity for rural population is already very high in Morocco, with 85 percent of the population having access to electricity in 2006 and an estimated 100 percent in 2007. However, the extension of the network is mostly for residential use and is moreover a burden for ONE finances, as the cost of connecting rural populations is high while tariffs are not kept in line with costs. The objective of the TA is to develop new uses which have a higher value added. Several activities have been already identified by ONE, such as participation in regional and local development initiatives or using the network to provide telecommunication services. The project will finance (probably retroactively) a study to be launched soon for overall project design and development of information systems to support the program. The component is subject to retroactive financing.

Annex 5: Project Costs
MOROCCO: ONE SUPPORT PROJECT

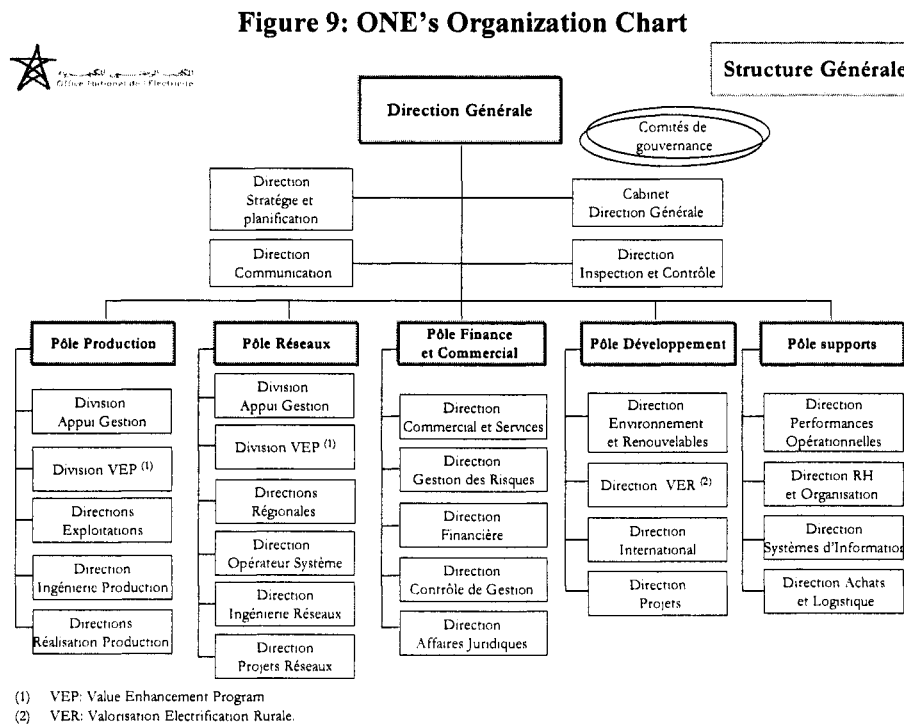
Project Cost ⁴ By Component and/or Activity	Local US \$million	Foreign US \$million	Total US \$million	Foreign as % of Total
Infrastructure				
Transmission Lines	13.53	79.30	92.83	85%
Substations	7.57	44.35	51.91	85%
CFL	8.40		8.40	0%
Trading Desk		7.00	7.00	100%
Wind data base		1.00	1.00	100%
Technical Assistance		2.50	2.50	100%
Total Baseline Cost	29.49	131.65	161.14	82%
Physical Contingencies	1.47	6.58	8.06	
Price Contingencies	1.47	6.58	8.06	
Taxes and Duties	37.09		37.09	0%
Total Project Costs	69.54	144.81	214.35	68%
Interest during construction	16.36		16.36	0%
Total Financing Required	85.90	144.81	230.72	63%

⁴ Land acquisition costs and compensation are not included

Annex 6: Implementation Arrangements

MOROCCO: ONE SUPPORT PROJECT

115. **Executing Agency:** ONE is the borrower and the executing agency of the project. Attention was given during the evaluation of the project to its technical and implementation capabilities. It has qualified personnel to: (a) prepare, implement and operate the transmission and distribution infrastructure to be financed under the proposed project; and (b) prepare, supervise and ensure the quality control of all studies and activities to be carried out under the TA component. The organization chart of ONE is presented below.



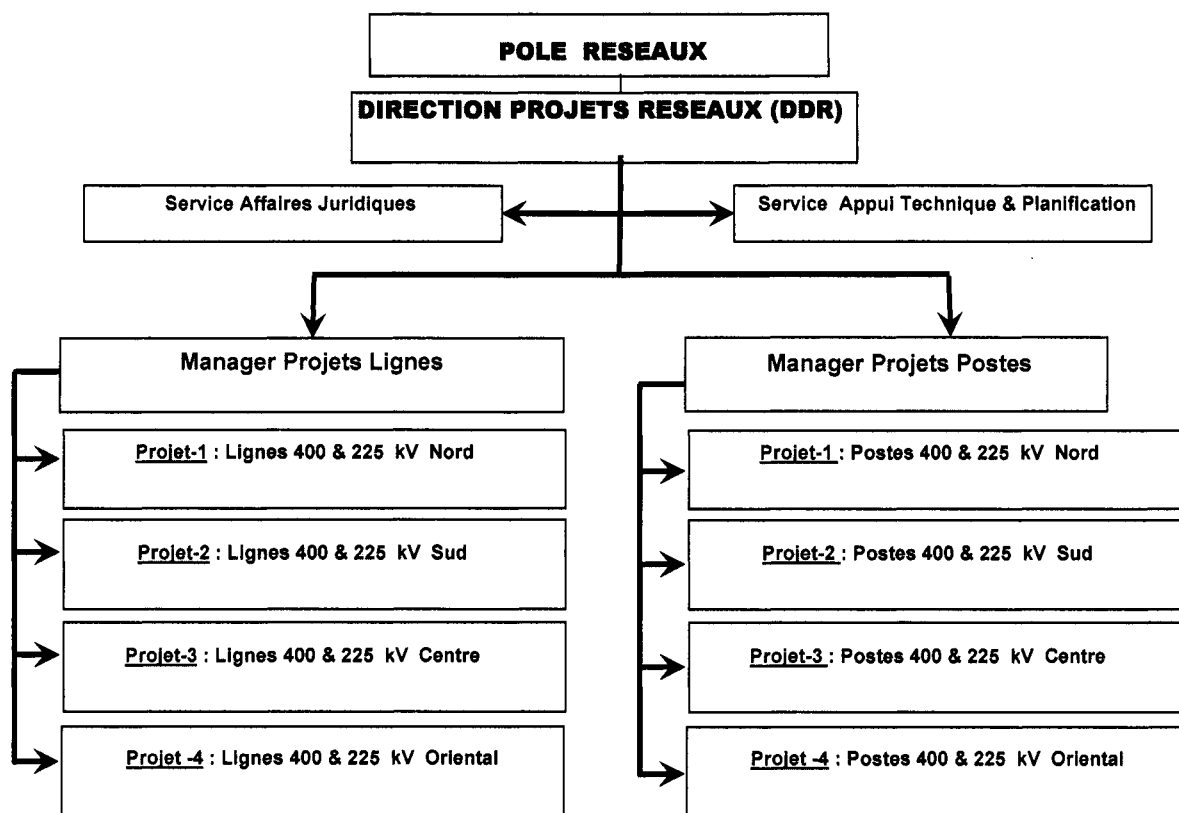
Project Management:

116. The “Pôle Réseaux” has the overall responsibility over the studies and implementation of the infrastructure component. The “Direction Projet Réseaux” (DDR) is responsible of the implementation of the transmission (400 and 225 kV lines). Its Director two managers, one for lines and one for substations, will oversee and coordinate with concerned unit the overall implementation of the transmission lines and substations to be constructed under the proposed project:

- The line manager ensures that all 400 et 250 kV lines are constructed within best quality conditions, cost and schedule. He is responsible of optimum use of human and logistical resources allocated to the projects. He also oversees the implementation of the “Quality Assurance Plan” during le construction of the 400 and 250 kV lines.

- The substation manager carries out the same duties and responsibilities related to the substations.
117. Each manager relies on several project managers who oversee the implementation and day to day management of technical and administrative aspects of the project they are entrusted.

Figure 10: Organization of the Project Directorate



118. The DDR is supported by: (a) other units within the “pôle” to address network engineering, legal, technical, and management and administrative issues related to the project:

- The “Direction Ingénierie Réseaux” (DIR) is responsible of the line and substation engineering studies. It also approves the plans and technical index cards during the implementation of the project.
- The “service des affaires juridiques” manage all the legal aspects related to the activity of the DDR. They secure the necessary authorizations related the right of way of 400 and 250 kV lines and to land acquisition for the high voltage substations. They negotiate and provide compensation to the affected parties. They are supported, on need basis, by the “Direction des Affaires Juridiques”.
- The “service technique et planification” ensures the coordination of the project with the overall network investment program with the planning and operation departments. It

also provides technical support to the line and substation managers in carrying their duties.

- The “Division Appui de Gestion” assists the DDR in securing the required competencies for project implementation and the project managers in carrying out procurement, quality control, accounting and financial aspects of their projects.
- The “Value Enhancement Program” division which entrusted with management control within the “pôle” also assists the DDR in budget and management matters.

119. Two committees oversee project implementation within, the “pôle”: (a) the “Comité de Pilotage” where the DDR, the “Direction Ingénierie Réseaux” (DIR) and the concerned “Directions Regionales” (DR) are represented; and (b) the “Comité de Coordination et de Suivi” which is constituted of the line and substation managers of the DDR, network, substation and control command managers of the DIR.

120. The DDR is also supported by functional units for procurement, environmental and social issues, financial transactions and disbursement:

- The “Direction Achats et Logistiques” assists the DDR in carrying out procurement activities related to the projects. They are in charge of all transit and customs related activities for all imported equipment by ONE.
- The “Direction Financière” assists in validating all invoices, entered in SAP at the DDR level, and securing their approval by the division controlling all budget expenditures. It is also in charge of all disbursement and payment transactions.
- The “Direction Performances Operationnelles” ensures that all network components are conform to ONE’s financial and technical requirements.
- The “Direction des Affaires Juridiques” provides, on a need basis, advice on all legal issues related to the projects. It represents ONE in justice courts in case opposition of concerned parties to the right of way for transmission lines.

121. The construction of the distribution substations is supervised and managed by the regional units where the substations are situated. The same procedures and rules apply to the management of these projects.

122. The other components of the project will be entrusted to:

- Direction des Risques of Pole Finance et Commercial for the Trading Desk
- Pole Reseaux for the CFLs
- Direction Renouvelables of Pole Developpement for the wind data base

The implementation of the TA activities is entrusted to the concerned units: .

- Direction Commercial et Services for the tariff study
- Direction Achats et Logistique of Pole Supports for the procurement TA
- Direction VER in Pole Developpement for the rural electrification study

The Environmental Department is in charge of monitoring the implementation of the Environmental Management Plan and the Resettlement Policy Framework, in coordination with relevant departments.

123. *The overall coordination of the project is trusted to the Value Enhancement Performance (VEP) unit whose head is designated as the focal counterpart of the World Bank team. The focal unit will be responsible for the coordination of all activities even when implemented by units outside the all units involved in the project even those outside the “Pôle Réseaux”.*

124. Project reports will be submitted twice a year, at the same time as the interim unaudited financial reports (see paragraph 130 in Annex 7).

Annex 7: Financial Management and Disbursement Arrangements

MOROCCO: ONE SUPPORT PROJECT

Assessment of the Financial Management System

125. An assessment of the financial management system in place at ONE (Office National de l'Electricité), the project executing agency, was carried out to determine if it complies with the Bank requirements for the project management in respect to the OP/BP10.02. ONE will be responsible for managing the project funds and all related financial transactions. ONE is a state-owned commercial and industrial enterprise with financial and administrative autonomy (Etablissement public à caractère industriel et commercial). Accordingly, it operates as a private sector entity and the systems in place are based on the principles and procedures of the commercial law of the Kingdom of Morocco.

Accounting system

126. The accounting function at ONE is performed by the central accounting division in the financial department. The accounting of the office is governed by the rules applicable to the autonomous public entities (decree of November 10, 1989). ONE maintains an accrual accounting system, managed on an Integrated Information System (IIS) since year 2000, and held according to rules related to the “obligations comptables des commerçants” and the Moroccan chart of accounts. The operations related to the financed projects are registered in the accounting records of ONE in accordance with the accounting procedures applicable within the office.

Internal control system

127. The State financial oversight, now deeply modernized and called “Performance Control” to which ONE is subject according to provisions of law 69-00 of November 11, 2003, guarantees the separation of the functions through several levels of independent controls. From March 2008, the payments under a certain amount, that will be fixed subsequently, will be decentralized to a regional level. In addition, the internal audit function is performed by the audit and organization department, directly attached to the general manager’s office. This department has a well established statement of mission objectives which includes in particular, the respect of the manual of procedures as required by the new law 69-00 above mentioned.

128. ONE will put in place procedures to make sure that the assets of the projects are subject to a permanent inventory, annual stocktaking, and sufficient insurances to protect these assets against usual risks are taken out.

External audit

129. The financial statements of ONE are subjected to an annual external audit. The financial statements of the last three exercises, audited by an international audit firm, were certified with qualifications. The qualifications of the fiscal year 2006 are as follows: (i) the commitments of retirement are reduced of MAD 4,830 millions; (ii) no provisions were constituted by ONE on very old customer’s debt, this debt is MAD 1,062 millions which recovery possibility appears uncertain; (iii) assets include an amount of MAD 1,550 millions corresponding to contributions of

the ONE to the Government's budget, they are not yet affected by the board of ONE since few years.

130. Bank policies require that an annual external audit of the project accounts, established in accordance with acceptable accounting standards, be carried out in accordance with acceptable auditing standards and terms of reference and that the auditor is acceptable to the Bank. The project financial statements including all sources and use of funds must be audited each year in accordance with Bank guidelines. The audit would also include a comprehensive review of statements of expenses (SOEs). The auditor would be expected to issue a management report covering all project accounts with practical recommendations for improving the project's internal control system, if weaknesses are noted. The audit report must be transmitted to the Bank no later than six months after the end of each fiscal year. The auditor of ONE should be appointed as the project auditor as well.

131. In addition the external audit report of annual financial statements of ONE and the management letter covering recommendations to improve the internal controls and the accounting system will be transmitted by the Office the Bank no latter than six months after the end of each exercise.

Financial reporting and information system

132. The financial monitoring of projects is ensured by the service for long and medium term financing within the finance and treasury division (financial department), in coordination with the concerned technical departments. ONE's financial department is well structured and has the use of an updating manual of procedures which defines disbursements and financial management procedures. ONE acquired a substantial knowledge in management of projects financed by international donors (BIRD, BAD, EIB, INSIPID, BID, KFW...). The existing human resource capacity is adequate to carry out the financial management tasks of the project. There is no need for change in quantity and quality of the existing staff to meet Bank and ONE financial reporting requirement. The integrated information system (IIS) allows a follow-up of outstanding debt in foreign currency and in dirhams (module loan) but it does not automatically provide a sufficient level of information for the financial monitoring of the project in term of allocation and use of funds by component and category of expenditure. ONE elaborates project financial statements according to the format agreed with the donors based on the existing information adapted for the needs of the project.

Project monitoring

133. ONE will submit to the Bank a semi-annual Interim unaudited financial report 45 days after the end of each period. These reports will be established in accordance with Bank guidelines. The Interim unaudited financial report will provide, for all the sources of funds for the project:

- a summary cash-flow table showing received funds by sources and expenditures by category for the past semester and the accumulated amount up to the date of the report, as well as projection for the next six months,
- a summary of the use of funds showing payments by project component/activity for the past semester and the amounts accumulated as of the date of the report,
- a summary of commitment and payment by component and by sources of financing.
- A narrative report explaining all variances and the proposed corrective actions should be included as an annex of the financial reports.

134. Insofar as the existing information system of ONE does not automatically provide a sufficient level of detail required by the Bank for the production of the Interim unaudited financial report, a project financial information system will be produced in term of resources and use of funds, by component and category of project expenditures and sources of financing. The financial tables will be produced manually based on the reprocessing of the data provided by the existing information system. The formats of the reports were agreed with ONE during project preparation.

Evaluation of the system in use

135. The financial management system of the project is in line with the minima conditions required by the Bank taking into account the management system of ONE and the experience acquired in financial project management.

Flow of funds

136. The project is co-financed by the World Bank and ONE. Financial flows will come from the World Bank, and counterpart funds financed by ONE. Flows of funds between the World Bank, ONE and the recipients will be organized according to normal disbursement procedures of the Bank.

Risk assessment

137. Country risks. The country Financial Accountability Assessment (CFAA) dated 2007 concludes that the overall Public Finance Management (PFM) risk in Morocco is *low* and confirms the previous assessment achieved in 2003. The expenditure's control system, that was a source of backlog of the whole system has been deeply reformed and modernized. However, the CFAAs indicate persistent areas of higher risk due mainly to the long delays of (i) registering and payment of the purchase orders, but recently associated with a system of penalties beyond 45 days, and (ii) allocating national budget funds to the local governments and making more difficult to analyze how and when funds are used. But, these PFM risks do not affect the ONE, since it operates as an autonomous entity from the Government public finance system and receive funds directly from the Bank.

138. Project Risks. The project risk from a financial management perspective is considered *low* as ONE is an experienced entity which has in place procedures and systems to prevent financial irregularities.

Disbursement Arrangements

Method of disbursements. The proceeds of the loan would be disbursed in accordance with the normal Disbursement procedures of the Bank and will be used to finance project activities through the disbursement procedures currently in use: i.e. Withdrawal Applications (WAs) for direct payment, for Special Commitments and/or reimbursement accompanied by appropriate supporting documentation. The Project Management Unit (Office National de l'Electricité) will be responsible for submitting reimbursement request or WAs for direct payment to the Bank accompanied by the necessary supporting documentation. As projected by Bank's standard disbursement profiles, disbursements would be completed four (4) months after Project closure. There are no disbursement conditions. An amount of € 12,300,000 for retroactive financing has been authorized for expenditures financed prior to signing of the loan agreement, but after July 1, 2007.

139. **Designated account.** No designated account is required for this project. ONE will use the direct payment and the reimbursement to finance project activities.

140. **Use of Statement of Expenditure (SOEs).** All applications to withdraw proceeds from the loan will be fully documented, except for: (a) expenditures of goods, works and supply/install contracts with an estimated value equivalent to US\$ 3,000,000 or less and for consulting firms less than US \$ 500,000 or less and for individual consultants less than US \$ 50,000, which may be claimed on the basis of statements of expenditures (SOEs). Documentation supporting expenditures claimed against SOEs will be retained by ONE and will be available for review when requested by Bank supervision missions and project auditors. All disbursements will be subject to the conditions of the loan Agreement and the procedures defined in the Disbursement letter. For all other expenditures (those above the previously mentioned limits, records will be required to substantiate expenditure eligibility at the time payment is reviewed by the Bank.

141. **Allocation of loan proceeds**

Category	Amount of the Loan Allocated (expressed in Euro)	Percentage of Expenditures to be financed (exclusive of Taxes)
(1) Goods, works and consultants' services for the Project	91,869,750	100%
(2) Front-end Fee	230,250	Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 2.07 (b) of the General Conditions
TOTAL AMOUNT	92,100,000	

142. **Planning of supervision.** Financial supervision activities will include a semi-annual review of FIRs, review of annual audited financial statements and management letters. There will be about two financial management supervision missions per year. Bank supervision missions will consist of visits of ONE and its decentralized offices to review financial management practices, payment procedures and documentation.

Annex 8: Procurement Arrangements

MOROCCO: ONE SUPPORT PROJECT

A. GENERAL

143. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004 and revised October 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 and revised October 2006, and the provisions stipulated in the Legal Agreement. ICB contracts will be procured using Bank's Standard Bidding Documents. The large majority of procurement will be carried out for Supply and Install Turn-Key contracts. The technical assistance component will have all contracts for employment of consultants selected following Bank's standard Request for Proposals. The various items under different expenditure categories are described in general below. The different packages and the corresponding methods for procurement are indicated in the attached Procurement Plan.

Implementation arrangements:

144. The Direction of Transmission (Pôle Réseaux) of ONE would be responsible for the construction of the transmission and distribution components of the project and which represent the major part of the investments. Direction of Finances will liaise with the Direction of Transmission to help implement the project. All procurement activities will be carried out by the Procurement Unit of Pole Réseaux, with support of the Procurement Department (Direction des Achats).

Project Components:

145. The project will include the following:

A) Transmission: The following components will be procured under the number of packages defined in the attached procurement plan.

- (i) one line 400 kV (double circuit) -- MEDIOUNA – GHANEM (120 km)
- (ii) two lines 400 kV (single circuit) – SAFI-ESSOUIRA – CHAMAIA (2x55 km)
- (iii) one line 400 kV (double circuit) -- CHICHAOUA -- AGADIR (1x160 km)
- (iii) one line 225 kV (double circuit) – CHAMAIA -- TENSIF II (1x 70 km)
- (iv) connection of line 400 kV (double circuit) GHANEM – CHICHAOUA, to substation CHAMAIA (2x 1 km)
- (v) connection of lines 225 kV (single circuit) CHICHAOUA – JORF LASFAR and CHICHAOUA – BOUGUEDRA, to substation CHAMAIA (2x 6 km)
- (vi) CHAMAIA substation – 2 x 450 MVA, 400/225 kV
- (vii) Expansion of MEDIOUNA substation 400/225 kV
- (ix) Expansion of Tensif substation 225/60 kV

146. As indicated in the Procurement Plan the Transmission component will include two ICB processes for Goods contracts (400 kV Transformers and Cables for Transmission Lines) and five ICB processes for Supply and Installation using a Turn-Key contract.

B) Distribution: The following components will be procured under the number of packages defined in the attached procurement plan.

- (i) Substation 225/22 kV in Dar Bouazza

(ii) Substation 60/22 kV in Dar Ouled Zidouk

(iii) Substation 60/22 kV in Tamansourt

As indicated in the Procurement Plan the Distribution component will include three ICB processes for Supply and Installation using a Turn-Key contract.

C) Other

147. Low Consumption Lamps – as part of the Demand Side Management program ONE is implementing as part of the activities in the country aiming at energy efficiency the project will finance the procurement of 5 million high efficiency lamps. This has been advanced and the procurement is being carried out through an ICB during project preparation. Bids have already been received and evaluation has received the Bank no objection and the contract is signed.

148. Equipment for Power Trading Room – as part of the reforms in the Moroccan power sector, ONE needs to be prepared for participation in the future competitive power market. For such, ONE has already contracted ENDESA of Spain for helping to develop the conceptual design of a situation room for ONE to analyze different strategies for dealing with cost (like fuel supply and import of energy), and of market for its products (like export of energy and competition with other suppliers), trying to define different strategies for different risk levels. The project will finance the supply and installation of equipment and software for the trading room. This will be procured through ICB.

149. Database for Wind Power – ONE is promoting wind power generation especially through independent power producers. For such, ONE has hired consultants for doing a study of evaluation of generation capacity for different areas in the country. To create data for this study, ONE has also acquired through a competitive process a set of wind measurement equipment together with services for data gathering and creation of a data base of wind capacity. The procurement process for the latter contract was reviewed by the Bank and the Bank was satisfied that the process could be accepted by the Bank, and it is proposed that this contract be financed retroactively by this proposed project.

150. D) Technical Assistance: The following components will be procured under the Bank's Consultants Guidelines in the number of contracts (and methods of selection) defined in the attached procurement plan (QCBS).

(i) *Development and implementation of contractual arrangements (loan amount 500 000 \$:*

(ii) *Tariff study (loan amount 600 000 \$):*

(iii) *Upgrading of procurement systems and procedures (loan amount 1 million \$):*

(v) *Valorization of the rural electrification program (loan amount 400 000 \$):*

Procurement Arrangements:

151. The transmission lines and substations included in the Transmission and Distribution components of the project shall be procured in separate contracts all under ICB following the Bank's procurement guidelines of 2004, revised in October 2006. It is estimated to have 10 contracts as detailed in the Procurement Plan attached to this report and indicated above. As indicated above the procurement of 5 million Low Consumption Lamps has been advanced and the procurement has been carried out through an ICB during project preparation. And the equipment for Power Trading Room will be procured through ICB. The database for wind power has already been contracted and is proposed for retroactive financing.

152. The technical assistance component will be developed by consultants selected under Bank consultants guidelines in the number of contracts (and methods of selection) defined in the attached procurement plan. .

153. **Procurement of Works:** Works procured under this project would include the supply and installation (using Turn-Key contracts) of Transmission Lines (400 kV and 225 kV) and of several substations also in 400 kV, 225 kV and 60 kV.

154. **Procurement of Goods:** Goods procured under this project would include: 400 kV Transformers and Cables for Transmission Lines and low consumption lamps as well as equipment for Power Trading Room all through ICB processes. Bank's standard bidding documents will be used.

155. **Selection of Consultants:** The technical assistance component of the project will be developed using Consultants selected under Bank's guidelines and using Bank's standard request for proposals. .

B. Assessment of the agency's capacity to implement procurement

156. The OFFICE NATIONAL DE L'ELECTRICITE (ONE) is the Implementing Agency of the Project. ONE has project management experience including familiarity with standard bidding documents for projects financed by international financial agencies, such as the EIB, AfDB, Islamic Bank and others. The Direction Production of ONE will manage the procurement, erection of equipment/materials and commissioning, and will closely coordinate with the other relevant departments. However, due to renovation of staff in ONE procurement department, the new team needed training on Bank procedures. To minimize this risk, during project preparation the Bank has carried out training on Bank Procurement Guidelines held on October 22, 2007. Further on the job training to ONE procurement specialists was given during project preparation for drafting Request for Proposals for selection of Consultants and bidding documents for procurement of goods for contracts that were advanced and which will be retroactively financed by the proposed loan.

157. An assessment of the capacity of the Implementing Agency to implement procurement actions for the project has been carried out on January 27 to 31, 2008. The assessment reviewed the organizational structure for implementing the project and the interaction between the project's staff responsible for procurement and the relevant central unit for administration and finance. The overall risk assessment related to procurement is **average**. ONE has very good technical and procurement capacity. Its staff has implemented Bank financed projects in the past and during the preparation of this project a refreshment course was given by the Bank and on the job training has occurred in the preparation of RFP for consultants and bidding documents for ICB for the components that had their procurement advanced. However, the project includes large packages for lines and substations, which will require close supervision by the Bank and on-going training of ONE staff.

C. Procurement Plan

158. The Borrower, during preparation, developed a procurement plan which is attached. This plan has been agreed between the Borrower and the Project Team during appraisal. It will also be available in the project's database and in the Bank's external website. For each contract to be financed by the Loan, the different procurement methods, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the Procurement

Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. The draft procurement plan is:

Procurement Plan for Project									
Procurement of Goods and Works									
Ref. #	Contract Description	Cost Estimate	Procurement Method	Prequalification (yes or no)	Domestic Preference (yes or no)	Bank Review (Prior or Post)	Expected Bid Opening Date	Expected Delivery Date	Comments
	Goods		US\$ million						
G - 01	Low Consumption Lamps	8.4	ICB	No	No	Prior	12/05/2007		Retroactive financing
G - 02	Power Trading Room	7.0	ICB	No	No	Prior	April 08	2009	Retroactive financing
G - 03	Wind Power Data Base	1	NA						Retroactive financing of on-going contract
G - 04	Power Transformers (4 units of 450 MVA, 400/225 kV)	16.8	ICB	No	No	Prior	Jan-09	2012	
G - 05	Cables for Transmission Lines	38.9	ICB	No	No	Prior	Jan-09	2012	
	Prior Review for Any Additional Contract								
						Above US\$500K			
	Works (Supply and Install)								
TK - 01	One line 400 kV (double circuit) -- Mediouna -- Ghanem (120 km)	21.4	ICB	No	No	Prior	Jan-09	2012	
TK - 02	Two lines 400 kV (single circuit) -- Bir Lhar -- Chamaia (2x55 km) AND Connection of line 400 kV (double circuit) Ghanem -- Chichaoua, to substation Chamaia	13	Using a Turn-key contract ICB	No	No	Prior	Jan-09	2012	
TK - 03	One line 225 kV (double circuit) -- CHAMAIA -- TENSIF II (1x 70 km) AND Connection of lines 225 kV (single circuit) Chichaoua -- Jorf Lasfar and Chichaoua -- Bougedra, to substation Chamaia	7.4	Using a Turn-key contract ICB	No	No	Prior	Jan-09	2012	
TK - 04	Chamaia substation -- 400/225 kV and extension of substations Mediouna and Tensif II	35.7	Using a Turn-key contract ICB	No	No	Prior	Jan-09	2012	
TK - 05	One line 400 kV (double circuit) -- Chichaoua -- Agadir (1x160 km)	28.5	Using a Turn-key contract ICB	No	No	Prior	Jan-09	2012	
TK - 06	Substation 225/22 kV in Dar Bouazza	10	Using a Turn-key contract ICB	No	No	Prior	Jul-08	2010	

TK - 07	Substation 60/22 kV in Dar Ouled Zidouk	5.1	Using a Turn-key contract ICB	No	No	Prior	Jul-08	2009	
TK - 08	Substation 60/22 kV in Tamansourt	5.1	Using a Turn-key contract ICB	No	No	Prior	Jan-09	2009	
			Using a Turn-key contract						
	Prior Review for Any Additional Contract								
						Above US\$3 million			

Selection of consultants

Ref. #	Contract Description	Estimated Cost	Selection Method	Bank Review (Prior or Post)	Submission to Bank TOR & Short-list	Submission to Bank RFP	Expected Submission Proposals Date	Expected Delivery Date	Comments
C - 01	Contractualisation	1000US\$	QCBS	Prior	June 08	July 08	Sept 08	Sept 09	Retroactive financing
C - 02	Power Tariff Study	500	QCBS	Prior	June 08	July 08	Sept 08	Aug 09	Retroactive financing
C - 03	Procurement Systems and Procedures	1,000	QCBS	Prior	March 08	April 08	June 08	Dec 09	Retroactive financing
C - 04	Rural Electrification	400	QCBS	Prior	March 08	April 08	June 08	June 09	Retroactive financing
	Prior Review for Any Additional Contract			Above US\$200K					

D. Frequency of Procurement Supervision

159. In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended two supervision missions annually to visit the field to carry out post review of procurement actions and supervision of project implementation and follow up on contract management issues.

Annex 9: Economic and Financial Analysis

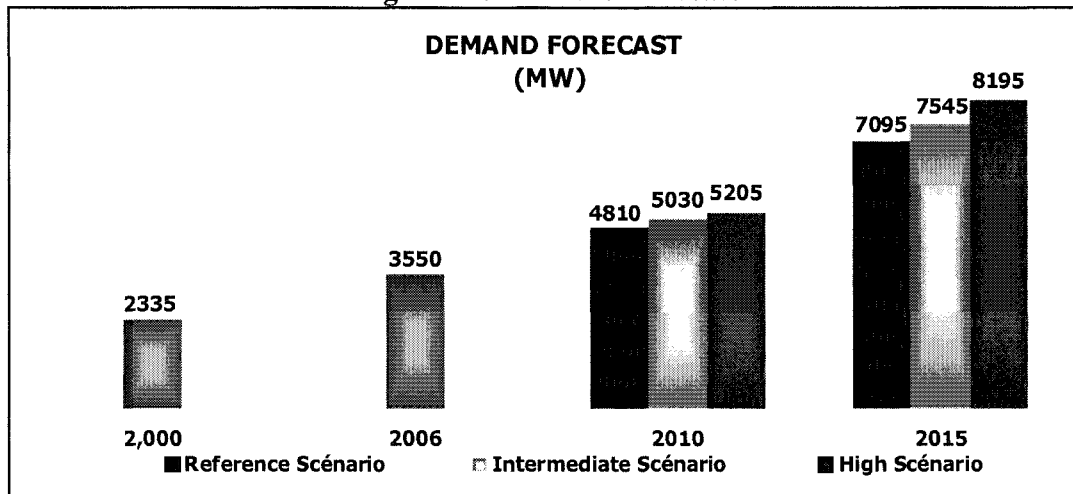
MOROCCO: ONE SUPPORT PROJECT

Economic Analysis

160. The load requirements are expected to continue to grow very fast, from 3550 MW in 2006 to between 4810 and 5205 in 2010 and 7095 and 8195 in 2015.

161.

Figure 11: Demand Forecast



The reference case incorporates several Demand Side Management (DSM) actions have been initiated by ONE to reduce the supply investments: promotion of the use of compact fluorescent lamps (CFLs), incentives for urban customers to install photovoltaic system connected to the grid and awareness programs for electricity savings, aimed mainly at large consumers.

The load forecast, net of losses, used in the load flow studies is the following:

Table 6. Load forecast

Year	Maximum load (MW)
2008	3950
2010	4610
2011	5000
2012	5420
2015	6850

162. The reinforcement of the transmission system is therefore imperative to adequately meet the increasing load and improve the reliability and quality of supply, especially better frequency and voltage control. The economic justification is therefore based on a two step cost effectiveness approach:

- (a) the first stage consisted in carrying out a least cost study using two established models: an optimization model (WASP IV) and a hydropower simulation model (Valoragua). The

models were used iteratively to determine the optimal generation mix to meet future demand within accepted reliability criteria;

- (b) the second stage focused on the justification of the need and timing of the reinforcement of the transmission system using load flow and stability models: (a) the diagnostic study showed that the transmission system is currently operating very close to its load capacity. In several heavy-load regions, the system operation conditions are quite difficult and deteriorate greatly in case of failure of one component of the system: voltage drops, overloading of lines and transformers and even failure to meet the demand; (b) several reinforcement options have been considered to ensure satisfactory operation (the criteria for satisfactory operation are presented in the table below) with all system components available (criterion N) and with failure of one major component of the system (criterion N-1); and (c) economic evaluation of two strategies based on the reinforcement of the system in 400kV and 225 kV.

Table 7 – Satisfactory operation criteria

	Overload		Voltage margins			
Criterion	Line	Transformer	N 400 KV	N 225 KV	N 150kV	N 60kV
N	100%	100%	-5%<V<8.7%	-7%<V<8.7%	±10%	±10%
N-1	120% 20mn	120% 20mn	-6.3%<V<8.7%	-9%<V<8.7%	±10%	±10%

163. The studies showed that the 400 kV-strategy is most cost effective in meeting the future load flows within the reliability criteria. The NPV (at 10 percent discount rate) of the 400 kV-strategy is about 20 percent lower if the losses are valued at the short term marginal cost of the system and about 30 percent lower if the losses are valued at the average sale price of the system.

164. The country is suffering losses from inadequate electricity supply and will benefit greatly from the proposed project. Cost/benefit analysis has not been conducted because electricity prices are still bundled and consumers' willingness to pay for transmission services cannot be assessed from available data. The reforms under way, with Bank support through a programmatic DPL, aim to unbundle electricity tariffs and to develop an appropriate transmission pricing system.

Financial Analysis

Diagnostic

165. ONE's financial situation has increasingly worsened over the past four years, as shown by a negative net profit margin, which went from US\$ -5 millions in 2004 to US\$ -19.5 millions in 2007. Such state of affairs can be explained by a combination of factors, both external and structural to ONE. The primary factors are highlighted below.

166. Steep growth of some fuel costs, especially fuel oil, coal and natural gas. Sustained increases in international oil prices have translated into higher production costs for numerous utilities across the world, of which ONE is no exception. This trend has had a particularly

negative impact on ONE, as a majority of its production park is heavily dependent on these hydrocarbon-intensive fuels. Therefore, in four years, fuel purchases by ONE have more than doubled in value, while the share of fuel in ONE's total operating costs has gone from 16 percent (2004) to 24 percent (2007), a 51 percent increase.

167. *An ill-adapted tariff structure.* While production costs have increased substantially over the recent years, and while the volume of electricity sold has progressed by 8.2 percent p.a. on average over the same period, the average tariff on the other end, has only shown a very modest progression (going from 8.8 US cents/KWh in 2004 to 9.5 US cents/KWh in 2007), equivalent to a 7-percent growth over four years. In view of the scale of the production costs increases noted above, it is clear that the current tariff structure and levels only allow for very minimal absorption of today's operating costs. The situation is further exacerbated by the fact that a large share of ONE's new electricity consumers are the result of Morocco's national rural electrification program (PERG), and fall in lower consumption and, in turn, tariff categories.

168. *A costly investment program.* In the context of its public service obligations, and particularly as the chief implementing agent of the PERG program, as well as of the increasing needs for large capacity and reliability required by a electricity demand showing a strong growth (annual net electricity demand increased by 8 percent in average over 2004-2007), ONE has undertaken numerous heavy investments over the recent years. These investments amounted to an average of US\$ 680 millions a year. They had to be financed through borrowings, whose financial costs inevitably burdened ONE's financial balance. Indeed, ONE's borrowing expenses have grown by 26 percent in four years, reaching US\$ 87 millions in 2007 while ONE's total financing costs progressed by 20 percent over the same period. Total debt now represents 66 percent of ONE's balance sheet.

169. *Obligations due to fiscal adjustment.* In 2003, ONE underwent a fiscal review covering its fiscal years 1999 to 2002, which led to a request for some adjustments. These adjustments mainly related to income taxes (non recurring revenue from concessions, provisions for pension commitments, and provisions for the rural electrification program (PERG) funding) and VAT (on imports from JLEC). Following the agreement reached in November 2006 with the General Directorate for Taxation, ONE committed to make a correction payment of US\$ 308 millions, spread over four years. The accounting recording of this fiscal adjustment has had a non-negligible negative impact on ONE's 2006 financial results.

170. *A declining hydro-powered generation.* Given Morocco's very poor hydrological conditions over these past few years, hydro-powered generation has experienced a notable drop and remained well under its potential. Between 2004 and 2007, hydro-based generation has indeed dropped by 18 percent, while its share in the generation mix has gone from 9 percent to 6 percent. This situation has imposed on ONE to shift to other sources of electricity supply, comparatively more expensive.

171. *Some long-standing arrears.* ONE's client accounts receivable include some very old arrears, including US\$ 127.5 millions owed by the ex-Régie of Casablanca (RAD) and US\$ 9.2 millions owed by the ex-Régie of Tétouan (RDE Tétouan). Past initiatives to recover these arrears have proved unsuccessful to this day but accounting of their amounts as accounts receivable has remained. Provisions for these receivables were never recorded, while their current valuation in the balance sheet appears very optimistic. Also, unpaid arrears from numerous municipalities

which benefited from the PERG program, amounting to US\$ 94 millions, remain in the balance sheet.

172. *The burden of externalizing ONE's pension management.* Finally, ONE's will to transfer its internal pension management to an outside agency in the very near future has had a negative impact on the company's finances. Indeed, provisioning of future pension expenses born by ONE in preparation of the externalization transaction. This has translated in an average annual allocation to provisions of US\$ 13 millions over the past four years.

173. A summary of the key financial indicators and results of the past 4 years is provided in the tables below, as well as some electricity generation statistics.

Table 9 – Key Historical Financial Indicators

Key Indicators		2004	2005	2006	2007
Net Electricity Supplied	GWh	17,945	19,518	21,105	22,608
Net Electricity Billed	GWh	16,288	17,629	19,258	20,836
Electricity Sales	millions MAD	11,148	12,116	14,050	15,145
Fuel Purchases	millions MAD	1,849	3,198	3,838	3,831
Electricity Purchases	millions MAD	5,003	5,868	6,179	6,766
Operating Income	millions MAD	599	(69)	(196)	629
Debt Service Payments	millions MAD	582	602	657	737
Net Income	millions MAD	(41)	(242)	(1,734)	(188)
Average Tariff	MAD cents/KWh	68.4	68.7	73.0	72.7
Average Tariff	USD cents/KWh	9.0	9.0	9.6	9.6
Long Term Borrowing	millions MAD	13,717	14,746	16,208	19,363
Accounts Receivable	millions MAD	7,158	8,163	9,629	12,523
Debt Service Coverage Ratio		1.03	-0.11	-0.30	0.85
Debt to Equity Ratio		1.84	1.82	2.13	2.44
Debt Ratio		63%	62%	63%	71%
Current Ratio		1.0	1.0	0.9	0.9

Table 10 – Historical Financial Statements

Income Statement (millions MAD)	2004	2005	2006	2007
Operating Revenue	12,442	14,478	15,436	16,830
Sales	12,042	13,977	15,067	16,305
<i>Electricity</i>	11,148	12,116	14,050	15,145
Other	400	501	369	525
Operating Expenses	11,843	14,547	15,632	16,201
Purchases	7,102	9,381	10,290	10,879
<i>Fuel</i>	1,849	3,198	3,838	3,831
<i>Electricity</i>	5,003	5,868	6,179	6,766
Staffing	1,571	1,672	1,720	1,746
Amortizations & provisions	2,773	3,047	3,159	3,100
Other	397	447	463	476
Operating Income	599	(69)	(196)	629
Financial Revenue	344	497	380	582
Financial Expenses	1,042	823	1,039	1,258
<i>Debt Service (interest & currency loss)</i>	582	602	657	737
Net Income before exceptional ite	(99)	(395)	(855)	(47)
Exceptional Revenue	1,824	6,897	2,031	680
Exceptional Expenses	1,731	6,702	2,862	773
Taxes	35	42	48	48
Net Income	(41)	(242)	(1,734)	(188)

Table 11 – Historical Balance Sheets

Balance Sheet (millions MAD)	2004	2005	2006	2007
Equity	17,845	19,893	17,952	17,429
LT Debt	24,916	26,687	27,968	30,961
<i>Financing debt</i>	13,717	14,746	16,208	19,363
<i>Provisions</i>	10,962	11,829	11,760	11,457
ST Debt	7,933	9,472	10,303	11,575
Treasury	1,404	2,060	4,152	-
Total Resources	52,098	58,112	60,375	59,965
Long Term Assets	42,690	46,736	48,068	49,204
<i>Fixed assets</i>	36,632	40,767	41,839	44,158
Short Term Assets	7,946	9,316	10,540	13,618
<i>Stocks</i>	638	1,149	901	1,094
<i>Accounts receivable</i>	7,158	8,163	9,629	12,523
Treasury	1,462	2,060	1,767	(2,857)
Total Assets	52,098	58,112	60,375	59,965

Table 12 – Historical Electricity Production

	Share in GWh			
	2004	2005	2006	2007
Total Net Electricity Production	17,945.3	19,518.2	21,104.6	22,608.1
<u>Sources:</u>				
Hydropower	1,600.3	1,411.8	1,585.3	1,318.1
Thermal	14,551.0	17,500.2	18,009.3	17,994.4
<i>Coal</i>	<i>12,519.5</i>	<i>12,730.6</i>	<i>12,901.7</i>	<i>12,456.5</i>
<i>Natural Gas</i>	<i>0.0</i>	<i>2,009.3</i>	<i>2,512.3</i>	<i>2,823.0</i>
<i>Fioul</i>	<i>2,029.2</i>	<i>2,765.7</i>	<i>2,595.2</i>	<i>2,714.9</i>
Wind	198.9	206.3	183.2	278.9
Spain Interconnection	1,534.9	813.7	2,026.8	3,506.5
Others (auxiliaries, STEP pumping, etc.)	60.2	-413.8	-700.0	-489.8
<i>of which Auxiliaries Consumption</i>	<i>-39.9</i>	<i>-42.8</i>	<i>-55.9</i>	<i>-40.4</i>

Outlook

174. Considering the very fragile financing standing of ONE, given that the strong and steady growth in electricity demand will continue to require heavy investments, and given that fuel costs are expected to remain high in the near and mid-term, the lack of any strategic action on ONE's part, supported by the Government, would likely lead to deterioration of its finances.

I. Base Case Scenario: Inaction

175. A simulation of the impact of an inaction policy on the evolution of ONE's financial situation over the next 5 years (2008-2012) has been prepared.

Table 13 – Base Case Financial Projections

Indicators		ACTUAL				PROJECTED				
		2004	2005	2006	2007	2008	2009	2010	2011	2012
Net Electricity Supplied	GWh	17,945	19,518	21,105	22,608	24,121	26,060	28,290	30,586	33,032
Net Electricity Billed	GWh	16,288	17,629	19,258	20,635	22,175	23,951	26,011	28,102	30,367
Electricity Sales	millions MAD	11,148	12,116	14,050	15,106	16,293	17,658	18,874	19,964	21,719
Fuel Purchases	millions MAD	1,849	3,198	3,838	3,831	5,545	5,155	5,481	5,532	6,450
Electricity Purchases	millions MAD	5,003	5,868	6,179	6,765	8,726	8,508	8,087	9,089	9,244
EBIT (EBE)	millions MAD	3,080	2,586	2,600	3,311	1,003	2,831	4,089	4,068	4,688
Operating Income	millions MAD	599	(69)	(196)	631	(1,700)	(1,581)	(1,222)	(862)	(1,253)
Debt Service Obligations	millions MAD	1,580	1,390	1,300	1,421	1,552	2,155	2,999	3,742	4,111
<i>of which interest</i>	<i>millions MAD</i>	<i>582</i>	<i>602</i>	<i>657</i>	<i>737</i>	<i>865</i>	<i>1,258</i>	<i>1,851</i>	<i>2,340</i>	<i>2,588</i>
Net Income	millions MAD	(41)	(242)	(1,734)	(187)	(2,513)	(3,162)	(3,442)	(3,626)	(4,416)
Corresponding Average Tariff	MAD cents/KWh	68.4	68.7	73.0	73.2	73.5	73.7	72.6	71.0	71.5
Corresponding Average Tariff	USD cents/KWh	9.0	9.0	9.6	9.6	9.7	9.7	9.5	9.3	9.4
New Investments	millions MAD	4,446	7,035	4,102	5,320	10,224	10,739	8,860	3,380	3,135
Equity	millions MAD	17,845	19,893	17,952	18,046	15,784	12,789	9,451	5,891	1,572
Long Term Borrowings	millions MAD	24,916	26,687	27,968	32,328	40,835	49,919	56,395	59,056	60,567
<i>of which financing debt</i>	<i>millions MAD</i>	<i>13,717</i>	<i>14,746</i>	<i>16,208</i>	<i>19,599</i>	<i>27,096</i>	<i>34,930</i>	<i>39,985</i>	<i>41,182</i>	<i>41,961</i>
<i>of which provisions (incl. pensions)</i>	<i>millions MAD</i>	<i>10,962</i>	<i>11,829</i>	<i>11,760</i>	<i>12,729</i>	<i>13,739</i>	<i>14,989</i>	<i>16,410</i>	<i>17,873</i>	<i>18,606</i>
Accounts Receivable	millions MAD	7,158	8,163	9,629	11,133	11,092	11,093	11,059	10,995	11,088
Debt Service Coverage Ratio (DSCR)		1.95	1.86	2.00	2.33	0.65	1.31	1.36	1.09	1.14
Debt to Equity Ratio		1.84	1.82	2.13	2.29	3.14	4.52	6.74	11.27	43.29
Debt Ratio		63%	62%	63%	66%	71%	77%	81%	86%	92%
Current Ratio		1.0	1.0	0.9	1.0	0.9	0.9	0.9	1.0	1.0

176. In this business-as-usual scenario, it was assumed, among other key variables, that the electricity demand would grow at an average annual rate of 8 percent, that national hydro

conditions would remain overall dry, and that no transfer of the retirement plan management to an external agency would be envisaged. Other key assumptions used for the Base Case scenario are detailed below.

Fuel Costs.

177. Fuel costs were calculated based on World Bank's own projections of average crude oil prices on international market, as well as other commodity prices projected for the relevant market places.

Table 14 – Fuel Assumptions

Fuel Assumptions		2007	2008	2009	2010	2011	2012
<i><u>A. Fuel Market Reference</u></i>							
Crude Oil *	US\$/baril	71	88	83	81	81	80
Coal **	US\$/ton	69	117	105	100	100	95
Petcoke ***	US\$/ton	70	110	105	110	110	105
Fuel Oil ****	US\$/ton	290	365	370	360	360	355
<i><u>B. Fuel Price at Plant</u></i>							
Coal	US\$/ton	89	144	118	123	123	118
Petcoke	US\$/ton	84	123	119	124	124	119
Fuel Oil	US\$/ton	307	397	282	275	275	271
Natural Gas	US\$/mmbtu	6	7	7	7	7	7

* Crude oil price, as forecast by IEA and World Bank, as of January 1, 2008.

** CFR Coal price, as forecast by ONE based on Platt for Coal at 6,000 Kcal/Kg

*** CFR Petcoke price, as forecast by ONE based on Platt for Petcoke at 7,500 Kcal/Kg

**** Fuel Oil price for the Europe zone, as forecast based on historic correlation with crude oil price

Exchange Rate:

178. The exchange rate has been assumed at 7.9 MAD/\$ throughout the forecasting horizon.

Accounts Receivables:

179. It has been assumed that the arrears related to the PERG program (assessed at MAD 800 millions) could be recovered over the next 5 years (2008-2012), as the likelihood of this to happen was deemed very high. As regards the arrears from the ex-régies of Casablanca and Tétouan, , it has been assumed that they would not be recovered under this scenario.

II. Financial Restructuring Scenarios

180. With the aim of interrupting the negative trend experienced by its financial results, ONE's Board of Directors identified and discussed in October 2007 an extensive menu of financial restructuring measures, which it submitted to the Government for review and validation. These proposed measures include:

- Recovery of old arrears (PERG, ex-Regies, etc.)
- Re-valuation of the assets and sales of all non-strategic assets
- Request for priority access to government concessional financing and guarantees

- Implementation of an ambitious Demand-Side Management (DSM) program
- Revision of the tariff structure
- Revision of the fiscal adjustment payment schedule
- Revision of custom duty arrangements on natural gas consumption
- Investment plan update and prioritization
- Corporate restructuring (into an incorporated company and, possibly, unbundled)
- Recapitalization through fresh equity injection.

181. Chances that all these measures would be fully implemented and succeed will depend on the Government's commitment, as implementation of several of these measures requires Government decisions and actions, and on ONE's ability to act swiftly on the measures it has full control over. Furthermore, a great number of them will not yield results of a recurring nature: most are specific one-time interventions that will hardly be replicable (ex. repayment of arrears, revision of fiscal repayment schedule, re-evaluation of the assets, new custom duty arrangements on natural gas consumption). Some of these measures, however, promise not only to have a more significant impact on ONE's financial results, but also to sustain a positive impact over time (ex. DSM program, tariff adjustments, corporate restructuring, etc.). This would, in turn, contribute to a more sustainable financial performance.

182. The impact of various measures on ONE's financial situation was tested to measure the scale of their effect on ONE's bottom line, as compared to the Base Case scenario (all other variables kept unchanged). A summary of the measures simulated is presented below:

- Demand-Side Management (DSM) program. The consumption reduction that this program, which includes the installation of 5 millions CFL lamps on clients' premises and the adoption of the GMT +1h time zone in Morocco, has been assessed to reduce peak demand by 300 MW. These measures are not expected to impact ONE's investment plan, as installed capacity is already below a level that maintains the target reserve margin level and, as even with DSM measures, ONE would still need to proceed with its priority infrastructure investment to achieve a satisfactory reserve margin. The net financial gain on ONE's operating income of these two DSM measures was estimated to amount to MAD 6 millions and MAD 4 millions for the CFL program and the GMT+1 roll out, respectively.
- Optimization of the Afourer pumped storage station (STEP) consumption pattern: a better control of the irrigation flows at the Afourer pumped storage station was assessed to reduce its fuel consumption and, in turn, relief ONE's fuel cost by MAD 12 millions a year.
- Removal of custom duty on ONE's natural gas consumptions. A removal of the currently-imposed custom duty on natural consumption was estimated to save ONE about MAD 28 millions annually on that fuel cost.
- Resolution of the old arrears related to the ex-régies of Casablanca and Tétouan: these long-standing arrears are assessed at MAD 1,062 millions MAD and were estimated to cost MAD 79 millions a year in short-term overdraft financing costs.
- Tariff level and structure adjustments. Three financial results breakeven scenarios were simulated in order to quantify the scale and window of the associated tariff increase required. These scenarios are:
 - An adjustment that would bring ONE's operating income to a breakeven point by 2008-end. The associated average tariff adjustment needed was calculated to be +10.45 percent

- An adjustment that would bring ONE's net profit to a breakeven point by 2008-end. The associated average tariff adjustment needed was calculated to be +15.45 percent
- An adjustment that would maintain ONE's net profit to a breakeven throughout the next five years (namely over 2008-2012). The associated average tariff increase needed was calculated to be 20.4 percent.

183. A summary of the outcome of the financial simulations based on the above assumptions is presented below:

- Based on financial simulations, measures such as the implementation of an ambitious Demand-Side Management (DSM) program, optimization of the Afourer STEP station consumption pattern, and the removal of custom duty on ONE's natural gas consumptions appear very promising, though their impact on ONE's net result would remain marginal (a financial relief estimated at MAD 50 millions a year over the Base Case scenario)
- The resolution of the old arrears related to the ex-régies of Casablanca and Tétouan, in addition to improving ONE's short-term cash position, has been estimated to offer an additional financial relief of MAD 80 millions a year in short-term overdraft financing costs. Given their high probability to be recovered, the arrears related to the PERG program were already assumed under the Base Case scenario.
- Some other measures promise to have a more significant impact on ONE's financial results, such as a revision of tariff levels and structure to better reflect the utility's today costs. Based on financial simulations, it was noted that a positive operating profit could be reached upon an average tariff increase of 10.45 percent in 2008, while a positive net profit could be attained upon an average tariff increase of 15.45 percent that same year. Though ONE would still experience losses over the following years, such tariff increases would allow for cumulated net losses over 2008-2012 that would be 57 percent and 85 percent lower than in the Base Case scenario, respectively. An average tariff increase of 20.4 percent would be needed to keep ONE's net result out of the red throughout 2012.

The impact of these various measures on some key financial indicators is summarized below:

Table 15 – Key financial outcome under various scenarios

EBIT	2007	2008	2009	2010	2011	2012
Base Case	3,311	1,003	2,831	4,089	4,068	4,688
I. DSM Measures	3,311	1,013	2,841	4,099	4,078	4,698
II. Afourer STEP optimization	3,311	1,015	2,843	4,101	4,080	4,700
III. No custom duty on Natural Gas consumption	3,311	1,031	2,859	4,117	4,096	4,716
IV. Recovery of arrears of ex-Régies	3,311	1,082	2,910	4,168	4,147	4,767
V. Tariff Increase of 10.45% in 2008	3,311	2,706	4,676	6,062	6,154	6,958
VI. Tariff Increase of 15.45% in 2008	3,311	3,521	5,559	7,005	7,152	8,044
VII. Combined Measures (I + II + III + IV + VI)	3,311	3,650	5,688	7,134	7,281	8,173
Operating Income	2007	2008	2009	2010	2011	2012
Base Case	631	(1,700)	(1,581)	(1,222)	(862)	(1,253)
I. DSM Measures	631	(1,690)	(1,571)	(1,212)	(852)	(1,243)
II. Afourer STEP optimization	631	(1,688)	(1,569)	(1,210)	(850)	(1,241)
III. No custom duty on Natural Gas consumption	631	(1,672)	(1,553)	(1,194)	(834)	(1,225)
IV. Recovery of arrears of ex-Régies	631	(1,621)	(1,502)	(1,143)	(783)	(1,174)
V. Tariff Increase of 10.45% in 2008	631	2	264	751	1,224	1,017
VI. Tariff Increase of 15.45% in 2008	631	817	1,147	1,694	2,222	2,103
VII. Combined Measures (I + II + III + IV + VI)	631	946	1,276	1,823	2,351	2,232
Net Income	2007	2008	2009	2010	2011	2012
Base Case	(187)	(2,513)	(3,162)	(3,442)	(3,626)	(4,416)
I. DSM Measures	(187)	(2,503)	(3,152)	(3,432)	(3,616)	(4,406)
II. Afourer STEP optimization	(187)	(2,501)	(3,150)	(3,430)	(3,614)	(4,404)
III. No custom duty on Natural Gas consumption	(187)	(2,485)	(3,134)	(3,414)	(3,598)	(4,388)
IV. Recovery of arrears of ex-Régies	(187)	(2,434)	(3,083)	(3,363)	(3,547)	(4,337)
V. Tariff Increase of 10.45% in 2008	(187)	(811)	(1,317)	(1,469)	(1,539)	(2,146)
VI. Tariff Increase of 15.45% in 2008	(187)	4	(434)	(525)	(541)	(1,060)
VII. Combined Measures (I + II + III + IV + VI)	(187)	133	(305)	(396)	(412)	(931)
DSCR	2007	2008	2009	2010	2011	2012
Base Case	2.33	0.65	1.31	1.36	1.09	1.14
I. DSM Measures	2.33	0.65	1.32	1.37	1.09	1.14
II. Afourer STEP optimization	2.33	0.65	1.32	1.37	1.09	1.14
III. No custom duty on Natural Gas consumption	2.33	0.66	1.33	1.37	1.09	1.15
IV. Recovery of arrears of ex-Régies	2.33	0.70	1.35	1.39	1.11	1.16
V. Tariff Increase of 10.45% in 2008	2.33	1.74	2.17	2.02	1.64	1.69
VI. Tariff Increase of 15.45% in 2008	2.33	2.27	2.58	2.34	1.91	1.96
VII. Combined Measures (I + II + III + IV + VI)	2.33	2.35	2.64	2.38	1.95	1.99
Debt to Equity Ratio	2007	2008	2009	2010	2011	2012
Base Case	2.29	3.14	4.52	6.74	11.27	43.29
I. DSM Measures	2.29	3.13	4.51	6.71	11.20	41.95
II. Afourer STEP optimization	2.29	3.13	4.51	6.71	11.18	41.70
III. No custom duty on Natural Gas consumption	2.29	3.13	4.50	6.68	11.06	39.75
IV. Recovery of arrears of ex-Régies	2.29	3.12	4.47	6.57	10.70	34.59
V. Tariff Increase of 10.45% in 2008	2.29	2.83	3.54	4.25	4.92	5.94
VI. Tariff Increase of 15.45% in 2008	2.29	2.71	3.21	3.61	3.88	4.21
VII. Combined Measures (I + II + III + IV + VI)	2.29	2.69	3.16	3.54	3.76	4.05

Conclusions

184. Given that each of these measures alone will not be sufficient for the financial recovery of ONE, only a well-thought financial plan that would combine these various measures and that would be fully endorsed and acted upon by both ONE and the Government could prove effective over the medium-term. Such concerted approach would allow for a more sustainable control over ONE's debt levels and costs, while restoring the financial strength necessary to undertake the investments required to cover demand and meet its public service obligations. It is therefore critical that ONE and the Government formally agree on a financial recovery plan promptly.

185. Given that each of these measures alone will not suffice to meaningfully rehabilitate ONE's financial standing, only a well-thought financial plan that would combine these various measures can prove effective over the medium-term. In view of the size of the financial gap, ONE and the Government might be forced to explore and agree upon additional (ex. recapitalization), if not more aggressive (ex. tariff increase), options than the ones considered thus far in ONE's current financial restructuring plan. Only such approach would allow for a more sustainable control over ONE's debt levels and costs, while restoring the financial strength necessary to undertake the investments required to cover demand and meet its public service obligations.

186. Any such financial restructuring plan should definitely consider an active assessment of the gains to be had from a restructuring of the current corporate structure as well as from the influx of fresh equity through a recapitalization of the company. This seems particularly justified given that the PERG costs should have been covered by the Government.

Annex 10: Safeguard Policy Issues

MOROCCO: ONE SUPPORT PROJECT

Social Safeguards

A. Background

187. It was established that the component related to transmission lines and sub-stations (400 and 225 kV network) will require some land acquisition and trigger the Bank's policy on involuntary resettlement (OP 4.12), as follows:

- Some land acquisition for the sub-stations
- The loss of agricultural revenue due to the placement of tower bases
- The possible re-location of structures underneath transmission lines (in case the legal height restrictions are not observed)
- The use of land currently used for agricultural purposes during project construction works

188. The transmission lines and sub-stations will mainly be situated in sparsely populated rural areas, with the exception of 2 sub-stations (Dar Bouazza and Tamansourt), which are located in urban areas. None of the proposed sub-station sites are inhabited, consequently there is no resettlement expected. The procedure for compensation for the space taken by the transmission towers as well as by the necessary reservations is described in the Resettlement Policy Framework (RPF) prepared for this project. The remote possibility of dwellings located beneath high voltage lines is also being addressed and will be considered for compensation by ONE.

189. Since the exact placement of the substations and lines has yet to be determined, a RPF was prepared to outline (a) the legal framework, (b) the land tenure system, (c) resettlement principles and screening procedures, (d) methods of evaluation and compensation, (e) consultations and grievance procedures, and (f) monitoring the implementation of the Resettlement Action Plan (RAP).

190. Once the detailed plans are finalized, a census survey of all affected peoples will be carried out, after which a RAP will be prepared by ONE, the implementing agency, to determine those eligible for compensation. This process will involve the dissemination of information and consultations by ONE with the affected communities through their local representatives to ensure that they are both informed and able to provide inputs to the compensation process. There are clear recourse procedures that are available to the affected persons if those are needed. ONE has experience with regard to acquisition of land and compensation, and has followed these in the past including in the Ain Beni Mathar project, which required a resettlement plan. Finally, both the RPF, and the RAP – once it is prepared – will be disclosed to the affected communities as well as placed on the ONE website.

B. Summary of Resettlement Policy Framework

191. The principle objective of the Resettlement Policy Framework (RPF) is to ensure that all project affected persons (PAP's) will be compensated for their losses at replacement cost and

provided with rehabilitation measures to assist them to improve, or at least maintain, their pre-project living standards and income earning capacity.

192. The RPF lays down the principles and objectives, eligibility criteria of PAP's, entitlements, legal and institutional framework, modes of compensation, consultation and grievances procedures that will guide the compensation, and if necessary, resettlement of the PAP's.

C. Legal and institutional framework

193. The framework governing the implementation of this RPF are composed of OP 4.12 on involuntary resettlement and Moroccan Law 7-81. OP 4.12 on involuntary resettlement of the World Bank states that:

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons³ should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.
- Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

194. Moroccan law 7-81 of 5/6/1982 on acquisition and expropriation of land for public utility purposes and to the temporary use of land. This law governs the following:

- Declaration of public utility and transferability
- Instrument of declaratory certificate of utility and transferability
- Pronouncement of expropriation , taking possession and setting of compensation
- Payment of compensation
- Recourse mechanisms
- Temporary Occupation
- Compensation of surplus value
- Temporary measures and implementation

195. The law also recognizes that all those holding rights to the land are authorized to receive compensation: owners, occupants or tenants, those with usufructuary rights, owners of trees or any structure or equipment, persons exercising any type of commercial activity on the land.

The Moroccan land tenure system:

196. The Moroccan land tenure system consists:

- *Melk*- the most common land status, which refers to private property (*usus, abusus, fructus*). These lands can be held by one or more individuals-

- Collective lands- these originally belonged to tribal communities and were transformed into communal property, and fall under the Ministry of Interior. These communities own a collective title to the lands.
- *Guich*- these are usual lands that are part of the state's private domain and areas accorded to tribes for military services rendered.
- *Habous*- these are lands that are bestowed by individuals to a religious foundation.

197. In the context of this project:

- The installation of the 3 transmission lines and the construction of the Chemaia sub-station will fall under the *melk* status
- The construction of some transmission lines in some regions will fall under *melk*, *guich* and collective lands
- The Dar Ouled Zidou sub-station will involve collective land
- The Tamansourt and Dar Bouazza sub-stations will not involve any land acquisition

Entitlement Criteria

198. Under this project, the following categories of people are eligible for compensation:

- Owners of plots that need to be acquired for the construction of the sub-stations as well as those who work on the land in the case of collective and *guich* lands.
- All farmers, regardless of their status (i.e. whether they hold the title to the land or not), who will be subject to damage to their cultivation cause by the construction and project site.
- All the owners and those who farm on plots that will be taken over by towers bases
- The owners of dwellings located beneath high voltage lines
- All persons exercising any economic activity in the immediate vicinity of the lines that could be subject to prejudice (beekeepers, etc.).

Census and Inventory

199. According to OP4.12 and the procedures of ONE, once the need for involuntary resettlement and land acquisition is determined for a particular project, a census is carried out to identify the project affected peoples. The census also helps ensure that there are no newcomers at the project site.

200. For the electrical transmission lines, the census takes places before the start of the works and at the same time as the topographic studies. The firm responsible for the latter will be responsible for identify and draw up the list the PAPs. ONE will need to ensure that the list is complete and to validate it with the local authorities. The construction firm will be responsible for damage during the works, including to cultivation, and is charged with identifying all of the impacts on farmers during construction.

201. With regard to the sub-stations, ONE will identify alongside the local authorities the owners of land to be acquired. The construction firm will be charged with inventorying farmers who will sustain damage to cultivation. All lists will be checked with the local authorities for accuracy.

Procedures of Evaluation and Compensation

202. For the tower bases, law 7-81 provides for an administrative commission of experts to fix the compensation amount and evaluate the losses related to the project. The commission is generally made up of local authorities, presidents of rural communes, representatives of the state (Ministry of Agriculture, Ministry of Urban Affairs, etc.), tax official, traditional authority representative, regional representative and a member of the ONE (as observer). The commission sets the compensation package based on the market prices for land in the given region and also includes compensation for the depreciation of the plot of land caused by the presence of the tower base. ONE deposits the compensation amount to the PAPs, after which an agreement between the ONE and the PAP is signed.

203. With regard to the damage to cultivation, this amount is calculated based on the prices set by the Provincial Department of Agriculture, which are reviewed annually. The construction firm is responsible for the compensation of PAPs for damage caused during construction. The local authorities are charged with ensuring that the total number of persons affected by the works have been compensated, after which a certificate is issued to the firm. Only after receipt of this certificate does ONE okay the works.

204. In the case of land acquisition for *melk* (private property), the practice is the following: the administrative commission of experts fixes the price of plots to be acquired. If the owner accepts the price, a deed is signed with ONE. If not, the process goes from acquisition to expropriation. The law on expropriation allows for the value of losses and damages to be determined by a commission. This commission is headed by the local authorities, and includes – as permanent members— the head of local circumscription, the receiver of the registration, or a designated representative and a representative of the expropriating agency. Non permanent members include: a representative of the Ministry of Agriculture and rural development of the province and a tax inspector in the rural areas; and an inspector of urbanization and an urban tax inspector, or their representatives for the urban areas.

205. For lands that are collective and Guich, the ONE compensates the state which is tasked with compensating farmers or others cultivating the land.

206. The remote possibility of dwellings located beneath high voltage lines is also being addressed and will be considered for compensation by ONE. ONE, when applicable, will consider the possibility of compensating owners of dwellings located on a corridor of land 82 meters wide (width of the tower 400 000 volts + 2 security strips each measuring 30 meters on each side of the transmission line overhang). Beyond the 30 meters, the electrical fields diminish considerably. The resettlement action plan will need to take into account the compensation of owners, including the cost of moving to a new dwelling, in conformity with OP4.12. The administrative commission of experts will evaluate the value of the dwelling, and ONE will transfer the compensation amount to the owner.

Grievance Mechanisms

207. There are two main recourse avenues: an administrative recourse directly with ONE, and if the latter fails, recourse can be sought through the legal system.

208. Where the transmission lines are concerned: in situations where the owners oppose the works on their land, ONE studies the possibility of re-routing the line in order to avoid the specific

plot of land. However, if the deviation is too costly, ONE maintains its plans, after which the owners can seek legal recourse. The ONE cannot start construction until a judgment is given in its favor by the court.

209. Where the sub-stations are concerned: if the owners and/or land users contest the compensation proposed, and if ONE believes that the contestation is valid, the administrative commission of experts revises the proposed price. If not, the owner an/or land user can resort to the legal system.

Information and Public Consultations

210. Where the transmission lines are concerned: once the list of PAPs is validated with the local authorities, an information session is organized by the local leader. All PAPs are invited to attend the meeting during which the project and compensation procedures are presented. At the same time, the local authorities communicate the information to the community. ONE will also communicate the information regarding the passage of the transmission lines to the community in question and inform the local authorities, and ensure that they are aware of the impacts and risks associated with the project as well as the compensation planned.

211. Where the sub-stations are concerned: in case the expropriation procedure is set off, the procedure itself provides for the need to inform PAPs. In case of acquisition, only the owners are informed. As with the transmission lines, the local authorities will provide information to owners and those affected by the project as soon as the topographic studies are complete.

212. In order to strengthen the information dissemination, ONE will need to envisage a systematic disclosure of the project within the headquarters of the communes and provinces in question. Public consultation will be an integral part of the RAP.

Follow up

213. ONE will be responsible for preparing and implementing the RAP. To this end, it will ensure that all PAPs are included in the survey and taken into account for compensation. For each acquisition and compensation operation, ONE will have to provide the WB with the necessary information, after which the WB can give its no-objection to release the funds.

Environmental

214. The infrastructural component of the project has been submitted to an environmental and social impact assessment framework (ESIAF). The other components have been deemed having no or minor environmental and social negative impacts. The ESIAF for the extension and reinforcement of the 400 and 225kV electricity network is composed of the following five reports.

- Report 1: Line 2 circuits - 400 kV MADIOUNA – GHANEM (1x120 km)
- Report 2 : Two Lines 1 circuit - 400 kV BIR LHAR – CHAMAIA (2x55 km)
 - One Line 2 circuits - 225 kV CHAMAIA – TENSIFT II (1x70 km)
 - Connection line - 225 kV to CHAMAIA (6 km)
 - Connection line - 400 kV to CHAMAIA (1 km)

Sub-Station 400/225 kV - CHAMAIA (13 hectares)

Report 3 : Line 2T - 400 kV CHICHAOUA - AGADIR (1x160 km)

Report 4 : Main Sub-Stations of DAR BOUAZZA (225/22 kV), of DAR OULED ZIDOUH (60/22 kV), and of TAMANSOURT (60/22 kV).

In addition a report establishing the Resettlement Policy Framework (RPF) has been prepared

215. The present annex presents essentially the environmental and social management framework applicable for the sub-components covered by reports one to four. The Full ESIAF reports cover the institutional and legal framework, including the applicable World Bank policies. The reports include a discussion of the alternative solutions as well as the expected negative and positive impacts of the proposed investments. Finally mitigating as well as the monitoring measures are described in details.

216. General inter-agency consultation was conducted during preparation of ESIAF reports and targeted public consultation will be carried out during project implementation, at the level of each area to be impacted by the project and will include information of the population, concerned governmental agencies as well as municipalities. Registers will be available in each of the concerned municipalities for collecting comments by the population. During project preparation, ONE has conducted public information through disclosure of the ESIAF on its website and through the Bank Infoshop and also through proper communication to the different municipalities affected by the project. In turn the municipalities are informing and consulting potentially affected people according to the local regulations and practices.

217. During project preparation the Bank has reviewed the capacity of ONE regarding the implementation of the environmental and social mitigating and monitoring measures and it has been found satisfactory.

Environmental and Social Management Plan (ESMP)

○ Mitigation and/or compensation measures

Project Phase	Impact	Mitigation and/or compensation measure	Implementation of measures	Responsibility and cost
Design : feasibility study	Visual Impact of lines and towers	Optimization of aesthetic impact	Optimization of routing of lines and location of towers : - Select bland landscapes with few outstanding features, follow relief features, e.g. run the transmission lines along edge of forest or go round ridge lines, - Use existing transmission lines corridors - In urban areas, align towers and use monopods supports. - Position transformer by directing the aerorefrigerant towards the inside of the sub-station.	Contractor Cost included in feasibility study cost
	Noise from sub-stations			ONE / works contract Included in cost of works
	Land use: acquisition, damages to cultures and pasture fields	Compensate owners beneficial occupant, and farmers	- Public disclosure of list of plots affected, grievance procedure, compensation according to regulation. - Authorize farmers and cattle breeders to continue exploit portions of the land that has been affected by the project	ONE
	Disruption of the run-off system during rainy periods	Design appropriate and efficient drainage system	- Areas covered with concrete or asphalt in the sub-stations will be limited to driving areas - Installation of a drainage system and collection basin for rain water within the limits of the sub-station - Most of the area of the sub-station should be drained and covered with gravel in order to avoid affective the hydrological regime and the water table beneath the site.	
Works	Risks of contamination of the water table by used oil from sub-stations	Collection of polluting discharges	- A water-proof tank will be installed beneath the transformers and will be connected to a waterproof pit that will allow oils to be collected.	
	Land use, destruction of vegetal cover, compaction of soil	Marking out of foot-prints	- Materialize the limits of the infrastructures (posts, tape,...) to mark the boundaries within which the facility will be maintained; plan for storage areas and handling specific to hydrocarbon products and for maintaining of the vehicles (oil change, repairation, etc.) - Ensure adequate signaling in order to avoid affecting road traffic; - Put in place appropriate signaling in order to limit risks of accidents involving people and herds - Prohibit filling up of vehicles and machines within 30 meters of rivers and flood prone areas. - On cultivated land set up only on access point in agreement with land owners and beneficial occupants before opening the building site - Limit usage of rolling stock in the area - Use as much as possible existing tracks or trails - Collect over the work area and dispose as and when produced during progress of work - Dispose in appropriate landfills - Collect, store and dispose of oils and lubricants possibly through appropriate recycling facilities - Put back in original condition the work site after completion of works	ONE / work contract Included in cost of works
Earthworks	Generation of wastes	Collect and dispose of wastes		ONE / work contract Included in cost of works
Earthworks – construction of	Soil erosion, destruction of vegetal cover	Stabilization of soils	- Use as much as possible materials from earthworks as permitted by geotechnical requirements or dispose of excess material in a way friendly to the landscape and to allow greening.	ONE / work contract

Project Phase	Impact	Mitigation and/or compensation measure	Implementation of measures	Responsibility and cost
towers footing			- Earthworks and embankments will be stabilized, drained et greened to the extent possible. - Remove separately superficial earth cover with pedologic interest and proceed then to excavating the deeper layers. - Stabilization of soils immediately after the end of the work. - Reestablish in its original state the site by using the vegetal soil set aside during earthworks as cover material. - Limit areas to be cleared as much as possible - Minimization of dust : minimization of areas to clear, watering of areas near inhabited settlements - Limitation of noise : use equipment in good working condition, schedule working hours between 8am and 20pm, equip crews with noise protection devices as necessary. - Use as much as possible electrical equipment instead of pneumatic or hydraulic equipment. - Some percussion tools can be fitted with anti noise devices. - Internal combustion engines of earthworks machinery should be equipped with silencers - Repair immediately work site equipment et vehicles that generated excessive amounts of emissions	Included in cost of works
Earthworks – construction of towers footing	Nuisance to people and fauna (dust, noise, landscape)	Minimization of dust and noise	- Interdiction to park outside working hours of rolling stock within protection areas, - Maintenance of vehicles and equipment) oil change, repairation) outside water collection areas. - Forbid storage of fuel within 100 m of a river of water body. The contractor will have to obtain authorization from appropriate administration in order to set up areas for storage and handling of hazardous materials - Prior review of equipments at the beginning of works in order to minimize risks of technical breakdown. - Cover, as a preventive measure, with a film of the « polyane » type over excavation in order to avoid indirect contamination of receiving bodies by discharge of concrete contaminated water during the laying of foundations. The contractor will establish a contingency plan in case of leakages or discharges of pollutants. The implementation of this plan will be launched as needed and as quickly as possible. - In case of a pollution accident, the area contaminated will be immediately covered with highly absorbing material (e.g. sawdust) - The area will be then cleaned of the contaminated layer that will be disposed of in an appropriate landfill.	ONE / work contract Included in cost of works
Earthworks – construction of towers footing	Accidental pollution (concrete residues or oil contaminated soil)	Put in place prevention plan as well as mitigating plan in case of accident	Preventions measures : - Interdiction to park outside working hours of rolling stock within protection areas, - Maintenance of vehicles and equipment) oil change, repairation) outside water collection areas. - Forbid storage of fuel within 100 m of a river of water body. The contractor will have to obtain authorization from appropriate administration in order to set up areas for storage and handling of hazardous materials - Prior review of equipments at the beginning of works in order to minimize risks of technical breakdown. - Cover, as a preventive measure, with a film of the « polyane » type over excavation in order to avoid indirect contamination of receiving bodies by discharge of concrete contaminated water during the laying of foundations. The contractor will establish a contingency plan in case of leakages or discharges of pollutants. The implementation of this plan will be launched as needed and as quickly as possible. - In case of a pollution accident, the area contaminated will be immediately covered with highly absorbing material (e.g. sawdust) - The area will be then cleaned of the contaminated layer that will be disposed of in an appropriate landfill.	Contractor Included in cost of works
Exploitation	Diminution of vegetal cover	Greening and upkeep of green cover	- Greening with appropriate species. ONE's technical guidelines specify the height of plantation compatible with proper operation of the transmission lines. - Record dates et results of periodic visits aimed at determining needs for pruning and cutting down of trees to be carried out by the Forest and Water Department, in a register to be made available for inspection - During pruning, cutting down of trees and clearing operations, branches will be cut in smaller pieces, gathered in piles and left to decay and provide organic component to the soil. It is advised to disperse then the material to facilitate intake by the soil. - No residues of tree cutting or clearing will left in forest trenches. When grinding is not possible, it will be transferred when it is possible to proceed as indicated above or to be destroyed in order to avoid any risk of fire. - The ditches, ponds, permanent or intermittent streams should be kept clear in order to avoid disturbing flow of water and impact on biodiversity.	ONE/ terms of reference of works in collaboration with Water and Forest services Included in cost of works

Project Phase	Impact	Mitigation and/or compensation measure	Implementation of measures	Responsibility and cost
Exploitation	Nuisance to avifauna	Protection measures of avifauna	- Signaling of the Ground Wire is mandated in areas of significant ornithological interest as indicated in the Environmental Impact Assessment. Un balliage of cables required in zones of ornithological interest identified in EIA.	ONE/bidding documents and contracts for works, in coordination with the Forest and Water department Included in the cost of works
Exploitation	Nuisance caused to private property or communal lands	Restrict number of access tracks	- Give preference to existing public and rural roads or tracks - Prefer longitudinal access (along the transmission line) rather than lateral, whenever possible	ONE
Exploitation	Risks of accidents	Inform residents regarding security measures and interdictions	- Prohibit handling of ladders and equipments within 5m of conducting wires without prior agreement of ONE and without clear and explicit security measures in place. - Prohibit cutting of trees within 5m of live wires if there is a risk that branches could touch the wires during their fall. - Inform neighboring residents in case an incident on the lines that is forbidden to touch or get close to the lines even if on they are on the ground. - Inform neighboring residents about the warning procedures used by the repair and maintenance department of ONE	ONE, with local governments, schools, etc... Cost : 150 000 DH
Exploitation	Electromagnetic disturbances and induced currents	Decrease induced currents in metallic fences	- Connect fence wire to the ground through grounding posts	ONE, in coordination with Agriculture Dpt. and farmers Cost : 30 000 DH

Avifauna monitoring	environment experts	Evaluate the impact of power lines on avifauna death rate, make technical adjustments to lines to reduce	ONE	20000 DH/year
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○ **Monitoring and Supervision**

Monitoring program	Responsibility	Supervision Program	Responsibility	Cost
DESIGN				
Earthworks design and planning	Engineering company	Areas for storage of building materials Prevention of irreversible impacts on landscape, land loss, erosion, pollution of drinking water resources	Project implementing agency - ONE	Included in works costs
bituminous aggregates production plant	Engineering company	Specifications to be included in Terms of Reference	Project implementing agency - ONE	NA
Lay-out of power lines to ensure proper integration in landscape	Engineering company	Taking into account relief specific features for the final lay-out of power lines and positioning and spacing of towers	Project implementing agency - ONE	Included in study costs
Choice of tower types for optimum integration in landscape	Engineering company	Taking into account of specific landscape features for the tower design	Project implementing agency - ONE	Included in costs for works

Monitoring program	Responsibility	Supervision Program	Responsibility	Cost
Choice of work sites ; Preparation of access roads	Builders and their environmental experts	Compliance with stated objectives and legislation on ecosystems protection	ONE – environment directorate	Included in costs for works
Design of earthworks and of construction of tower foundations	Engineering company	Areas for storage of building materials Prevention of irreversible impacts on landscape, land loss, erosion, pollution of drinking water resources	Project implementing agency - ONE	Included in costs for works
Prevention of soil, water and air pollution	Engineering company	Specifications to be included in Terms of Reference	Project implementing agency - ONE	Included in costs for works
Land use audit ; Expropriations – identification of entitled parties -	Local authorities – ONE	Compliance with land legislation ; Verification of proper implementation of compensation	Project implementing agency - ONE	Specific budget ONE
Participative approach ; Participation of all stakeholders and NGO ; publication in mass medias ; grievance registers available to all affected parties;	ONE Local authorities – local NGOs	Verification of information give to entitled parties	Project implementing agency - ONE	NA
CONSTRUCTION				
Specific capabilities of builders for implementing measures related to environmental constraints	Engineering company – Commission in charge of evaluating proposals	Evaluation of proposals before contract award – The builder must indicate the method used to ensure compliance for environmental clauses	Project implementing agency - ONE	NA
Lay-out of power lines	Topographers, Builders and environmental experts	Adequation of actual land needs with environmental concerns; Conformity with expropriations regulations, les compensations and rights of way	ONE – environment directorate	NA
Transport of equipment, building materials and toxic products; storage conditions	Contractors and environmental experts; police	Road safety ; Land conditions and ecosystems ; compliance of material storage plan provided by builder, land preservation	ONE – environment directorate, entrepreneurs	Included in cost of works
Accident risks on roads, work sites and nearby ;	Contractors, police	Compliance with legislation on works and circulation of work equipment	Project implementing agency - ONE	Included in cost of works
Work sites (control of concrete production ; control of emissions, particulates and liquid, gaseous and solid effluents, protection of vegetation	Contractors and environmental experts	Compliance with labor legislation and environmental assessment recommendations Protection of trees and shrubs Watering of dirt roads near houses and use of covered trucks	Project implementing agency - ONE, environment division	Included in cost of works
Digging for tower foundations	Contractors and environmental experts	Compliance with environmental assessment recommendations ;	ONE – work site monitoring	Included in cost of works
Maintenance of work vehicles and machinery	Contractors and concession holders	In compliance with manufacturer norms and recommendations	ONE – work site monitoring	Included in cost of works

Monitoring program	Responsibility	Supervision Program	Responsibility	Cost
Installation of equipment and establishments of work sites ; Handling of dangerous and toxic materials ;	Contractors and environmental experts Chemists	Detailed design, Compliance with environmental evaluation	ONE – work site monitoring	Included in cost of works
Moving engines, concrete plant and structures under construction		Equipment control, noise protection and compliance with national norms and specifications required in tendering document for works	ONE – work site monitoring	NA
Monitoring of avifauna	Contractors and environmental experts	Respect work schedules compatible with nesting periods	ONE – work site monitoring	30000 DH/an
Decommissioning	Builders and environmental experts	Site reclamation after work is over temporarily or permanently	ONE	Included in construction costs
OPERATION				
Equipment maintenance in conformity with manufacturer norms and standards ;	Equipment manager ; ONE	Respect of manufacturer norms and standards	ONE	Operating budget
Impact on landscape of infrastructures	Network operator ; ONE	Integration of infrastructures in landscape and maintenance – Esthetics of buildings and infrastructures ;	ONE – Division of urban environments	Operating budget
Control of emission or waste from substations	Network operator ; ONE	Respect of pollution norms for natural habitats	ONE- Division environment – Health Ministry – MATTE	30000 DH/year
Avifauna monitoring	environment experts	Assess the impact of power lines on avifauna death rate, make technical adjustments to lines to reduce it	ONE	20000 DH/year

Annex 11: Project Preparation and Supervision
MOROCCO: ONE SUPPORT PROJECT

	Planned	Actual
PCN review	February 6, 2007	February 7, 2007
Initial PID to PIC		February 16, 2007
Initial ISDS to PIC		October 3, 2007
Appraisal		March 29, 2008
Negotiations		May 8, 2008
Board	June 10 2008	
Planned date of effectiveness	September 10, 2008	
Planned date of mid-term review		
Planned closing date	March 31, 2014	

Key institutions responsible for preparation of the project:

Office National de l'Electricité (ONE)

Bank staff and consultants who worked on the project included:

Name	Title / Description
Silvia Pariente-David	Sr. Energy Specialist and TTL
Noureddine Berrah	Energy Consultant (technical and economic analysis)
Michael Hamaide	Financial Analyst
Jean-Charles de Daruvar	Sr. Counsel
Moez Maklouf	Financial management
Leila Al-Hamad	Social Development Specialist
Hocine Chalal,	Lead Environmental Specialist
Armando Ribeiro Araujo	Procurement Specialist, Consultant
Khalid Boukantar	Program Assistant

Bank funds expended to date on project preparation:

1. Bank resources: \$ 238 743.00
2. Trust funds:
3. Total: \$ 238 743.00

Estimated Approval and Supervision costs:

1. Remaining costs to approval: \$ 40,000.00
2. Estimated annual supervision cost: \$ 100,000.00

Annex 12: Documents in the Project File
MOROCCO: ONE SUPPORT PROJECT

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16. Note explicative des traitements comptables des concessions et retraite, Division Etudes Financières ONE, janvier 2008.
17. Note de synthèse de l'étude du schéma directeur du réseau de transport et de répartition
18. Plan de développement du réseau transport et distribution
19. Etude d'impact environnemental et social du projet de l'extension et de renforcement du réseau national 400 et 225 kV- Lots 1,2, 3 et 4. Burgeap, Phénixa et X. Monbailliu & Associés

Annex 13: Statement of Loans and Credits
MOROCCO: ONE SUPPORT PROJECT

Project ID	FY	Purpose	Original Amount in US\$ Millions				Cancel.	Undisb.	Difference between expected and actual disbursements	
			IBRD	IDA	SF	GEF			Orig.	Frm. Rev'd
P100026	2007	MA-National Initiative for Human Dev.	100.00	0.00	0.00	0.00	0.00	67.49	-4.85	0.00
P086877	2006	MA-Rural Water Supply and Sanitation	60.00	0.00	0.00	0.00	0.00	67.34	11.17	0.00
P094007	2006	MA-Rural Roads II	60.00	0.00	0.00	0.00	0.00	49.10	0.28	0.00
P043412	2005	MA-Basic Education Reform Sup Program	80.00	0.00	0.00	0.00	0.00	26.13	26.34	0.00
P083746	2005	MA-Housing Sector DPL	150.00	0.00	0.00	0.00	0.00	65.89	64.36	0.00
P082754	2004	MA-Rural Roads	36.86	0.00	0.00	0.00	0.00	36.81	12.47	11.90
P069124	2003	MA-Rainfed Agriculture Development	26.80	0.00	0.00	0.00	0.00	32.08	11.73	1.08
P073531	2002	MA-Social Development Agency	5.00	0.00	0.00	0.00	0.00	2.74	0.22	0.22
P056978	2001	MA-Irrigation Based Community Dev.	32.57	0.00	0.00	0.00	6.15	9.01	14.70	-0.08
P048314	2000	MA-GEF Protected Areas Management	0.00	0.00	0.00	9.80	0.00	1.98	10.50	8.11
Total:			551.23	0.00	0.00	9.80	6.15	358.57	146.92	21.23

MOROCCO
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

FY Approval	Company	Committed				Disbursed			
		IFC				IFC			
		Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
2006	FONDEP	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	Maghreb Inv. Mgt	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00
2000	Maghreb Invest P	0.00	2.30	0.00	0.00	0.00	2.30	0.00	0.00
Total portfolio:		3.45	2.32	0.00	0.00	0.00	2.32	0.00	0.00

FY Approval	Company	Approvals Pending Commitment			
		Loan	Equity	Quasi	Partic.
2005	BMCE	0.00	0.03	0.00	0.00
2002	SGRI	0.00	0.00	0.00	0.00
2004	Meditel Restruct	0.00	0.00	0.00	0.00
Total pending commitment:		0.00	0.03	0.00	0.00

Annex 14: Country at a Glance

MOROCCO: ONE SUPPORT PROJECT

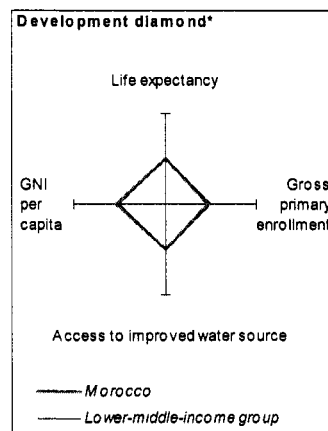
POVERTY and SOCIAL	Morocco	M. East & North Africa	Lower- middle- income
2006			
Population, mid-year (millions)	30.5	31	2,276
GNI per capita (Atlas method, US\$)	2,160	2,481	2,037
GNI (Atlas method, US\$ billions)	65.9	771	4,635

Average annual growth, 2000-06

Population (%)	11	18	0.9
Labor force (%)	2.1	3.5	14

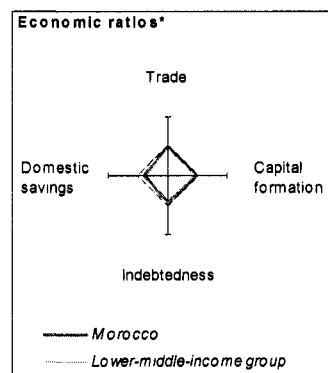
Most recent estimate (latest year available, 2000-06)

Poverty (% of population below national poverty line)	..	..	..
Urban population (% of total population)	59	57	47
Life expectancy at birth (years)	70	70	71
Infant mortality (per 1,000 live births)	36	43	31
Child malnutrition (% of children under 5)	10	15	13
Access to an improved water source (% of population)	81	90	81
Literacy (% of population age 15+)	52	73	89
Gross primary enrollment (% of school-age population)	105	103	113
Male	111	106	117
Female	99	99	114



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

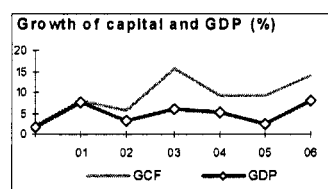
	1986	1996	2005	2006
GDP (US\$ billions)	17.0	36.6	59.0	65.4
Gross capital formation/GDP	22.8	19.6	30.3	31.6
Exports of goods and services/GDP	22.0	26.3	31.6	33.0
Gross domestic savings/GDP	17.0	15.7	24.1	26.2
Gross national savings/GDP	21.8	19.1	32.2	34.5
Current account balance/GDP	-13	0.1	19	2.8
Interest payments/GDP	3.6	3.6	10	..
Total debt/GDP	105.5	66.1	28.6	..
Total debt service/exports	35.4	28.2	11.3	..
Present value of debt/GDP	..	..	27.7	..
Present value of debt/exports	..	..	67.9	..



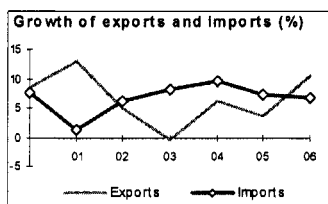
	1986-96	1996-06	2005	2006	2006-10
(average annual growth)					
GDP	2.8	4.2	2.4	8.0	4.3
GDP per capita	0.8	2.9	1.4	6.7	2.6
Exports of goods and services	7.3	6.6	3.6	10.5	5.6

STRUCTURE of the ECONOMY

(% of GDP)	1986	1996	2005	2006
Agriculture	19.3	19.6	13.3	15.7
Industry	32.6	31.5	29.0	27.8
Manufacturing	17.4	17.3	17.2	16.5
Services	48.1	48.9	57.6	56.5
Household final consumption expenditure	67.6	67.5	56.6	55.5
General gov't final consumption expenditure	15.4	16.9	19.2	18.3
Imports of goods and services	27.8	30.2	37.8	38.4



(average annual growth)	1986-96	1996-06	2005	2006
Agriculture	-0.3	3.5	-12.8	23.0
Industry	3.0	3.8	5.5	4.6
Manufacturing	3.5	3.3	4.1	3.9
Services	3.8	4.7	6.5	4.1
Household final consumption expenditure	2.9	3.0	1.1	3.9
General gov't final consumption expenditure	4.0	3.2	2.2	3.8
Gross capital formation	19	7.6	9.4	14.0
Imports of goods and services	6.8	6.4	7.3	6.7



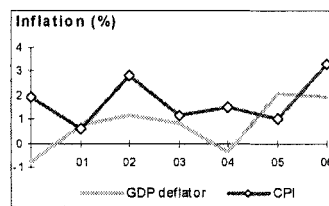
Note: 2006 data are preliminary estimates.

This table was produced from the Development Economics LDB database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

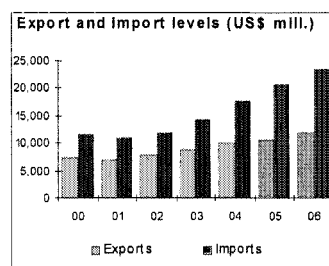
PRICES and GOVERNMENT FINANCE

	1986	1996	2005	2006
Domestic prices				
(% change)				
Consumer prices	8.7	3.0	10	3.3
Implicit GDP deflator	10.3	10	2.1	19
Government finance				
(% of GDP, includes current grants)				
Current revenue	14.6	24.6	24.0	25.1
Current budget balance	-6.0	2.0	-14	2.0
Overall surplus/deficit	-7.7	..	-4.4	-2.3



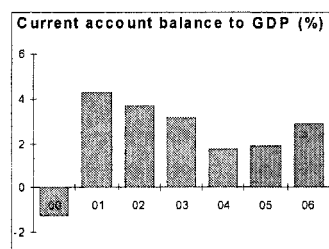
TRADE

	1986	1996	2005	2006
(US\$ millions)				
Total exports (fob)	2,591	6,886	10,697	11,913
Agriculture	718	1,516	2,192	2,445
Phosphorus rock	412	348	518	540
Manufactures	833	3,673	6,587	7,213
Total imports (cif)	3,925	9,708	20,799	23,534
Food	476	1,298	1,762	1,718
Fuel and energy	596	1,285	4,457	5,104
Capital goods	906	1,948	4,345	5,136
Export price index (2000=100)	62	103	127	145
Import price index (2000=100)	77	122	127	136
Terms of trade (2000=100)	80	84	100	106



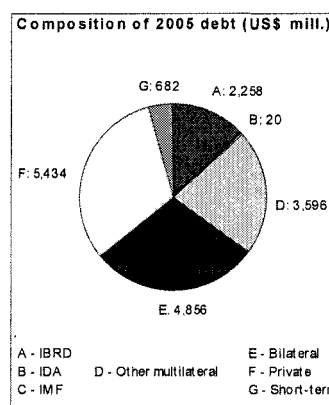
BALANCE of PAYMENTS

	1986	1996	2005	2006
(US\$ millions)				
Exports of goods and services	3,740	9,629	18,809	21,738
Imports of goods and services	4,816	10,862	22,757	25,776
Resource balance	-1,076	-1,233	-3,948	-4,038
Net income	-689	-1,309	-309	-421
Net current transfers	1,549	2,576	5,387	6,316
Current account balance	-216	35	1,130	1,856
Financing items (net)	297	257	1,226	881
Changes in net reserves	-81	-292	-2,356	-2,737
Memo:				
Reserves including gold (US\$ millions)	202	4,020	17,936	18,613
Conversion rate (DEC, local/US\$)	9.1	8.7	8.9	8.8



EXTERNAL DEBT and RESOURCE FLOWS

	1986	1996	2005	2006
(US\$ millions)				
Total debt outstanding and disbursed	17,926	24,221	16,846	..
IBRD	1859	3,732	2,258	2,267
IDA	42	32	20	18
Total debt service	1,824	3,382	2,718	..
IBRD	233	599	396	418
IDA	1	2	2	1
Composition of net resource flows				
Official grants	57	356	380	..
Official creditors	381	153	257	..
Private creditors	700	-180	75	..
Foreign direct investment (net inflows)	1	76	1,552	..
Portfolio equity (net inflows)	0	142	64	..
World Bank program				
Commitments	366	213	467	25
Disbursements	363	380	262	176
Principal repayments	109	342	310	331
Net flows	254	38	-48	-155
Interest payments	125	258	87	88
Net transfers	128	-221	-135	-243



Note: This table was produced from the Development Economics LDB database.

10/2/07