



Report Number: ICRR0022754

1. Project Data

Project ID

P122540

Project Name

LB: PCB Mgmt in the Power Sector CLOSED

Country

Lebanon

Practice Area(Lead)

Environment, Natural Resources & the Blue Economy

L/C/TF Number(s)

TF-18030

Closing Date (Original)

30-Jun-2020

Total Project Cost (USD)

2,538,894.55

Bank Approval Date

21-Nov-2014

Closing Date (Actual)

31-Mar-2021

IBRD/IDA (USD)

Grants (USD)

Original Commitment

2,538,900.00

2,538,900.00

Revised Commitment

2,538,894.55

2,538,894.55

Actual

2,538,894.55

2,538,894.55

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2. Project Objectives and Components

a. Objectives

According to the Project Appraisal Document (PAD) (p. iv) and the Financing Agreement of February 16, 2015 (p. 5) the objective of the project was “to dispose of high risk Polychlorinated Biphenyl (PCBs) and improve the inventory management of transformers in the power sector in an environmentally sound manner”.

b. Were the project objectives/key associated outcome targets revised during implementation?



No

c. Will a split evaluation be undertaken?

No

d. Components

The project included three components:

Component 1: Inventory of PCB contaminated transformers (appraisal estimate US\$0.79 million, actual US\$1.0 million): This component was to finance a countrywide inventory of the PCB contaminated transformers in the country's power sector. At the country level, the inventory was to identify the contaminated transformers and their level of contamination in each site, to provide a clear picture of the extent of PCB contamination in the power sector. At the local level (Bauchrieh), the inventory was to result in good engineering practices, particularly in terms of health and safety protocols, sampling, testing and labeling of PCB oil.

The inventory of PCB contaminated transformers was to be based on four steps: i) desk review of the Electricity of Lebanon (EDL) database to identify the number of transformers potentially contaminated; ii) sampling of oil from each transformer; iii) on-site testing of PCB, which was to identify the PCB-free transformers by testing the samples through a rapid method (Clor-N-Oil technique); and iv) lab testing of PCB, which was to identify the PCB contaminated transformers and their contamination level by testing the samples through an accurate laboratory method (Gas Chromatography analysis, GC).

Component 2: Disposal of high content PCB equipment and contaminated oil (appraisal estimate US\$1.10 million, actual US\$0.75 million): This component was to finance the disposal of high content PCB equipment owned by the EDL and potentially by the private sector, and of the PCB contaminated oil from Bauchrieh.

This component included two sub-components:

Component 2.1 Disposal of out-of-service high content PCB equipment: This sub-component was to finance the disposal of about 44 tons of high-content PCB equipment and 10 tons of contaminated soil and concrete.

Component 2.2 Disposal of in-service high content PCB equipment and contaminated oil: This sub-component was to finance the disposal of in-service high content PCB equipment in Jieh, capacitors in the private sector, and contaminated oil in Bauchrieh.

Component 3: Capacity building and project management (appraisal estimate US\$0.65 million, actual US\$0.79 million): This component was to finance: i) establishment of a Project Management Unit (PMU) within MOE; ii) monitoring of indicators and reporting on project performance; iii) training and capacity building of MOE, EDL and other stakeholders on sustainable management of PCB equipment and storage sites.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates



Project Cost: The project was estimated to cost US\$2.54 million, which was also the actual project cost.

Financing: The project was financed through a World Bank Trust Fund in the amount of US\$2.54 million, which was completely disbursed.

Borrower Contribution: The Government made no contributions to the project's cost.

Dates: The project was restructured twice:

- On June 10, 2020 the project was restructured to extend the loan closing date from June 30, 2020 to December 31, 2020 to allow for the completion of some project activities which were delayed due to October 2019 political protests and the COVID-19 pandemic.
- On December 16, 2020 the project was restructured to extend the loan closing date from December 31, 2020 to March 31, 2021 to allow for the completion of all project activities to overcome delays caused by the COVID-19 pandemic and the August 2020 Port of Beirut explosion.

3. Relevance of Objectives

Rationale

Context. At the time this project was appraised in 2013 Lebanon was an upper-middle income country. Average Gross Domestic Product (GDP) was US\$9,750 per capita. Lebanon faced major environmental problems including water and air pollution, as well as lack of proper solid waste management as a result of industrial activity. Lebanon ranked 90th among 163 countries on the Environmental Performance index at the time of appraisal and still used Persistent Organic Pollutants (POPs) in industry and agriculture. POPs are chemical substances that persist in the environment and bio-accumulate through the food web. Especially one group of POPs, Polychlorinated Biphenyls (PCBs) are proven to cause cancer in humans and animals when exposed at a high concentration.

In 2001, as part of the UN Stockholm Convention, PCBs were globally banned. However, stockpiles of PCBs are still used in some industries, especially in the power sector as dielectric fluids in older transformers. In Lebanon, the Electricity of Lebanon (an autonomous state-owned entity under the Ministry of Energy and Water (MOEW)) owned most PCB-containing equipment in the country.

Government Strategy. The government of Lebanon joined the Stockholm Convention in 2003 and banned imports and exports of PCBs, enacted laws to preserve the environment against pollution from hazardous waste and PCBs, and increased safety conditions for workers dealing with chemical products.

According to the ICR (paragraph 24) the project supported the government's National Economic Vision 2025, which aims to reform the power sector to improve its efficiency and sustainability. In particular, the strategy aims to reduce dependence on liquid fuel for power generation. Furthermore, the project's objective was in line with the government's 2009 Progress and Development Program, which aims to improve the quality of life through better safeguarding the environment.

World Bank Strategy. The project's objective was also in line with the Bank's most recent Country Partnership Framework (CPF) (FY17-22), particularly with respect to focus area 1, which aims to



expand access to and quality of service delivery including investments in the environment sector to reduce industrial, hazardous, and wastewater pollution.

Rating

High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

Dispose of high-risk PCBs:

Rationale

Theory of change: The project's theory of change envisioned that project activities such as draining, packaging, exporting of PCB equipment to be destroyed abroad through a competitively determined contract would result in the project's expected output of disposing of contaminated equipment (both, out-of-service and in-service). This output would result in achieving Objective 1, namely disposing of high-risk PCBs.

As indicated in the theory of change in Figure 1 in the ICR, the project assumed that the government would finance the replacement of in-service equipment. While the PAD did not define "high-risk", it stated (paragraph 88) that the persistent and toxic nature of PCBs at a concentration of more than 50 ppm by weight poses high risks to human health, including being a potential carcinogen and having possible damaging developmental impacts. According to the PAD (paragraph 20) during project preparation, a rapid inventory of PCB equipment and contaminated sites in Lebanon was conducted. However, it was only possible to provide a rough estimate of the number of PCB contaminated transformers, without clearly identifying the contaminated transformers and their level of contamination in each site. Hence the provision that all transformers in Lebanon would be "visited, surveyed, sampled, analyzed, labelled, and properly inventoried" in the theory of change.

Outputs:

- Two contracts were signed during project implementation, surpassing the target of one contract. The first contract covered visitation, surveying, sampling, screening, testing, analyzing, labelling, and inventorying the entire stock of operational transformers in the power sector. The second contract was signed to inventory 424 irreparable transformers stored at Bauchrieh intended to be sold as scrap metal. According to the ICR "the PMU/MOE informed EDL that sampling and testing had to be carried out before any sale of the assets could be initiated since if the transformers turned out to be PCB-contaminated, they would be considered hazardous waste and this needed to be safeguarded properly" (Annex 1, A2). Analysis showed that 251 of the 424 transformers were PCB-contaminated.
- There were two exports of PCB-contaminated material. The first was for 91 metric tons and the second (in three separate shipments) was for 298 metric tons (ICR, Table 2).



Outcomes:

- A total of 389 metric tons of PCB contaminated material were exported to France and securely destroyed in accordance with the requirements of the Basel Convention for environmentally sustainable elimination of PCB material. The project disposed of: (i) 254 metric tons of EDL out-of-service transformers; (ii) 35 metric tons of capacitors; (iii) 86 metric tons of contaminated oil; and (iv) 14 tons of contaminated soil and waste. Disposal of the target of 300 metric tons established at appraisal as the estimated weight of PCB-contaminated material was achieved.

Based on the evidence in the ICR the efficacy with which Objective 1 was achieved is rated "high".

Rating
High

OBJECTIVE 2

Objective

Improve the inventory management of transformers in the power sector in an environmentally sound manner:

Rationale

Theory of change: The project's theory of change envisioned that project activities such as conducting a country-wide inventory of the PCB contaminated transformers in the power sector would result in all transformers in Lebanon being visited, surveyed, sampled, analyzed, labelled, and properly inventoried. Also, project activities including providing capacity building of stakeholder institutions on sustainable management of PCB equipment and storage sites would result in capacity being built in safety protocols and effective management according to international guidelines. These outputs were expected to result in achieving Objective 2, namely "improving the inventory management of transformers in the power sector in an environmentally sound manner".

Outputs:

- The contract for establishing an inventory of all transformers in Lebanon was signed and implemented.

The ICR did not provide any information on the management of the inventory of transformers but the Bank team (January 21, 2022) provided the following information.

- Improvement of inventory management of transformers included four key areas:
- A new national database of transformers, building on an existing inventory housed in EDL, was established through the project with additional entries critical for allowing proper tracking of transformers and PCBs. These include i) weight of transformers; ii) amount of liquid; iii) type of liquid filling; and iv) presence of PCB. The PCB inventory created under the project was recorded in the new national database. Two EDL employees (one in HQ office and the other one in Bauchi) were assigned to be in charge of maintaining and updating the database and the PCB inventory by working with Service Providers. Through the inventory exercise, daily safe handling and management of PCB-



contaminated transformers following UNEP technical guidelines “PCB Transformers and Capacitors from Management to Reclassification and Disposal (2002)” was introduced.

- A process and procedure manual was developed to outline proper procedures of inventory management. The manual included a set of guidelines on how to keep the inventory up-to-date and on how to properly handle contaminated transformers, both in storage depots and on the grid. The manual was distributed to relevant divisions through the Director General and Head of EDL departments and has been used daily by EDL in collaboration with other equipment owners.
- 45 client days of training were provided to local workers, administrative staff, and equipment owners in both classroom sessions and in the field to build the human and institutional capacity to ensure the proper application of the manual, surpassing the target of 40 training days. 15 client days training for female beneficiaries were provided, surpassing the target of eight client days provided to female beneficiaries.
- MoE and EDL acquired the technical skills and hardware to identify contaminated equipment, which allowed them to manage their assets in accordance with the environmentally sound management outlined in UNEP’s technical guidelines. As explained earlier, hiring a national consultant by UNEP serves the purpose of program continuity and coordination with the MoE as the program focal agency.

Outcomes:

- As a prerequisite for improving inventory management of transformers in an environmentally sound manner 22,983 EDL transformers were recorded in the inventory, surpassing the target of 21,000 EDL transformers. The indicator was defined based on the number of transformers in the electrical network, others used in power plants, and some in storage at Bauchrieh scheduled for repair or for sale as scrap material. The inventory exercise was compliant with the PCB inventory guidelines established by UNEP in 2003, which outlines the proper classification and reclassification of PCB contaminated equipment. The remaining transformers will be inventoried by the UNEP Mediterranean (MED) Programme in line with the agreement between the Ministry of Environment (MoE) and UNEP during the program inception in 2021.

Based on the additional evidence provided by the Bank project team, which substantially supplemented the information in the ICR, the efficacy with which Objective 2 was achieved is rated "high".

Rating
High

OVERALL EFFICACY

Rationale



The extent to which the project achieved objective 1, namely safely disposing of 389 metric tons of PCB-contaminated waste in accordance with the Basel Convention was rated "High". Also, the extent to which the project achieved objective 2, to improve the inventory management of transformers in an environmentally sound manner resulting was rated "High".

Overall Efficacy Rating

High

5. Efficiency

Economic Efficiency:

The PAD did not include a traditional cost-benefit analysis due to the lack of sufficient baseline data and the difficulty to identify the dose-response effect between exposure to PCBs and health outcomes. Instead, the project described the expected project impact, the justification for public sector action; the Bank's value added, and results of cost-effectiveness analyses carried out for the disposal of PCB equipment.

The ICR (paragraph 42) conducted a basic cost-benefit analysis, which demonstrated that quantifying just one dimension of potential project benefits, the elimination of the productivity loss linked to the reduction in excess mortality in the local community and in workers in direct contact with PCBs, results in large net positive economic and social benefits. The analysis assumed a mortality rate of 0.7 percent among all project beneficiaries, and that benefits accruing from reductions in excess mortality begin 10 years after project closure. The analysis applied a discount rate of six percent and 12 percent per annum to estimate net present values.

The analysis calculated an Internal Rate of Return (IRR) of 20.9 percent and a Net Present Value (NPV) of US\$19.3 million with a discount rate of six percent indicating that the project was a worthwhile investment.

Cost-Effectiveness

According to the ICR (paragraph 43 and Table 4) an ex-post cost-effectiveness analysis of PCB disposal showed that for all categories, the project's actual cost per type of PCB-contaminated material disposed of PCBs was lower than the appraised value which was based on experience and evidence in other countries. For example, for transformers the actual cost was US\$1,780 per ton while the cost at appraisal was US\$2,800 (36 percent higher). For contaminated oil, the appraisal cost of US\$2,900 per ton was 31 percent higher than the actual cost of US\$2,009 per ton. For soil, capacitors, and waste, the actual cost was eight percent lower (US\$2,586) than the appraisal estimate of US\$2,800.

Disposal costs also compared favorably to costs in other similar Bank-financed projects such as the Moldova POPs Stockpiles Management and Destruction Project (US\$4,200 per ton of PCB elimination), and the China PCB Management and Disposal Demonstration Project (US\$4,100 per ton of PCB elimination) compared with US\$1,932 per ton of PCB in this project (ICR, Annex 4, page 64 and US\$1,932 based on Table 18).

Operational Efficiency:



According to the ICR (paragraph 45) the project was able to eliminate an additional 89 tons of PCB at an overall lower cost per component than estimated at appraisal. Furthermore, the project was able to take advantage of economies of scale and a beneficial development of the exchange rate with only 68 percent of appraised costs of component 2. On the other hand, actual cost of component 1 was 127 percent of the appraised estimate due to higher number of transformers included in the inventory, and actual cost of component 3 was 120 percent of the appraisal estimate due to the project gap filling activities such as the drafting of a decree to improve regulation on PCB management (ICR, paragraph 46).

The ICR also noted (paragraph 66) that the project's implementation experienced several challenges beyond its control. The 2019-2020 mass protests resulted in the resignation of the Prime Minister and left the country without a stable government in the last one and a half years of project implementation. In October 2019 the economy went into a financial crisis resulting in a sudden stop in capital flows and in March 2020 the government defaulted on the repayment of a US\$1.2 billion Eurobond, Lebanon's first sovereign default. Also, the COVID-19 pandemic contributed to delays at the final stage of implementation and the Beirut port explosion in August 2020 resulted in a need to extend the project's closing date twice by a total of nine months.

Furthermore, project implementation experienced delays as a result of delays in the transfer of funds from the MoF to MOE caused by early procurement and implementation delay.

Taking account of all the evidence, this review assessed the project's overall efficiency as Substantial.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Relevance of the objective was High given its alignment with the Bank's most recent CPF (FY17-22), particularly with focus area 1, which aims to expand access to and quality of service delivery including investments in the environment sector to reduce industrial, hazardous, and wastewater pollution. The efficacy of both objective was rated High because there were no shortcomings in the project's achievements. Efficiency was rated substantial because of only minor shortcomings. Since there were no shortcomings in either the



project's relevance, and efficacy and only minor shortcomings in efficiency, the project's overall outcome is rated Highly Satisfactory..

a. Outcome Rating

Highly Satisfactory

7. Risk to Development Outcome

According to the ICR (paragraph 84) the project delivered evidence of the safe disposal of 389 tons of high-risk PCB-contaminated material from the Lebanese power sector. Therefore, there is no risk to the achievement of the first project objective. However, it will be critical for Lebanon to go ahead and eliminate all remaining PCBs. The Bank will continue this effort through a new project [Reduction of UPOPs through Waste Management in a Circular Economy (P172770)], with financing in the amount of US\$8.8 million). The project aims to reduce UPOPs emission through improving management of waste disposal sites.

While this project was able to build capacity in managing PCBs, the ICR (paragraph 85) noted several risks that might materialize. First, the inventory may not be kept up to date through timely reporting when transformers change status. Second, the government's commitment to implement the Action Plan and safely dispose the remaining PCBs could weaken. Third, the process to obtain the draft decree to provide the legal basis for regulating the management of PCBs such as the maintenance of the PCB database established under the project could be delayed. And fourth, while the project supported the disposal of PCB-contaminated transformers from the Bauchrieh storage site, activities such as an assessment and remediation of the site including an on-location well were not included in this project. The implementation of these activities is important and still need to be assured.

8. Assessment of Bank Performance

a. Quality-at-Entry

According to the PAD (paragraph 40) the project design was built on lessons learned, which had been implemented or were undergoing implementation in various countries such as China, Moldova, Belarus, and Egypt. These lessons included: i) keeping project design simple; ii) ensuring stakeholder commitment; iii) prioritizing actions based on risk assessment study; iv) conducting a PCB inventory before taking actions; v) conducting a thorough assessment of alternative technologies; and vi) disposing PCB-contaminated equipment in accordance with well-established regulations. The ICR mentions similar issues in paragraph 56.

The Bank team identified relevant risks with the overall implementation risk being assessed as Substantial due to the implementing agency's limited capacity, social and environmental risks, and the project's design which was to require skills and techniques not extensively available in Lebanon. According to the PAD (paragraph 56) the Bank team proposed a strategy to mitigate these risks by using International Competitive Bidding (ICB) contracts for the two major operations, and therefore "drawing on international expertise with proven results". According to the PAD the capacity of



the MOE and EDL would be strengthened in critical areas including technical, procurement, safeguards, and financial management.

The Bank team did not, however, identify the risk of the flow of funds from the MOF to the MOE being delayed, which resulted in procurement and implementation delays. The additional risks of not obtaining committed counterpart financing and the government's restrictive financial management procedures, which resulted in delays, were also not identified.

The project's M&E arrangements and Results Framework were adequate (see section 9a for more details).

Despite some shortcomings in judgments about some implementation risks the project's quality at entry was rated as Satisfactory by this review.

Quality-at-Entry Rating

Satisfactory

b. Quality of supervision

According to the ICR (paragraph 81) the Bank conducted supervision missions on a bi-annual basis. Even though the project had four different Task Team Leaders during its implementation, the Bank team was able to address implementation challenges quickly through actions such as providing safeguard training and capacity building for staff members at the implementing agencies. Also, the Bank team was able to ensure that the government addressed delays related to the flow of funds from the MOF to MOE.

The Bank team extended the closing date twice to allow for the completion of some project activities which were delayed due to the October 2019 protests, the COVID-19 pandemic, and the August 2020 Beirut port explosion.

The ICR (paragraph 81) stated that the Bank team's reporting in the Implementation Status Reports (ISRs) was candid and adequate. Also, the Bank worked closely with the government to ensure a smooth transition to a Bank follow-up project ("Reduction of Unintentional POPs through Waste Management in a Circular Economy").

The Bank's supervision performance was assessed as Satisfactory.

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Satisfactory



9. M&E Design, Implementation, & Utilization

a. M&E Design

How key activities and outputs were to lead to the intended outcomes were sound and adequately reflected in the project's theory of change. Also, the objective of the project was clearly specified, and the PDO indicators included in the Results Framework encompassed all outcomes of the PDO. Furthermore, the selected indicators were sufficiently specific, measurable, and adequate to measure the contribution of the project's activities and outputs towards achieving the project's objective. However, all indicators lacked baselines and the outcome indicators measured outputs rather than the outcome although it is acknowledged that measuring the outcome of reducing the risk of PCB pollution due to the disposal of high-risk PCB-contaminated materials was difficult, if not impossible,

According to the PAD (paragraph 50) the PMU within the MOE was to be responsible for the project's M&E and was to report on implementation progress and achievement towards the targets on a half-yearly basis.

b. M&E Implementation

Data to monitor implementation progress were collected and reported to the PMU with daily, weekly, and monthly progress reports on environmental, safety, and data management (ICR, paragraph 70). The PMU implemented a comprehensive quality assurance and control of M&E data points and collected data from contractors. First, the PMU hired a field supervisor to monitor the compliance of contractors against contractual commitments as well as international and national rules and regulations. The training of the field supervisor was able to build capacity for the management of hazardous waste. Second, the PMU assessed and verified the daily, weekly, and monthly reports, which were submitted by contractors and the field supervisor. Third, the PMU conducted spot visits and site investigations to confirm M&E data points. Finally, the PMU conducted meetings with contractors and equipment owners to ensure that all stakeholders were included in the M&E process.

c. M&E Utilization

According to the ICR (paragraph 73) the project's M&E data were regularly used to inform project management and decision-making by the PMU. For example, M&E data were used to alert the MOE of an emergency caused by an in-service PCB contaminated transmission transformer leaking and causing soil contamination at a sub-station outside of the project sites. Due to the M&E system in place the MOE was able to respond quickly and address the emergency appropriately. Also, the M&E data showed that the initial number of 21,000 transformers was underestimated. As a result, the inventory contract was modified. The M&E data were used to ensure that only samples needing further analysis were sent to the laboratory and therefore positively impacting the project's efficiency.

M&E Quality Rating

High

10. Other Issues



a. Safeguards

The project was classified as category A and triggered the Bank's safeguard policies OP/BP 4.01 (Environmental Assessment). According to the ICR (paragraph 76), the project developed a comprehensive Environmental and Social Management Plan (ESMP), which would also address the management of PCB-contaminated material in the future. Furthermore, the project complied with all safeguard and risk mitigation measures and safeguard ratings were continuously Satisfactory in ISRs throughout implementation.

In June 2017, the safeguard rating in the ISR was downgraded to Moderately Satisfactory. According to information provided by the Bank team to IEG (November 12, 2021) the project faced two issues: (i) health and safety provisions regarding electric shocks during inventorying, and (ii) waste management practices at the Bauchrieh storage site. The issues were resolved by the contractor undertaking the inventory agreeing to further steps to train the surveyors on the risks of electric shocks in order for them not to rely only on EDL staff accompanying them. Also, the PMU arranged for 40 additional UN certified drums for waste collection. To support better M&E arrangements, the PMU contracted a field supervisor to do weekly verifications of compliance with environment, health and safety safeguards during the period of surveying and sampling.

The project established a grievance redress mechanism and communicated with project stakeholders. However, no complaints were submitted.

b. Fiduciary Compliance

Financial Management:

According to the ICR (paragraph 78) the PMU submitted adequate quarterly Interim Financial Reports (IFRs) on a timely basis. Also, the external auditor's annual audit reports, which complied with international standards, were submitted with unqualified clean opinions. In spring 2016 the financial management rating was downgraded to Moderately Unsatisfactory due to challenges in obtaining committed counterpart financing and delays resulting from the government's restrictive financial management procedures. According to the Bank team's advice to IEG (November 12, 2021) the rating was upgraded in September 2016 after a project Financial Officer with substantial experience working with Bank-financed projects had been appointed. After significant delays, the hurdles surrounding the transfer of funds were resolved which ensured the smooth flow of funds from MOF to MOE.

Procurement:

As noted already, at the beginning the project implementation there were delays in the transfer of funds from the MoF to the MoE, which resulted in procurement and implementation delays (ICR, paragraph 60).

According to the ICR (paragraph 79) the project's procurement plans were updated on a regular basis to develop the budget. Also, the procurement plans were submitted in a timely manner to the Bank. After the initial procurement delays, the project did not encounter any procurement related issues throughout implementation. The procurement rating in ISRs was consistently Satisfactory.



c. Unintended impacts (Positive or Negative)

NA

d. Other

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Highly Satisfactory	Highly Satisfactory	
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	High	High	
Quality of ICR	---	Substantial	

12. Lessons

The ICR (p.27-28) included several lessons learned:

- **Even small grants can be catalytic in achieving policy, institutional, and investment change.** Even though the external financing for this project was only US\$2.5 million, this project was able to achieve results beyond its original scope by contracting international expertise and was therefore able to deliver outcomes that were fundamental to eliminating a serious environmental threat in the country and also fulfilling the obligations of an international convention to eliminate dangerous carcinogenic chemicals.
- **When designing a project, government financial regulations, though different from World Bank preferred procedures, can be accommodated but may cause delays in the disbursement of funds.** For example, procurement procedures practiced by Lebanon differ from the Bank's procedures. In this project the grant proceeds were integrated into the national purse and therefore the implementing agency needed to access the grant money through an "Emergency Advance Decision" adding layers of bureaucracy and delaying disbursement.

13. Assessment Recommended?

No



14. Comments on Quality of ICR

The ICR provided a good overview of project preparation and implementation and pointed out events impacting project's implementation. Also, the ICR was internally consistent and concise, complied with OPCS guidelines and was sufficiently outcome driven. Furthermore, the ICR provided an adequate analysis for the achievement of the first objective. However, the ICR did not provide adequate evidence for the achievement of improved inventory management of transformers in the power sector not allowing for an appropriate assessment of the project's achievements. The Bank project team provided a considerable amount of evidence to IEG on the achievements on inventory management. The ICR included moderately useful lessons learned based on evidence in the ICR. Taking everything together, the quality of the ICR is rated Substantial, but only marginally so due to the lack of evidence in the ICR on the achievements of Objective 2.

a. Quality of ICR Rating Substantial