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PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE

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Project Name	Morocco – Municipal Solid Waste Carbon Finance Program
Region	Middle East and North Africa
Country	Morocco
Sector	Urban
Lending Instrument	n/a
Project ID	P121917
{If Add. Fin.} **Parent Project ID**	
Recipient(s)	Fonds d'Équipement Communal
Implementing Agency	Fonds d'Équipement Communal
Environmental Screening Category	{ X}A { }B { }C { }FI
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Estimated Date of Appraisal Completion	January 30, 2012
Estimated Date of Board Approval	ERPA Signature: March 28, 2012
Decision	

I. Country Context

1. Most Moroccan cities feature high population densities and rapid growth and suffer from several forms of environmental degradation. Out of a total population of 30 million, 18 million Moroccans live in urban areas. With the urban population growing at 2.85 percent per year coupled with increasing consumption per capita, Municipal Solid Waste Management (MSWM) has become one of the most serious environmental challenges in urban areas, with adverse effects on the quality of life, human health, environmental and natural resources, and economic and social development. Morocco produces about 5 million tons of Municipal Solid Waste (MSW) per year and this is expected to reach 6.2 million tons in 2020.

2. The MSW reform in Morocco has been supported by the Bank through a programmatic series of two DPLs delivered respectively in March 2009 and December 2010. Before the reform, the resulting impacts on the quality of life, public health, environmental and natural resources, and vital economic activities such as tourism, were huge. Major issues and challenges in the sector prior to formulation of reform program included: (i) poor sector policy focused mainly on "cleanliness" with very limited attention to waste disposal or treatment; (ii) weak legal and institutional framework, which constrained effective strategic planning and governance; (iii) ad-hoc fiscal transfers to municipalities and uncertain financial sustainability; (iv) poor cost-effective private sector participation mainly due to limited competition, lack of

transparency, and low accountability; and (v) huge impacts on the quality of life, public health, local and global environment, and social and economic development.

3. Morocco, as a developing country (non-Annex B party) that has ratified the Kyoto Protocol, is eligible to participate in the flexible mechanisms enabled under the Kyoto Protocol, such as the Clean Development Mechanism (CDM). MSW disposed in landfills generates gases typically composed of 50 percent methane (a greenhouse gas – GHG), which can be captured and flared, and/or used to produce electricity. Emission Reductions (ERs) from the flaring of methane contained in landfill gas (LFG) can be sold to Annex B country (most industrialized nations and some central European economies in transition) entities to generate revenue for the improvement of current MSWM practices in Morocco. At present, there are only few projects with LFG capturing systems in place in Morocco, which results not only in global environmental impacts linked to the emission of greenhouse gases, but also in financial losses, in terms of foregone revenues from the sale of carbon emissions reductions under the CDM.

4. In an effort to scale up CDM activities and reduce transaction costs, the Executive Board at its 32nd meeting in June 2007, adopted procedures for the registration of Program of Activities (PoAs) as a single CDM project activity. This approach aimed at enabling carbon finance to support partner country initiatives in support of low-carbon investments. Although the preparation and approval of PoA proved to be complex and challenging, it was still seen, in the case of Morocco SWM program, as the most appropriate approach in order to benefit from the CDM.

II. Sectoral and Institutional Context

5. The Government developed and approved a national MSWM program (Programme National de Déchets Ménagers et Assimilés, PNDM). A 15-year 3-phase program has been launched in 2008 and set out objectives for the modernization of MSWM, in particular: i) expand and professionalize collection services; ii) enhance disposal practices; and iii) promote recycling activities, all in an environmentally and socially sustainable manner. The program includes specific targets for MSWM, including:

- Collection coverage increasing from 70 percent to 90 percent by 2021;
- 100 percent use of sanitary landfills in urban areas by 2021;
- Closure and/or rehabilitation of 300 open dumps; and
- Sorting of 20 percent of recyclable materials.

6. MSWM in Morocco is currently based on landfills, which produce vast quantities of methane. Capturing and flaring the methane produced by the decaying organic portion of the municipal solid waste can lead to significant GHG ERs and generate additional sources of revenues through the CDM of the Kyoto Protocol. In addition, by using captured LFG to generate electricity, additional ERs can be achieved from the displacement of fossil-fuel based power generation. The Government identified CDM as a source of additional revenues to municipalities.

7. The proposed Carbon Finance program, developed in parallel with the above programmatic DPL series, will provide equal opportunities to municipalities in gaining access to the carbon market. This program is demand-driven and will provide a framework under which any interested municipality, or group of municipalities, will be able to develop a CDM project in the municipal solid waste management sector, as long as it meets the eligibility criteria established by the CDM. Moreover, municipalities will be able to develop carbon assets and gain access to the carbon market at a relatively low cost, taking full advantage of economies of scale of the programmatic approach and keeping transaction costs down.

8. FEC will be the Coordinating/Managing Entity of the Program**.** As the Coordinating/Managing Entity (CME), FEC will manage the PoA and provide technical, financial and legal expertise to local authorities for the development of their individual CDM project activities (CPAs). FEC will act as an intermediary to sell the CERs generated by each CPA on behalf of the municipalities. Accordingly, sub-ERPA agreements for sharing the financial benefits resulting from the sale of ERs will be signed between FEC and the municipalities and/or the private sector operators. These agreements will include the definition of the roles and responsibilities of all Parties involved in the implementation of the CDM PoA and individual CPAs.

III. Project Development Objectives

9. The objective of this program is to support Moroccan municipalities develop carbon assets in the MSW sector, and access the carbon market.

10. More specifically, the proposed program will i) support the development and registration of CDM program of activities (PoA); and ii) allow the purchase of 2,000,000 Certified Emissions Reductions (CERs), labeled in tons of CO2-equivalent (tCO2e), through an ERPA under the Bank-managed CPF.

11. These ERs will be generated through: (i) the avoidance of methane (CH4) emissions from MSW landfills in Morocco, by promoting LFG capture and flaring, and/or electricity generation projects, and (ii) the reduction of carbon dioxide (CO2) emissions through the displacement of fossil fuel-based electrical power generation.

IV. Project Description

12. The proposed demand driven CF program provides a framework under which any interested municipality, or group of municipalities, will be able to i) develop a CDM project in the municipal solid waste management sector according to CDM rules; and ii) sell part of generated CERs to CPF as long as the CDM project meets the Bank safeguards policies.

13. Based on the progress made in implementing the PNDM – Landfill component, the proposed CF program will initially target municipalities and sites included in the first phase of

the PNDM (2008-2012)[1]. It is estimated that up to 16 LFG projects, including those of the main Moroccan municipalities included in the first phase of the PNDM, will join the program. Table 2 details the pipeline of the proposed CF Program.

14. The program is expected to cover a total volume of waste of approximately 3.38 million tons per year and representing more than 50% of municipal solid waste collected in urban areas. The emission reductions are estimated to an average of 838,000 tCO_2e per year, amounting to 7.5 million tCO_2e over nine years (2012-2020)[2]. The proposed ERPA will enable the Bank as trustee of CPF to purchase 2 million tCO_2e. These figures take into consideration only LFG capture and flaring[3].

15. The first landfill to be included in the PoA is located in Oum Azza, approximately 15 km from the capital city of Rabat. This landfill receives on average 1,400 tons of municipal solid waste per day with an annual growth rate of 3 percent. The commissioning of the gas capture component of the project is expected early 2012 and should generate over 1 million tCO_2e over the period 2012-2018 (first seven years, equivalent to the first CDM crediting period). Over the period of the program 2012-2020, Oum Azza will generate about 1.5 million tCO_2e.

16. With reference to CDM rules, the crediting period (CP) for the PoA is 28 years, starting in June 2012, the expected date for registration of the program. The crediting period for each CPA under the PoA is seven years, renewable twice. The starting date for the crediting period of each CPA is estimated on the basis of the commissioning date of the waste disposal activities in the new landfills, allowing for at least three years for preparation. This period is required (i) to allow enough waste to pile up and start generating LFG and (ii) to order, construct and install the LFG capture and flaring systems.

V. Financing

Source:		(US$m.)
Borrower/Recipient		0
IBRD		0
IDA		0
GEF		0
CPF		20*
Others (specify)		0
	Total	20*

*The amount of financing shown in the table above is only an estimate, based on historical CER prices in the last twelve months, and does not prejudge the outcome of the price negotiation

[1] The CDM portfolio was established on the basis of CPA projects identified by FEC during the preparation of the Program Idea Note (PIN) and updated taking into account the commissioning status of new landfills developed under the first phase of the PNDM (2008-2012).
[2] According to the current CPF structure, no commitment on CERs purchasing can be made after end-2020.
[3] The feasibility of the electricity generation option would need validation during flaring stage of the LFG delivery.

between FEC and CPF. The effective contribution of the CPF will depend on the final price structure negotiated between the parties to the Emissions Reductions Purchase Agreement.

VI. Implementation

17. Since 2008, FEC was mandated by the Government as the institution in charge of assisting and helping the municipalities develop CDM projects and sell ERs. FEC is a state-owned bank created in 1959. It is specialized in the financing of investment projects for municipalities and local public institutions. FEC's mission is to support the implementation of national policies for local development with the provision of loans and technical assistance to municipalities. FEC has gained, over the past 50 years, an extensive experience in the financing of local projects and established close cooperation and partnerships with Moroccan municipalities. Capitalizing on this unique experience, FEC is well positioned to understand their concerns and assist them in the implementation of development projects such as the proposed CDM program of activities.

18. As one of the PNDM Partners, during the last few years FEC has been focusing on: (i) solidifying the pipeline of SW-CDM projects in close coordination with the PNDM; (ii) providing municipalities with technical and financial support to help them prepare CDM project documentation and generate carbon assets; and (iii) assisting both private landfill operators and municipalities in bringing ERs to the market, including through an Emissions Reductions Purchase Agreement (ERPA) with the Carbon Partnership Facility (CPF) managed by the Bank. Furthermore, FEC is already supporting the solid waste sector reform and the implementation of the PNDM. In 2008, FEC mobilized and financed four consultancy firms for capacity building of approximately 30 municipalities in the SWM sector and assisted them in the development of projects included in the PNDM.

19. FEC will be the Coordinating/Managing Entity (CME) of the Program**.** As the Coordinating/Managing Entity (CME), FEC will manage the PoA and provide technical, financial and legal expertise to local authorities for the development of their individual CDM project activities (CPAs). More specifically, the Directorate of Sustainable Development and Partnerships (DSDP) within FEC will be responsible for day-to-day management and coordination of the PoA.

20. FEC will act as an intermediary to sell the CERs generated by each CPA on behalf of the municipalities**.** Accordingly, sub-ERPA agreements for sharing the financial benefits resulting from the sale of ERs will be signed between FEC and the municipalities and/or the private sector operators. These agreements will include the definition of the roles and responsibilities of all Parties involved in the implementation of the CDM PoA and individual CPAs.

VII. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	**Yes**	**No**
Piloting the Use of Borrower Systems to Address	X	

Environmental and Social Issues in Bank-Supported Projects (OP/BP 4.00)		
Environmental Assessment (OP/BP 4.01)		X
Natural Habitats (OP/BP 4.04)		X
Pest Management (OP 4.09)		X
Physical Cultural Resources (OP/BP 4.11)		X
Involuntary Resettlement (OP/BP 4.12)		X
Indigenous Peoples (OP/BP 4.10)		X
Forests (OP/BP 4.36)		X
Safety of Dams (OP/BP 4.37)		X
Projects in Disputed Areas (OP/BP 7.60)*	not eligible for piloting under OP 4.00	
Projects on International Waterways (OP/BP 7.50)	not eligible for piloting under OP 4.00	

VIII. Contact points

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