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# ENVIRONMENTAL REPORT:

## Energy management investments

Implemented under: Competitiveness through  
Clean Energy Investment  
DCN: 2011-MAC-017

Date

**DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government

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# **1 INTRODUCTION**

## ***1.1 Project Description***

**1.1.1 Purpose**

**1.1.2 Need**

## ***1.2 Project Context***

**1.2.1 Location information**

**1.2.2 Beneficiaries (e.g. size of community, number of school children, etc.)**

**1.2.3 Number of Employees (if this is a business) and Annual Revenue (or ranges of revenue and employment if for several businesses)**

**1.2.4 Subproject or Activity Timeframe and Schedule**

**1.2.5 Detailed Description of Activity and Site(s) (e.g. size of the facilities/land area; steps that will be taken to accomplish the activity)**

**1.2.6 Map of Site(s) (*Provide an image from Google Earth of the location and site photos*)**

**1.2.7 Photos of Site(s)**

## ***1.3 Summary of IEE, Environmental Threshold Determination***

## **2** **AFFECTED ENVIRONMENT**

### ***2.1 Population Characteristics***

- 2.1.1 Size**
- 2.1.2 Ethnicity**
- 2.1.3 Gender**
- 2.1.4 Age Distribution**
- 2.1.5 Socioeconomic Characteristics**
- 2.1.6 Description of Project Beneficiaries**

### ***2.2 Public Health Status***

### ***2.3 Socioeconomic Status***

### ***2.4 Geographic Characteristics***

### ***2.5 Land Use Characteristics***

### ***2.6 Cultural or Historic Resources***

### ***2.7 Environmental Baseline Information***

- 2.7.1 Environmental Data**
- 2.7.2 Environmental Studies of Affected Area**

### ***2.8 Policy, Legal, Regulatory and Permitting Requirements***

- 2.8.1 Relevant and Application Host Government Policy, Legal and Regulatory Requirements**
- 2.8.2 Relevant and Applicable International Standards and Best Practices**

**2.8.2.1 Host government environmental laws or environmental standards with which activities will have to comply with**

- 2.8.2.1.1 *Air emission standards*
- 2.8.2.1.2 *Water discharge standards*
- 2.8.2.1.3 *Solid waste disposal or storage regulations*
- 2.8.2.1.4 *Hazardous waste storage and disposal*
- 2.8.2.1.5 *Historical or cultural preservation*
- 2.8.2.1.6 *Other*

**2.8.2.2 U.S., European Union (EU) or other international standards with which the subproject/activity must comply.**

**2.8.3 Relevant and Applicable Permitting Requirements**

<b>Permit Type</b>	<b>Schedule</b>	<b>Responsible Party</b>
Zoning		
Building/Construction		
Source Material Extraction		
Waste Disposal		
Wastewater		
Air		
Water Use		
Historical or Cultural Preservation		
Wetlands or Water bodies		
Threatened or Endangered Spp.		
Other		

## **2.9 Natural Resources**

### **2.9.1 Climate**

### **2.9.2 Air**

### **2.9.3 Water Resources**

### **2.9.4 Ground Water**

#### **2.9.4.1 Quality**

#### **2.9.4.2 Availability**

### **2.9.5 Surface Water**

#### **2.9.5.1 Quality**

#### **2.9.5.2 Availability**

### **2.9.6 Wildlife**

#### **2.9.6.1 Endangered, threatened and protected species**

#### **2.9.6.2 Avian Wildlife**

#### **2.9.6.3 Aquatic Life**

##### **2.9.6.3.1 *Plants***

##### **2.9.6.3.2 *Fish Species***

##### **2.9.6.3.3 *Invertebrates***

#### **2.9.6.4 Terrestrial Life**

##### **2.9.6.4.1 *Plants***

##### **2.9.6.4.2 *Animals***

##### **2.9.6.4.3 *Invertebrates***

## **2.9.7 Land Resources**

### **2.9.7.1 Forests**

### **2.9.7.2 Coastal Areas**

### **2.9.7.3 Mountainous Areas**

### **2.9.7.4 Agricultural Land**

### **2.9.7.5 Urban Areas**

### **3 ENVIRONMENTAL Effects of Proposed action**

#### ***3.1 Environmental Impacts of the Proposed Action***

- 3.1.1 Direct Effects and their Significance**
- 3.1.2 Indirect Effects and their Significance**
- 3.1.3 Cumulative Effects and their Significance**
- 3.1.4 Area of Land Disturbance**
- 3.1.5 Possible Conflicts between Proposed Action and Land Use Plans**
- 3.1.6 Possible Conflicts between Proposed Action and Policies and Controls for Areas Concerned**
- 3.1.7 Energy Requirements and Conservation Potential of Various Alternatives and Mitigation Measures**
- 3.1.8 Natural or Depletable Resource Requirements**
- 3.1.9 Conservation Potential of Various Requirements and Mitigation Measures**
- 3.1.10 Urban Quality**
- 3.1.11 Historic and Cultural Resources**
- 3.1.12 Design of the Built Environment, including Reuse and Conservation Potential of Various Alternatives and Mitigation Measures**

**Example: Summary of Environmental Effects**

<b>Project Phase</b>	<b>Action</b>	<b>Impact</b>	<b>Environmental Consequences</b>
Siting			
	Sited in a Flood Plain		
		Flooding	Threats to health and safety of users
			Degradation or loss of structure
		Impermeable surface	
			Increased surface water run off potentially increasing flood risks
			Increase risk of contaminated run off into river adversely affecting aquatic life
	Sited Adjacent to a Road		
		Road traffic affects site access	Accidents lead to adverse impacts on public health
		Sports players run into oncoming traffic	Accidents lead to adverse impacts on public health
	Sited in area with unstable geology	Landslides and structural collapse	Accidents lead to adverse impacts on public health
Designs, Specifications and Plans			
	Facility Design		
		Inappropriate design leads to lack of structural integrity	Structural failure posing adverse impacts to public health
		Failure to Account for Seismic Activity	Structural failure posing adverse impacts to public health
	Composition of Materials		

### 3.2 Significance of Identified Environmental Effects

**Significance Determination for Potential Environmental, Health, and Safety Effects**

Project Activity	Potential Effects	Significance Determination Filter <sup>1</sup>				Are Effects Significant? (Yes or No)	Notes/Comments
		1. Subject of USAID or Host Country Requirements <sup>2</sup>	2. Subject of Community Concern	3. Pollution Prevention Potential <sup>3</sup>	4. High Environmental Risk (high severity, frequency, or duration) <sup>4</sup>		

<sup>1</sup> Place an “X” in the appropriate column 1, 2, 3, or 4. Starting with Column 1, and proceeding to Column 4. A single “X” (the first one determined) is all that is required for a determination of significance.

<sup>2</sup> Subject to USAID or FAA requirements, e.g., endangered species, climate change impacts, etc. or specifically relevant legislation, regulation, and/or permit requirements. This will likely include effects associated with activities if (1) environmental regulations specify controls and conditions, (2) information must be provided to authorities, and/or (3) there may be periodic inspections or enforcement actions taken by authorities.

<sup>3</sup> Based on technical and business conditions, such as cost-effectiveness, has a high-potential for pollution prevention or resource-use reduction

<sup>4</sup> Associated with potential impact to the environment from high environmental loading due to one or more of the following: amounts, frequency, duration, and severity (see attached worksheet).

Effects	Environmental Risk Determination <sup>5</sup>				Avg. Score <sup>6</sup>
	Scale	Severity	Probability	Duration	
<b>Earth Resources</b>					
Grading, trenching, or excavation effects					
Increased risk of geologic hazards					
Contaminated soils or ground water effects					
Introduction of offsite overburden/waste disposal or borrow pits					
Loss of useable farmland					
Generation of solid or hazardous waste					
Other earth resource effects					
<b>Industries (including Agrochemical) and Agriculture</b>					
Use of inputs such as seeds and fertilizers					
Increased run-off and run-on stormwater					
agricultural intensification or extensification					
Other industry/agriculture effects					
<b>Air Quality</b>					
Increased air pollutant emissions, including dust from traffic					
Disturbance of asbestos-containing materials					
Release of ozone depleting substances					
increased odor					
alteration of microclimate					
Other air quality effects					
<b>Water Resources and Quality</b>					
Increased surface or ground water withdrawal					
Discharge of waste water or potentially contaminated stormwater (including suspended solids)					
Increased deposition or removal of fill ( rivers, streams, wetlands, lakes)					
Spills of liquid fuels or hazardous materials					
Other water resource effects					

<sup>5</sup> Use attached table, Definitions Used in Determining Environmental Risk

<sup>6</sup> Determine average score above which the projects will determine the effect significant based on environmental risk.

<b>Historic or Cultural Resources</b>					
Effects on prehistoric, historic, or paleontological resources					
Effects on unique cultural or ethnic values					
<b>Biological Resources</b>					
Vegetation loss, especially in wetlands or riparian areas					
Increased use of pesticides/rodenticides, insecticides, or herbicides					
Loss of threatened or endangered species or their habitats					
Other biological resource effects					
<b>Planning and Land Use</b>					
Potential conflicts with adjacent land uses or zoning regulations					
Light, noise, or radiation pollution					
Dislocation of human communities					
Interruption of necessary utility or municipal service					
Loss or inefficient use of mineral or non-renewable resources					
Use of energy from non-renewable sources					
Water drainage interference					
Utility transmission interference (above- and below-ground cables; water, sewer and gas lines; etc.)					
Other planning and land use effects					
<b>Traffic, Transportation and Circulation</b>					
Increase in vehicle trips					
Increased safety hazards					
Impeded access for people or traffic					
Other traffic, transportation, and circulation effects					
<b>Hazards</b>					
Increase risk of fire, explosion, or hazardous chemical release					
Releases from PCB-containing equipment (e.g., transformers, florescent light ballasts, etc.)					
Increased public health hazard (including creation of medical wastes)					
Increased occupational safety and health hazard					
Other hazard effects					

**Definitions Used in Determining Environmental Risk**

Parameter	Rating Categories				
	1	2	3	4	5
<b>Scale</b>	Insignificant volume/quantity	Low volume/quantity	Medium volume/quantity	Medium volume/quantity	High volume/quantity
<b>Severity</b>	Minimal impact	Moderate impact but localized and readily containable	Moderate impact over multiple locations	Significant impact and/or regional	Extreme impact and/or potential for global impact
<b>Probability</b>	Very unlikely under any operating condition	Occurs during abnormal/emergency conditions. Probability anticipated and managed	Occurs during routine maintenance activities	Occurs during major maintenance activities	Occurring during normal operating conditions
<b>Duration</b>	Spike situation extremely short-term duration within one day	Less than one month	One to six months	Less than one year	Long-term duration greater than one year or continuous

***3.3 Adverse Impacts that Cannot Be Avoided***

***3.4 Irreversible and Irretrievable Commitment of Resources***

## 4 ENVIRONMENTAL MITIGATION AND MONITORING PLANS

### 4.1 Environmental Mitigation Plan

Activity	Identified Environmental Impacts	Are Impacts Potentially Significant?	Mitigation Measure(s)	Monitoring Indicator(s)
List all site activities or processes (e.g. asbestos roof removal, installation of toilets, remove and replace flooring) A line must be included for each activity or process that is identified.	Include a separate sub-line for each environmental impact associated with a single activity or process	Indicate (Y)es or (N)o If no, provide justification, such as: --does not exceed existing background conditions --does not exceed applicable legal limits --does not pose a risk because of low severity, frequency, or duration	Describe the mitigation measures that will offset the associated environmental impact.  If mitigation measures are well-specified in the IEE, quote directly from IEE  If they are not well-specified in the IEE, define more specifically here.	Specify indicators to (1) determine if mitigation is in place and (2) successful.  For example, visual inspections for seepage around pit latrine; sedimentation at stream crossings, etc.)

### 4.2 Environmental Monitoring Plan

Monitoring Indicator(s)	Monitoring and Reporting Frequency	Responsible Party(ies)	Records Generated
Specify indicators to (1) determine if mitigation is in place and (2) successful.  For example, visual inspections for seepage around pit latrine; sedimentation at stream crossings, etc.)	For example: “Monitor weekly, and report in quarterly reports. If XXX occurs, immediately inform USAID activity manager.”	If appropriate, <i>separately</i> specify the parties responsible for mitigation, for monitoring and for reporting.	If appropriate, describe types of records generated by the mitigation, monitoring, and reporting process.

## 5 Approvals

Implementer Project Director/COP: \_\_\_\_\_ Date: \_\_\_\_\_  
(name)

USAID/Project COTR/AOTR: \_\_\_\_\_ Date: \_\_\_\_\_  
(name)

USAID/MEO: \_\_\_\_\_ Date: \_\_\_\_\_  
(name)

USAID/Bureau Environmental Officer: \_\_\_\_\_ Date: \_\_\_\_\_

## **6 APPENDICES**