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USAID ENERGY POLICY PROGRAM

QUARTERLY PROGRESS REPORT JANUARY 10 TO APRIL 9, 2009

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JANUARY 10 TO APRIL 9, 2009

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“Empower Pakistan–Energy Policy (EP-EP)” Program

Quarterly Report

**Reporting Period
January 10 to April 9, 2009**

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TABLE OF CONTENTS

A.	Overview	3
B.	Background	4
C.	Task Activities	4
	<i>C.1 Task 1 – Power Sector Strategy Development and Implementation</i>	<i>5</i>
	<i>Task 1.1 Develop and Implement PM Scorecard.....</i>	<i>5</i>
	<i>Task 1.2 Sector Status Review</i>	<i>5</i>
	<i>Task 1.3 Review of Planning Process</i>	<i>6</i>
	<i>Task 1.4 Clean Development Mechanism Support.....</i>	<i>6</i>
	<i>Task 1.5 Tariff & Pricing Support</i>	<i>7</i>
	<i>Task 1.6 Renewable Energy & Cogeneration Support.....</i>	<i>7</i>
	<i>Task 1.7 Load Management & DSM.....</i>	<i>8</i>
	<i>Task 1.8 Revenue Protection</i>	<i>8</i>
	<i>Task 1.9 Institutional Strengthening and Capacity Building</i>	<i>8</i>
	<i>Task 1.10 Implementation of Power Sector Policies and Implementing Regulations</i>	<i>10</i>
	<i>C.2 Task 2 – Energy Coordination within the new Government of Pakistan</i>	<i>10</i>
	<i>Task 2.1 Stakeholder Coordination Group Support.....</i>	<i>11</i>
	<i>Task 2.2 Included in Task 1.3 Review of Planning Process</i>	<i>11</i>
	<i>Task 2.3 Gap Analysis & Recommended Interventions</i>	<i>11</i>
	<i>C.3 Task 3 – Energy Coordination within upcoming USAID Empower Pakistan – Firms and Empower Pakistan – Jobs Programs</i>	<i>12</i>
	<i>Task 3.1 Included in Task 2.1 Stakeholder Coordination Group Support.....</i>	<i>12</i>
D.	Staffing.....	12
F.	Mobilization.....	13
G.	Project Office	13
H.	Monitoring Plan Indicators	13
I.	Reports.....	13
	Appendix I – Detailed Task Activity Description	14
	Appendix II – Detailed Project Schedule.....	29
	Appendix III – Monitoring Plan Indicators	31

A. Overview

EP-EP will strengthen the Government of Pakistan (GOP) institutional framework for policy decision-making in the energy sector. The Program will support GOP policy development and implementation entities in the development of a coordinated national energy strategy, based on efficient market structures resulting in increased traditional power and renewable energy generation capacity to meet Pakistan's growing energy needs. This activity will improve implementation of the decisions, synchronized with economic development requirements where rational incentives, tariff structures, and power rationing support the efficient generation and delivery of power.

The primary objectives of the EP-EP Task Order are to:

- Provide the GOP through the Planning Commission (PC) with the necessary technical assistance to assist the PC with coordinating its national energy strategy and energy policy and implementation activities. GOP counterpart organizations include the Ministry of Water and Power (MOWP), Ministry of Petroleum and Natural Resources, National Energy Task Force, Alternative Energy Development Board, and the Environmental Protection Agency;
- Identify and recommend measures to resolve constraints and / barriers (e.g. institutional, legal / regulatory process, technical and financial) hindering the development and implementation of a coordinated national strategy and energy policy to increase electric generation capacity;
- Provide the NEPRA and PEPCO with the necessary technical assistance to devise and implement a tariff strategy to facilitate the transition from a central purchase to a wholesale market for electric power and to create an industry structure that promotes competition, the economic development of alternative generation, efficient consumption and production of energy and facilitates private participation in the energy sector;
- Assist NEPRA and PEPCO in coordination with Donors in the analysis of energy budgeting and financial practices, tariffs, subsidies and incentives to effect more rational pricing and incentive based tariff structures ; and
- Assist NEPRA and select distribution companies to implement an energy rationing and demand side management program that minimizes the economic impact of power shortages in Pakistan. This activity will also coordinate with and support the USAID Empower Pakistan – Firms and Empower Pakistan – Jobs Program. It also will facilitate USEA exchange programs with other utilities with experience in demand side management and energy rationing.

In support of these objectives, the EP-EP Task Order's efforts are focused on three broad areas:

- Power Sector Strategy Development and Implementation
- Energy Coordination within the new Government of Pakistan, and
- Energy Coordination within upcoming USAID Empower Pakistan – Firms and Empower Pakistan – Jobs Program.

Two long-term expatriate advisors are tasked with providing long-term technical consulting and assistance in these broad areas. They also provide assistance in identification, prioritization and mitigation of issues to improve planning and facilitate timely investment decisions related to the power sector all leading to effective implementation; and coordination

of other Technical Assistance as required. They are supported by expatriate short-term technical assistance (STA) and local CCN functional specialist, as required.

B. Background

The on-going economic and energy crisis requires immediate and long term measures to overcome the pressing electric power shortage. The lack of an integrated national energy policy and implementation plan has resulted in the lack of new generation additions since 2000. As a result, Pakistan can not meet its electric power requirements. The shortage of power, estimated to exceed 4,000 MW), has resulted in regular major load shedding, rolling blackouts, that negatively affect the industrial sector and balance of payments due to curtailed manufacturing and exports of goods. It also affects the quality of health by curtailing electric supply to critical services such as hospitals. This loss of manufacturing also transcends into lost income and lower living standards. Many industries and larger businesses have resulted in installing their own back-up generation capacity using fossil fuels which has increased the product cost, increased fuel consumption and cost.

The cause of Pakistan's energy shortages has been identified from a lack of a cohesive and integrated national energy and resource plan, a lack of effective regulations and the need to rationalize energy and electricity tariffs.

To restore confidence of domestic and foreign investors in participating in the development of the requisite power sector, and to address the policy weaknesses, USAID will provide the technical assistance to help Pakistan to develop an integrated energy policy and a consensus on the implementation of national energy policy.

USAID's EP-EP program complements the ADB and World Bank efforts while directly addressing areas highlighted by the GOP as having significant contributions to make to the power sector.

C. Task Activities

Following the AEAI team arrival in country on November 5, 2008, they meet with Donors, key government and industry stakeholders and counterparts in order to gather information, develop working relationships, and better understand the need and perspective of sector stakeholders. Based on these discussions, modifications will be made in the implementation of the Work Plan (submitted in early November) that reflects their needs and coordinates and synchronizes with other donor activities in the energy sector. An Award Monitoring and Evaluation Plan was also submitted in Nov.

Due to the timing of the program (end of year and Holiday schedules), the Team consisted of the COP and a STA Sr. Policy advisor during the quarter. The balance of the AEAI staff arrived at the beginning of January 2009. We are in need of a Senior Finance & Accounting Specialist with in-depth sector experience and expect to fill the position in early March.

The Planning Commission was to provide office accommodations in the in their Energy Wing. However, for various reasons the offices have not been provided and the AEAI Team will be relocating to secured offices by the end of Feb.

During the past quarter, the team worked with the Planning Commission member (Energy) and the key senior staff of the Energy Wing to develop an organizational structure to integrate the EP-EP Team into the Planning Commission and to incorporate the Energy Wing in the Work Plan activities of the EP-EP Team (Task 1.9). The tariff and pricing advisor was integrated into NEPRA and began Cost of Service Study at Lahore Electric Company (LESCO) (Task 1.5 and 1.9).

Activities in each of the three broad EP-EP task areas are discussed below.

C.1 Task 1 – Power Sector Strategy Development and Implementation

The primary objective of this task is to strengthen institutional framework for power sector planning, energy mix (including renewables), increasing generation capacity, energy conservation, pricing, and implementation based on efficient market structures for Pakistan's power sector. The activities will lead to better implementation of power sector policies to meet Pakistan's growing energy needs and in paving way towards creating a single energy ministry/authority that integrates the actions of the many agencies and institutions in the energy sector into a coherent parts of a common energy process.

Task 1.1 Develop and Implement PM Scorecard

Develop a scorecard that can be used as a management tool by the Prime Minister to meaningfully assess the developments in the Energy Sector.

a. Previous Quarters – Discussed development of PM Scorecard with the Planning Commission and deferred the development of key measurements pending the Planning Commission recommendations regarding the PM input.

b. Current Quarter – Developing scorecard with the Member Energy Planning Commission.

c. Next Quarter – Approval and implementation of Scorecard.

Task 1.2 Sector Status Review

Conduct a detailed review of the status of current efforts. Includes but is not limited to: current and planned donor activities, policy, legal and regulatory initiatives under considerations, status of current power sector and status of gas supply and reserves.

a. Previous Quarters

- Met with key players (GOP, donors and stakeholders)
- Assisted the Planning Commission and preparing Year Energy Security Plan
- Conducted the first Donor Energy Program roundtable on March 5, 2009

b. Current Quarter – Ongoing activity

- Continue assisting the Planning Commission and preparing Five Year Energy Security Plan
- Conducted the second Donor Energy Program roundtable on April 30, 2009
- Continue meeting with key players (GOP, donors and stakeholders)
- Review NEPRA act, rules and regulations, previous Cost of Service Studies (CoSS), Grid and Distribution Codes, DISCOs licenses and petitions
- Continue assisting the Member Energy Planning Commission in policy and review of projects (PC-1)

c. Next Quarter – Ongoing activity

- Continue meeting with key players (GOP, donors and stakeholders)
- Continue assisting the Planning Commission and preparing Year Energy Security Plan

- Continue conducting Donor Energy Program roundtables
- Continue assisting the Member Energy Planning Commission in policy and review of projects (PC-1)
- Continue in support to NEPRA, MOWP and PEPCO/DISCOs in Cost of Service Study and in developing unified tariff petition form based on CoSS (workshop scheduled for the beginning of June)
- Begin with loss study (technical and commercial) and revenue protection
- Support LESCO in developing media program and focus group studies regarding billing and energy use

Task 1.3 Review of Planning Process

Work with key Planning Commission Energy Wing, WAPDA and other relevant agency staff to observe the planning process in order to understanding the planning/policy process to:

- (1) compare it to international best practice,
- (2) conduct a Gap Analysis,
- (3) make recommendations to improve the process and to integrate energy planning and policy

a. Previous Quarters

- Worked with the Planning Commission to review the energy planning and policy and program implementation process.
- Continue assisting the Planning Commission and preparing Five Year Energy Security Plan

b. Current Quarter – Ongoing activity

- Continue working with the Planning Commission to review the energy planning and policy and program implementation process.
- Continue assisting the Planning Commission and preparing Five Year Energy Security Plan (Draft is due in June)
- Assisting PC in data collection and entry for the Integrated Energy Resource Planning Model

c. Next Quarter – Ongoing activity

- Continue working with the Planning Commission to review the energy planning and policy and program implementation process
- Continue to assist PC in data collection and entry for the Integrated Energy Resource Planning Model

Task 1.4 Clean Development Mechanism Support

Activity is designed to bring Pakistan's CDM policy and procedures in line with best practice and to enhance its ability to attract pivotal financing and thereby increase energy supply.

a. Previous Quarters – Began preliminary discussions with World Bank, the Planning Commission, Alternate Energy Development Board, Ministry of Environment, ADB, GTZ, , Winrock, UNIDO, the CDM cell regarding Clean Development Mechanism Support and to define hurdles and recommend solutions.

b. Current Quarter

- Continue discussion regarding Clean Development Mechanism Support

c. Next Quarter

- Hold a workshop for the GOP, Donors and stakeholders, which identifies hurdles in the current process, and recommend policy and procedures changes to facilitate understanding and application of the CDM mechanism.

Task 1.5 Tariff & Pricing Support

Provide NEPRA with the basis for developing full-cost recovery tariffs for the different DISCOs, provide capacity building in NEPRA and DISCOs staff, and facilitate development of feed-in tariffs for renewables and uniform tariffs for bagasse cogeneration.

a. Previous Quarters

- Held discussions with NEPRA to conduct a cost of service study for the Lahore Electric Distribution Company (LESCO)

b. Current Quarter

- Develop and Work Plan for implementing LESCO Cost of Service Study.
- Held a LESCO Cost of Service kick-off meeting at LESCO with the Cost of Service Steering Committee.
- Assist LESCO in Cost of Service Study
- Revise existing Cost of Service Study model (develop in 2005 and never used) and developing user friendly model

c. Next Quarter – Ongoing activity

- Finalize LESCO Cost of Service Study and hold a workshop to present results of the Cost of Service Study to PEPCO, other DISCOs, NEPRA, Planning Commission, other GOP entities and Donors
- Develop financial benchmarks and unified tariff petition form based on CoSS
- Set up and implement tariff simulation model
- Begin analysis of technical and commercial losses

Task 1.6 Renewable Energy & Cogeneration Support

Provide support to take the ADB's renewable energy policy work to an operational level – to gain a consensus on the policy initiatives and to provide support on the IRRs and associated technical details

a. Previous Quarters

- Reviewed a concept paper for (1) the Ministry of Environment on: in building a financial and administrative model on waste to energy (Anaerobic digestion technology) and (2) the Ministry of Environment, Punjab Planning Department and other stakeholders in developing a waste minimization and management policy and a Public Private Partnership model for waste to energy project development.
- Began development/modification of renewable energy policies and implementing regulations with AEDB, GTZ, Hagler Bailly and UNIDO

b. Current Quarter

- Continue coordination in development/ modification of renewable energy policies and implementing regulations with AEDB, GTZ, Hagler Bailly and UNIDO
- Begin assisting the Planning Commission, AEDB and GTZ in implementing a program to promote the replacement of gas water heating with solar water heating in the residential market to free up gas for use by the industrial and electric generation market

c. Next Quarter – Continue to coordinate development/modification of policies and implementing regulations with AEDB, GTZ, Hagler Bailly and UNIDO.

- Revise Grid and Distribution Codes to integrate renewables into the DISCOs (Task 1.6.3)
- Begin to work with Federal EPA to modify the IEE/EIA Regulation 2000: (1) provide a rationale to streamline some renewables in the EIA process and (2) to set more applicable EIA guidelines to others.
- Continue to support AEDB, GTZ and SUI Northern Gas in implementing a program to promote the replacement of gas water heating with solar water heating in the residential market to free up gas for use by the industrial and electric generation market.
- Meet with the Board of the All Pakistan Textile Mills Association (Punjab Zone) in Lahore and the Planning Commission to discuss the policy issues that need to be address in the near term to effect the increased use of renewable energy and cogeneration in the industry. The meeting will coordinate with the GTZ.

Task 1.7 Load Management & DSM

Provide the policy and regulatory basis for Load Management and DSM, and assist counterparts and Donors in implementation.

a. Previous Quarters – no activity

b. Current Quarter – no activity

c. Next Quarter – activity begins working with Planning Commission, NEPRA, PEPCO, NTDC and DISCOs.

Task 1.8 Revenue Protection

Provide stakeholders with the necessary policy and regulatory tools to begin the process for the detection, prevention and recovery of losses (this includes all areas from metering, billing, collection and theft). Implementation activities will begin in year 2.

a. Previous Quarters – No activity

b. Current Quarter – No activity

c. Next Quarter – This activity will start following completion of the Cost of Service Study

Task 1.9 Institutional Strengthening and Capacity Building

This activity will provide the requisite technical assistance support, through the Planning Commission, in building the capacity of individuals and institutions to understand the issues, and their resolutions, in creating and implementing a national energy policy.

a. Previous Quarters

- Recommended the Planning Commission Member (Energy) consider to transferring ENERCON to the Ministry of Science and Technology. This recommendation is endorsed by ABD, GTZ and UNIDO. Member (Energy) agreed and will recommend the Deputy Chairman of the Planning Commission to effect the move.
- Assisted the Planning Commission in developing an Ethanol Fuel Policy (Refer to Task 1.10)
- Assisted NEPRA, LESCO and PEPCO in LESCO Cost of Service Study (Refer to Task 1.5)
- Assisted LESCO in developing Public Outreach program
- Assisted the Planning Commission in preparing Five Year Energy Security Plan (Refer to Task 1.3)
- Provided Clean Development Mechanism Support (Refer to Task 1.4)
- Provided technical assistance to AEDB in renewable promotional activities and in preparation of PC-1s

b. Current Quarter – Assist the Planning Commission in

- Continuing assistance to PC in preparing Five Year Energy Security Plan (Refer to Task 1.3)
- Assisting the Member Energy and ADB in the development and integration of the Integrated Energy Resource Model into the Energy Wing
- Continuing Clean Development Mechanism Support (Refer to Task 1.4)
- Continue to assist NEPRA, MOWP, PEPCO and LESCO in LESCO Cost of Service Study and development of tariff petitions (Refer to Task 1.5)
- Continue to assist LESCO in developing Public Outreach program (conducting Focus Group study, and billing and energy use)
- Providing technical assistance to AEDB in renewable promotional activities and in preparation of PC-1s

c. Next Quarter

- Continuing assistance to PC in preparing Five Year Energy Security Plan (Refer to Task 1.3)
- Assisting the Member Energy and ADB in the development and integration of the Integrated Energy Resource Model into the Energy Wing
- Continuing Clean Development Mechanism Support (Refer to Task 1.4)
- Continue to assist LESCO in developing Public Outreach program (conducting Focus Group study, and billing and energy use)
- Continue to provide technical assistance to AEDB in renewable promotional activities and in preparation of PC-1s
- The Team is presently working with the Planning Commission Member Energy and ADB to restructure the Energy Wing in to a viable and functional Strategic Energy Planning Division and Strategic Development (Energy Wing) Division. The Energy Wing currently reports to the Member Energy and the Secretary, Planning Commission. This reporting arrangement will remain the same. The Strategic Planning Division will comprise of the Integrated Energy Resource

Planning Model Group, the proposed AED Program Management and Coordination Unit and the proposed transfer of ENERCON, the proposed transfer of and AEDB and a new Planning and Development Group consisting of selected senior (retired) specialist in the energy field.

Task 1.10 Implementation of Power Sector Policies and Implementing Regulations

This activity is based on policy and enabling regulations additions and or changes recommended and developed under earlier Task activities. Policy and enabling regulations include PC-1s, policy statements, rules, laws that are pertinent to the economic development of electric generation.

The activity supports the GOP decision process and assist in the developing strategic implementation strategies for enactment of the new power sector policy and enabling regulations.

a. Previous Quarters

- Assisted the Planning Commission in developing an Ethanol Fuel Policy: (1) discussed the best practice policy analysis techniques, in the formulation of the problem analysis including benefits and costs and the interaction with stakeholders; and (2) arranged a visit to the Attock Refinery (150 MW IPP) in Rawalpindi to discuss operations and refinery response to biofuels.
- Assisted GOP in implementation of Clean Development Mechanism (Refer to Task 1.4)

b. Current Quarter

- Continue assisting GOP in implementation of Clean Development Mechanism (Refer to Task 1.4)
- Assist AEDB and updating policy for the implementation of small Renewable Energy Projects (Refer to Task 1.6).

c. Next Quarter

- Continue assisting GOP in implementation of Clean Development Mechanism (Refer to Task 1.4)
- Continue assisting AEDB and updating policy for the implementation of small Renewable Energy Projects (Refer to Task 1.6).
- Assist the GOP (through the Planning Commission) to modify the National Gas Policy to facilitate the replacement of residential gas water heaters with solar water heaters, and to encourage electric generation in the sugar sector.

C.2 Task 2 – Energy Coordination within the new Government of Pakistan

The primary task objective of this task is to assist the GOP through the PC and in collaboration with the Donors suggest recommendations on the rationalization of the Pakistan power sector. The activity will support the GOP's decision processes and propose strategic implementation solutions to improve sector revenues through better structured tariffs, higher collections, and better targeted subsidies and incentives. Most of these activities are covered

under C.1 Task 1 Power Sector Strategy Development and Implementation and include coordination with Donors and stakeholders.

Task 2.1 Stakeholder Coordination Group Support

Provide support and secretariat like services to the Energy Task Force (ETF) and assist the Planning Commission in determining the composition, roles and structure of the ETF.

a. Previous Quarters

- The Team participated in several donor program works such as the Environment Donors Coordination – 23rd Meeting, Planning Seminar Pakistan-German Program REEE Seminar and the Renewable Energy Policy for Pakistan Stakeholders' Consultative Workshop.

b. Current Quarter

- Refer to Task 1.2, 1.4, 1.5 and 1.6
- Assisting the Planning Commission to coordinate with the World Bank, the Department for Mines and Minerals, Ministry of Water & Power and the Thar Coal and Energy Board in developing an Action Plan for Thar Coal.
- Meet with the ADB Sustainable Energy Efficiency Development Project Consultative Working Group (Dr. P Butt, Member (Energy) Planning Commission is Chairman which will meet on an ad-hoc basis over the January to May 2009 period.

c. Next Quarter – Ongoing activity

- Continue to assist the Planning Commission to coordinate with the World Bank, the Department for Mines and Minerals, Ministry of Water & Power and the Thar Coal and Energy Board in developing an Action Plan for Thar Coal.
- Continue to meet with the ADB Sustainable Energy Efficiency Development Project Consultative Working Group (Dr. P Butt, Member (Energy) Planning Commission is Chairman which will meet on an ad-hoc basis over the January to May 2009 period.
- Meet with the Integrated Energy Resource Planning Advisory Task Force in development and implementation of the Integrated Energy Resource Planning model.

Task 2.2 Included in Task 1.3 Review of Planning Process

Task 2.3 Gap Analysis & Recommended Interventions

Review the individual energy policies and planning process, identify gaps in policy and planning, contradictions or conflicting areas, and recommend interventions in policy and planning.

This is an ongoing activity and is covered under C.1 Task 1 Subtask 1.2, 1.3, 1.5 and 1.6

C.3 Task 3 – Energy Coordination within upcoming USAID Empower Pakistan – Firms and Empower Pakistan – Jobs Programs

USAID is in the process of launching "Empower Pakistan - Firms" and "Empower Pakistan - Jobs" programs. USAID/Pakistan's Empowering Pakistan: Jobs Project will address weaknesses in labor productivity, workforce development systems, and entrepreneurial training affecting urban and rural population in Pakistan. The Empower Pakistan Firms project will develop a dynamic, internationally competitive, Small and Medium Enterprise (SME) sector in Pakistan that is increasing its export, employing more people and producing higher value added products and services. These programs will be implemented in 20 Districts containing primary and secondary cities in Pakistan. Primary cities are Karachi, Lahore, Islamabad, and Rawalpindi. Secondary cities are Faisalabad, Gujranwala, Multan, Hyderabad, Peshawar, Quetta, Sargodha, Sialkot, Bahawalpur, Sukkur, Jhang, Shekhupura, Larkana, Okara, Gujrat and Mardan. The EP-EP program should coordinate with both these programs closely to complement their efforts to make the firms in these 20 districts improve their energy efficiency.

Task 3.1 Included in Task 2.1 Stakeholder Coordination Group Support

The Team will coordinate and support USAID activities pending Program start-up.

D. Implementation Issues

E. Staffing

The project has two long term and one short term expats, and five long term local experts. The COP and the local Pakistani staff are based in the Planning Commission the Expat Tariff and Pricing Expert is based in NEPRA. Due to health reasons the nominated Deputy Chief of Party was unable to join the project. Therefore, we recommend that the Tariff and Pricing Advisor (Frank Farlik) be nominated as long term advisor and Deputy Chief of Party.

During the first quarter due to the timing of the program (end of year and Holiday schedules), the Team consisted of the COP and a STA Senior Policy advisor during the first quarter. The balance of the AEAI staff arrived in the beginning of January 2009, at the beginning of the second quarter.

The staff as of 9 April 2009 follows:

Expatriate Functional Specialist

Joseph C. Skroski Chief of Party (Sr. Policy Advisor)

Frank Farlik Tariff and Pricing Advisor

Matt Addison Senior Policy Expert (STA)

CCN Functional Specialist

Burhan Javaid Economist

Talha Javed Technology Policy Advisor

Bushra Jaffer Malik Senior Public Outreach Specialist

F. Mobilization

A two person team from AEAI arrived in country on November 4, 2008 and immediately began meetings with USAID, other donors and counterparts in order to develop the work plan. These meetings set the foundation towards building a consensus between the government entities and stakeholders in strengthening the institutional framework in the energy sector.

The team introduced the project, discussed the goals and objectives, gathered information about the sector, helped the team to understand the need and perspective of sector stakeholders and reach a shared agreement and commitment toward developing a common energy policy in overcoming the current energy crisis.

In addition to meetings with USAID, meeting with others include the following:

ADB, Alternative Energy Development Board, DISCO's Engineering Development Board, ENERCON, GTZ, Ministry of Environment, NDTC, NEPRA, Hagler Bailly Pakistan, Pakistan EPA, PEPCO, Planning Commission, Private Power Investment Board, Thar Coal Mining Company, UNIDO, WAPDA, Winrock, World Bank, and Numerous local energy sector companies.

G. Project Office

The project is housed in two separate locations in support of the main objectives. The Planning Commission was to provide office accommodations in the in their Energy Wing for the policy group. However, for various reasons the offices were provided and the AEAI Team is located to Pak Saudi Tower, a secured office facility. The tariff and pricing team is located at NEPRA.

H. Monitoring Plan Indicators

While the annual monitoring plan is submitted as a separate document, the indicators are as shown in Appendix 3.

I. Reports

- Initial Work Plan
- Award Monitoring and Evaluation Plan
- Quarterly Reports (Operational and Financial)
- Annual Performance Report
- Annual Work Plan
- Final Report

Appendix I – Detailed Task Activity Description

Activity: Task 1.1 Develop and Implement PM Scorecard

Detailed Description

This activity will “develop a scorecard that can be used as a management tool by the Prime Minister to meaningfully assess the developments in the Energy Sector”. The AEAI team will develop measures based on international best practice and on Pakistan's unique energy sector growth path.

Justification/explanation of the sequencing of activities:

What is not measured can't be managed. This activity provides a key management tool for the Prime Minister, the Deputy Chairman PC and other Ministers to track the performance of the sector and subsectors. It will be a continuing process of refining the scorecard as additional information becomes available and new activities are added.

Level of Effort of key partners and/or staff for each activity:

We do not anticipate that any short term LOE is required. Counterpart organizations will be required to provide input to the scorecard and respond to direction.

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies: Experts will determine which readily available data will allow sector progress to be best tracked and managed at this level and will build on international experience.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 1.2 Sector Status Review

Detailed Description

This activity is a detailed review of the status of current efforts. It includes, but is not limited to:

1. current and planned donor activities
2. policy, legal and regulatory initiatives under considerations
3. status of Current Power Sector
 - 3.1. power plants under construction, in negotiation and planned
 - 3.2. fuel supply (storage) at plant level
 - 3.3. reservoir levels
 - 3.4. cash on hand or in the bank
 - 3.5. billing and collection statistics
 - 3.6. load factors
 - 3.7. capacity factors
 - 3.8. tariffs to cost of supply
 - 3.9. government arrears (power sold to other Government entities which has not been settled)
4. status of Gas supply and reserves

Justification/explanation of the sequencing of activities: Items 1 and 2 will include the collection of detailed project reports, PC-1s, policy statements, regulations and rules, laws and all other information pertinent to success of this project as it pertains to projects, policies, laws, regulations and plans. This information is critical to the implementation of all project activities. It provides a background to sector experts that will work on the sector, helps the coordination group assess and prioritize the immediate challenges, and can feed into the PM's scorecard.

Level of Effort of key partners and/or staff for each activity:

Partner organizations include Planning Commission, WAPDA, PEPCO, NEPRA and Donors. We do not anticipate that any short term LOE is required.

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies:

This activity is focused first on the collection of data, reports, plans, policies, laws and strategies. The data will be collected through meetings, literature searches, web searches and official Government sources. The second step is the summarize this material into a cogent, integrated picture of the energy sector with the detailed material forming annexes using generally accepted economic and policy analysis tools.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 1.3 Review of Planning Process

Detailed Description

This activity is a detailed review of the planning process. AEAI staff will work alongside both key Planning Commission Energy Wing, WAPDA, Planning Commission and other relevant agency staff to observe the planning process. It is designed to assist AEAI staff in understanding the planning/policy process so that they can (1) compare it to international best practice, (2) conduct a Gap Analysis, (3) make recommendations to improve the process and to integrate energy planning and policy, and (4) to implement any approved changes as a result of items 2 and 3.

Justification/explanation of the sequencing of activities: This is third activity and second real TA activity. This information is first step in assisting the GOP and related agencies to (1) understand the gaps in the planning/policy process, (2) to understand the benefits of an integrated process, and (3) for follow on activities that are the basis for this project.

Level of Effort of key partners and/or staff for each activity:

Principal Partner: Planning Commission.

Other partner organizations include Ministry of Water and Power, Ministry of Environment (ENERCON and CDM cell), WAPDA, PEPCO, NEPRA and Ministry of Petroleum.

We do not anticipate that any short term LOE is required.

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies: The review will use generally accepted economic and energy planning analysis tools as well as compare to best practice procedures.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 1.4 Clean Development Mechanism Support

Detailed Description

This activity is designed to bring Pakistan's CDM policy and procedures in line with best practice and to enhance its ability to attract pivotal financing and thereby increase energy supply. This activity is comprised of tasks:

- Policy Review and Recommendations
- Review and Revision of CDM Cell Procedures
- Capacity Building

Justification/explanation of the sequencing of activities:

This activity is set to begin in January of 2009 and be completed by middle of the second quarter.

Level of Effort of key partners and/or staff for each activity:

The AEAI expat CDM expert along with local technology experts will require 100 days LOE. They will work with both the PC and the MoEF's CDM Cell. It is not possible at this time to estimate the LOE required from partner organizations without undertaking a manpower assessment.

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies: There is now a substantial amount of international experience in CDM policies, procedures and the DNA (CDM Cell) that can be compared against Pakistan's. Together with best practice and knowledge of where the industry is headed, experts will use generally accepted tools for analysis.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 1.5 Tariff and Pricing Support

Detailed Description

Pakistan's power and other energy sectors are plagued by improper pricing and tariffs as well as poor rules for revenue protection and fiscal responsibility. A cornerstone activity is expected to be a cost of service study for one distribution company and then subsequent optimal tariffs. This will provide NEPRA with the basis for developing full-cost recovery tariffs for the different DISCOs and train NEPRA and DISCO staff accordingly. Additional support will be given in the area of feed-in tariffs for renewables and uniform tariffs for bagasse cogeneration. Capacity building will be given through on-the-job training, workshops and seminars. The tariff and pricing experts will be based in NEPRA but work with other counterparts as needed. This activity is comprised of four tasks:

- Cost of Service Study
- Tariff Methodology Review
- Model Tariff Design
- Ongoing Tariff & Pricing Support

Justification/explanation of the sequencing of activities:

This activity is set to begin in January of 2009 and continue throughout the life of the project. Full-cost recovery together with regulatory assistance on fiscal benchmarks and revenue protection assistance to the DISCO's is critical in improving the health of the industry, without which additional private participation on a significant scale will not be forthcoming. Renewable/cogeneration tariff support will streamline the renewable and cogeneration IPPs as the negotiation of individual tariffs has been a major impediment and increases the cost of an already marginally profitable endeavor.

Level of Effort of key partners and/or staff for each activity:

The AEAI team will have one full time expat and one full time local tariff and pricing expert. A short term expat lead conduct the cost of service study and require 60 person days.

NEPRA staff will work alongside the AEAI team and DISCO staff will be part of specific tasks. Other staff from AEDB and PPIB will be involved as needed. It is not possible at this time to estimate the LOE required from partner organizations without undertaking a manpower assessment.

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies: There is a substantial body of regulatory policies, procedures, and methodologies to draw on in this activity. Experts will choose those best suited to Pakistan's situation and direction and develop and adopt them alongside our Pakistani counterparts.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity Task 1.6 Renewable Energy & Cogeneration Support

Detailed Description

Renewable energy holds significant potential in the near term to both increase generation capacity and to reduce fossil fuel use in non-power applications, e.g. solar water heating. Pakistan has a renewable energy policy but there are problems as highlighted by a recent ADB policy study. There are several hurdles to increased investment in renewables which should be addressed. Similarly, Pakistan has a sugar cogeneration policy but none other. This policy has gaps and also lacks the implementing rules and regulations (IRRs) that are necessary for implementation. This activity will provide support to take the ADB's renewable energy policy work to an operational level – to gain a consensus on the policy initiatives and to provide support on the IRRs and associated technical details. The following tasks are anticipated under this activity:

1. Policy & Planning Support – assistance to reach consensus on remaining policy issues and to develop the IRRs.
2. Tariff Support – Assist NEPRA and AEDB in developing a feed in tariff (FIT) for the most promising renewable energy sources and a uniform tariff for bagasse cogeneration.
3. Grid & Distribution Code Support – Work with NEPRA and the utilities to adjust the grid and distribution codes to support the unique characteristics of renewable energy/cogeneration.
4. EIA Guidelines – Work with Federal EPA to (1) provide a rationale to streamline some renewables in the EIA process and to set more applicable EIA guidelines to others.
5. CDM Support – Because of the inherent bias in favor of conventional fuels many renewable energy projects are on the borderline of financial profitability – even though they may offer significant potential economic advantages over conventional fuels. Carbon credits can offer an additional incentive to renewable developers provided that (1) they are structured properly and (2) that the Government's CDM authority (DNA) can provide approval in a timely manner. This work will support the development a policy position that gives credits to the developer/owner and helps to streamline the DNA's approval process. The same holds for cogeneration.

Justification/explanation of the sequencing of activities:

All of these activities remove major roadblocks to increased renewable energy and should speed up generation coming on line in the short and medium term.

Level of Effort of key partners and/or staff for each activity:

Principal Partners: AEDB, PPIB, NEPRA, PEPCO, EPA, MoEF. & Sugar Industry
AEAI STTA LOE: 80 person days

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies:

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity Task 1.6.3 Renewable Energy/Cogeneration Support GRID & Distribution Code Support

Detailed Description

Renewable energy holds significant potential in the near term to both increase generation capacity and to reduce fossil fuel use in non-power applications, e.g. solar water heating. Pakistan has a renewable energy policy but there are problems as highlighted by a recent ADB policy study, and there are several hurdles to increased investment which needs be addressed. Similarly, Pakistan has a sugar cogeneration policy which has gaps and lacks the implementing rules and regulations (IRRs) that are necessary for implementation.

This activity will provide support to take the ADB's renewable energy policy work to an operational level. The task under this activity is work with NEPRA and the DISCOs to adjust the grid and distribution codes to support the integration of the unique characteristics of renewable energy/cogeneration generation projects into the electric distribution system.

Justification/explanation of the sequencing of activities:

This activity will begin in late first quarter 2009 and should be completed in the middle of the second quarter 2009. The grid code is often a major hurdle for development of small and renewable energy projects because it imposes conditions and, therefore, costs that are unnecessary and unrealistic for development and integration of these electric power sources.

Level of Effort of key partners and/or staff for each activity:

The AEAI team will consist of one STA expat for approximately 30 person days and one or more local technical experts for approximately 60 person days.

NEPRA, NTDC and DISCO staff will work alongside the AEAI team. Renewable friendly grid codes have been developed for many countries much of the work will be tailoring these for Pakistan and to build consensus among the stakeholders. LOE required from industry and the regulator will total to about 90 person days. If adequate resources are not forthcoming from partner organizations, then the AEAI team will need to increase STA LOE.

Deliverables:

A recommended, best practice small and renewable friendly grid code and distribution code.

A seminar/work shop to disseminate the results and to gain stakeholder consensus.

Activity: Task 1.6.4 Renewable Energy IEE/EIA Support

Detailed Description

Pakistan has general IEE and EIA guidelines but nothing specific to renewable energy. The development of renewable energy projects are further hindered by the lack of specific IEE and EIA guidelines. This means both increased cost and time to review and approve environmental compliance. This activity will develop guidelines based on best practice for wind, mini-hydro, waste to energy and other renewables as time and resources permit.

The Official Schedule of the IEE/EIA given in the IEE/EIA Regulations 2000 need to be modified to incorporate renewable energy projects

Justification/explanation of the sequencing of activities:

This activity will begin in the second quarter of 2009 and should be completed in the fourth quarter 2009. A systematic approach to environmental fatal flaw analysis, identification of potential obstacles and delays in project development and bracketing of costs of and time required for demonstration is essential to securing of funding, regardless of source(s).

Level of Effort of key partners and/or staff for each activity:

The AEAI team will have one STA expatriate and one full time local EIA and SIA expert. The estimated STA LOE is 60 days per expert, approximately 30 days at the beginning of the effort and the balance throughout the assignment particularly during the public consultation process.

Federal EPA and Provincial EPA staff will work alongside the AEAI team. It is not possible at this time to estimate the LOE required from partner organizations without undertaking a manpower assessment. If adequate resources are not forthcoming from partner organizations, then the AEAI team will need to increase STA LOE.

Deliverables:

1. Sectoral Initial Environmental Examination and Environmental Impact Assessment which will be applied according to size and type of the project. A IEE/EIA template that considers all possible requirements of all potentially involved agencies and organizations, and accommodates elimination or reduction of line item requirements by negative declaration or demonstration of minimal nature of impacts.
2. Training of EPA staff on the new IEE/EIA Guidelines.
3. Stakeholder Consultation Meetings (2 minimum)
4. An up to date bibliography of resources that can be used by parties undertaking demonstration of compliance with EIA requirements.

Activity: Task 1.7 Load Management and DSM

Detailed Description

Load management is not only important when demand exceeds supply on a routine basis, as it does in Pakistan. It is critical to a well functioning power sector. Demand side management is another critical tool in well functioning power systems. This activity will provide the policy and regulatory basis for these tools, detailed design and help the counterparts implement them.

Justification/explanation of the sequencing of activities:

Appropriate load management and DSM require both a regulatory and policy basis and both require significant amounts of information. This activity has been scheduled for the latter part of the first year to give the AEAI team and our counterparts the time to collect data, to prioritize interventions and to determine the Gaps in regulation, policy, and operating procedures.

Level of Effort of key partners and/or staff for each activity:

Key partners will be the PC, NEPRA, and PEPCO.

AEAII STTA LOE: 100 person days

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies: Demand studies will be conducted using a variety of accounting and statistical methods and to this economic analysis is applied to determine those areas most at risk from curtailment. Load management will focus on short term measures aimed at minimizing the social and economic loss and long term load management will focus on measures that shift load and reduce it in the form of capital investments – e.g. Appliance standards.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 1.8 Revenue Protection

Detailed Description

Revenue protection refers to the prevention, detection and recovery of losses caused by interference with electricity and gas supplies. It involves all those areas from billing and collections to metering and theft. Theft, inefficiency and inadequate attention to maintenance and investment are important contributors to revenue losses. In countries like Pakistan responsibility falls with consumers, the utilities, regulators and the Government. Protecting revenue must begin with a legal and policy basis that recognizes the inherent wisdom and recovering costs and protecting revenue. This activity will be aimed at providing stakeholders with the necessary policy and regulatory tools to begin that process and will feed into implementation activities in year 2.

Justification/explanation of the sequencing of activities:

As with load management and DSM, revenue protection requires both a regulatory and policy basis and significant amounts of information. This activity has been scheduled for the latter part of the first year to give the AEAI team and our counterparts the time to collect data, to prioritize interventions and to determine the Gaps in regulation, policy, and operating procedures.

Level of Effort of key partners and/or staff for each activity:

Key partners will be the PC, NEPRA, and PEPCO.

AEAI STTA LOE: 22 person days

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies: Revenue protection begins with prioritizing loss areas against the cost of curtailment. A cost benefit analysis is conducted and revenue protection interventions are prioritized. Clearly, non-quantitative measures also figure into the prioritization and are important considerations. International best practice methods are analyzed and introduced.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 1.9 Institutional Strengthening and Capacity Building

Detailed Description

The current challenges in the Energy Sector requires the development and implementation of a complementary national strategy which can only be met by building the capacity of individuals and strengthening institutions to better understand the issues, and their resolutions, and in creating and implementing a national energy policy.

This activity will provide the requisite technical assistance support, through the Planning Commission, in building the capacity of individuals and institutions to understand the issues, and their resolutions, in creating and implementing a national energy policy.

Justification/explanation of the sequencing of activities:

This activity will provide capacity building of individuals and institutions to improve the institutional framework for policy planning and decision-making in the energy sector through support to the leading policy development and implementation entities in the GOP.

The activity will result in the development of a strengthened institutional framework which supports the GOP's plan for the economic development of electric generation expansion plan (including renewable energy resources), and rationalization of its electric tariffs which are based on efficient market structures.

Level of Effort of key partners and/or staff for each activity:

Principal Partner: Planning Commission.

Other partner organizations include Ministry of Water and Power, Ministry of Environment, Ministry of Petroleum, WAPDA, PEPCO, NEPRA and DISCO's.

We do not anticipate that any short term LOE is required.

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies:

This activity is focused on the challenges and hurdles identified in the earlier Task activities.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 1.10 Implementation of Power Sector Policies and Implementing Regulations

Detailed Description

This activity is based on policy and enabling regulations additions and or changes recommended and developed under earlier Task activities. Policy and enabling regulations include PC-1s, policy statements, rules, laws that are pertinent to the economic development of electric generation.

The activity supports the GOP decision process and assist in the developing strategic implementation strategies for enactment of the new power sector policy and enabling regulations.

Justification/explanation of the sequencing of activities:

The activity will lead to better implementation of power sector policies and regulations and facilitate the integration of actions of GOP energy sector entities in a cohesive national energy plan.

Level of Effort of key partners and/or staff for each activity:

Principal Partner: Planning Commission.

Other partner organizations include Ministry of Water and Power, Ministry of Environment, WAPDA, PEPCO, NEPRA, DISCOs and Ministry of Petroleum.

We do not anticipate that any short term LOE is required.

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies:

This activity is focused on the power sector policies and regulations developed under earlier Task activities.

Indicators and targets:

(Refer to Appendix III, Monitoring Plan Indicators).

Activity: Task 2.1 Stakeholder Coordination Group Support

Detailed Description

The EPEP project will work with the Ministry of Planning to strengthen stakeholder coordination. The project will provide support and secretariat like services to the Energy Task Force (ETF) and assist the Planning Commission in determining the composition, roles and structure of the ETF. This group is critical to the coordination of policy and planning and, perhaps, on occasions the subordination of one over the other in order to optimize sector operations.

Wider stakeholder participation will provide input in and feedback to key policy, planning, investment and operational activities undertaken in the sector. Long term success requires significant changes in terms of structure, ownership, prices and similar parameters and will require stakeholder acceptance and support. This support may take the form of participation in forming guidelines and policy.

Justification/explanation of the sequencing of activities:

This is the first activity following the acceptance of the work plan because stakeholders need to be involved from the beginning of the project. Additionally, many of these organizations will be called on to work together in the pursuit of the activities that follow.

Level of Effort of key partners and/or staff for each activity:

There are two sets of resources. The first set of resources are the key decision makers or their designates. The level of their requirement will be on the order of 1 or 2 days per meeting. The second set of Government resources are the staff level specialists that will prepare material for their Agency representative and work alongside the AEAI team as required.

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

Explanation of proposed methodologies:

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 2.2 Included in Task 1.3 Review of Planning Process

Activity: Task 2.3 Gap Analysis & Recommended Interventions

Detailed Description

This activity will review the individual energy policies and planning process, identify gaps in policy and planning, contradictions or conflicting areas, and recommend interventions in policy and planning. It is designed to assist PC and line Agency staff to understand and implement an integrated planning/policy process through (1) comparing it to international best practice, (2) conducting a Gap Analysis, (3) make recommendations to improve the process and to integrate energy planning and policy, and (4) to implement any approved changes as a result of items 2 and 3. There are three anticipated tasks:

1. Gap Analysis & Recommended Policy Areas
2. Policy Area Workshop and Buy in
3. Planning Workshop

Justification/explanation of the sequencing of activities: This activity is planned to begin in February 2009 and is dependent upon the earlier status assessment and review of the policy and planning process. While it could take place before the renewable energy policy support, it is important to build upon the momentum that exists in renewables and because renewable capacity investment can normally take place more quickly than large scale power. The outcomes of the policy and planning workshop will determine the actually interventions for the final two tasks in Year 1.

Level of Effort of key partners and/or staff for each activity:

Principal Partner: Planning Commission.

Other partner organizations include Ministry of Water and Power, Ministry of Environment (ENERCON and CDM cell), WAPDA, PEPCO, NEPRA and Ministry of Petroleum.

AEAI STTA LOE: 40 person days

Timeline for each activity:

Refer to Appendix II – Detailed Project Schedule

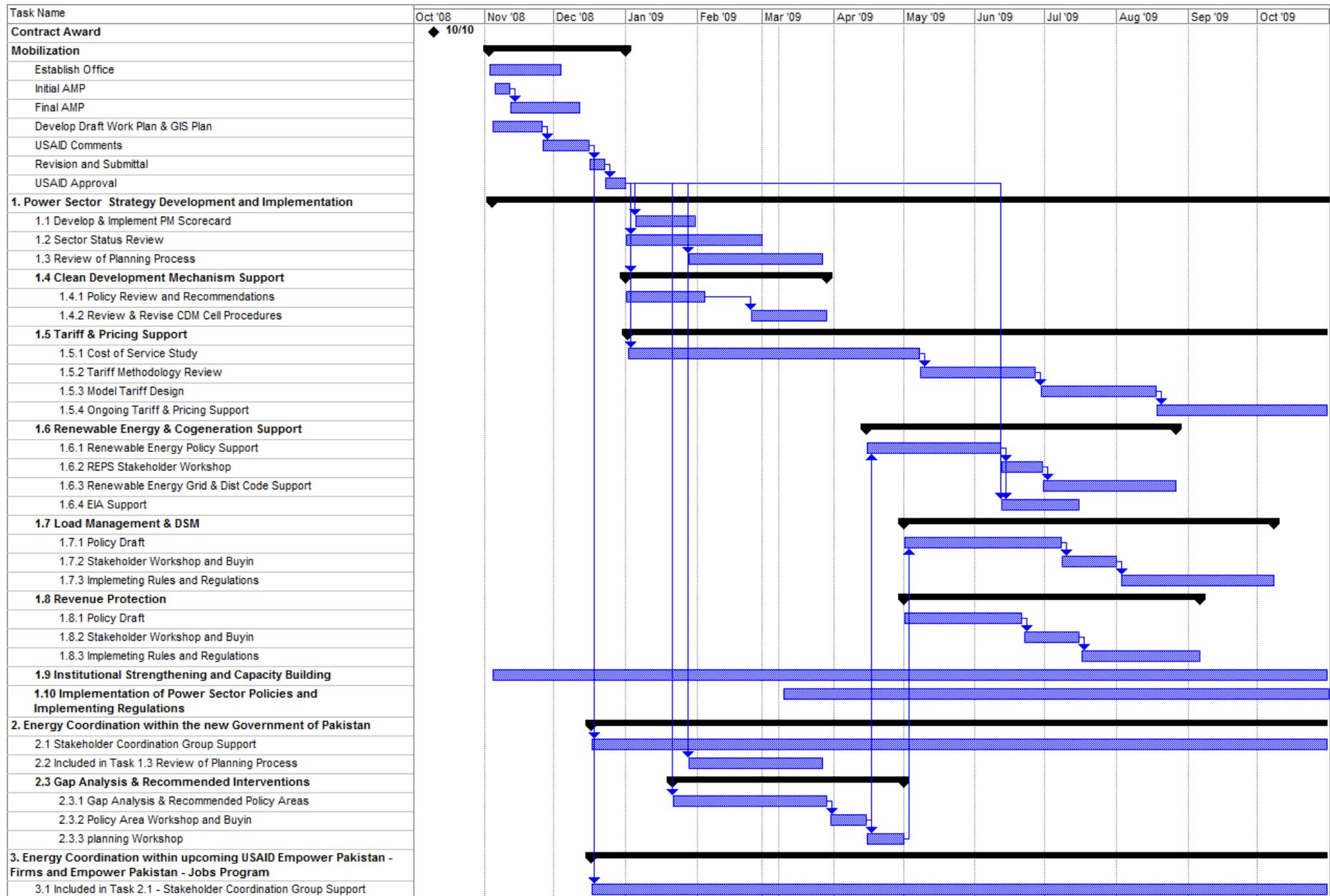
Explanation of proposed methodologies: Generally accepted economic and policy analysis tools will be applied to the material collected in earlier tasks.

Indicators and targets:

Refer to Appendix III – Monitoring Plan Indicators

Activity: Task 3.1 Included in Task 2.1 Stakeholder Coordination Group Support

Appendix II – Detailed Project Schedule



Appendix III – Monitoring Plan Indicators

Monitoring Plan Indicator	Target 2009	Actual 2009	Variance
NUMBER OF PEOPLE TRAINED IN ENERGY RELATED POLICY AND REGULATORY PRACTICES	100	29	- 71
NUMBER OF ENERGY AGENCIES, REGULATORY BODIES, UTILITIES AND CIVIL SOCIETY ORGANIZATIONS UNDERTAKING CAPACITY ASSESSMENTS	3	1	- 2
NUMBER OF ENERGY AND CONCERNED AGENCIES, UTILITIES, ETC. WHERE USG PROGRAMS ARE DIRECTLY SUPPORTING STRENGTHENING OF INSTITUTIONAL CAPABILITIES	5	2	- 3
NUMBER OF POLICY REFORMS/REGULATIONS/ADMINISTRATIVE PROCEDURES ANALYZED TO ENHANCE SECTOR GOVERNANCE AND/OR FACILITATE PRIVATE SECTOR PARTICIPATION AND COMPETITIVE MARKETS	6	2	-4
NUMBER OF POLICY REFORMS/REGULATIONS/ADMINISTRATIVE PROCEDURES DRAFTED AND PRESENTED FOR PUBLIC/STAKEHOLDER CONSULTATION TO ENHANCE SECTOR GOVERNANCE AND/OR FACILITATE PRIVATE SECTOR PARTICIPATION AND COMPETITIVE MARKETS	6	1	- 5
NUMBER OF REFORM MEASURES, REGULATIONS, RULES AND PROCEDURES, ETC. THAT HAVE BEEN ENACTED/ADOPTED/APPROVED WITH THE OBJECTIVE OF IMPROVING OVERALL SECTOR GOVERNANCE, THE ENABLING ENVIRONMENT, PRIVATE SECTOR INVESTMENT AND MANAGEMENT, COMPETITION WITHIN THE SECTOR, ETC.	3		

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