

The ESMAP program has promoted renewable energy by providing countries with technical assistance on policy analysis, developing sub-sector strategies, and exploring innovative solutions for overcoming barriers and developing renewable energy markets. Following is a descriptive list of projects of the ESMAP's renewable energy portfolio through FY2006 to FY2011.

TABLE 1 – ESMAP Renewable Energy Activities (FY2006 through FY2011)

Country/Region	ESMAP Activity	FY	Description	Type of Activity
Sub-Sahara Africa – South Africa, Ghana, Nigeria and Uganda	Income Generation through Productive uses of Energy	2004	Analytical study to identify a bundle of “critical” interventions that should accompany electrification investments in order to allow micro and small enterprises to take advantage of first time access to grid electricity in order to increase incomes and employment	Capacity Building
Global	Potential for Biofuels in Developing Countries	2004	Analytical work on the potential on the potential of biofuels in developing countries	Knowledge Exchange
Global	Trade Policies for Liquid Biofuels	2006	Review of barriers to biofuel trade, and the evaluation of the conditions for making biofuel trade liberalization effective, and the assessment of the potential benefits for developing countries, and the policy recommendations	Knowledge Exchange
Global	Briefing papers on Grid Connected RE	2006	Analytical papers on topics related to Grid connected RE	Knowledge Exchange
Global	Risk Assessment Method for Utilities	2006	Development of a framework and a plan for developing improved power utility planning methods that leads to a more robust and diverse energy generation mixes in developing country utilities that minimize risk-adjusted supply costs	Knowledge Exchange
Brazil	Brazil Biodiesel Study	2006	Conduct analysis on the economic and social costs and benefits of biodiesel production to Brazil, estimate its fiscal, distributive, and environmental impacts, and identify practical policy measures that can be taken by the Brazilian government	Policy reform and institutional capacity building
Colombia	Review of Renewable Energy sector Policy and Regulatory Framework	2006	Technical assistance to the Government of Colombia in the development of a comprehensive policy and regulatory framework to support the cost-effective development and use of its endowment of renewable energy resources	Policy reform and institutional capacity building
Morocco	Renewable Energy Regulation for Wind Development in Morocco	2006	Technical assistance (TA) on the development of a commercial framework for the wind resources. To foster the creation of a sustainable wind power generation market in Egypt based on commercial principles and private sector participation	Policy reform and institutional capacity building
Peru	Peru Rural Electrification	2006	Technical assistance to conduct a survey of rural electricity use in Peru to contribute to developing a national rural electrification strategy. ESMAP assisted the government in developing the national survey, while the government of Peru financed survey implementation. The survey results have helped the government of Peru to justify changes in the provision of subsidies to rural electrification.	Policy reform and institutional capacity building
Uganda	Uganda Power SIL	2006	Support to the Specific Investment Lending on the Fourth Power Project (Power IV) for Uganda, in order to increase generation capacity to meet power, demand and as well as implement comprehensive sector reforms.	Project Development
Uganda	Uganda Energy for Rural	2006	Support to the Adaptable Program Lending (APL) for the Energy for Rural Transformation (ERT)	Project Development

	Transform		projects for social services like health, education, and water; as well as smart subsidies for rural energy and ICT services; through the Ministry of Energy and Mineral Development, the Rural Electrification Agency, and the Private Sector Foundation	
Sub-Saharan Africa	Lighting Africa	2007	Support an initiative which fosters the private sector to develop, accelerate, and sustain the market for modern off-grid lighting technologies tailored to the needs of African consumers, through the scale up the delivery of affordable non-fossil fuel lighting services	Project Development
Tunisia	A New Impetus for Energy Management Policy	2007	Study and analysis to establish a diagnosis of Tunisia's energy management policy, and to identify barriers to energy management. Three other additional studies focused on horizontal topics: energy pricing, regulation and energy security, and to develop solutions to remove the barriers to energy management	Capacity Building
Mexico	Energy Security and Climate Change AAA	2007	Preparation of policy notes to support the Government of Mexico on the following areas; (a) alternatives to current public financing mechanisms for investments in the energy sector; (b) design and implementation of targeted energy subsidy systems for the poor; (c) structural changes within state-owned energy enterprises in Mexico to improve performance; and (d) a climate change mitigation and adaptation strategy	Policy reform and institutional capacity building
Global	Fuel Price Risk & Power Systems Planning	2007	Development of a tool for system planners that could improve the performance of WASP generation analysis by bringing in an explicit consideration of fuel price and other types of systematic risks	Knowledge Exchange
Nicaragua	Renewable Energy Policy and Strategy in Nicaragua	2007	Assist the Government of Nicaragua in developing policy/strategy for the promotion of renewable energy resources in Nicaragua, to facilitate the development of a renewable energy law	Policy reform and institutional capacity building
Mozambique	MZ-Modern Biofuels Assessment	2007	Conducting an assessment of biofuel development in Mozambique, in order (a) to reduce the overall burden of imported fossil fuels, (b) mitigate the volatility of this cost to the country attributable to variations in petroleum prices (and exacerbated by exchange rate volatility) and (c) promote socio-economic development through growth of expanded agricultural activities based on the cultivation of various biofuels feed stocks	Technology Road map/ Assessment
Republic of Slovakia	Establishing Regulatory Framework for Renewable Energy Sources	2007	Technical assistance to support the implementation of a regulatory framework for the development of renewable energy sources (RES), and particularly the generation and distribution of renewable electricity (RE) in Slovakia, through the provision of expertise to RONI	Policy reform and institutional capacity building
Egypt	Commercial Wind Development Framework	2008	Technical assistance to the Government of Egypt in developing a framework for large-scale development of wind energy, to foster private sector participation in line with their target of 20% renewable energy installed by 2020	Policy reform and institutional capacity building
Peru	Overcoming Barriers to Hydropower Investment	2008	Assessment of the role of hydropower in the country's energy mix, and the development of an operational framework to enable public/private investment in hydropower investment.	Policy reform and institutional capacity building
Peru	Assessing the Impacts of Climate Change on Mountain Hydrology: Development of a Methodology through a Case Study in Peru	2008	Development and demonstration of a methodology to assess the impacts caused by climate impacts (rapid mountain warming, with the consequent changes in glaciers and mountain wetlands, and change in rainfall patterns) on Peru's hydrology	Knowledge Exchange

Latin American Countries	Capacity Building in Renewable Energy for Implementing Agencies of Electricity Access Projects	2009	Capacity building activity seeks to improve the capacity of implementing agencies of IBRD/IDA projects in (a) assessing and developing markets for renewable energy technologies as part of access strategies; (b) implementing activities or components of projects aimed at increasing access through renewable energy; and (c) monitoring and evaluating the performance of these activities	Capacity Building
China	Evaluating the Renewable Energy target in China	2010	Planning and assessment strategies tools for countries to conduct RE resource assessments and determine economic quantities of RE  Appropriate policy reform and institutional capacity building measures necessary to support the development and deployment of specific RE technology along countries and regional lines	Policy Reform and Institutional Capacity Building
Philippines	Renewable Energy Market Development			Policy Reform and Institutional Capacity Building
Belarus	Belarus Energy Efficiency			Policy Reform and Institutional Capacity Building
Mexico	Renewable Energy Assistance Program			Policy Reform and Institutional Capacity Building
Nepal	Nepal: Removing Obstacles to Nepal's Hydropower Development			Policy Reform and Institutional Capacity Building
India	India: CSP Initiative			Policy Reform and Institutional Capacity Building
Mexico	Mexico: Promoting Mini-hydro Development and other Renewables			Policy Reform and Institutional Capacity Building
Peru	Peru: Overcoming Barriers to Hydropower Investment			Policy Reform and Institutional Capacity Building
LAC	Central America countries(Panama, Costa Rica, El Salvador, Nicaragua, Honduras, Guatemala): Geothermal Assistance Component			Project Development/ Policy Reform and Institutional Capacity Building
MENA	Middle East and North Africa countries: Regional CSP Initiative			Policy Reform and Institutional Capacity Building
Global	Global: CSP Regulatory	Policy Reform and		

	and Financial Incentives			Institutional Capacity Building
Global	Market Development Support Mechanisms For Scaling Up Renewable Energy	2010	To address pricing and financing obstacles and gaps for innovative technologies through existing and/or innovative financial support mechanisms	Policy Reform and Institutional Capacity Building
Global	Policy Notes	2010	Policy notes to share ESMAP lessons, results and best practices on country-specific "Strategies" and/or "Road Maps"/ workshops and learning events to share experience/ best practice case studies and 'how to' guidance note	Knowledge Exchange
China	Evaluation of Incentive Mechanisms (Taxation and Pricing) for Wind Power in China	2011	This study will help China remove the barriers for further scaling up of Chinese wind industry, and provide comments for improving the current feed-in tariff system and taxation system. This will include 1) Investigate the current wind farm tariff distribution and study on the current taxation situation of wind and other power sources; 2) Set up a techno-economic evaluation model based on existing ones to calculate and compare the cost and benefits based on the current tariff and tax by using two (one from North China and one from East China) or four selected projects (two from North China and two from East China) representing the situation in the region to see the rationale of the current taxation and pricing system	Policy Reform
China	Promoting renewable energy for low-carbon city in Shanghai	2011	The activities are intended to provide international advice, peer reviews and selective upstream analyses leading to the development of a strategy and roadmap for scaling up renewable energy towards a low-carbon city concept in Chang Ning district of Shanghai, as requested by the Shanghai Development and Reform Commission and Chang Ning district government.	Capacity Building
Indonesia	Geothermal Risk Mitigation Framework in Indonesia	2011	To help the Government of Indonesia devise a strategic approach to mitigating geothermal resource risks in Indonesia by (1) validating and refining the methodology used for identification and evaluation of geothermal resource risks in Indonesia; (2) developing suitable geothermal resource risk mitigation options for implementation in Indonesia; and (3) seeking input from and building consensus amongst key stakeholders to facilitate a decision as to the final approach for implementation	Policy Reform
Uzbekistan	Uzbekistan Wind Power Potential Assessment	2011	Technical assistance to provide international wind expertise to assist Uzbekistan to analyze existing data and information and pre- identify potential sites for greenfield wind generation development and to set out a roadmap for implementation.	Technology roadmap
Turkey	Turkey Wind Integration	2011	To support ongoing efforts to conceptualize strategic solutions for developing an Actively Managed Automated Grid (AMAG) in Turkey to facilitate the integration of renewable sources of energy and efficiently ensure sustainable, economic, and secure delivery of electricity.	Technology Roadmap

Jordan	Assessment of Smart Grid Application to Jordan Transmission System	2011	To conduct a needs assessment for applications of smart grid technologies at National Electric Power Company NEPCO to determine necessary investments in such technologies (ii) design a road map for deployment and integration of various aspect of smart grid technologies at NEPCO transmission system.	Policy Reform and Institutional Capacity Building
Yemen	Yemen Renewable Energy Framework	2011	To assist the Government of Yemen to develop and implement a policy and contractual framework to support the large scale, commercial wind development by both the public and private sectors.	Technology Roadmap
Bangladesh	Developing an institutional framework for the Sustainable Energy Development Agency	2011	To assist the Government of Bangladesh i) identify core functions of the agency with respect to current and long term demands of the national energy framework; ii) identify specific lessons from similar agencies elsewhere in the world that would apply to the Bangladesh context; iii) develop a set of alternative structures for the new agency and compare strengths and weaknesses among the alternatives, and iv) propose an action plan for establishing the agency	Institutional Capacity Building