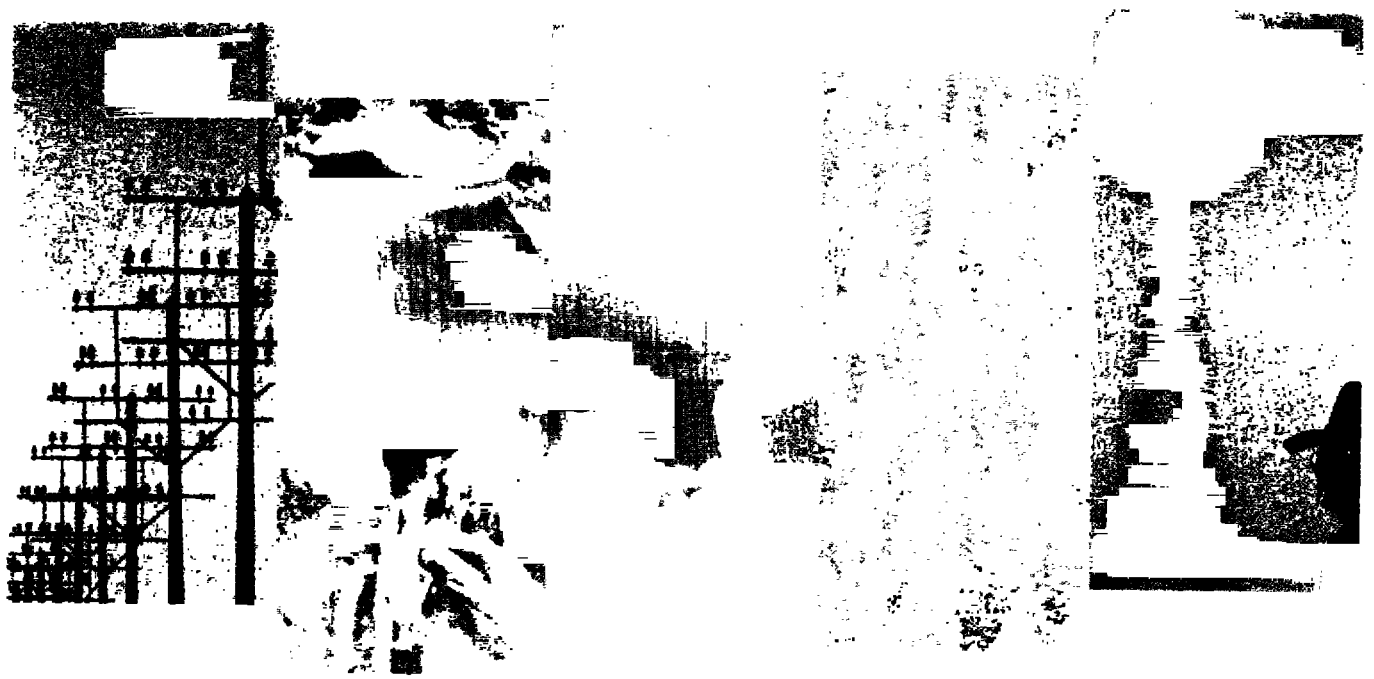
Annual Report 1999

February 2001



Energy

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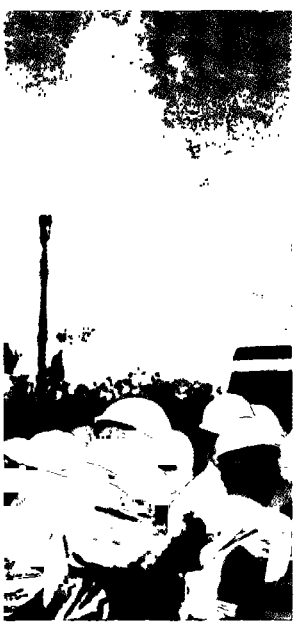

PHOTO CREDITS

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Mission Statement

ESMAP focuses on the role of energy in economic development with the objective of contributing to poverty alleviation and economic progress, improving living conditions, and preserving the environment in developing and transition economies.

The Energy Sector Management Assistance Programme (ESMAP) is a global technical assistance program sponsored by the World Bank and the United Nations Development Programme (UNDP) with financial participation from public and private donors.

ESMAP provides policy advice and other technical assistance to help governments, public institutions and private businesses. It focuses on three priority areas; the development of energy markets, the promotion of environmentally sustainable energy production and uses, and the increased access to reliable, efficient and affordable energy services by un-served or under-served populations with a focus on the poorest.

Since it was established in 1983, ESMAP has supported more than 500 projects, in more than 100 countries. ESMAP concentrates on issues not yet mainstreamed in the operations of bilateral or multi-lateral development institutions. It aims at designing innovative approaches to address energy issues. ESMAP is a participatory and partnership program which involves local and international institutions and businesses in project formulation and implementation. ESMAP's results--through studies, pilot projects and training--enrich the world's knowledge base for addressing energy issues to the benefit of development and transition economies.

ESMAP in 1999

Donors and Members of the Consultative Group, Technical Advisory Group and ESMAP Team

CONSULTATIVE GROUP

BELGIUM
General Administration for Development Cooperation

CANADA
Canadian International Development Agency

DENMARK
Ministry of Foreign Affairs

ENERGIENED, The Netherlands

ENRON INTERNATIONAL

FINLAND
Ministry of Foreign Affairs

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POLSKIE GORNICTWO NAFTOWE I GAZONICTWO S.A. (PGNiG)

SIEMENS CORPORATION

SWEDEN
Swedish International Development Cooperation Agency

SWITZERLAND
Department for International Economic Cooperation

THE NETHERLANDS
Ministry of Economic Affairs
Ministry of Foreign Affairs

UNITED KINGDOM
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THE WORLD BANK (co-sponsor)

UNITED NATIONS DEVELOPMENT PROGRAMME
(co-sponsor)

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Thomas B. Johansson (UNDP)
Suresh Hurry (UNDP)
James Bond (The World Bank)

* Resigned in 1999
** Until October 1999
*** Until November 1999
**** Until July 1999

Serving the Energy Poor

ESMAP Challenges into the 21st Century

While economic growth and wealth accumulation continued at a steady pace in industrialized economies in 1999, the gap in economic and social welfare between industrialized and developing countries continued to increase. Developing and transition economies particularly hard hit by the 1997/98 financial crises made substantial progress in their recovery. The impact on poverty of these international shocks has not lessened. Little or minimum progress was made overall in meeting the energy needs of the developing countries, and least of all, in meeting the needs of the poorest segments of their populations.

The Trends

The figure of 2 billion people without access to modern energy continues to be quoted in most fora on energy issues in developing and transition economies, unfortunately unchanged for the past 5-10 years. Meanwhile, population growth has continued, at a pace surpassing the rate at which modern energy services are expanding. This suggest that, in reality, the global figure of the unserved population may exceed the 2 billion mark. In Africa alone, it is estimated that the proportion of people connected to grid electricity has been halved in ten years, from 10 to 5 percent of the population.

Globally, because of a decrease in East Asia, the Middle East and North Africa, the number of poor has remained about constant during the past 10 years. At the end of 1999, about 24% of the population of the developing world–1.2 billion people–lived on less than one dollar a day and 2.8 billion lived on less than 2 dollars a day. Inequality among regions and countries has increased sharply over the last 40 years, with poverty shifting towards South Asia and Sub-Saharan Africa (40% of the population in South Asia and 46% in Sub-Saharan Africa live in absolute poverty). The distribution of income within nations and across individuals is also shifting. The current trend in rapid urbanization is also associated with an increase in the number of urban poor. It is estimated that the absolute number of poor is increasing faster in urban than in rural areas. Projections indicate that by year 2035, half the world's poor will be in urban areas. For the next decade the majority of the poor will still be rural, but urban poverty will be growing fast.

The poor say it themselves: Energy means time saved, from drawing water, transporting biomass fuels, or crops and foods. Energy means increased productivity in agriculture or small businesses, from sowing to food processing, small-scale manufacturing. Energy means lighting, and therefore access to education and additional income: use of night time for supplemental income earning activities. Energy means access to telecommunications, to radio and information, to labor markets, and for the better off, to leisure. As well documented through the

experience in industrialized economies, the availability of new sources of energy and technologies has been key both to their economic development and to the progress in social welfare. As recognized by Josef Stiglitz, Nobel Laureate, "without energy, there is no way out of poverty."

The body of knowledge generated through ESMAP and others field work programs confirms and underlines that the poor continue to largely rely on biomass energy for one of their most basic needs, that is cooking. But it also highlights the enormous sacrifices the poor make to access energy, or the premium that the poor are ready to pay for more modern energy, spending as much as 20% of their cash income for lighting, water sterilization, more efficient cooking, light motorization for productive activities, and for transport. One should

not forget also that, that as documented by the World Energy Council (WEC), the lack of access to modern energy means relying more on human energy, in particular that of women whose about 50% of productive life is transport: transport of water, wood or charcoal, crops and food, both in rural and urban areas.

Against this backdrop, how will the needs of the energy poor be met as we enter the 21st Century?

ESMAP and the Energy Poor

The year 1999 confirmed that the challenge of meeting the needs of the energy poor–be they countries, communities, households, or individuals– remains, and should remain at the core of ESMAP's mission. It also confirmed that in many ways, the times have never been better for a global mobilization of expertise, financial, physical and political resources to meet this challenge. At no other time in the history of the past 50 years, have public and private partners and civil society realized the need and been so willing to work together. This willingness has become endogenous to ESMAP. At the end of 1999 ESMAP partnerships included 13 public donors and three private ones. It also included formal or informal cooperation agreements with the electricity industry (The E7 Network of Expertise for the Global Environment) and the largest association of energy professionals (WEC). Several new partnerships were in development.

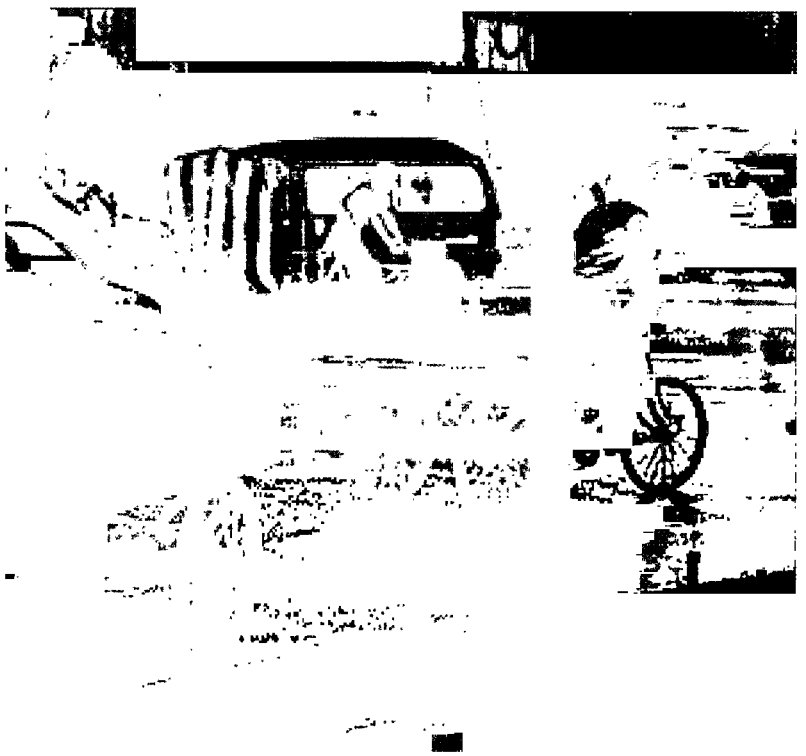
The year 1999 was also the opportunity to fully test the continued relevance of the ESMAP Strategy adopted in 1998.

- Facilitating access by identifying solutions to deliver energy services to the poor has to remain at the center of ESMAP's operational work. But for ESMAP to have an impact on a significant scale, it had to move away from carrying out a collection of scattered micro-activities and focus on activities generating or amplifying a critical mass of knowledge and offering a greater potential for replicability.
- Assisting in making the energy markets work better continues to be one of the most effective ways to enhance opportunities for the energy poor, both at the macro and at the micro level. More transparent and efficient markets are indispensable to increase the availability of energy services, to lower the cost of energy services and to expand the availability of diversified sources of sustainable energy.
- Ensuring the environmental sustainability of energy services will continue to be key for the poor to access energy services. Over the long-term, the energy poor are the most affected by the negative impact of certain environmental damages resulting from the use of prevailing energy resources and services. Premature death and increased morbidity from indoor pollution resulting from biomass or kerosene use is now well-documented for Africa and the Indian subcontinent. So are the reductions in children's IQ from air pollution due to lead in gasoline or poor quality lubricants in two stroke engines in congested peri-urban areas of many developing regions. To these local pollution issues are added global pollution ones. Abuses of biomass resources damage the environment. Distortions in energy markets also have a pernicious effect by preventing affordable penetration of LPG, kerosene, or renewable energy thus worsening the life of the poor already over-relying on biomass for primary energy, and adding to green house gas emissions.

ESMAP 1999-2001 Business Plan

Taking the view that ESMAP can achieve its objectives only through a medium-to-long term commitment to its work program, the ESMAP team prepared, a

three-year business plan which was endorsed by the Consultative Group (CG) during its 1999 annual meeting. The Business Plan confirmed that the overarching goal of the program is to increase the availability of energy services for poverty alleviation and social development. It puts the emphasis on integrating the work on market development with the work on energy access, and addressing environmental issues in order to ensure an increase in the availability of energy services and their sustainability. To achieve its goal, ESMAP will continue to capitalize on its comparative advantage of being a unique global partnership program. It can access a world-wide pool of energy experts and therefore enhance knowledge



generation and dissemination throughout the developing and transition economies. It can also mobilize public and private partners from developing, transition, and industrialized economies. The business plan also reflects that the demand for support from ESMAP is rising in the following areas:

- on-time technical assistance, in particular for testing new institutional and financing delivery mechanisms enhancing access to modern energy services for unserved or under-served areas and populations;
- capacity building, to increase the analytical, policy formulation and negotiation capabilities needed to attract private sector capital and services in developing and transition economies, and to monitor the impact of energy-environment policies;
- policy reform in the power sector, including to liberalize markets for non-conventional energy, and for the oil and gas subsectors;
- energy-environment activities;
- social impact analyses, in particular to assess the social impact of energy market transformations and of energy-environment policies, and also to address the specific gender issues related to the delivery of energy services.
- knowledge dissemination activites, including ESMAP's vocation to be a transactor of knowledge on its donors' programs.
- Innovative, pilot/venture fund type of activities.

Expanding on the number and types of partnerships will be key to the ability of ESMAP to achieve the objectives of its mission. In 1999, ESMAP has already strengthened its partnership with other trust-funded program managed by the World Bank, in particular ASTAE, AFRREI and RTPES, whereby ESMAP finances policy-related up-stream activities when these programs are concentrating on project preparation/investment feasibility work. It has also initiated a partnership with the World Energy Council in order to capitalize on their infrastructure for knowledge dissemination activities. New partnerships are under discussion with several energy institutes as well as with new potential donors.

As we look ahead into the 21st century, we know we should not tolerate that the gap between the energy poor and the energy-rich countries and people continues to widen. The measure of success for the program will be, therefore, the extent to which it has contributed not only to stop the widening of the gap, but to narrow it.

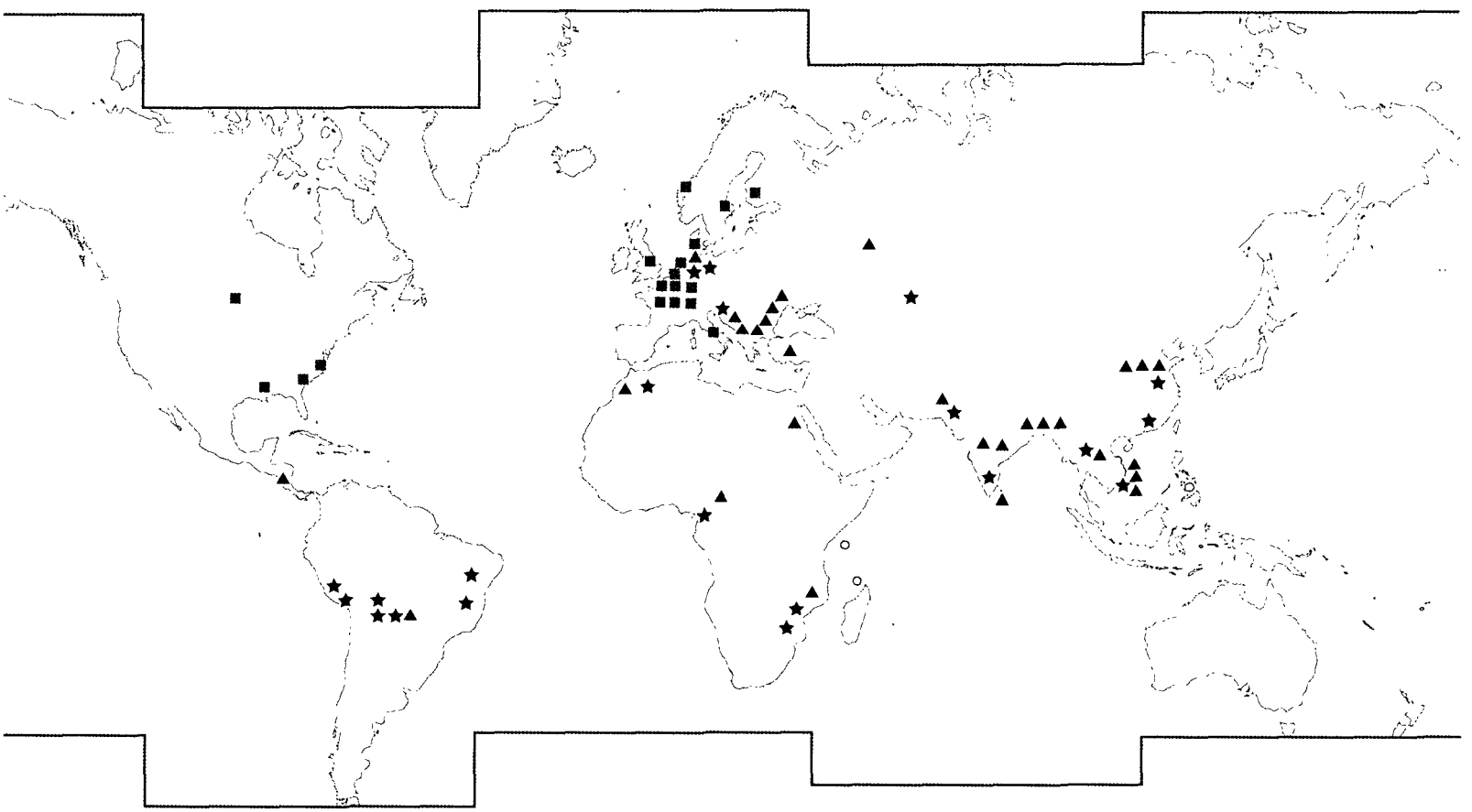
ESMAP Products and Services

Knowledge Generation and Dissemination

- Conferences, roundtables
- Publications
- Training, workshops and seminars

Technical Assistance

- Specific studies
- Advisory services
- Pilot projects



REGIONAL AND GLOBAL PROJECTS

■ ESMAP Donor

○ Ongoing Project

▲ New Project

★ Completed Project

AFRICA REGIONAL PROJECTS

EUROPE AND CENTRAL ASIA

MIDDLE EAST AND NORTH AFRICA

EAST ASIA AND PACIFIC

LATIN AMERICA AND THE CARIBBEANS

GLOBAL PROJECTS

ESMAP concentrates on issues not yet mainstreamed in the operations of bilateral or multilateral development institutions, or of the private sector. It aims at designing innovative approaches to address energy issues.

ESMAP provides technical assistance which helps build consensus and provides policy advice on sustainable energy development to governments of developing countries and economies in transition.

ESMAP contributes to the transfer of technology and knowledge in energy sector management.

ESMAP's mandate has evolved over time to meet the changing needs of its clients. ESMAP suggests innovative and strategic "cutting edge" solutions to governments, in the areas of both traditional and non-traditional energy use, complementing and facilitating the work of other development institutions and the private sector. ESMAP is focused on upstream, that is pre-investment, issues that have clear potential for key policy formulation and energy investment.

Over the years, since its creation as the Energy Assessment Programme in 19982, ESMAP has operated in over 100 countries through more than 500 activities covering a broad range of energy issues. Early on, these activities were almost exclusively Country Energy Assessments which served to fill the knowledge gap on the energy situation in a specific country, and provide options to address priority energy issues in an environment of rapidly rising energy prices. Today, ESMAP activities encompass a broad range of social, environmental and economic issues related to the production, transportation, distribution and use of all forms of energy.

ESMAP Operations

Portfolio Overview

This chapter provides on overview and comparison of the 1999 portfolio with the 1998 portfolio, and discusses emerging trends in the composition of activities with respect to ESMAP strategic objectives. It also provides details on achievements under illustrative projects in ESMAP portfolio during the year.

Portfolio Profile

As of December 31, 1999, ESMAP's portfolio comprised 107 projects with a total cost of $38.4 million of which US$27.6 million required in funding from ESMAP. At the end of the year some 48% of ESMAP funding had been disbursed. Out of the 107 projects, 68 were multi-country while 39 focused on a single country. These projects fall under the strategic thrusts of ESMAP: energy access, energy-environment linkages and energy market development, and are grouped under six main themes:

- *Sector Reform:* assisting with energy sector policy and restructuring;
- *International Trade:* facilitating trans-border energy trade;
- *Renewable Energy:* mainstreaming renewable energy technologies;
- *Environment:* analyzing local, re-gional and global energy-environment linkages;
- *Energy Efficiency:* encouraging more efficient energy production, delivery and consumption; and
- *Rural and Peri-urban Access:* pro-moting energy access in rural and peri-urban areas, and to under-served households and businesses.

An ESMAP Project Development Facility was established in 1998 and continued in 1999 to provide small amounts of funding to assist with the development of promising concepts into ESMAP projects. These projects then enter the work program through ESMAP calls for proposals and go through the evaluation process, along with other projects proposals which have benefited or not from "seed" money resources.

Table 1 presents the breakdown of the 1999 portfolio in terms of number of projects by thematic and geographic area. Table 2 provides this breakdown expressed in term of dollar value of ESMAP funding.

Table 1 Thematic Distribution of Ongoing Projects by Region (Number of Projects)

Sector	Sector Reform	Environment	Rural & Periurban	Renewables	Efficiency	International Trade	Total*
Global	4	6	4	3	1	1	19
Africa	4	1	6	3	4	4	22
East Asia & Pacific	5	6	1	2	2	2	18
South Asia	1	8	1	1	0	0	11
Europe & Central Asia	3	5	0	0	4	0	12
Middle East & North Africa	0	1	1	2	1	0	5
Latin America & Caribbean	3	3	7	1	4	1	19
Total	20	30	20	12	16	8	106

Table 2 Thematic Distribution of Ongoing Projects By Region (US Dollar Value)

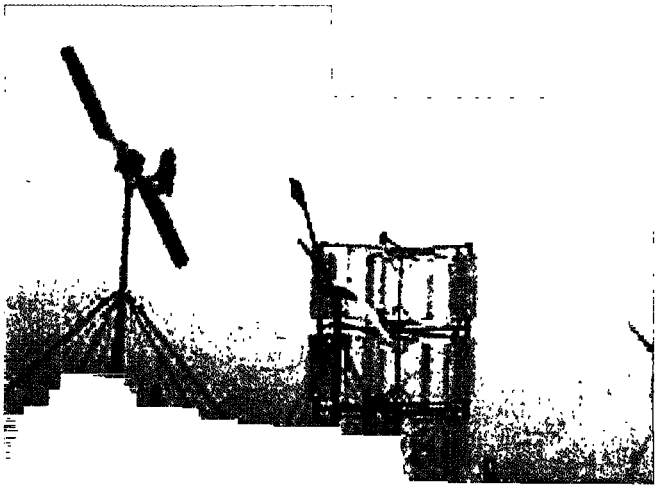
	Sector Reform	Environment	Rural & Periurban	Renewables	Efficiency	International Trade	Total*
Global	614,000	981,217	617,000	245,150	300,000	335,000	3,092,367
Africa	870,285	200,000	1,268,914	632,895	1,050,284	1,257,530	5,279,908
East Asia & Pacific	952,205	660,000	100,000	433,000	150,000	665,000	2,960,205
South Asia	120,000	2,163,923	722,709	185,000	-	-	3,191,632
Europe & Central Asia	1,214,000	1,058,070	-	-	1,452,622	-	3,724,692
Middle East & North Africa	-	50,000	253,230	137,000	340,000	-	770,230
Latin America & Caribbean	1,207,000	935,022	5,078,098	259,479	632,000	430,350	8,541,949
Total	4,977,490	6,048,232	8,039,951	1,892,524	3,924,906	2,687,880	27,570,983

*Excludes one ESMAP-managed dissemination project ($100,000)

Table 3 Evolution of ESMAP Portfolio (Number of Projects)

During Calendar Year 1998	
Ongoing projects on 1/1/1998	88
New projects approved/launched	15
Projects completed	12
Projects cancelled	2
Total	89
During Calendar Year 1999	
Ongoing projects on 1/1/1999	89
Projects approved/launched	52
Projects completed	33
Project cancelled	1
Projects in portfolio as of December 31, 1999	107

Funding allocations are usually made available to projects task managers in tranches corresponding to commitments needs as identified by these task managers, and subsequently disbursed over a period of several fiscal years. Annex 2 presents a list of project completed, launched and on-going in 1999. The evolution of the portfolio, is described in terms of projects launched and closed during the year, and projects ongoing at the end of the year in Table 3.



Portfolio Trends and Management

The dynamics of the portfolio in 1999 compared with the previous year are depicted in Figures 1 to 4, reflecting changes in geographical and thematic distribution by numbers of project and dollar allocations. Overall, activities increased for two themes (environment and energy trade) whereas the activities for three other themes stabilized. Figure 5 indicates that the average project size increased by about $15,000 to reach some $258,000 on average per project.

ESMAP's portfolio of projects at the end of the calendar year (CY99) grew from 89 projects at the end of 1998 to 107 projects on December 31, 1999. The value of the portfolio also grew from $21.6 million on the last day of 1998 to $27.6 million at the end of 1999. Figure 5 and 7 present the past three years history for number of projects in the portfolio and the value of the portfolio, respectively.

The energy-environment area accounted for the greatest share of the increase in number of projects, expanding from 16 to 21 projects, with related funding requirements totalling $6.1 million, compared to US$ 3.3 million at the end of 1998. The launching of new activities for regional power markets in the Greater Mekong Sub-Region (Phase II), the Nile River Basin and West Africa, and a new global study on removing barriers to cross-border oil and gas pipelines, accounted for growth in the international energy trade area. This also contributed to the environmental aspect of the ESMAP portfolio, as trade enhances prospects for more efficient and less polluting electricity dispatch, and for substitution of clean fuels like natural gas. Support to the peri-urban and rural access agenda remained roughly constant in absolute terms, while the initiation of new energy efficiency activities slowed during the period.

Box 1 Poland: Energy Sector Regulation and Tariffs

Background

In 1997, the enactment of the Energy Law and the establishment of an Energy Regulation Authority (URE) in Poland paved the way for price and market liberalization, competition , privatization and third party access. Since 1998, the URE approves tariffs for monopolistic activities and monitors compliance. At the beginning of 1999, however, the URE still needed to build up its capacity to carry out its responsibilities effectively and deal with implementation challenges.

ESMAP Technical Assistance

ESMAP support to the URE focused on: (i) resolving the most urgent problems and issues the URE currently faces in regulating energy tariffs and monitoring compliance; (ii) reviewing the appropriateness of the Energy Law and relevant tariff ordinances--including the scope of responsibility of the present URE--and proposing amendments to the legislator; and (iii) building up expertise through URE staff training on international experience in economic regulation of the electricity and district heating sectors.

Electricity and District Heat Tariff Regulation. The four priority areas of ESMAP support to electricity tariff regulation included: (i) transferring a methodology for benchmarking distribution and transmission companies, and applying the methodology to distribution companies; (ii) transferring a methodology for calculating the cost of capital for each function of the electricity industry (generation, transmission, distribution, and retail); (iii) outlining ways in which social issues, in particular the supply of electricity to the poorest households, could be handled; and (iv) proposing amendments to the existing tariff ordinance to match international best practice and address URE's concerns over the legality of regulatory tools, URE's ability to obtain information from regulated companies, the price adjustment mechanism, and tariffs affordability. ESMAP support to district heating regulation focused on similar priority areas.

Gas Tariff Model. ESMAP work on gas tariff was intended to provide the vertically-integrated monopoly, Polish Oil and Gas Company (PGNiG), with a gas tariff computer model for monitoring and adjusting gas price structures. It also assisted URE to adequately regulate gas prices and tariffs. The model was developed around the needs for PGNiG to calculate and offer open access tariffs as well as to keep unbundled costs at the major transaction interfaces (gas imports, production, storage, transmission and distribution), in line with the European Union gas market liberalization directives.

Power Sector Privatization. A panel of experts was invited to a series of high-level meeting with the Government of Poland to comment on its privatization strategy for the power sector and to provide opinions on how similar issues were addressed in other countries or jurisdiction. The panel of experts included a former electricity regulator from the United Kingdom, an electricity market expert, a utility restructuring expert, an investment banker, a regulatory lawyer and a utility privatization specialist. Follow-up meeting activities of the panel cover: (i) a review of international experience with the future power exchange; (ii) the treatment of existing long-term power purchase agreements, a major source of uncertainty and the most important distortion in the single buyer structure that should be transformed into a wholesale competition model; and (iii) an analysis of competition in the power generation market, to help URE decide on whether or not to release generators from tariff approval obligations.

Lesson Learned

ESMAP support was timely and important to Poland for the success of the privatization of the power sector, and the restructuring of the gas sector. The Polish experience clearly illustrates the need to assist countries beyond the establishment of an overall regulatory framework and the drafting of legislation. Further assistance in building up regulatory capacity and accompanying an infant regulatory authority during the first implementation stages has proved of crucial importance.

Figure 1 Thematic Distribution of Portfolio 1998-1999 by number of projects

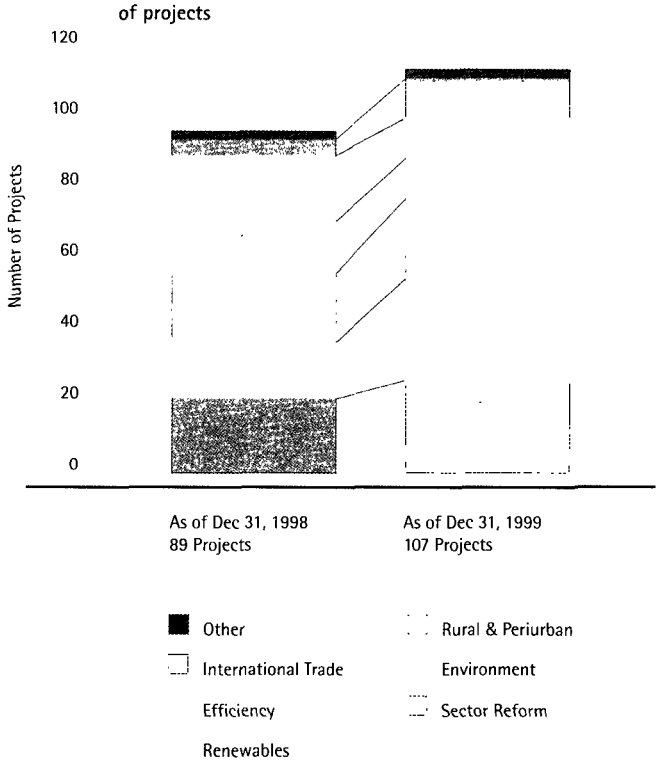


Figure 2 Thematic Distribution of Portfolio 1998-1999 in US $

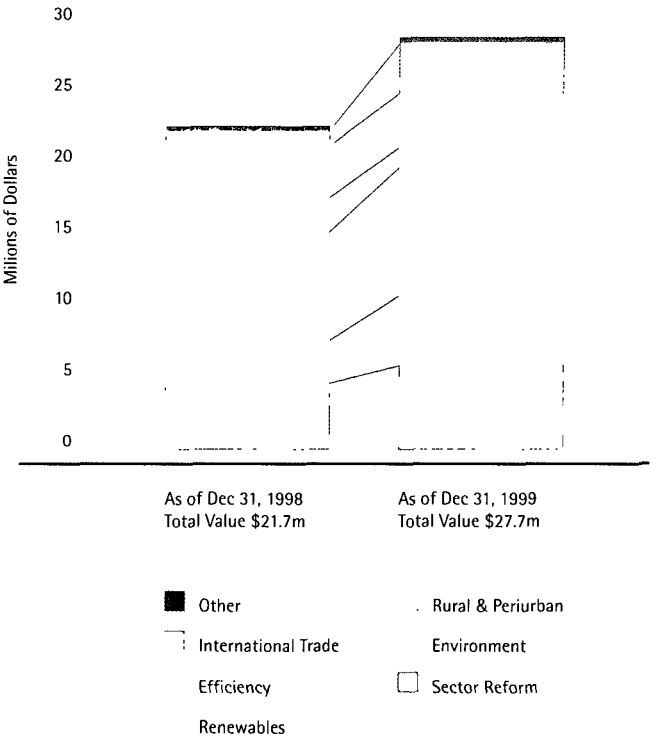


Figure 3 Regional Distribution of Portfolio 1998-1999 by number of projects

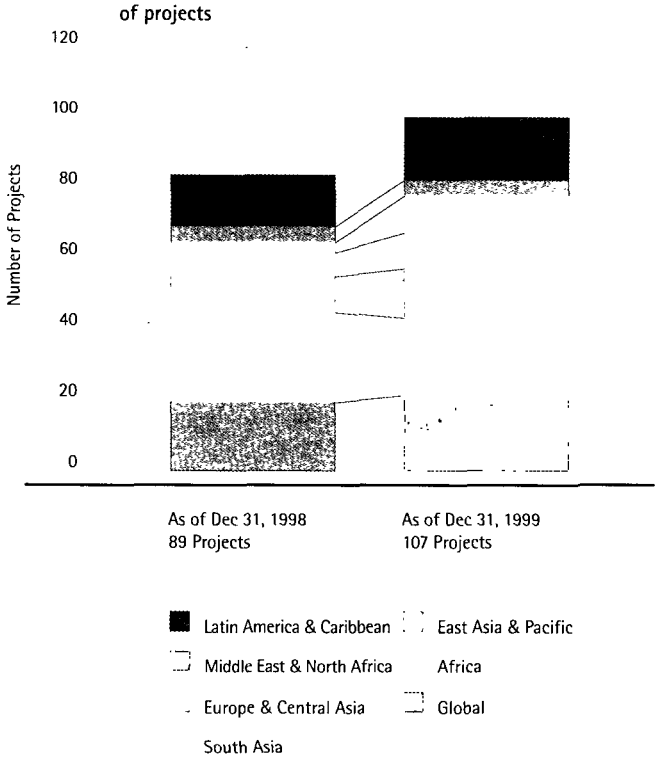
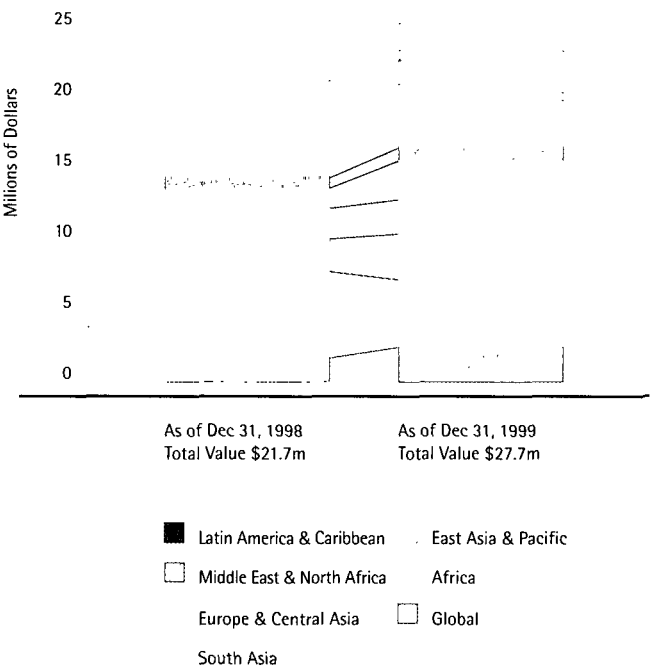


Figure 4 Regional Distribution of Portfolio 1998-1999 in US $



Box 2 Energy Efficiency Operational Exchange Network

The Issues

As economic and sector reforms take hold, traditional characteristics of energy efficiency projects (i.e. government financed; state agency implemented; supply driven and focus on technology in information dissemination) are becoming obsolete. The private sector is taking an increasingly central role to intermediate and deliver energy efficiently. But facilitation interfaces between users and both public and private sector are often missing. More and better communication of experiences and lessons learned with regard to energy efficiency projects is needed. This ESMAP project aims at facilitating the cross-fertilization of best and new practices in energy efficiency projects, brokering financial sources and building country capacity. Many traditional training programs and networks have focused on "western experts" disseminating current developed world knowledge. The ESMAP approach captures and disseminate the experience and lessons learned in a developing country to transfer it to other developing countries.

ESMAP's Work

The project started in April 1999 and will continue until September 2000. The objective is to disseminate best practices and new solutions in energy efficiency, focusing on practical measures. The core of the program is a series of workshops and 'one-on-one' bilateral exchanges. The project also identify topics for workshops and bilateral exchanges based on client demand. Outcomes from the workshops are shared with practitioners and others, especially in developing countries and economies in transition, through ESMAP's webpage.

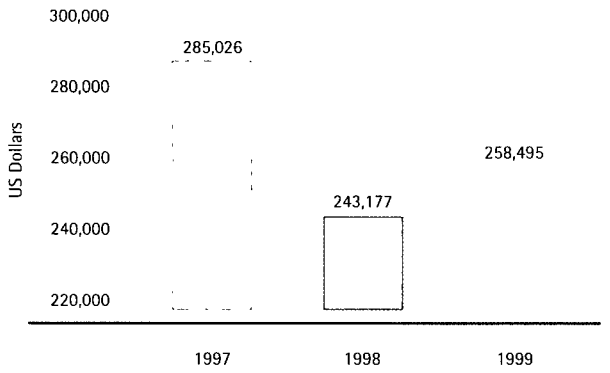
Outcome and Lessons

A first workshop was held at the World Bank in Washington, DC in April 1999. It focused on Energy Service Companies (ESCOs) operating in developing countries to improve energy efficiency. Representatives from ESCOs, other practitioners, regulators and bankers from Brazil, China, Poland and Hungary participated, as well as international firms providing energy services in developed countries. The workshop featured a series of presentations and discussion among the participants on various issues concerning the establishment and development of ESCO, ESCO markets, projects and financing.

One of the main conclusions of the workshop was that three key factors are needed for an ESCO market to exist and expand: (1) customers interested in energy efficiency activities; (2) financiers willing to finance ESCO projects on reasonable terms; and (3) ESCOs with the right mix of skills in marketing and technical solutions. This market also requires a stable political environment; transparent and market based energy pricing; and a legal system supporting performance contracting. The workshop also concluded that it is possible to accelerate the development of an ESCO market, even in countries with no prior experience. However, getting the energy prices right is not sufficient, although it is essential as an incentive for energy saving. Policies and targeted programs to mobilize public support are also usually necessary. Establishing energy efficiency programs for public facilities using ESCOs, adjusting procurement policies to permit performance contracting, establishing a financial intermediary for ESCO project financing, providing financial help for demonstration projects and project development or raising public awareness about energy efficiency were mentioned as examples of successful pilot projects. Additional details on the workshop are available in a special report which can be accessed at www.esmap.org.

A second workshop, on District Heating was held in Poland in October 1999. Co-generation and financial inter-mediation issues were considered as topics for future workshops.

Figure 5 Average Project Size



Geographically speaking, Latin America and the Caribbean remained the largest locus of ESMAP activity with 19 active projects and an aggregate value of US$ 8.5 million in 1999. This reflects in part a concentration of sector reform and energy aecess activities, including large commitments to the Bolivia portfolio. At year-end 1999 Africa had an equal number of projects but of smaller average size ($240,000 compared to $450,000 in Latin America) accounting for a total of US$5.3 million. As a region, Africa experienced some contraction in both the number and value of activities over the 1998-1999 period. This is indicative of the difficulties experienced to date in identifying projects with a predominantly environmental focus in Sub-Saharan Africa, whereas in contrast growth in the East Asia/Pacific and Europe/Central Asia portfolios was fueled to a significant degree by the uptake of the environmental theme.

It is observed that the environment theme is by now well entrenched. Key intellectual and operational challenges remain, however, in strengthening the important inter-linkages between sector reform and the environment, and between energy access and the natural and social environment. Even more apparent is the need to address more comprehensively the linkages between sector reform, peri-urban and rural access and poverty alleviation. Here ESMAP has contributed foundation intellectual capital through special studies, but fulfillment of this agenda will require widespread support for country-specific projects.

Figure 7 Value of ESMAP Portfolio

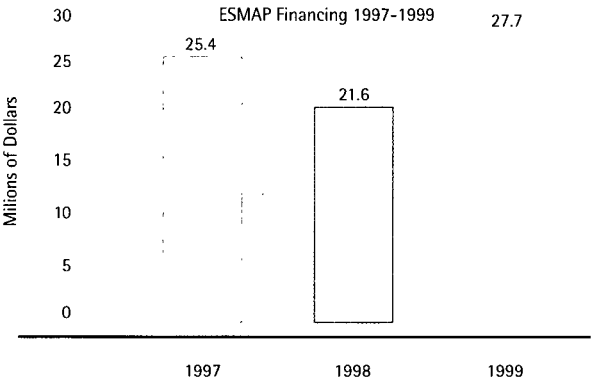
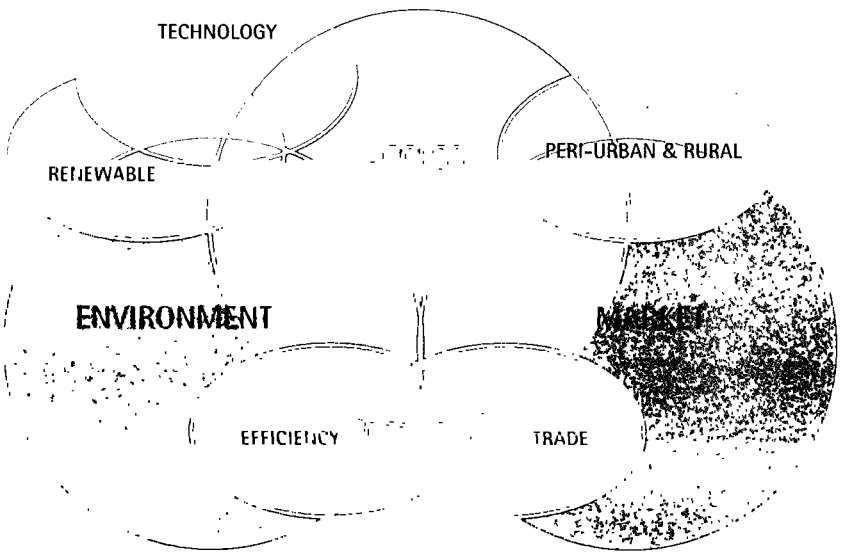


Figure 6 ESMAP Themes

Implementing ESMAP Strategy: Meeting the Needs of the Energy Poor



Box 3 Uganda: Rural Electrification Strategy Study

Issues

Uganda offers planners, policy makers, governments, donors, and utilities a surprising and exciting new perspective on rural electrification. Rural people in Uganda pay high prices for a limited and inefficient supply of modern energy, particularly for electricity. They also use several inefficient forms of energy to make up for the general lack of access to the electric grid.

Today, there may be more Ugandans "electrified" through the use of lead-acid batteries, small diesel and petrol generators, or photovoltaic systems than Ugandans connected to the national grid. About 9 percent of the population—nearly 5 percent of all rural households in the 12 districts surveyed by an ESMAP project–own and operate lead-acid (car) batteries to power their TVs and lights. They spend the equivalent of about $120 per year, including costs for charging, transport to the charging station, and the amortization of the battery, for an average cost of US$3.0 per kilowatt-hour.

Furthermore, Ugandan households and businesses have imported generators with over 60 megawatts of cumulative capacity, representing almost one-third of the Uganda Electricity Board's (UEB) installed generating capacity. Ugandan firms generate more than 100 gigawatt-hours per year at an average cost of US$0.19 per kilowatt-hour. With a supportive environment, cost-effective ways could be found to accelerate rural electrification. It would yield great social and economic gains, notably for local businesses. Indeed, one-half of imported generators are used to run agro-processing plants, mills, dairies, and light industries, or to power restaurants, hotels, etc. creating jobs in rural and peri-urban areas.

ESMAP's Work

The ESMAP Rural Electrification Strategy Study was carried out in two stages. The first, in 1996, conducted a series of rural and peri-urban demand side surveys of 2,000 households. A second stage of supply side surveys was conducted in 1996 and 1997. It covered twelve districts where private generators, equipment suppliers and distributors, electricity consumers, industry representatives, and government officials at all levels were interviewed. The surveys identified the types of lighting and other energy sources used, took a measure of the quantities consumed and defined associated monthly spending patterns in non-electrified peri-urban and rural areas with a good potential for a renewable energy market and other modes of electrification (grid, mini/ micro/isolated grid, and non-grid electrification). Eventually, the survey:

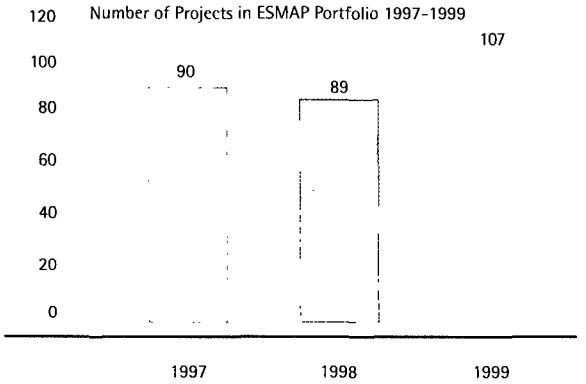
- Developed an information base and profile sketch of non-electrified rural households. They described households awareness of and ability to pay for alternative electricity services;
- Measured the costs of existing energy services and compared them with other options; and
- Analyzed the financial implications to households or electrification options to determine electrification steps to be taken to maintain or improve standards of living.

Outcome, Lessons and Follow-up

The study showed that high levels of rural electrification can be achieved without major government or donor intervention, or investment from the national utility. It also suggests that new approaches to rural electrification can considerably accelerate access to electricity in rural Africa. The challenge is to fashion an institutional structure that, as part of a power sector reform, will facilitate electrification without dampening individual drive and spirit.

The ESMAP study provided crucial information for follow-up work of power sector reform in Uganda, helping catalyze government's attention on rural electrification issues. The study also helped in the preparation of a new electricity law and of an innovative project focusing on energy for rural transformation designed with help from the World Bank's Africa Rural and Renewable Energy Initiative (AFRREI) supported by the government of Denmark and other donors.

Figure 8 Projects in Portfolio



Project Implementation

Out of the $27.7 million of the funding requirements for ESMAP projects in the portfolio at the end of 1999, some $13.7 million, had been disbursed at the end of 1999, corresponding to an implementation ratio of about 50% compared to 60% at the end of 1998. This reduction is due essentially to the increase in the size of the overall portfolio, with a net gain of 18 new projects under supervision.

The distribution of disbursements by thematic area and region is given in Table 4 and Table 5 for 1998 and 1999. As an indication of the degree of project completion, an implementation ratio (IR) has been calculated for these two years. It reflects spending relative to funding allocations by theme and region.

The lower implementation ratios give an indication of sectors and regions where new projects have been concentrated. However, when a low implementation ratio is not associated with a recent increase in funding, it generally indicates delays associated with certain projects implementation.

Table 4 Project Disbursements by Theme as a Measure of Implementation

By Region	Percentage of Total Funding		IR 1998	IR 1999
	1998	1999		
Sector Reform	16.99	20.1	72.43	55.31
Environment	15.17	14.54	45.15	32.94
Rural & Peri-Urban	21.42	27.08	67.66	44.29
Renewables	21.91	6.84	27.42	49,83
Efficiency	19.95	23.51	84.06	74.17
International Trade	4.56	7.92	82.42	40.37
Total	100	100	59.92	48.05

Table 5 Project Disbursement by Region as a Measure of Implementation

By Region	Percentage of Total Funding		IR 1998	IR 1999
	1998	1999		
Global	9.81	14.5	68.44	64.22
Sub-Saharan Africa	26.02	26.69	80.96	69.22
East Asia & Pacific	8.92	12.66	73.32	58.58
South Asia	10.21	9.3	38.56	39.93
Europe and Central Asia	5.81	9.98	80.33	36.7
Latin America & Caribbean	36	21.14	38.67	33.89
Middle East and North Africa	3.23	5.73	90.64	43.19
Total	100	100	59.92	48.05

Box 4 Vietnam: Environmental and Safety Issues in Gas Development

Background

Energy sector development is crucial to Vietnam's economic prospects. From 1993 to 1997, consumption of commercial energy grew 30 percent faster than GDP. Continued expansion in energy supply is needed to support economic growth. Hydrocarbons is already a major local energy resource and accounts for 17% of exports. Most hydrocarbon production in Vietnam comes from the Bach Ho field in the Cuu Long Basin. The potential additional natural gas production is large, but the exploitation of hydrocarbon reserves and the construction of related infrastructure carry safety risks not to be neglected.

ESMAP's Work

ESMAP provided technical assistance to the Government of Vietnam in the oil and gas sector to support the development of indigenous gas resources and to build up a modern gas industry from the wellhead to the burner-tip. ESMAP technical assistance included advice on:

- Fiscal conditions for hydrocarbon exploration and development by private companies;
- Methods for enhanced reservoir management;
- Gas purchase contracts and gas sales contracts in accordance with best international practices;
- Gas distribution and metering;
- Institutional aspects of gas sector development, in particular the corporatization of Petrovietnam, the public monopoly responsible for gas development; and
- Environmental and safety aspects of gas sector development.

Downstream Gas Development

A study on the environmental impacts and safety aspects of downstream gas development was carried out by ESMAP with additional funding from Denmark. It provided Petrovietnam with expertise on environmental and safety aspects of the development and management of an onshore gas industry.

Petrovietnam often conflicting roles in environmental control and safety planning were analyzed. The ESMAP report recommended to create an institutional set-up that separates the policy, regulatory and operational functions related to environment and safety. A gas decree including technical and safety standards was also recommended, as well as the development of a more general assessment of the overall impact of gas development, and consultation with all stakeholders when preparing environmental impact assessments.

Lessons and Follow-up

The ESMAP study included investigations and recommendations on safety zones around gas transmission pipelines. Although the investigations were partly based on estimated risk for the population along specific gas transmission pipelines, they may be relevant for other densely populated regions in developing countries.

Box 5 Improving Energy Efficiency Through Electricity Demand Management in Ghana, Kenya & Tanzania

The Issues

Ghana, Kenya and Tanzania regularly experience power shortages which often intensify in periods of drought. The shortages inconvenience daily life and hamper economic growth. They force industrial and commercial users to use expensive additional power supply from on-site back-up generators. All three countries also have large technical losses and deep voltage drops especially at low voltage.

Demand side and supply side management can help mitigate the effects of power shortages by reducing daily spikes in power demand and displacing part of the demand to off peak periods. Over the last 12 years the three countries have embarked on several such programs which included:

In Ghana

- Pilot programs for power factor improvements, and load management and leasing schemes for purchase of capacitors;
- Public information dissemination awareness raising;
- Establishment of a nascent NGO, the Energy Efficiency Foundation;

In Tanzania

- A program to rehabilitate the supply grid
- Training for energy audit staff from the public utility and assistance in conducting walk through audits of industrial and commercial establishments;

In Kenya

- Audit services to industry;
- Creation of an energy service company (ELCO) with experience of performance contracting in the industrial sector.

ESMAP's Work

ESMAP, in association with international NGOs, bilateral and multilateral agencies and local counterparts reviewed the experience gained in implementing the programs outlined above. It convened a workshop in Arusha, Tanzania for regional and international efficiency experts. Some important lessons emerged from experience in the three countries:

- Commitment--or lack of it--from organizations involved in implementing efficiency programs should be swiftly and clearly identified. Supply side activities of public utilities may weaken their capacity to implement demand side program.
- Entrepreneurial orientation is critical for implementing organization to successfully deliver energy efficiency services. Open competition should be the norm to select staff.
- Demand side management must be a commercial activity, as demonstrated successfully by the experience of ELCO.

Lessons and Follow-up

The experience and the lessons learned confirmed those of similar programs elsewhere. Energy efficiency programs should emphasize direct provision of services to the end user through commercial arrangements. But intervention from public entities or competing public efficiency program may jeopardize the success of energy service companies.

Box 6 Renewable Energy Strategy and Institutional Strengthening Study in the Arab Republic of Egypt

The Issues

Good wind regimes, high solar radiation intensity, and significant quantities of agricultural and urban waste suitable for biogas production provide a good basis for renewable energy development in Egypt. In the early 1980s after the energy shock, the Government of Egypt drew up a national strategy to take into account renewable energy resources, particularly wind, solar and bio-mass. In its policy statement for renewable energy, the Government's goals were to:

- Establish and support the utilization and development of renewable energy;
- Adopt technology/applications approaching maturity and that have potential for replicability;
- Link renewable energy and energy efficiency;
- Maximize utilization of renewable energy in the electric power sector as appropriate; and
- Upgrade local capabilities and local technology content

A national strategy adopted in 1982 and periodically reviewed. It sets quantitative targets for energy conservation and renewables share of total energy demand. Although the Ministry of Electricity and Energy is involved in implementing the startegy, the New and Renewable Energy Authority (NREA) has main responsibility to identify and evaluate renewable energy sources and plan for their development.

ESMAP's Work

In 1995, ESMAP completed an Energy Sector Assessment identifying issues retarding the development of renewables. It concluded that in a transition from demonstration to commercialization a review of the national strategy was appropriate and that such a review could develop capabilities, accumulate experience and identify areas where institutional development was required. The present ESMAP study set out to:

- Identify and evaluate technologies with the highest potential to meeting the strategic targets;
- Determine the likelihood of meeting the targets in the light of the assessed potential; and
- Review institutional, technical and policy issues and requirements.

Outcome and Follow-up

First, the study estimated the gross potential based on constraints such as proximity to the grid. Economic constraints were then added to the model and expected reductions in costs by extending the time horizon were calculated. Two discount rates were applied to obtain an estimate of the range of the supply curve. Representative investment projects for promising technologies were developed to check the supply curve estimates, but alternatives to renewables or the impact competitive local market were not analyzed.

The study concluded that few technologies are ready to substitute for conventional gas-based generation technologies. Despite this general conclusion, results indicate that:

- Wind is the most commercially exploitable technology in propitious areas close to the grid;
- Integrated solar thermal and gas power generation systems present a viable option;
- Solar thermal heating has proven most successful.

Conclusion

Continued efforts to develop renewable energy technologies are appropriate, but the economic cost to achieve renewables targets is high. An upward revision in fossil energy reserves has weakened the rationale for renewables, and gas remains the fuel of choice in power system expansion plans. The targets will not be easily met without a mechanism to reduce the burden on consumers. The study also noted that some revision in institutional arrangements were required as renewables progress from research to development to commercialization., and NREA could become an effective "commercializer" of emerging technologies.

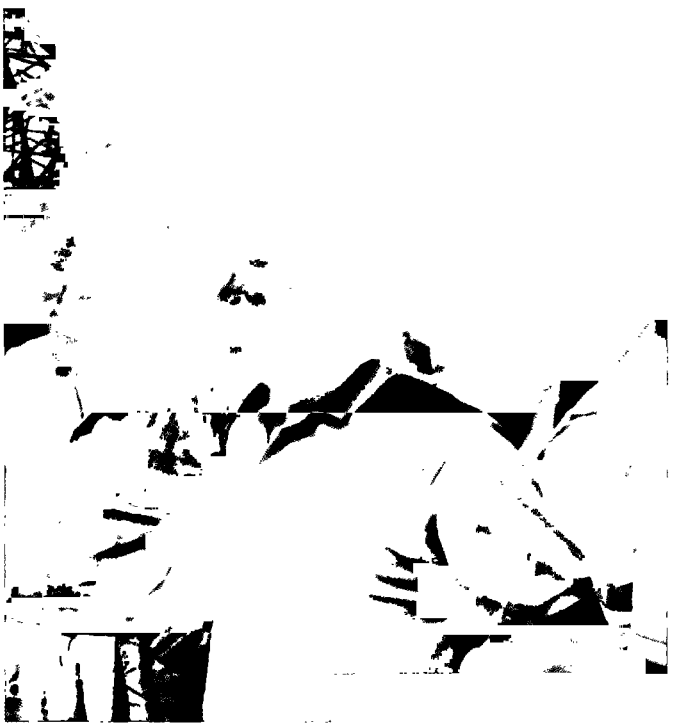
Governance and Management

The Consultative Group

The Governance structure of ESMAP includes a Consultative Group (CG) composed of representatives of donors and members "at large" from the regions receiving ESMAP assistance. Since July 1997, the CG has been chaired by Richard Stern, Vice President of the World Bank, and a former Director of its Industry and Energy Department. The two members "at large" representing developing and transition economies are Mr. Rufino Boomasang, presently President & CEO of PNOC the National Petroleum Exploration Corporation of the Philippines, who has served on the CG since November 1997, and Mr. Kethane Sithole of Botswana who joined the CG in April 1999. Mr. Sithole, the Chief Executive Officer of the Botswana Power Corporation, has had a long career with the Corporation which he joined in 1978 as a graduate engineer. In addition to rising rapidly through the ranks of the Corporation, heading various departments until his current appointment in 1992, he was seconded to the North Eastern Electricity Board in the United Kingdom in 1980-1981. During this secondment he also worked in the East Northumberland Engineering District. Mr. Sithole graduated with a B.S. (Hon) degree in Electronics and Electrical Engineering form the University of Ile-Ife, Nigeria. He is a Fellow of the Institute of Electrical Engineers (United Kingdom), a Senior Member of the South African Institute of Electrical Engineers, an Executive Member of the South African National CIGRE Committee, an Executive Committee Member of the Southern African Power Pool and Vice Chairman of the World Energy Council Executive Assembly representing the African Continent.

The CG Roundtable and Annual meeting were held on April 12-13, 1999, at the World Bank's headquarters in Washington D.C. The CG reviewed the progress made with the implementation of the ESMAP strategy approved at the previous annual meeting of the CG. It supported re-centering the Programme, as proposed by ESMAP management on finding solutions to bring energy services to the poor. The CG also re-emphasized a three-prong approach with focus on energy access, sector reforms and energy environmental linkages. It was underlined that ESMAP should become a leading force to better address economic and social development issues in the energy sector. It was stated that ESMAP should increase its effort in helping build local capacities in recipient countries. In short, it was recommended that ESMAP be more strategic, more able to provide innovative approaches with a broad potential to be replicated. It also recommended that ESMAP be more active in disseminating its lessons of experience, and more vigorous in devising new partnerships.

The CG welcomed a 1999-2001 Business Plan prepared by the management of ESMAP and broadly endorsed it. The CG called for an in-depth discussion on the Business Plan at the earliest opportunity. The CG members emphasized that Africa should remain a geographic priority, recognized how critical social issues are in the efforts towards poverty alleviation, and endorsed the intention of ESMAP's management to address gender issues more forcefully. The CG also fully supported a proposal to expand ESMAP's dissemination of its knowledge



to a broader range of constituents. With respect to the capacity to carry out the proposed Business Plan, concerns for mobilizing core funding and for increasing the overall resources were acknowledged. The CG noted with satisfaction the close collaboration between ESMAP and UNDP on a number of individual activities during the last year and encouraged the consolidation of this collaboration.

Following up on the agenda of the annual meeting, an informal CG meeting was held on November 14-15, 1999 in The Hague, The Netherlands to deepen the discussion on ESMAP strategy and Business Plan. In particular, donors discussed the comparative advantages and relevance of ESMAP with respect to their own programs and priorities. The World Bank highlighted how ESMAP is a significant asset in implementing the Comprehensive Development Framework (CDF), while several bilateral donors explained how the Programme meets their concern for poverty alleviation and economic development. Several donors stressed that, given the prominence of environmental issues on the international political scene, a more precise definition of ESMAP activities in relation to global environmental issues would strengthen the political support ESMAP needs. The donors also had the opportunity to hear from other energy organizations and programs, such as the World Energy Council (WEC), the Shell Foundation or the E7 Network of Expertise for the Global Environment (E7) how they view ESMAP and an expansion its partnerships.

A consensus emerged that ESMAP is a unique program: it is global; it can rely on the expertise of several hundred energy and other specialists; it is genuinely multi-thematic with the potential to cover the entire field of energy and environment issues; it has a strong governance with its Consultative Group and Technical Advisory Group; and benefits from a group of donors who have been working together for many years. It was recognized that ESMAP has the potential to further extend its network with the participation of other energy organizations and private sector foundations.

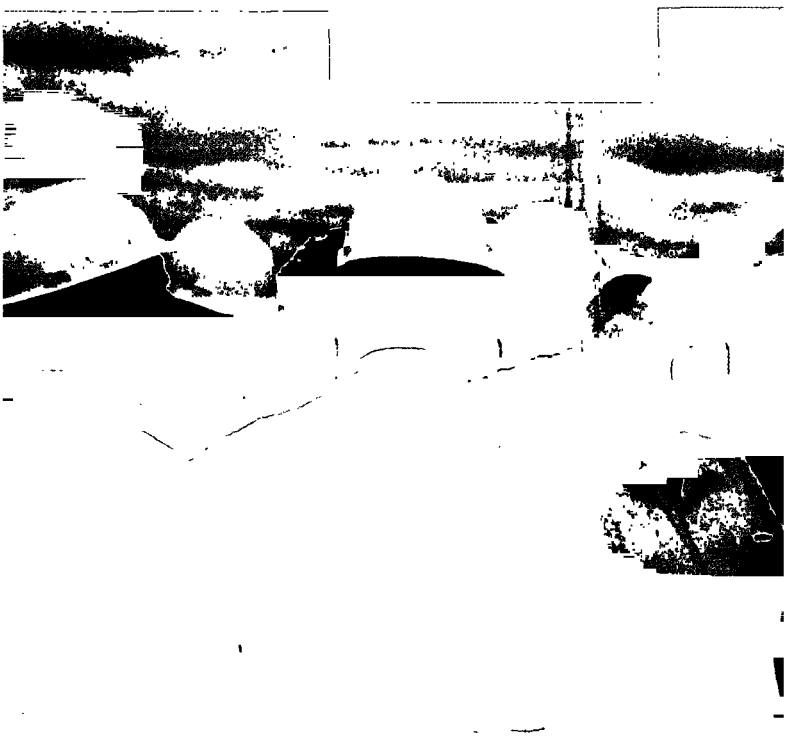
The Final Communiqué of the April 1999 CG is attached as Annex 1. Summary Proceedings of the November Meeting are attached as Annex 2.

The Technical Advisory Group

The Technical Advisory Group (TAG) comprised four members in 1999. The TAG's operate under a mandate from the CG which also approves the terms of reference for the TAG. The line authority of the TAG is exercised through the Chair of the CG. The TAG focuses on ESMAP's vision and strategic direction to advise the CG and the management of ESMAP, notably on processes for project selection and monitoring to assure donors that the portfolio composition reflects the agreed strategy. The TAG also reviews selected activities to draw lessons from past operations and advises on the impact and efficiency of ESMAP.

Two changes affected the composition of the TAG in 1999:

- Dr Andrew Barnett relinquished his responsibility as Acting Moderator in April 1999, when the appointment of the new Moderator, Mr. Alfredo Mirkin, became effective. During his tenure, Dr Barnett worked with outstanding dedication, and brought effectiveness and intellectual leadership during the transition period.



- Mr. Alfredo Mirkin assumed his responsibilities as Moderator after the April 1999 meeting of the CG. Mr. Mirkin was one of the leaders of the transformation of the energy market of Argentina during the 1990's. He has had a very prestigious career in the energy sector. Upon graduation from the School of Engineering of the Buenos Aires Federal University he worked with Agua y Energia Eléctrica, the former state run bundled utility, where he rose through the ranks of management. Later on, he became Vice President and then President of CAMMESA, the wholesale power market management company in Agentina. In August 1996 he was appointed First Secretary of Energy, a position he

held until December 1998. During his tenure, he spearheaded the process of market reforms, including the privatization of the gas sector. He is now a senior partner in Mercados Energeticos S.A. a consulting firm, and consults internationally.

The TAG met on five occasions in 1999. The first meeting was in January 1999 in Bolivia, for a week-long evaluation of the Bolivia Program where the TAG was joined by the Chairman of the CG, by representatives from the two sponsors of the Programme—the UNDP and the World Bank–and by senior ESMAP staff. Preliminary findings from the evaluation were discussed at a meeting of the

TAG with the participation of Ing. Herbert Muller, Minister of Finance of Bolivia, who, as former Minister of Energy and Moderator of the TAG had invaluable insights on the design and execution of the Bolivia program. Ing. Mueller provided also most useful reflections and an historical perspective on links between the ESMAP program and the Comprehensive Development Framework (CDF) pioneered in Bolivia. The TAG also visited several development projects and had discussion with local organizations on issues ESMAP is addressing, such as the liberalization of the energy sector or energy efficiency in enterprises. A TAG Report on the evaluation was issued along the TAG Annual Report for the April 1999 Donor Meeting.

In April and September 1999, the TAG met at the World Bank's headquarters in Washington D.C. The April meeting focussed on the preparations of the CG, and the TAG work program for the rest of the year, the September meeting reviewed ESMAP's comparative advantage in relation to other externally funded energy programs managed by the World Bank, namely the Asia Alternative Energy Program (ASTAE), the Africa Rural and Renewable Energy Initiative (AFRREI), and the Africa Regional Program for the Traditional Energy Sector (RPTES). The TAG also initiated the evaluation of solar development projects in Africa, and of regional energy market development experience. These two evaluations were to be carried out in FY2000. The TAG also assessed the results of the selection process and of the changing composition of the portfolio in relation to the agreed strategy.

In June 1999, the TAG met in Paris for an informal meeting with the ESMAP manager to take stock of progress and discuss the terms of reference for the proposed evaluations. Finally, in November 1999, the TAG met in The Hague, The Netherlands, just before the ad-hoc donors' meeting. At its meeting in The Hague, the TAG focused on the funding strategy for ESMAP.

In addition to meetings, members of the TAG, individually and collectively, maintained frequent contacts with the ESMAP management team, and met with several task managers, providing advice and guidance. Dr. Andrew Barnett completed an evaluation of ESMAP Projects for renewable energy published in November 1999, and Mr. Jan Moen prepared a separate report on the lessons from the Bolivia experience with energy market reforms. This report was expected to be published in April 2000.

ESMAP Management, Staffing and Procedures

Management and Staffing. The year 1999 was a year of consolidation in the managerial changes, operations, and administration of the Programme which were initiated in 1998. Changes in the management and administrative team, were in line with the need for efficiency gains and associated with the introduction of various management tools. These changes brought in increased technical competencies within the team to improve on the monitoring of the portfolio and expand the Program's dissemination activities. A new operations officer joined the team in

November 1999, and an operations coordinator was recruited and was expected to join in January 2000. The program continues to rely on an increasingly diversified group of energy and other experts from the World Bank Group who serve as project task managers or provide technical guidance to the projects. Strong ties were established with the environment practice of the World Bank, as well as with other trust-funded programs such as ASTAE, AFFREI and RPTES in the Energy Sector, and the Public-Private Advisory Investment Facility (PPIAF) in the Private Sector Development group of the World Bank.

Procedures. Two calls for proposals were processed in 1999. A total of 39 proposals were received and evaluated, 12 were accepted for funding often with significant adjustment to the original proposal, 14 were rejected and 13 were returned to their proponents for further clairifications before a funding decision. Drawing on lessons from the first call for proposals in 1998, ESMAP management simplified the procedure, asking first for a simplified proposal, including a table summarizing the proposal under the Logical Framework (LogFrame) methodology. Simplified proposals were evaluated by a Selection Panel composed of ESMAP management, and senior energy experts from the UNDP and the World Bank. Proposals retained were then fully developed by the proponents and prospective task managers, taking into account the recommendations of the Selection Panel. A one-month time period was allocated to submit proposals, and full feedback was given to proponents on the discussions and recommendations of the Selection Panel two weeks after the panel met.

This simplified procedures reduced the time task managers spent writing proposals and allowed a greater emphasis on the substantial content of the projects. Although progress was noticeable, the methodology was not universally mastered by Bank staff and additional training was periodically offered to prospective task managers. The Logical Framework proved to be a particularly effective tool for the monitoring of program implementation. As specific performance indicators were defined at the beginning of each project, ESMAP's management was able to enter into a more constructive dialogue with individual task managers when assessing project merits at design stage or when reviewing implementation progress. When necessary, as in the case of the Nile River Basin Project, adjustments were made to the implementation plan and to the project budget. However, much work remains to be done to define better performance indicators, in particular on the Programme's overall development effectiveness.

Monitoring of Implementation. As already indicated, the LogFrame approach adopted by ESMAP in 1998 aims at facilitating more rigorous project design and monitoring. It establishes links between goals, objectives, outcomes and inputs with verifiable indicators and specifications of the assumptions that underline these relationships. Steps have been taken to adapt the LogFrame methodology to ESMAP needs, as well as provide guidance and training to all current and prospective task managers.

ESMAP's Purpose and Approach paper define diverse and cross-disciplinary objectives and activities for the Programme and enunciate regional and thematic priority areas. Monitoring and evaluation methodologies depend on well developed indicators based on the framework of the Programme. These indicators must provide a basis for ex-ante and ex-post analyses and describe the effects (positive and negative) of program and project interventions, anticipated and unanticipated; intended and unintended results. They fall broadly into four categories:

- Program and project implementation. The delivery of technical services, operating funds and capital inputs with related disbursements and resulting outputs (facilities created, activities and participatory processes organized, etc.);
- Institutional change demonstrating capacity development, attitudinal awareness shifts, and policy re-orientations;
- Socioeconomic conditions which bring out the consequences of project interventions; and
- Specific indicators (e.g. environmental impact) which demonstrates the environmental achievements.

Financial Review

Funding

Despite a stagnation in additional financial receipts from donors, ESMAP was able to sustain an increasing level of activity in 1999. At the end of the fiscal year unallocated resources in ESMAP trust funds were insufficient to fulfill funding decisions on ongoing projects. Expected resources from existing agreements with donors, however, more than cover ESMAP commitments to support ongoing projects. Additional funding allocations are made to such projects as their implementation progresses, and as additional funds are received from donors. For the coming years, the reduction in the level of overall financial transfers from donors recorded in 1999 may not be sufficient to sustain the implementation of the ESMAP Business Plan 1999-2001. As a result, ESMAP financial base needs to be considerably strengthened, with increased support from existing and new donors.

Contributions Received

ESMAP receipts from its donors totaled some $4.5 million in 1999. This figure marked a decrease of about 55% compared to 1998. It reflected the absence of new country programs, or of exceptionally large projects, such as those started in 1997 and 1998 which, to a certain extent, distorted the overall size of the Programme. This decrease was also in part a consequence of stricter cash management, as requested by donors, avoiding that large sums from donor contributions be kept in trust funds for relatively long periods of time before they were committed and disbursed. In 1999, nine donors, in addition to the World Bank and the UNDP made cash transfers to the Programme through trust funds. The World Bank's contribution of $1.2 million decreased from the 1998 level of $1.4 million, reflecting efficiency gains in the program management (staff reduction and introduction of new management tools). The World Bank's share of total contributions, however, increased from 17% in 1998 to more than 25% in 1999, well above the objective of 20% generally expected from ESMAP's main sponsor. Table 6 shows actual receipts by individual donors for the period 1997-1999.

New Donors

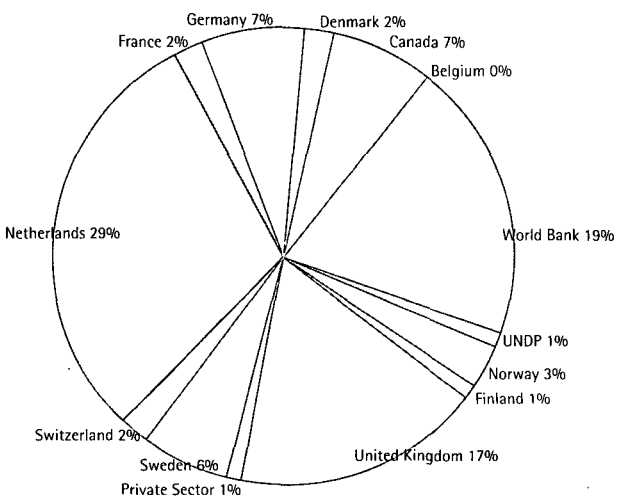
ESMAP management was able to pursue new opportunities to involve interested partners notably from the private sector. Three new donors joined the Programme during the year: Enron International, from the United States; Siemens AG, from Germany, and Polskie Gornictwo Naftowe i Gazonictwo S.A. (PGNiG), from Poland. Contributions from the non-government donors were applied to ESMAP's core funds in order to avoid any possible conflict of interest. It must be noted that PGNiG, a government-owned gas company, had worked and continue to work closely with ESMAP as a recipient of its technical assistance. PGNiG thus marked its appreciation for this assistance by becoming a donor, the first such case from an organization from a recipient country. Promising new contacts were initiated in 1999 with potential donors, including foundations. Discussions with other donors, notably the United States, continued to explore possibilities of partnerships adapted to these donors requirement, including co-financing. Fund raising efforts will continue in the coming year with the objective of mobilizing the resources needed to implement ESMAP Business Plan 1999-2001

Funding Categories

ESMAP receives four main types of funding with varying degrees of conditions on the use of the funds prescribed by donors:

- Unrestricted funds are identified as core funding. They may be applied at the Program Manager's discretion to any project or activity of the Program.
- Thematic funding, the second category, can be applied only to projects addressing a particular thematic area such as renewable energy, or environment.

Figure 9 ESMAP Receipts 1997-1999



- Regional or country program funding is restricted to activities of a specific country or group of countries, requiring prior authorization from donors.
- Finally, project funding is received from donors only after submission and approval by the donor of a specific project proposal. Corresponding funds may be used only for the specific approved projects.

The flexibility offered by core funding allows ESMAP to better implement its strategy and business plan and, in particular, to respond to opportunities or urgent needs as they arise. Core funding is also used to extract lessons of experience across the entire program in order to ensure that best practices are made available to the energy development community. In terms of administrative efficiency, both core and thematic funding allow ESMAP to deploy funds to projects flexibly without additional burden to ESMAP or the donor. Project funding is generally linked to executing and monitoring tedious administrative conditions. The transaction costs such project funding tend to be higher than average.

Core and Thematic Funding

In 1999, core contributions from donors other than the World Bank and UNDP totaled $2.0 million, compared to $1.6 million in 1997. This was an encouraging development which seems to indicate growing support from several donors, despite the overall reduction in total receipts. As in previous years, contribution from the World Bank and from UNDP are considered as core, since they are not linked to any specific project. Including these, core contribution totaled about $3.2 million, or over 70% of total receipts. Germany, Finland, Denmark, Norway and the new donors–ENRON International, Siemens AG and PGNiG–provided their entire ESMAP contribution as core funding. Sweden and the United Kingdom provided core funding along with project-specific funding carrying restrictions on the use of their contributions in certain recipient countries. Other donors provided either thematic funding or project funding.

Thematic contributions decreased in 1999 to $413,000 from $1.3 million, partly because of the more restrictive cash management policy referred to above. Total core and thematic contributions, excluding contributions from the World Bank and the UNDP, for 1997-1999 are shown in Table 7. Table 8 shows all contributions received in 1999 by type of funding.

Project Funding

Project specific funding totaled $849,000, or 19% of the total funds received in 1999. In 2000 ESMAP is expecting

Table 6 ESMAP Receipts, 1997-1999

Donor	1997	1998	1999	Total	Of which Core Funding	Percentage of Total Receipts	Core
		(US$ '000)					
UNDP	0.0	112.0	120.0	232.0	212.0	1.1	2
World Bank	1,600.0	1,400.0	1,172.0	4,172.0	4,172.0	19.8	42
Belgium	0.0	0.0	0.0	0.0	0.0	0.0	0
Canada	732.4	255.3	536.7	1,524.4	0.0	7.2	0
Germany	566.4	603.6	359.8	1,529.8	1,529.8	7.3	15
Finland	0.0	91.5	90.0	181.5	181.5	0.9	2
Netherlands	2,284.0	3,536.9	413.1	6,234.0	0.0	29.6	0
Denmark	392.8	0.0	0.0	392.8	392.8	1.9	4
Norway	0.0	0.0	643.1	643.1	643.1	3.1	6
Switzerland	0.0	507.8	0.0	507.8	0.0	2.4	0
Sweden	633.6	302.3	398.8	1,334.7	511.3	6.3	5
France	518.6	0.0	0.0	518.6	0.0	2.5	0
United Kingdom	1,623.2	1,401.7	587.0	3,611.9	2,065.4	17.1	21
Private Sector	0.0	0.0	190.0	190.0	190.0	0.9	2
Total	8,351.0	8,211.1	4,510.5	21,072.6	9,897.9	100.0	100

Table 7 Core and Thematic Funding - Donor Contributions, 1997-1999

Year	Donor Contributions [a] ($m)	of which, Core ($m)	of which, Core plus Thematic ($m)	Core as % of Total Donor Contributions (%)	Core plus Thematic as part of Total Donor Contributions (%)
1997	6.80	1.65	2.35	24.3%	34.6%
1998	6.80	1.61	2.95	23.7%	43.4%
1999	3.22	1.96	2.37	60.9%	73.6%
Total	16.8	5.2	7.7	31.0%	45.6%

a/ Does not include World Bank and UNDP contributions.

Table 8 Receipts by Type of Funding in 1999

	Amount (million US$)
WB Contribution	1.172
UNDP	0.120
Core	1.956
Thematic	0.413
Project	0.849
Country Program	0
Total	4.510

the final tranches in the amount of $135,000 for two projects namely: the *Refining Industry in LAC: Sector and Fuel Quality Improvement and Bolivia Training Program for Key Group Representatives from Indigenous People Regional Organizations* funded by CIDA (Canada). It is unlikely that in the foreseeable fuxture core and thematic funding will be sufficient to meet the demand for funding ESMAP projects. Additional funding will continue to be mobilized from donors, on a case by case basis, for promising projects after they reached the necessary stage in the evaluation process.

Expenditures

Expenditures in 1999 totaled $6.05 million, a decrease of $445,000 from the $6.5 million recorded in 1998 (see Table 9). However, this reduction did not affect expenditures on direct costs of projects for which an increase of $295,000 was recorded, in line with the increasing number of activities launched during the year. Furthermore, the introduction of a new accounting and management system on July 1, 1999 at the World Bank seems to have led to noticeable delays in recording actual commitments and disbursements for ESMAP projects. These delays are most likely affecting the actual financial situation of the Programme at the end of the fiscal year and the level of expenses during the year. Figures in Table 9 reflect the most up-to date data generated by the World Bank information system as of December 31, 1999, but direct reports from a number of task managers of ESMAP projects seem to indicate that actual disbursement figure may be considerably more than those indi-

Table 9 ESMAP Expenses, 1997 – 1999 (thousands US$)

	1997	1998	1999
Project Costs	6,352	4,764	5,059
Work Program Development	-	-	115
Program Management [1]	2,118	1,588	557
Knowledge Dissemination	-	-	49
Governance	73	146	270
of which TAG	61	125	135
of which CG [2]	12	21	135
Total	8,543	6,498	6,050
of which funded by Donors	6,943	4,986	4,821
of which funded from World Bank budget	1,600	1,400	1,172
of which funded by the UNDP		112	120

[1] Includes work program development and dissemination for 1997 and 1998

[2] Some expenses related to the CG and its Annual Meeting were reported under program management in 1997 and 1998

cated below. ESMAP management reckons that disbursement figures may be underestimated by as much as 20% to 30%. As a consequence, it is expected that disbursement figures will increase significantly in 2000 as the delay in recording actual expenses is reduced. At the end of the transition period it is expected that the timeliness, comprehensiveness and accuracy of operational data and financial information on ESMAP projects will be considerably improved. The next ESMAP Annual Report would fully reflect these improvements.

Funding New Projects

During the year, ESMAP approved 52 new projects with a cumulative cost of $20.0 million. Out of this total cost, ESMAP had agreed to provide funding for a total of $12.7 million. From this amount, some $9.0 million had been firmly committed by ESMAP during the year. An additional $3.7 million still need to be mobilized during the next fiscal year from resources existing in trust funds or from new resources. Only part of this financial requirement was covered by funds in existing trust funds at the end of the year, which amounted to $502,000 in core and $1.6 million in restricted resources.

Cash Balance

Cash balances in ESMAP trust funds and UNDP accounts on December 31, 1999 amounted to $13.1 million dollars (of which $627,279 in UNDP accounts), compared to $14.9 million at the end of 1998 (of which $1.4 million in UNDP accounts). This reduction reflects for one part the difference between funds received in trust funds during the fiscal year and expenses paid out of trust funds during the same period. It also reflects, for another part the appreciation of the United States dollar during the year which affected negatively the balance in trust funds maintained in currencies other than US dollars.

List of Abbreviations and Acronyms

AFR	Sub-Saharan Africa
AFRREI	Africa Rural and Renewable Energy Initiative
ASTAE	Asia Alternative Energy Program
B.Sc	Bachelor of Science
CAMMESA	Wholesale power market management company (Argentina)
CDF	Comprehensive Development Framework
CEE	Central and Eastern Europe
CIDA	Canadian International Development Agency
CIGRE	Conseil International pour les Grands Réseaux Electriques
CG	Consultative Group
CHP	Combined Heat and Power
CNG	Compressed Natural Gas
DFID	Department for International Development (DFID)
DH	District Heating
DSM	Demand Side Management
E7	E7 Network of Expertise for the Global Environment
EAP	East Asia and Pacific
ECA	Europe and Central Asia
EER	Energy Environment Review
ELCO	Energy service company (Kenya)
ESCO	Energy Services Company
ESMAP	Energy Sector Management Assistance Programme
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Facility
IFC	International Finance Corporation (World Bank Group)
IQ	Intelligence Quotient
kW	Kilowatt
kWh	Kilowatt per hour
LAC	Latin America and the Caribbeans
LogFrame	Logical Framework
MNA	Middle East and North Africa
LPG	Liquefied Petroleum Gas
NGO	Non-Governmental Organization
NREA	New and Renewable Energy Authority (Egypt)
PGNiG	Polskie Gornictwo Naftowe i Gazonictwo S.A.
PNOC	National Petroleum Exploration Corporation of the Philippines
PPIAF	Public-Private Investment Advisory Facility
RPTES	Africa Regional Program for the Traditional Energy Sector
SAP	Systems Applications Products
SAPP	Southern Africa Power Pool
SIDA	Swedish International Development Authority
TAG	Technical Advisory Group
UEB	Uganda Electricity Board
UNDP	United Nations Development Programme
URE	Energy Regulatory Authority (Poland)
US	United States
WEC	World Energy Council

Annex 1

Final Communiqué

Meeting of The Consultative Group of ESMAP Washington, DC April 12-13 1999

The Eighth Meeting of the Consultative Group (CG) of the Joint UNDP/World Bank Energy Sector Management Assistance Programme (ESMAP) was held at the World Bank in Washington DC on April 13, 1999 under the Chairmanship of Mr. Richard Stern, Vice President of the World Bank.

As in previous years, the meeting of the Consultative Group followed the ESMAP Donor's Roundtable on Energy for Development on April 12, also in Washington DC. The theme of this year's Roundtable was 'The Challenge of Delivering Energy Services to the Poor'. It included four sessions with presentations by and discussions between ESMAP Donors, recipients of ESMAP assistance, and ESMAP Task Managers.

The first session of the Roundtable focused on energy market development. It examined the limited progress of energy sector reform in developing countries and the need to continue efforts in this area to facilitate and broaden energy access.

The second session considered the linkages between energy and the environment; in particular, it discussed environment and social issues to be considered for the delivery of sustainable energy services.

The third session focused on mechanisms to improve energy access for the poor and reminded that the poor spend up to 20% of their resources on energy. The perennial question of subsidies was also discussed. It was noted that subsidies rarely reach the poor for whom they are intended, and whether smarter ways to deliver subsidies to their intended beneficiaries could be developed is a question for further analysis.

Trying to draw conclusions for ESMAP future tasks, the last session of the Roundtable proposed that the Programme re-emphasize its approach with focus on energy access, sector reforms and energy environmental linkages. It was also emphasized that ESMAP should realize its potential and become a leading force in the energy sector to better address economic and social development issues. It was stated that ESMAP should increase its effort in helping build local capacities in recipient countries. In short, it was recommended that ESMAP be more strategic, more able to provide innovative approaches capable of being broadly replicated, more active in disseminating its lessons of experience, and more vigorous in devising new partnerships.

During the formal meeting of the CG on April 13, ESMAP operations in 1998 and a proposed Business Plan for 1999 and 2000 were discussed. The CG received several reports by the ESMAP Technical Advisory Group (TAG), notably on ESMAP activities in Bolivia over the last few years and a review of ESMAP work on renewable energy since 1993. The TAG stated that the Programme is generally in good health and carrying out a well refocused portfolio. The TAG also estimated that a special effort should be made to disseminate ESMAP's wealth of knowledge, which in turn would help clarify ESMAP's comparative advantage with respects to other programs in the energy sector.

Concerning the ESMAP Bolivia Programme, the TAG expressed the view that greater attention should have been paid to the dissemination of lessons learned and to the coordination with other development activities, including those supported by the World Bank.

After reviewing ESMAP's renewable energy activities, the TAG suggested that ESMAP performed an honorable role in keeping the issue of biomass and energy poverty on the World Bank's agenda. The review also emphasized that ESMAP's clients do not wish to be restricted in their choice, and should have access to renewables as part of a full menu of technology-neutral energy solutions. It concluded that there is evidence that when ESMAP renewable activities were successful it was not because of a particular technology, but rather because they offered decentralized and diversified energy services.

The CG welcomed Mr. Kitane Sithole from Bostwana as its new 'At Large' member, and Mr. Alfredo Mirkin, as the new Moderator of the TAG. The CG thanked the TAG and ESMAP management for the work accomplished last year and for the Business Plan prepared for 1999 and 2000. Improving access to energy services for the urban and rural poor, including through household energy activities, is expected to continue to be

the overarching objective of ESMAP. The CG welcomed the Business Plan and broadly endorsed it. It also emphasized that Africa should remain an ESMAP geographic priority, recognized how critical social issues are in the efforts towards poverty alleviation, and endorsed the intention of ESMAP's management to address gender issues more forcefully. The CG fully supported the proposal to strengthen ESMAP's dissemination of its knowledge to all ESMAP constituents. With respect to the capacity to carry out the proposed Business Plan, the ongoing concerns for more core funding and for increasing the overall resources were recognized as well as the need to further clarify several items of the Business Plan. The CG noted with pleasure the close collaboration between ESMAP and UNDP on a number of individual activities during the last year and encouraged the consolidation of this collaboration.

In addition to the co-sponsors of the Programme – the UNDP and the World Bank – the following donors were represented at the Consultative Group: Canada, Denmark, Finland, France, Germany, the Netherlands, Norway, Sweden and the United Kingdom.

The Consultative Group will reconvene in about one year.

Annex 2

Summary Proceedings

Interim Meeting of The Consultative Group of ESMAP
The Hague, November 15-16, 1999

An interim meeting of the Consultative Group (CG) of ESMAP was held on November 15 and 16, 1999 at Hotel Sofitel in The Hague, The Netherlands, under the Chairmanship of Mr. Richard Stern, Vice President of the World Bank.

In his introductory remarks the Chairman noted that ESMAP, which has become a more coherent program over the last few years has a real opportunity to grow. At a time the World Bank is realigning its operations, it is vital for ESMAP, he stated, to operate within the Comprehensive Development Framework. He noted that technical assistance has a generally spotty record because it is much more difficult than straightforward investment projects. Very often, coherence is lacking in the approach of the numerous donors providing this technical assistance, which exacerbates a lack of ownership on the part of the intended beneficiaries. Furthermore, he noted that energy programs often run the risk of being captured by groups with narrow agenda, whereas energy programs should be serving the broader agenda of poverty alleviation and economic development. He also remarked that ESMAP has a series of attributes which make it different from many other programs: it is global; it can rely on the expertise of several hundred energy and other specialists around the World Bank Group; it is genuinely multi-thematic with the potential to cover the entire field of energy and environment issues; it has a strong governance with its Consultative Group and Technical Advisory Group and a group of donors who have been working together for many years; and it has the potential to further extend its network with the participation of other energy organizations, foundations and the private sector. He offered to discuss the possibility for ESMAP to become a professional secretariat to exchange and disseminate information on donors' energy programs and respective priorities, and to test their coherence.

The meeting was organized in two main parts. The first part focused on ESMAP partnerships and strategic priorities. The second part discussed ESMAP current work program and revised business plan for the period 1999-2001, with particular emphasis on two main topics: energy market development and access to energy services; and the sustainability of energy services and linkages between energy and environment issues.

ESMAP Partnership and Strategic Priorities

ESMAP partners, such as the European Union, the E7 Network of Expertise (E7), the World Energy Council (WEC), the Sustainable Energy Program (SEP) of the Shell Foundation, the International Energy Agency (IEA) and Siemens AG presented their objectives and activities. They broadly confirmed the convergence of their own objectives with those of ESMAP, and the complementarity between ESMAP and their own programs. The representative of the E7 indicated that under the existing memorandum of understanding between ESMAP and the E7, there are opportunities to conduct joint studies or organize workshops. Similarly, the representative from WEC informed the CG of new major studies undertaken by WEC and of the regional priorities in preparation of the next WEC World Congress in 2001. She noted the convergence between ESMAP and WEC and offered to strengthen the coordination on dissemination of lessons. For the representative from Siemens, ESMAP is a useful mechanism to discuss policy reform, training and technology transfer. It is also a forum facilitating the discussion with key stakeholders, as well as the identification of projects and financing intermediation. The representative from SEP noted that for newcomers in the energy and development circle it was difficult to know the key players and their interactions. It was suggested that ESMAP could serve as an intermediary to inform on the achievements of development organizations in the energy and environment areas and help identify key actors.

The representative of the UNDP updated the CG on the recent changes in leadership at UNDP and the subsequent review of UNDP priorities. A transition team appointed by the new Administrator of the UNDP has proposed to focus on governance issues. One major concern of UNDP at this stage is to reduce the transaction costs incurred in its partnerships. It was stressed that the cooperation with ESMAP management team had increased significantly over the last few years. The UN Foundation is allocating some $10 million a year for energy and environment activities, but the transaction costs for utilizing these funds are still relatively high. Overall,

from an UNDP perspective, trends in financing are not encouraging and ESMAP must adapt to changing times. It was also suggested by the UNDP representative that the CG provides the Technical Advisory Group (TAG)—which serves as an interface between the CG and the management of the Programme on strategic issues—with clearer guidelines so that, in turn, UNDP could strengthen its support of the Programme. He proposed that UNDP and ESMAP management explore how to renew their partnership in the face of UNDP new priorities.

The Head of the World Bank's Sector Board reiterated the World Bank's commitment to energy development as an important enabler of economic development, and because energy related activities have major macroeconomic and environmental implications. He stated that the energy world is changing. In the future, he stated, the provision of energy services will be private, distributed, competitive, and socially and environmentally responsible. He summarized the organization and complementary activities of externally funded energy programs hosted by the World Bank, including ESMAP, ASTAE, AFRREI and RPTES. The complementarity between these programs was also later discussed in details by the manager of the World Bank energy operations in Africa—who reminded the CG of the dismal conditions of the region with 500 million people still without access to modern energy–and by the managers of the ASTAE and AFRREI programs. It was stressed that ESMAP had been focusing on issues upstream from lending operations while other programs paid more attention to bringing new types of energy operations, through innovative approaches, into the World Bank lending portfolio.

The manager of the AFRREI program mentioned topics which could be looked at jointly with ESMAP, such as the design of regulations for small decentralized power systems. Another topic would be the design of intermediation mechanisms for "smart subsidies". Such issues are of interest for many developing countries and would also directly support the preparation of energy operations in Africa geared at improving economic conditions in the region's rural areas. The Head of the Sector Board for energy stressed that ESMAP and other energy programs have in the past facilitated new investments and been useful in many other respects to bilateral donors, private energy investors and the World Bank itself where, over the years, these programs helped sharpen the approach on energy issues. He expressed the view that the World Bank now needed to coordinate these programs better, and disseminate their lessons more effectively. He announced that an external review of these energy programs will be conducted in the next few months. He also proposed that donors move away from encouraging competition between these programs–which may hamper their expected complementarity—and from "bilaterazing" their contributions by attaching too many conditions rending such contributions very hard to use.

Several delegates, notably the delegate from Sweden, noted that energy–possibly because of relatively low world energy prices–is no longer seen as a priority on the development agenda. It was felt that energy will remain on the development agenda only to the extent that it is perceived as essential to advance other topics of higher priority: poverty alleviation, gender issues, and environment issues. This perception was shared by the delegate from Denmark who also insisted that access to energy should remain the overarching objective of the Programme. The delegate from the United Kingdom suggested that donors move away from energy "projects" and consider energy issues as but one component of a sustainable livelihood approach to development and poverty reduction. It was recognized that the new business plan of ESMAP responds to this requirement, which should make it easier for donors to support the Programme.

Concerning the work accomplished on power sector reform, and reflecting on a recent experience in India, a delegate from the UK stressed the importance of going deeper on practical issues faced on a day to day basis by regulators in developing countries. Power reform is important as a development "enabler" and in India, he remarked, the reduction of the drain on the government budget from the power sector–thus enabling the government to fund poverty focused programs in primary health, primary education and other social sector–was the main driver for power sector reform. He also encouraged ESMAP to work more closely with the Public-Private Infrastructure Advisory Facility (PPIAF) recently established. The delegate from France noted that the question of the development of regional energy markets still needed to be clarified, and all stakeholders—public and privates—should be associated in the discussion. A member of the TAG remarked that there is still need to work on the impact of sector reform on the poor. Another TAG member noted that the issue was complex, and that there

was also a need to look at original experiences such as the provision of modern energy services in exchange of labor.

A delegate from The Netherlands confirmed that while development assistance funds for energy programs are shrinking, funds to advance global climate change issues are abundant, reflecting a major change in political priorities of donor countries. But, it was further remarked, climate change issues are essentially energy issues and ESMAP and other energy programs should be more proactive in tackling these issues notably by helping build the capacity of developing countries to take part in climate change negotiation and benefit from the new mitigation mechanisms which are being introduced. Later in the discussion, the manager of the AFRREI program confirmed that there was a considerable demand in Africa for capacity building on climate change issues. It was pointed out that if energy specialists and energy programs do not address this problem, it will most certainly be addressed by other whose agenda may be narrower. In subsequent discussions it was agreed that the Netherlands will propose to the next meeting of the CG concrete ways for ESMAP to become more actively involved in climate change issues. A member of the TAG suggested that one way for ESMAP to involved itself on these issues would be to look at a methodology to integrate climate change issues into traditional World Bank funded project, following up on a recent retrospective study on the same issue by a World Bank expert (Jan Burton).

Discussing the sustainability of energy services, the delegate from Finland pointed out that, despite a tendency to move away from biomass fuels, fuelwood is still the only fuel available to more than 2 billion people. He noted that, as demonstrated by Sweden and Finland, it is possible to increase a country energy reliance on fuelwood in a sustainable and efficient way, by reaching a situation where fuelwood is "harvested" rather than "mined". In developing countries, he further noted, health problems are associated with the use of fuelwood. These problems should, of course be addressed, but they are not impossible to overcome with existing and relatively simple technologies. He proposed that ESMAP—without being involved in technological development or promotion which is better left to local groups or non-governmental organizations—focuses on the interaction between stakeholders to make the use of fuelwood efficient and sustainable, from tree planting to the dissemination of efficient and safe woodstoves. A member of the TAG remarked that the modernization of bio-mass energy is not happening in Africa. He suggested that ESMAP, as a global program, help disseminate positive experiences from other parts of the world to Africa.

In a discussion on the present status of the internalization of external costs with respect to environmental consequences of energy production, transportation and consumption, it was noted that, while local environment impacts are now relatively easy to assess and remedied upon through a series of taxes, economic incentives or command and control measures, no significant progress had been achieved recently concerning the evaluation of global environment consequences of individual actions. It was noted again that developing countries often lacked the capacity to make the most judicious decisions on energy investments to minimize global, and even local, environment consequences of energy use.

The manager of ESMAP stated that, collectively, the members of the CG have the responsibility to make sure that aid for sustainable energy development stays on the political agenda not because it is a goal in itself, but because it is essential for poverty alleviation. She confirmed that the objective of ESMAP growing partnerships is for continuous knowledge generation and dissemination, and that capacity building can not be overemphasized. She stated that ESMAP was strengthening its complementarity with other energy programs in the World Bank and mentioned that ESMAP should be able to help better disseminate the wealth of lessons accumulated by programs like ASTAE. With respect to PPIAF, she noted that ESMAP was discussing the possibility of co-financing, notably for regulatory work. She proposed that a joint meeting of all energy programs hosted by the World Bank be organized in connection with the next CG meeting in April 2000. She also remarked that there was already a strong cooperation between ESMAP and the environment practice in the World Bank, and that this cooperation was expected to increase significantly with a senior staff and specialist of climate change issues joining ESMAP in January 2000. She expressed the view that there are opportunities to better capitalize on the knowledge existing in and generated by the private sector, notably on end-use energy efficiency. In response to a remark by the representative of the SEP, she agreed that the Programme must better articulate the benefits the private sector can expect in forming partnerships with ESMAP.

Concerning the dissemination of knowledge and

lessons learned, a representative from the Deutsche Gesellschaft für Technishe Zusammenarbeit (GTZ) remarked that such dissemination should be envisaged beyond the mere accumulation of reports and website links. He suggested, notably on issues like energy efficiency, that ESMAP convene a panel of specialists from the development aid community to share their respective knowledge and identify issues that still needed to be addressed. He also suggested to associate bilateral development agencies at an earlier stage to the work undertaken by ESMAP and other programs.

ESMAP Business Plan and Work Program

In presenting the updated ESMAP business plan for 1999-2001, the manager of ESMAP informed the CG that the portfolio of activities had been restructured to better reflect ESMAP strategic themes. The business plan introduces new major components related to energy access, poverty and gender questions; energy/environment reviews and social impact assessments; just in time assistance for energy market development; knowledge dissemination; and innovation. Concerning the dissemination of lessons, she proposed to make better use of technical reports often valuable but in the past frequently discarded, to establish better links with other donors to share information and knowledge resources, and to be more active in identifying specific needs or knowledge gaps. Concerning existing activities, she noted that there is a continuous and growing demand for this type of technical assistance, particularly for just-in-time assistance on market reform and development. She also remarked that some products listed as new, such as energy/environment review are no longer really new and are already generating interesting facts on which ESMAP can improve its effectiveness. In this respect, she welcome the suggestion that The Netherlands propose to ESMAP concrete actions for capacity building on climate change issues.

Concerning the availability of resources, the manager of ESMAP underlined that the business plan was an ambitious one, but that it could not be implemented at the present level of funding. It was reported that since the beginning of the calendar year ESMAP had received some $4.5 million in donor contributions, a reduction of about 50% over the previous year. During the same period it had approved some 39 new projects requiring about $6.8 million in funding, of which $3.7 million still to be identified. With a cash position of $1.3 million, of which more than $700,000 in restricted funding, the ESMAP management must earmark a substantial share of funds to be received in years 2000 and beyond to complete the funding of ongoing projects. To fully meet the objectives of the business plan 1999-2001, it was estimated that ESMAP still needed to mobilize some $1.8 million in 1999, $7.2 million in 2000 and $9.5 million in 2001 beyond donors existing commitments.

Welcoming the updated business plan and its ambitious objectives, donors expressed their continuous support to ESMAP. Several of them warned, however, that because of budget restriction it might be difficult to provide additional resources in the next few years. The management of ESMAP was urged to continue its effort to attract other major donors which are not yet part of ESMAP. In its concluding remarks, the chairman warned that running a program such as ESMAP with a relatively elaborate governance structure may not be reasonable if ESMAP can not mobilize more than $10 million per year over the next few years.

Conclusions

Participants expressed their satisfaction with the quality of the discussion during the meeting which established a consensus on the following topics:

- Dissemination. ESMAP should strengthen its effort for disseminating the lessons from its own work as well as those from other bilateral and multilateral energy program, including through direct on-line access and website links. It should organize an annual symposium focusing on key issues for energy development specialists. It should also prepare a compendium of existing bilateral and multilateral energy programs activities, strengths and experience;
- Climate Change. The Netherlands will propose to ESMAP concrete ways for the Programme to be more actively engaged in building the capacity of developing countries in this area;
- Gender and Social Issues. The CG supports increased actions by ESMAP which correspond to many donors own priorities;
- Coordination. ESMAP should continue to improve its coordination with programs such as ASTAE, AFREEI and RPTES, as well as with PPIAF and the World Bank energy practice. It was agreed that a joint meeting of externally funded energy programs in the World Bank will be organized at the time of the ESMAP CG annual meeting in April 2000 in Washington, DC;

- Professional Secretariat. ESMAP will propose to the CG ways for the program to act as a professional secretariat serving CG members and other key actors in energy for development.

Annex 3

Activities Completed, Launched and Ongoing in 1999

Activities Completed

Region	Project Name	Total Cost (US dollars)	ESMAP Financing	Theme
AFR Region	Gas Initiative - Phase I	768,000	600,000	International Trade
AFR Region	Improving Efficiency of Petroleum Procurement and Dissemination	148,000	100,000	Efficiency
AFR Region	Southern Africa: Development of an Electricity Market	130,000	130,000	International Trade
AFR Region	Southern African Conference on Regional Energy Regulation Cooperation	80,000	80,000	Sector Reform
AFR Region	LPG Options - Phase 1	292,000	100,000	Efficiency
AFR Region	Product Specification Standardization	227,500	80,000	Efficiency
AFR Region	Southern Africa: Renewable Energy for Rural Electrification	94,098	94,098	Renewables
Bolivia	Energy Strategy for Rural Sector	330,000	330,000	Rural & Peri-urban
Bolivia	Assistance to Regulatory Agencies	380,000	380,000	Sector Reform
Bolivia	Renewables for Rural Electrification	85,000	85,000	Rural & Peri-urban
Brazil	Special Initiative on Energy Efficiency	210,000	120,000	Efficiency
Cameroun	Energy Strategy	420,000	420,000	Sector Reform
China	Institutional Strengthening & TA in the Rural Power Sector: Power Efficiency Pilot Study	320,000	320,000	Efficiency
EAP Region	Development of a Regional Electricity Market in the Greater Mekong Sub-region I	140,000	140,000	Efficiency
Global	Review of Status of Energy Sector Reform	150,000	150,000	Sector Reform
Global	Rural Electrification Success Factors - Phase 1	50,000	50,000	Rural & Peri-urban
Global	Carbon Backcasting Study	100,000	100,000	Environment
Global	Financing of Decentralized Rural Electrification	15,000	15,000	Rural & Peri-urban
Global	Energy & Development Report, 1999	300,000	250,000	Sector Reform
Global	Increasing Efficiency of Gas Distribution Networks	150,000	125,000	Efficiency
Global	Lighting Services for the Rural Poor	120,000	120,000	Rural & Peri-urban
India	Overlay - Greenhouse Gas Emissions in the India Power Sector	125,000	60,533	Environment
India	Urban Energy Study	217,000	217,000	Rural & Peri-urban
Kenya	Photovoltaics Financing Mechanisms for Solar Electric Equipment	255,000	255,000	Renewables

Region	Project Name	Total Cost (US dollars)	ESMAP Financing	Theme
Laos	Decentralized Rural Electrification	208,000	208,000	Rural & Peri-urban
LAC Region	Socio-Environmental Issues & Options	130,000	130,000	Environment
Morocco	Gas Development Plan - Phase 2	525,407	525,407	Sector Reform
Pakistan	Energy Efficiency TA to ENERCON	300,000	280,000	Efficiency
Peru	Environmental Impact of Hydrocarbons Production	207,199	207,199	Environment
Peru	Training: Energy Management Services	307,198	307,198	Efficiency
Slovenia	Workshop on Private Participation	54,000	54,000	Sector Reform
Uganda	Rural Electrification Study	170,000	170,000	Rural & Peri-urban
Vietnam	Environmental & Safety Aspects of the Downstream Gas Industry	454,000	77,000	Environment
		7,462,402	**6,280,435**	

Activities Launched

Region/ Country	Project Name	Total Cost (US dollars)	of which ESMAP	Theme
AFR Region	Opportunities for International Power Trade in the Nile River Basin	546,000	516,000	International Trade
AFR Region	Development of a Regional Power Market in West Africa	237,500	237,500	International Trade
AFR Region	Environment and Health, Bridging the Gaps (Phase IV)	350,000	200,000	Environment
Bangladesh	Opportunity for Women in Renewable Energy Technology Utilization	185,000	185,000	Renewables
Bangladesh	Towards Formulating a Rural Energy Study	420,000	310,000	Rural & Peri-urban
Bangladesh	Reducing Emissions from Three Wheeler Two-Stroke Engine Taxis	125,000	90,000	Environment
Bangladesh	Energy Sector Reform Workshop		120,000	Sector Reform
Bolivia	Training Program for Key Group Representatives From Indigenous People Regional Organization	325,000	325,000	Sector Reform
Bulgaria	Energy-Environment Strategy	310,000	240,000	Environment
Chad	Rural Electrification Study	72,500	72,500	Rural & Peri-urban
China	Reduction of Pollution by the Development of a Gas Market in Guangdong	225,000	200,000	Environment
China	Sulfur Emission Mitigation Policies	125,000	80,000	Environment
China	Clean Coal Technology	810,000	80,000	Environment
Croatia	Natural Gas Distribution Development	399,000	399,000	
EAP Region	Development of a Regional Electricity Market in the Greater Mekong Sub-Region	1,515,000	565,000	International Trade
EAP Region	Cost-Effectiveness Toolkit for Air Pollution Abatement Prioritization	140,000	100,000	Environment
ECA Region	Assistance to EU Accession Candidates	145,000	95,000	Sector Reform
ECA Region	Clean Transportation Fuel Program for Air Quality Improvement	475,000	365,000	Environment
Global	Best Practices for Grid Electrification - Phase 2	342,759	280,000	Rural & Peri-urban
Global	Energy Sector Strategy (Energy/Poverty Background Paper)	150,000	150,000	Sector Reform
Global	Energy Development Report 2000	280,000	200,000	Efficiency
Global	Removing Obstacles to Cross-Border Oil & Gas Pipelines	485,000	335,000	Sector Reform
Global	Advancing Modern Biomass Energy Opportunities & Challenges	250,000	233,000	Renewables
Global	Accelerating Grid-Based Renewable Energy Power Generation Conference	50,000	50,000	Renewables

Region/ Country	Project Name	Total Cost (US dollars)	of which ESMAP	Theme
Global	ESMAP Knowledge Dissemination Activity	100,000	100,000	Multiple
Global	Designing Competitive Single Buyer Power Market Structures	173,000	114,000	Sector Reform
Global	Energy and Development Report, 1999	300,000	250,000	Sector Reform
Global	Energy Efficiency Operational Exchanges Program	382,500	300,000	Efficiency
India	Household Energy & Women's Lives: The Case of India	50,000	50,000	Rural & Peri-urban
India	Household Energy, Air Pollution and Health	185,000	120,000	Environment
Kenya	Low-cost Electrification Pre-feasibility Project	140,175	104,775	Rural & Peri-urban
LAC Region	Regional Interconnection b/w Southern American Electricity Markets, Phase I & II	705,350	430,350	International Trade
LAC Region	Mitigation of Environmental and Social Impact of Oil and Gas Operations	384,000	192,000	Environment
LAC Region	Refining Industry in LCR - Sector Reform and Fuel Quality Improvement	1,040,000	480,000	Sector Reform
LAC Region	Renewable Energy For Development: Assessing Opportunities for Investments in the LAC Region	267,000	259,479	Renew-ables
Macedonia	Key Aspects of Energy-Environment/GHG Strategy	230,000	70,000	Environment
Mexico	Energy Sector Reform - Phase 1	464,000	422,000	Sector ReformRegion/
Mongolia	Improved Space Heating Stoves for Ulaan Bataar	230,000	100,000	Efficiency
Morocco	Global Efficiency in Sidi Bernoussi Industrial and Peri-Urban Area	340,000	340,000	Efficiency
Nicaragua	Sustainable Charcoal Production in the Chinandega Region	88,000	86,000	Efficiency
Nile Basin	Opportunities for Power Trade on the Nile Basin II	616,000	504,030	International Trade
Pakistan	Rapid Energy-Environment Assessment	80,000	80,000	Environment
Poland	Energy Sector Regulation and Tariffs	1,499,000	720,000	Sector Reform
Romania	Energy Efficiency (Reconnaissance)	460,000	300,000	Efficiency
Russia	Energy and Environment Review and Strategy	750,000	90,000	Environment
Thailand	Motorcycle Fleet Upgrade to Reduce Air Pollution in Bangkok	140,000	100,000	Environment
Thailand	Power Pool Study	160,000	130,000	International Trade
Turkey	Energy-Environment Review	483,870	293,070	Environment

Region/ Country	Project Name	Total Cost (US dollars)	of which ESMAP	Theme
Vietnam	Renewable Energy Action Plan	543,000	223,000	Renewables
Vietnam	Lead Phaseout Initiative	190,000	100,000	Environment
Vietnam	Revision of the Existing Legal & Regulatory Framework for the Petroleum Sector	287,000	89,600	Sector Reform
Yemen	Rural Energy Strategy	406,730	253,230	Rural & Peri-urban
		$18,657,384	**$11,729,534**	

Activities Ongoing on December 31, 1999

Region/ Country	Project Name	Total Cost (US dollars)	of which ESMAP	Theme
AFR Region	Development of a Regional Power Market in West Africa	237,500	237,500	International Trade
AFR Region	Forum on Downstream Petroleum	170,912	54,096	Sector Reform
AFR Region	Gas Training	273,000	43,000	Efficiency
AFR Region	Opportunities for International Power Trade in the Nile River Basin I	546,000	516,000	International Trade
AFR Region	Petroleum Transportation Corridors	150,000	150,000	Efficiency
AFR Region	Regional Electricity Demand Management TA - Phase II	100,000	100,000	Efficiency
AFR Region	West Africa Solar Project	360,000	360,000	Renewables
AFR Region	Environment and Health, Bridging the Gaps (Phase IV)	350,000	200,000	Environment
Bangladesh	Energy Sector Reform Workshop	120,000	120,000	Sector Reform
Bangladesh	Opportunity for Women in Renewable Energy Technology Utilization	221,096	185,000	Renewables
Bangladesh	Reducing Emissions from Three Wheeler Two-Stroke Engine Taxis	125,000	90,000	Environment
Bangladesh	Towards Formulating a Rural Energy Study	420,000	310,000	Rural & Periurban
Bolivia	Country Programme - Phase II	1,614,883	1,614,883	Rural & Periurban
Bolivia	ENERGY EFFIC & ENVIRONMENT	406,000	406,000	Efficiency
Bolivia	National Biomass Programme	2,637,020	2,637,020	Rural & Periurban
Bolivia	Trng Program for Key Grp. Rep. From Indigenous People Regional Organization	325,000	325,000	Sector Reform
Brazil	Bahia End-use Energy and Effluent Management Strategy TA (1*)	64,400	64,400	Rural & Periurban
Brazil	Energy Efficiency TA Phase II - FINEP (2*)	90,000	90,000	Efficiency
Brazil	Northeast Renewable Energy Identification	123,830	123,830	Rural & Periurban
Brazil,Honduras, Dominican Rep.	Renewable Energy For Development: Assessing Opportunities for Investments in the LAC	267,000	259,479	Renewables
Bulgaria	Energy-Environment Strategy	310,000	240,000	Environment
Cambodia	Commercialization of a Power Company	369,881	369,881	Sector Reform
Cameroon	Decentralized Rural Electrification	250,000	250,000	Rural & Periurban
Chad	Rural Electrification Study	72,500	72,500	Rural & Periurban

Region/ Country	Project Name	Total Cost (US dollars)	of which ESMAP	Theme
China	Clean Coal Technology	1,634,095	80,000	Environment
China	Reduction of Pollution by the Development of a Gas Market in Guangdong	225,000	200,000	Environment
China	Sulfur Emission Mitigation Policies	125,000	80,000	Environment
Comoros	Solar Market Development	168,120	168,120	Renewables
Croatia	Natural Gas Distribution Development	399,000	399,000	Sector Reform
East Asia	Cost-Effectiveness Toolkit for Air Pollution Abatement Prioritization	140,000	100,000	Environment
ECA Region	Asst. to EU Accession Candidates	228,000	95,000	Sector Reform
ECA Region	Central Asia Clean Transportation Fuel Program for Air Quality Improvement	837,000	367,000	Environment
ECA Region	Central Europe: District Heating I	854,506	630,556	Efficiency
Egypt	Renewable Energy Strategy & Institutional Strengthening Study	113,000	87,000	Renewables
Egypt	Solar Thermal Power Options	50,000	50,000	Renewables
Ghana	Corporatization of Distribution Concessions through Capitalization	133,186	133,186	Sector Reform
Global	Accelerating Grid-Based Renewable Energy Power Generation Conference	50,000	50,000	Renewables
Global	Advancing Modern Biomass Energy Opportunities & Challenges	250,000	233,000	Environment
Global	Best Practices for Grid Electrification - Phase 2	342,759	280,000	Rural & Periurban
Global	Costs of Grid Extension for Rural Electrification	85,000	85,000	Rural & Periurban
Global	Designing Competitive Single Buyer Power Market Structures	173,000	114,000	Sector Reform
Global	Electricity Benefits Assessment	237,000	237,000	Rural & Periurban
Global	Energy & Environment Steering Committee	138,050	138,050	Environment
Global	Energy and Development Report 1999	250,000	237,668	Sector Reform
Global	Energy Development Report 2000	280,000	200,000	Sector Reform
Global	Energy Efficiency Operational Exchange Program	382,500	300,000	Efficiency
Global	Energy Sector Strategy (Energy/Poverty Background Paper)	150,000	150,000	Sector Reform
Global	Energy, Transport, Environment Study	28,000	28,000	Environment

Region/ Country	Project Name	Total Cost (US dollars)	of which ESMAP	Theme
Global	Environmental Manual for Power Development	455,167	455,167	Environment
Global	ESMAP Knowledge Dissemination	100,000	100,000	Multiple
Global	Gas Flaring Reduction	87,000	87,000	Environment
Global	Oil & Gas Investment Promotion Project	223,600	170,000	Sector Reform
Global	Oil Spills Occurrence Database, Modeling, Remediation and Prevention	432,500	50,000	Environment
Global	Peri-urban Electrification Project \a	15,000	15,000	Rural & Periurban
Global	Regional Project Identification Strategy II	120,150	120,150	Renewables
Global	Removing Obstacles to Cross-Border Oil & Gas Pipelines	485,000	335,000	International Trade
Global	Solar Initiative Regional Strategy	161,300	75,000	Renewables
Guinea	Decentralized Rural Electrification	250,000	250,000	Rural & Periurban
India	Dissemination on Environmental Issues in the Power Sector	403,923	403,923	Environment
India	Household Energy & Women's Lives: The Case of India	185,000	120,000	Rural & Periurban
India	Household Energy, Air Pollution and Health	185,000	120,000	Environment
India	Rural Energy Study	412,709	412,709	Rural & Periurban
Kenya	Low-cost Electrification Pre-feasibility Project	140,175	104,775	Renewables
LAC Region	Central America: Rural Electrification & Power Reform	306,000	306,000	Rural & Periurban
LAC Region	Improving Fuel Quality in Latin America (Lead Elimination Phase 2)	363,022	363,022	Environment
LAC Region	Mitigation of Environmental and Social Impact of Oil and Gas Operations	399,000	192,000	Environment
LAC Region	Refining Industry in LCR - Sector Reform and Fuel Quality Improvement	1,040,000	480,000	Sector Reform
LAC Region	Regional Interconnection b/w Southern American Electricity Markets, Phase I & II	705,350	430,350	International Trade
Macedonia	Key Aspects of Energy-Environment/GHG Strategy	230,000	70,000	Environment
Malawi	Rural Energy Development	322,554	322,554	Rural & Periurban
Mekong	Regional Electricity Market: Basin Power Pool Phase II	1,515,000	565,000	International Trade
Mexico	Energy Sector Reform - Phase 1	764,000	422,000	Sector Reform

Region/ Country	Project Name	Total Cost (US dollars)	of which ESMAP	Theme
Mexico	Environmental Strategy for the Energy Sector	500,000	380,000	Environment
MNA Region	Lead Elimination	50,000	50,000	Environment
Mongolia	Coal Stove Improvement Program	230,000	110,000	Rural & Periurban
Mongolia	Energy Efficiency Program	590,150	60,000	Efficiency
Mongolia	Improved Space Heating Stoves for Ulaan Bataar	230,000	100,000	Efficiency
Morocco	Global Efficiency in Sidi Bernoussi	340,000	340,000	Efficiency
Nicaragua	Modernization of Fuelwood Sector	175,000	175,000	Rural & Periurban
Nicaragua	Sustainable Charcoal Production in the Chinandega Region	88,000	86,000	Efficiency
Nile Basin	Opportunities for Power Trade on the Nile Basin II	616,030	504,030	International Trade
Pakistan	Clean Fuels Project	530,000	530,000	Environment
Pakistan	Rapid Energy-Environment Assessment	95,000	80,000	Environment
Peru	Rural Energy Electrification	209,727	209,727	Rural & Periurban
Peru/ Colombia	End-use Energy & Effluent Management Strategy Study (3*)	50,000	50,000	Efficiency
Philippines	Strengthening of Rural & Non-conv. Energy Development Pgm	210,000	210,000	Renewables
Poland	Energy Sector Regulation (incl gas proj)	1,499,000	720,000	Sector Reform
Romania	Energy Efficiency (Reconnaissance)	460,000	300,000	Efficiency
Russia	Energy and Environment Review and Strategy	750,000	90,000	Environment
Slovak Rep.	Energy Efficiency TA - Monitoring & Targeting & Feasibility of Third Party Financing	303,053	303,053	Efficiency
Sri Lanka	Energy-Environment Review	400,000	290,000	Environment
Swaziland	Solar Market Development	189,000	189,000	Rural & Periurban
Tanzania	TA DOE and TANESCO	757,284	757,284	Efficiency
Thailand	Motorcycle Fleet Upgrade to Reduce Air Pollution in Bangkok	140,000	100,000	Environment
Thailand	Power Pool Study	160,000	130,000	International Trade
Turkey	Energy-Environment Review	433,110	293,140	Environment

Region/ Country	Project Name	Total Cost (US dollars)	of which ESMAP	Theme
Uganda	Power Restructuring Implementation Strategy	99,932	99,932	Sector Reform
Ukraine	Integrated Heat Demonstration Project	219,013	219,013	Efficiency
Vietnam	Institutional Reform & Restructuring of Petrovietnam Gas Company	189,827	104,524	Sector Reform
Vietnam	Lead Phaseout Initiative	190,000	100,000	Environment
Vietnam	Power Sector Regulation & Electricity Law	329,700	329,700	Sector Reform
Vietnam	Renewable Energy Action Plan	568,100	223,000	Renewables
Vietnam	Reservoir Management Workshop & Upstream Fiscal Systems	192,100	76,000	Sector Reform
Vietnam	Revision of the Existing Legal & Regulatory Framework for the Petroleum Sector	287,000	89,600	Sector Reform
Yemen	Rural Energy Strategy	406,730	273,230	Rural & Periurban
Zambia	Energy Sector Restructuring	583,071	583,071	Sector Reform
Zimbabwe	Decentralized Rural Electrification	184,860	184,860	Rural & Periurban
		$38,434,375	**$27,570,983**	

Annex 4

Reports on Projects Published in 1999

Country/Region	Title	Ref.
China	Improving the Technical Efficiency of Decentralized Power Companies	222/999
Global	The Effect of a Shadow Price on Carbon Emission in the Energy Portfolio of the World Bank: A Carbon Backcasting Exercise (English)	212/99
Global	Increasing the Efficiency of Gas Distribution Phase 1: Case Studies and Thematic Data Sheets	218/99
Global	Global Energy Sector Reform in Developing Countries: A Scorecard	219/99
Global	Global Lighting Services for the Poor Phase II: Text Marketing of Small "Solar" Batteries for Rural Electrification Purposes	220/99
Global	A Review of the Renewable Energy Activities of the UNDP/World Bank Energy Sector Management Assistance Programme 1993 to 1998	223/99
Global	Energy, Transportation and Environment: Policy Options for Environmental Improvement	224/99
India	Environmental Issues in the Power Sector: Manual for Environmental Decision Making (English)	213/99
India	Household Energy Strategies for Urban India: The Case of Hyderabad	214/99
Morocco	Gas Development Plan Phase II (French)	210/99
Peru	Reform and Privatization in the Hydrocarbon Sector (English and Spanish)	216/99
Slovenia	Workshop on Private Participation in the Power Sector (English)	211/99
Sub-Andean Region	Environmental and Social Regulation of Oil and Gas Operations in Sensitive Areas of the Sub-Andean Basin (English and Spanish)	217/99
Uganda	Rural Electrification Strategy Study	221/99

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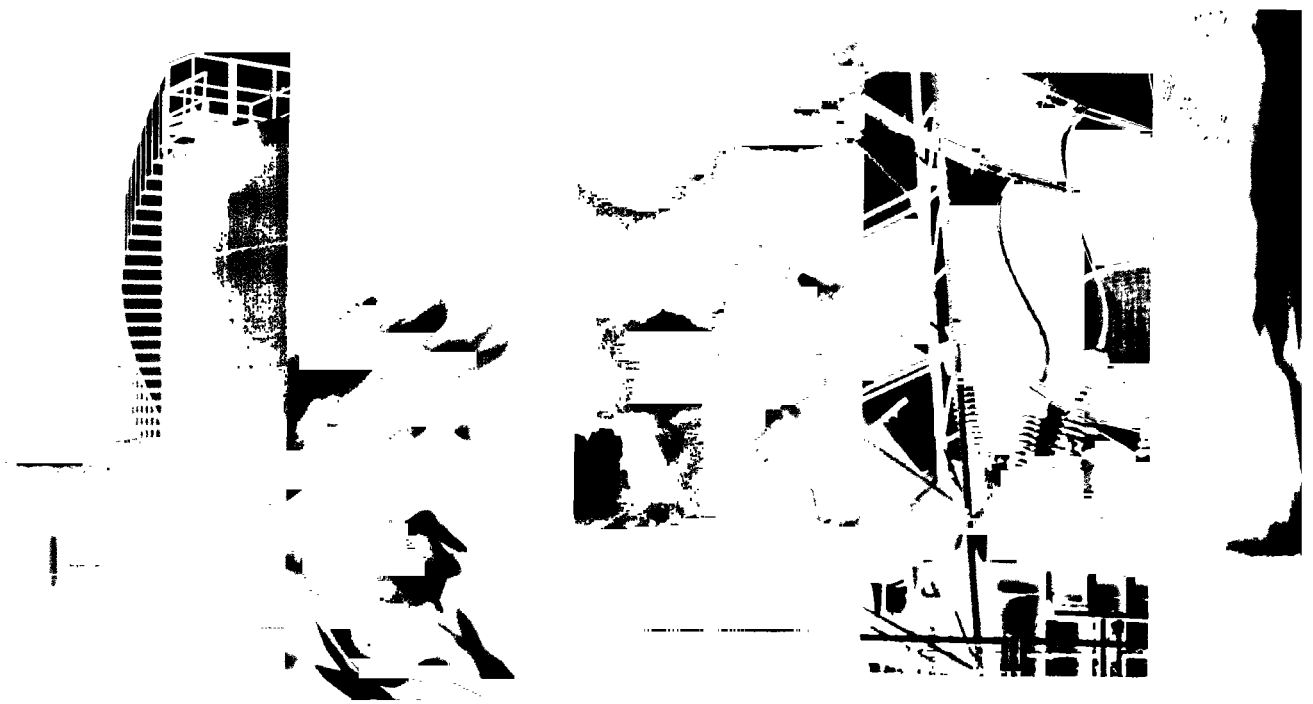

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