



LAO PEOPLE'S DEMOCRATIC REPUBLIC
PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY

LAO POWER SECTOR POLICY

STRATEGY FOR IMPLEMENTING SECTOR STRENGTHENING

DRAFT 6

1. INTRODUCTION

1.1 Power Sector Policy Statement

The power sector in Lao PDR occupies a pivotal place in GOL's strategy to advance economic and social development. To this end, Ministry of Industry & Handicrafts (MIH) published a "Power Sector Policy Statement" in March, 2001, in which four policy priorities were set out. These are:

- (i) maintain and expand an affordable, reliable and sustainable electricity supply in Lao PDR to promote economic and social development;
- (ii) promote power generation for export to provide revenues to meet GOL development objectives;
- (iii) develop and enhance the legal and regulatory framework to effectively direct and facilitate power sector development; and
- (iv) Strengthen institutions and institutional structures to clarify responsibilities, strengthen commercial functions and streamline administration.

However, the Power Sector Policy Statement provides neither an implementation plan, nor a timetable for achieving the Statement's objectives. This task was set aside for consideration by senior sector participants at a workshop to be convened specifically for this purpose.

1.2 Workshop on Options for Reform

With the support of the Public Private Infrastructure Advisory Facility (PPIAF), the workshop on Options for Power Sector Reform was held in Vientiane on 4th and 5th of November 2002.

The workshop discussions were consensual on a range of reform options and actions to be taken to achieve the power sector priorities. However, a divergence of views remained on some matters, indicating a need for further consultation on the means of achieving policy objectives in these areas.

The Power Sector Policy Statement, together with input received from participants during the workshop, provides the platform for formulating the Power Sector Policy Implementation Plan provided in Section 3 and the Appendix to this paper.

2. NEXT STEPS

2.1 General

On the basis of the four stated policy priorities, GOL has identified three impact areas for immediate action: (i) complete the commercialization of EdL, (ii) expand electrification, and (iii) improve the IPP enabling environment. The next steps to be taken in furthering these goals and other GOL objectives as set out in the Power Sector Policy Statement were discussed at the workshop on Options for Power Sector Reform.

Proposed next steps to achieve GOL's policy objectives are:

- Complete the Power Sector Policy Implementation Plan based on the consensus reached on many issues at the workshop. The draft Power Sector Policy Implementation Plan is provided in Section 3 and the Appendix to this paper. Its finalization will mark the achievement of this step.
- Establish a Steering Committee with representation from GOL ministries and agencies with an interest in the power sector. The Steering Committee will be charged with the responsibility for overseeing and coordinating activities related to the implementation of the Power Sector Policy Implementation Plan (my observation: now the Lao Electric Power Coordinating Committee is under Lao National Committee for Energy. This Committee comprised of Line Ministries concerned for Energy and nominees member for this committee are Directors/Deputy Director level. I hope that this committee could be taken place and do an oversee responses for this activities).
- Put into effect the proposals set out in the Power Sector Policy Implementation Plan. Workshop participants agreed that the following key activities should be undertaken:
 - i. Continue EdL's national grid expansion, where economically feasible.
 - ii. Put the Environmental Management Standards into effect.
 - iii. Enhance power trade with GMS countries.

- iv. Fully separate EdL's accounts from government accounts.
- GOL, EdL, the donor community and other stakeholders to consult and resolve those issues for which consensus was not reached at the workshop. The principal issues in this respect are:
 - i. Tariff policy within EdL's tariff grids, including the role, if any, of a regulator in setting tariffs;
 - ii. Implementation models for rural electrification tailored to the separate and distinctive characteristics of main grid extension and off-grid projects. Issues in this respect include the part to be played by the private sector and the role of special funds in promoting off-grid and grid extension projects;
 - iii. Financing development of the EdL system, particularly generation projects;
 - iv. Procedures for awarding IPP concessions.

These issues are outlined below.

2.2 Tariff Policy for EdL Grids

The workshop considered the need to complete the commercialization of EdL to:

- relieve the state of the financial burden EdL currently imposes and free up IPP dividends for other GOL priorities, and
- facilitate the mobilization of private finance for power projects.

The central interest in this respect was tariff policy within EdL grids. Discussion centered on two primary issues:

- (i) The merit of cost-recovery tariffs with minimal or no cross subsidies and the timing of the introduction of such a tariff, and
- (ii) The most appropriate agency to set the tariff.

In relation to the first of these issues, there was general agreement on the desirability of cost-recovery principles in tariff-setting but contrary views were expressed about the timing of such a target due to concerns about the social consequences of a higher tariff. It was accepted that cross subsidies within the tariff structure could in the short term ameliorate the harsher effects of the transition to cost-recovery tariffs.

The following steps are proposed:

- A study is commissioned to: (a) establish the real cost of electricity in EdL's grids; (b) assess the socio-economic impacts of increasing tariffs; and (c) propose tariff strategies that would reconcile social and economic priorities in pursuing the cost-recovery objective. Based on consideration of the study's findings, a target date for achieving cost-recovery would be nominated.

- Clear and objective tariff setting rules are drafted in respect of: (a) the period during which the tariff is transitioning to full cost-recovery levels, and (b) the period thereafter during which the tariff is to be maintained at cost-recovery levels
- An economically viable and socially equitable policy on subsidies between customer categories is developed aimed at temporary and declining protection of the needy from the harsher effects of a cost-recovery tariff.
- Ways of shielding EdL from the negative commercial effects of rural electrification programs are explored. This could involve a possible role of a Rural Electrification Fund in compensating EdL for below-cost or "lifeline" sales of electricity.
- The experience of other countries with public awareness programs is assessed to determine whether similar programs could play a part in gaining acceptance of higher tariffs in Lao PDR.

The second issue concerns responsibility for tariff-setting. There was a lack of agreement among workshop participants on the most appropriate agency for determining the tariff. The advantages and disadvantages of an independent regulator were debated. Several tariff-setting models were considered but no consensus was reached on the point. Under the Decree on Implementation of Electricity Law №: 157/NA (2002) responsibility for tariff setting resides the Ministry of Industry and Handicrafts in coordination with the Ministry of Finance.

A process for furthering this issue is proposed: after evaluating tariff and regulatory options, a paper or report is prepared that outlines the options and makes recommendations that could then be considered at a workshop.

2.3 Implementation Models for Rural Electrification

Electrification is a high GOL priority. Various public and private sector models for establishing grid extension and off-grid rural electrification schemes were discussed at the workshop with general agreement on a number of points, including:

- The economic and social importance of expanding the supply of electricity to currently unserved areas of Lao PDR;
- The need to insulate EdL from negative commercial effects of rural electrification schemes;
- The potential for the private sector to play a beneficial role in both grid extension and off-grid rural electrification schemes;

In order to move forward from these general agreements it is proposed that studies are carried out on options for rural electrification, with grid extension and off-grid being treated separately, and to undertake in each case the following four steps:

1. Formulate options and procedures;

2. Hold an initial meeting/workshop for key government officials and advisers, acting as a study working group, to discuss the options and procedures;
3. Conduct a working group review of the options and procedures;
4. Hold a second meeting/workshop to collate comments and publish the results of the study.

The off-grid and grid extension studies would separately examine:

- Implementation models for off-grid and grid extension schemes to ensure:
 - technical and commercial sustainability through effective incentives;
 - equal access to the market for existing providers and new entrants;
 - competitive processes where appropriate.
- System of licensing of enterprises providing off-grid and grid extension services.
- Consumer willingness to pay and tariff setting within off-grid and grid extension supply areas.
- Role and structure of subsidies in: (i) making off-grid and grid extension projects commercially viable, affordable and durable, and (ii) shielding EdL from adverse commercial effects of the schemes.
- Establishment and operation of an Rural Electrification Fund and Off-Grid Fund including sources of funding, allocation and application of money for off-grid and grid extension projects, subsidy delivery mechanisms, triggers for disbursement of funds, accounting and auditing rules, etc.
- Economic and social consequences of rural electrification within target areas;

2.4 Financing of EdL System Development

The EdL System is in the process of maturing. Finance for expansion of generation, transmission and distribution has traditionally been provided by multilateral and bilateral agencies through soft loans and grants. With annual growth rates now coming off a higher base, capital requirements are increasing at a time when the power sector's traditional lenders are re-focusing their programs on other sectors.

Generation, perceived by the donor community as intrinsically commercial, has lost support and is to look to the private sector. However, in Lao PDR as in many other countries, international investors and lenders have lost appetite for the market for a variety of reasons including weak local capital markets, high country risks and non-creditworthy utility. "Stop-gap" deals are bridging the finance shortfall in the short term but a practical longer term financing policy is needed based on transparency and competition.

This quandary was discussed at the workshop without final resolution. It points to a need for policy based on an analysis of the infrastructure investment finance market. Competition for the investment dollar is global and intense, and packaging of projects for the market is an aspect of policy that warrants attention. A study

could be conducted to analyze private sector financing of domestic generation and to prepare a project for solicitation. The study would look generally at:

- Project selection - Issues relevant to selection of domestic IPP projects may include:
 - capital requirements (small projects financeable in regional currencies versus larger projects with economies of scale);
 - project risk matrix (low manageable risks including proven hydrology);
 - project preparation and studies (public sector versus private sector responsibility for project preparation);
- Power market - A market analysis might examine:
 - system requirements (e.g. MW, annual GWh, location, seasonal generation characteristics)
 - potential for selling surplus energy into neighboring markets;
 - scope for diversifying payment risk by selling to two or more power purchasers (direct sales, sales to neighboring countries, etc.).
- Financing modalities – Project finance might be mobilized under a traditional BOT modality or through some form of public-private partnership to reduce the private sector's capital and risk burden.
- Loan security and enhancement arrangements - An important issue in mobilizing finance for domestic generation in Lao PDR is the extent to which multilateral, bilateral and export credit agencies would participate through a co-financing arrangement, by providing political risk cover or through loan enhancements instruments.
- Solicitation strategy - If developers are to assume completion and operating risks, much needs to be known about a hydropower project prior to inviting expressions of interest. Detailed investigations and studies are needed to enable a developer to quantify risks associated with hydrology, ground conditions and the environment. A solicitation strategy must recognize developers' concerns and constraints. Issues to be considered include:
 - Method of solicitation – solicitation of proposals may be competitive or non-competitive depending on project characteristics. Where direct negotiation is used, conditions should be imposed to ensure a satisfactory outcome;
 - Preparing projects for solicitation – e.g. preparation of studies, investigations, model documents (concession, PPA, EMP, etc.) and source of funding for such front-end activities;
 - Market warming strategy to allay lender concerns with Lao country risks.

2.5 IPP Export Program

The status and future of the Lao IPP export program attracted considerable comment from workshop participants, prominent issues including:

- Rationalization of inactive mandates - In the wake of the Asian financial crisis it became clear that a large number of MOU holders and concessionaires lack the experience, reputation, substance and access to capital needed in today's market to fulfill the terms of their agreements with GOL. These agreements need to be annulled for several reasons:
 - to avoid further unproductive distraction;
 - to allow the substitution of more suitable developers or to release the project areas for other economic purposes;
 - to restore credibility of GOL in the eyes of international investors and lenders.

GOL has initiated a process for achieving this but may require specialist advice and assistance to disengage where mandates have legal force.

- Enabling framework – Broad policy aspects relevant to private sector participation should be resolved and the enabling framework improved in line with policy. Actions include amendment of the Electricity Law and other relevant laws and preparation of regulations to give practical effect to the legislation.
- IPP implementation procedures – If reputable investors are to be attracted to projects in Lao PDR, an orderly and transparent process for awarding IPP licenses is needed. This issue has been addressed in recent World Bank and ADB studies. Perceptions in international capital markets left by the arbitrary award processes employed in the nineties need to be countered. The workshop focused on the following aspects:
 - Development of uniform models of project agreements (concessions and PPAs) to use as starting points in negotiations with developers.
 - Whether competitive bidding should be used to award Lao export hydropower licenses and, where such an approach is inappropriate, what requirements and procedures are needed for directly negotiated awards.
- Single agency responsibility for issuing IPP licenses - Investors prefer to be insulated from the myriad of agencies involved in approving an IPP license. GOL needs to establish a single point of contact – a “one-stop shop” – with the technical knowledge and authority to coordinate between agencies in processing IPP applications and submissions.
- GOL shareholding in IPP projects – Issues considered in the workshop included:
 - whether GOL should invest in project companies and, if so, under what circumstances and how much should GOL invest;
 - whether to separate EdL’s utility operations from its investor role so that its performance in each area can be gauged or, alternatively, to select or create another agency to manage GOL’s IPP investments;

- how to structure procedures to ensure dividends are transparently applied to social development and poverty alleviation.

3. IMPLEMENTATION PLAN

The plan for implementing GOL's Power Sector Policy is set out in the Appendix to this paper.

The Implementation Plan will serve to coordinate initiatives for strengthening the power sector. It sets out GOL's policies and objectives, and the implementation steps to be taken to achieve the objectives. The plan also provides a timetable for completing the implementation steps and identifies the agencies responsible for planning and executing each of them. Sources of funding are proposed.

For each implementation step, the responsible executing agency will carry out detailed planning to determine the optimum approach, resources required and a schedule for meeting the completion date. Executing agencies should identify any assistance it might need in carrying out the implementation steps.

APPENDIX: POWER SECTOR POLICY IMPLEMENTATION PLAN

The Power Sector Policy Implementation Plan is provided in the table below. The Power Sector Policy Implementation Plan itemizes the policy priorities and the specific objectives of GOL. Policy in relation to each objective and an implementation timetable is given.

Policies	Implementation Steps	Executing Agency	Possible Source of Funding	Completion Date
1. Maintain and expand an affordable, reliable and sustainable electricity supply in Lao PDR to promote economic and social development	<p><i>Objective 1.1: Expand and improve Main Grid supplies</i></p> <p>(a) Expand EdL's customer base through feasible extensions of the Main Grids</p> <ul style="list-style-type: none"> • Complete study and workshop to agree technically and commercially sustainable mechanisms for developing and operating rural grid extension projects. • Determine a priority list of feasible grid extension investments that best meet economic and social objectives. • Complete Northern Transmission and SPRE projects (including scope extensions) within program and budget and process loans for follow-on projects. • Finalize ADB funding for transmission line from Luang Prabang to the Northern Provinces of Oudomxai, Luangnamtha and Phongsali provinces. • Complete MV link from Vietnam to M. Samoi, Saravane province • Through grid extension and off-grid projects, meet electrification target of: <ul style="list-style-type: none"> - 58% of households (Power Sector Strategy Study, 2002) - 70% of households (Power sector Strategy Study, 2002) 	<p>EdL</p> <p>MIF/DOE</p> <p>EdL</p> <p>EdL</p> <p>Provincial Dept. of Industry & Handicrafts</p> <p>EdL, Local authorities and private sector participation</p>	<p>EdL (confirmed)</p> <p>WB (PSDP) (confirmed)</p> <p>ADB/WB (confirmed)</p> <p>ADB (requested)</p> <p>GOL (confirmed)</p> <p>GOL, private sector, bilateral & MLAs (progressive)</p>	<p>Dec 2003</p> <p>Dec 2003</p> <p>2004</p> <p>2003</p> <p>2003</p> <p>2005 2010</p>

Policies	Implementation Steps	Executing Agency	Possible Source of Funding	Completion Date
(b) Improve system optimization and strengthen network security in Main Grids	<ul style="list-style-type: none"> • Implement 115kV interconnection of Pakxan-Thakhek-Pakbo Grids • Implement priority master plan transmission investments network development sequence (refer JICA transmission master plan, Sep 2002). • Prepare systematic least-cost generation expansion sequence to meet forecast load based on effective demand side management. Power System Development Plan to be prepared listing priority generation investments and associated financing plans. • Complete Nam Mang 3 hydropower project. 	EdL	JBIC/others Requested	2005
(c) Augment generating capacity to satisfy demand growth in the Main Grids.	<ul style="list-style-type: none"> • Reach agreement with HHPC, HHPC's lenders and EGAT on purchase and sale conditions for exports from Xeset 2 through Houay Ho transmission line and confirm Xeset 2 feasibility. • Prepare prefeasibility and feasibility studies of Houay Lamphan Gnai in the Southern Grid, Nam Ngum 5 in Centre 1 grid and thermal projects in the north. • Monitor plans for Thai power pool and liaise with NEPO/EGAT about Lao access to the pool. 	EdL	EdL Confirmed	2004
(d) Mobilize finance for domestic Main Grid projects	<ul style="list-style-type: none"> • Undertake study with advice from infrastructure finance specialist on packaging domestic generation projects for the private sector. • In coordination with multilateral and bilateral agencies and donors, prepare financing plan for generation and network investments and convene a donor conference to coordinate support. 	MIH / DOE	ADB/others (request pending)	2004

Policies	Implementation Steps	Executing Agency	Possible Source of Funding	Completion Date
Objective 1.2: Expand and improve Off Grid supplies				
(a) Target key demand areas	<ul style="list-style-type: none"> • Complete formal off-grid zoning for each EdL sub-branch. • Collect and collate zoning recommendations from each provincial department of Industry and Handicraft (PDIH). 	MIH/DOE in association with local authorities	WB (confirmed)	Jul 2003 (progressive)
(b) Strengthen Off Grid capacity within provinces	<ul style="list-style-type: none"> • Prepare Agreement Application format including a concessionaire financial plan and advertise three to five agreements (refer Obj.3.4). Award at least two agreements, one in Xiengkhuang Province • To expand off-grid technological range, complete at least four pilot installations of gen-sets and villages-hydro using hire-purchase system in Xiengkhuang Province. • Complete a study and workshop to agree technically and commercially sustainable mechanisms for developing and operating off-grid projects. • Signing of PM Decree Establishing the Off-Grid Fund and recruitment of fund Secretariat. 	MIH/DOE	WB (confirmed)	Mar 2003 (progressive)
(c) Mobilize financial resources for Off Grid activity		MIH/DOE in Junction with local authorities	WB (confirmed)	Feb. 2003 (completed)
(d) Develop procedures and guidelines for Off Grid implementation mechanisms to facilitate financing.		MIH/DOE in co-ord. with line agencies	WB (confirmed)	Dec 2003 (progressive)
(e) Off Grid to complement other development priorities of localities	<ul style="list-style-type: none"> • Complete Off-Grid Procedures (refer also Obj.3.4(a)) and Off-Grid Guidelines to facilitate financing under donor grants or soft loans payable either direct to licensees or through the Off Grid Fund. • Prepare and distribute information booklet on synergies of off-grid electricity and other development programs to encourage and coordinate such synergies. (on income generation using electricity for industries and handicrafts 	MIH/DOE	WB (confirmed)	Mar 2004 (confirmed)

Policies	Implementation Steps	Executing Agency	Possible Source of Funding	Completion Date
(f) Introduce local manufacture, assembly and provincial servicing network	<ul style="list-style-type: none"> Provide licensees in the provinces with: <ul style="list-style-type: none"> templates for local production of boxes and frames for solar installations, and templates and training for assembly of hydro controllers and other components such as turbine-generators 	MIH/DOE and local authorities in assoc. with private sector	WB (confirmed) ADB (confirmed)	Completed (progressive) 2005
<i>Objective 1.3: Increase energy self-sufficiency and security</i>	<p>(a) Reduce dependence on energy imports.</p> <ul style="list-style-type: none"> Select, evaluate and identify funding for a generation project in the south to reduce dry season imports (refer Obj.1.1(c)). Prepare schedule of feasible indigenous energy substitution projects, including grid extension, to complement planned retirements of diesel generation plant. Devise evaluation guidelines for generation projects specifying weightings to reflect indigenous energy preference. <p>(b) Maintain secure domestic electricity supply.</p> <ul style="list-style-type: none"> Complete Master Plan Study on Hydropower Development Project with installed Capacity less than 5 MW in the North Establish security of supply targets within Main Grids (e.g. frequency and duration of interruptions), and put in place demand management and performance reporting arrangements. Specify criteria to define the extent to which Lao PDR may rely on electricity imports in meeting demand within the country's Main Grids. Develop regulations and procedures for electricity development activities such as generation, transmission, distribution 	<ul style="list-style-type: none"> MIH/DOE MIH/DOE MIH/DOE MIH/DOE EdL MIH/DOE MIH/DOE 	<ul style="list-style-type: none"> WB (PSDP) (confirmed) JICA(Request pending) JICA(Request pending) JICA(Request pending) ADB (requested) WB (confirmed - PSDP) JICA(follow up LEPTS) 	<ul style="list-style-type: none"> Dec 2003 Dec 2005 2004 2005 2003 2005

Policies	Implementation Steps	Executing Agency	Possible Source of Funding	Completion Date
	<ul style="list-style-type: none"> • Develop databases and systems including a GIS consumer database to improve policy formulation, investment planning and system management. • Develop regulations and guidelines on safety of electricity use 	MIH/DOE	WB (requested) GOL (confirmed)	[2006] 2004
<i>Objective 1.4: Implement power projects to maximize long-term environmental sustainability</i>	<p>(a) Implement power projects sympathetic to environment and society</p> <ul style="list-style-type: none"> • Enact the Environmental Management Standards designed to safeguard the environment and ensure affected communities are project beneficiaries. • Introduce formal IPP project procedures that ensure compliance with related Laws, Regulations, guidelines and Environmental Management Standards. • Refer Obj 1.1(a) regarding electrification targets. <p>(b) Reduce use of carbon-based energy sources</p> <ul style="list-style-type: none"> • Refer Obj. 1.3(a) regarding indigenous energy preference provisions of project evaluation guidelines. 	MIH/DOE MIH/DOE, LNCE, STEA & CPC MIH/DOE	UNDP (confirmed) ADB (confirmed) ADB/WB/GOL (progressive) JICA (request pending)	June 2003 Dec 2003 2005 2005

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion Date
2. Promote power generation for export to provide revenues to meet GOL development objectives with ASEAN / GMS countries	<p>Objective 2.1: Develop power trade with ASEAN / GMS countries</p> <ul style="list-style-type: none"> (a) Fulfil MOU undertakings regarding power trade with Thailand and Vietnam <ul style="list-style-type: none"> • Assist NTPC in closing loans of Nam Theun 2. • Implement clear and transparent IPP project selection and implementation procedures to encourage reputable developers (refer Obj. 2.2(b)). • Prepare pre-feasibility studies of candidate project developments in Southern and Northern Grids (refer Obj. 1(c)), factoring in EdL export opportunities using EGAT bilateral tariff assumptions. • Initiate studies of Thailand-Lao-Vietnam transmission interconnection through Nam Theun 2 and through the Xekong Basin to Pleiku. • Implement economic electricity supplies to border areas of Cambodia and Vietnam. • Please remove due to this activity has completed and already in operation. (b) Pursue opportunities for maximizing revenues from net exports of electricity from EdL power stations (c) Monitor and capitalize on power trends in GMS/ASEAN countries (d) Explore opportunities for least-cost supply of border areas 	LNCE and Nam Theun 2 Office, CPC LNCE in coordination with CPC MIH/DOE/EdL	NTPC (confirmed) ADB (confirmed) ADB (requested)	2004 (progressive) 2004 Dec 2003 Dec 2003, subject to GMS program 2005
Objective 2.2: Develop IPP project selection and implementation procedures	<ul style="list-style-type: none"> (a) Select and sequence IPP project to achieve optimal employment of natural resources <ul style="list-style-type: none"> • Review existing MOUs and concessions and, where legally feasible, formally terminate those found to be inactive. 	LNCE, CPC	ADB (confirmed)	Dec 2004

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion Date
(b) Introduce clear IPP project implementation procedures for certainty, transparency and control	<ul style="list-style-type: none"> • Update ranking of available sites suitable for IPP implementation. • Formulate orderly, transparent and, wherever appropriate, competitive IPP procedures for promoting projects, selecting project sponsors and awarding IPP mandates (refer Obj. 2.1(a)). • Enact Regulations for Electricity Law establishing an effective licensing procedure and giving effect to the procedures formulated pursuant to Obj.2.2(b). 	MIH/DOE in coordination with LNCE LNCE, CPC	WB (confirmed) ADB (confirmed)	Sep 2003 Jun 2004
(c) Award Licenses and implement projects using transparent and competitive procedures		LNCE, CPC	ADB (requested)	Dec 2003
<i>Objective 2.3: Maximize Lao benefits from IPP developments</i>				
(a) Derive GOL revenue benefits from IPP projects	<ul style="list-style-type: none"> • Adopt selection criteria for IPP projects and sponsors, specify License conditions and introduce IPP implementation procedures (refer Obj 2.2(b)). • Consult with multilateral, bilateral and export credit agencies regarding country risk management strategies to counter investor and lender concerns and facilitate financing for IPP projects. 	LNCE, CPC	ADB (confirmed)	Jun 2004
(b) Derive non-revenue benefits from IPP projects	<ul style="list-style-type: none"> • Incorporate criteria reflecting non-revenue benefits in IPP project assessment processes and licensing conditions (e.g. economic and social benefits). • Design transparent processes for applying GOL's IPP revenues to achieve social objectives. • Enact Regulations for Electricity Law that provide for effective impact assessment, monitoring and enforcement (refer Obj.1.4(a)). 	LNCE or CPC LNCE or CPC	ADB (confirmed)	Dec 2003 2004
(c) Minimize adverse social and environmental effects of IPP projects		MIH/DOE & EdL MIH/DOE	ADB (requested) GOL (confirmed)	2004 2003-2005 (progressive)

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion Date
	<ul style="list-style-type: none"> Finalize Water Quality Standards for dam releases on Public Involvement Process for electricity projects. Incorporate criteria reflecting social and environmental issues in selection, assessment and award of candidate IPP projects (refer Obj.2.2). Establish criteria for IPP equity involvement to promote rational investment decision-making. <p>(d) Promote beneficial GOL equity participation in IPP projects</p>	MIH/DOE MIH/DOE LNCE in coordination with line agencies	AFD co-financing ADB for Nam River Basin Development Project Confirmed ADB (confirmed) ADB (confirmed)	Dec 2004 2004 2004
	<p><i>Objective 2.4: Develop transmission infrastructure development for regional power trade</i></p> <ul style="list-style-type: none"> Develop HV grid to receive output from IPP projects Create institutional and legal environment for National Electricity Transmission Grid (NTEG). Develop NTEG to integrate with GMS/ASEAN regional power transmission grid 	<ul style="list-style-type: none"> Assist NTPC in implementing Nam Theun 2 transmission interconnection with EGAT. Implement HV transmission interconnection between Thailand, Lao PDR and Vietnam (refer Obj.2.1(c)). Monitor developments in regional power trade and review the potential role of NTEG as transmission provider and single buyer of Lao IPP generation output. Monitor GMS/ASEAN plans for regional HV interconnections (refer Obj.2.1(c)) and coordinate national transmission planning with regional HV transmission development. 	LNCE MIH/DOE MIH/DOE GMS program (progressive) ADB (progressive) GMS/ASEAN program (progressive)	2008 2010 Dec 2003 subject to progress of IPP projects Progressive

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion Date
3. Develop and enhance the legal and regulatory framework to effectively direct and facilitate power sector development	<p>Objective 3.1: Review legislation governing the power sector</p> <ul style="list-style-type: none"> (a) Review and enhance legal framework as it relates to power sector legislation (b) Introduce Regulations for power sector legislation <p>Objective 3.2: Strengthen laws protecting the environment</p> <ul style="list-style-type: none"> (a) Introduce Regulations for Environmental Protection Law (b) Implement provisions of NEAP relating to the power sector 	<ul style="list-style-type: none"> • Review Electricity Law and recommend enhancements, as applicable, to reflect recent changes in the sector and to accommodate and future demands. • Enact Regulations for the Electricity Law (refer Obj.2.3(c)). • Enact Lao Electrical Power Technical Standards • Prepare model hydropower concession agreement based on best practice principles. 	<ul style="list-style-type: none"> MIH & MOJ MIH/DOE MIH/DOE LNCE or CPC 	<ul style="list-style-type: none"> ADB (requested) GOL GOL ADB (UNIDO funded Nam Mo concession)
		<ul style="list-style-type: none"> • Apply Regulations for Environmental Protection Law to existing and new power projects. • Prepare resourcing and implementation plan for putting environmental monitoring and enforcement provisions of the Regulations into effect. • Apply and enforce NEAP provisions in respect of all power sector projects 	<ul style="list-style-type: none"> MIH/DOE in coordination with STEA MIH/DOE in coordination with STEA MIH/DOE in coordination with STEA 	<ul style="list-style-type: none"> 2003-2005 (progressive) Dec 2003 2003 (progressive)

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion Date
(c) Strengthen environmental monitoring and enforcement	<ul style="list-style-type: none"> Monitor project impacts for compliance with the <i>Regulations on the Implementation of Environmental Assessment for Electricity Projects in Lao PDR and Environmental Management Standards</i>. 	MIH/DOE in coordination with STEA	GOL	2003-2005 (progressive)
Objective 3.3: Develop legal framework to align with international investment practices	<ul style="list-style-type: none"> Examine legislation governing commerce, banking, foreign investment, tax and contract law as applicable, to meet the requirements of the power sector generally and the IPP program in particular. Identify a donor to support a training program within GOL agencies to improve capacity to evaluate and administer private infrastructure projects. 	LNCE and MOJ in coordination with line agencies MIH/DOE	ADB/JICA (request pending) ADB/WB (request pending)	2003-2005 Jun 2003
Objective 3.4 Develop the legal and regulatory framework for Off Grid	<ul style="list-style-type: none"> Draft and review a Decree governing Off-Grid Fund with procedures to govern: <ul style="list-style-type: none"> Subsidy and pricing regulations Disbursement regulations Concession agreement formats Hire-purchase contract formats Environmental and Safety regulations Planning regulations To be detailed within Procedures governing concession agreement and hire-purchase contract agreements (refer Obj.3.4(a)) To be detailed within Procedures governing Subsidy and Pricing regulations (refer Obj.3.4(a)) 	MIH/DOE MIH/DOE MIH/DOE	WB (confirmed) WB (confirmed) WB (confirmed)	Mar 2003 (progressive) Mar 2003 (progressive) Mar 2003 (progressive)

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion Date
(d) Introduce systematic and sufficient capital subsidy and tax incentives for Off Grid	<ul style="list-style-type: none"> To be detailed within Procedures governing Subsidy and Pricing regulations (refer Obj.3.4(a)) 	MII/DOE	WB (confirmed)	Mar 2003 (progressive)
(e) Prepare Regulations governing application of disbursements from Off Grid Fund	<ul style="list-style-type: none"> To be detailed within Procedures governing Disbursement regulations (refer Obj.3.4(a)) 	MII/DOE	WB (confirmed)	Jul 2003 (progressive)

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion date
4. Strengthen institutions and institutional structures to clarify responsibilities, strengthen commercial functions and streamline administration	<p>Objective 4.1: Restructure power sector institutions to clarify responsibilities for power sector</p> <p>(a) Strengthen DOE's role as primary GOL agency for power system planning and IPP management</p> <ul style="list-style-type: none"> Study the potential impacts to other sectors of the economy of power sector strengthening initiatives Clarify IPP responsibilities of, and demarcations between, Secretary unit (LNCE), DOE and the Department for Promotion and Management of Domestic and Foreign Investment. Implement institutional strengthening to devolve responsibility for long term power planning and generation and transmission project selection from EdL to DOE.(including hardware and software) Build DOE team capacity by maintaining blend of local consultants, international TA, and DOE and PDIH staff to license enterprises, administer Off-Grid Fund, support ESCOs and oversee implementation and operation (refer also Obj.1.2(b)). Implement a micro-hydro pilot project as model. <p>(b) Strengthen the role of DOE and PDIH as primary GOL agency for Off Grid development</p> <p>(c) Establish the Lao National Grid Company to develop a HV grid in Lao PDR</p> <p>(d) Identify or create a suitable agency to take over GOL's IPP equity investments</p>	<p>MIH/DOE</p> <p>MIH in co-ordination with LNCE, CPC</p> <p>MIH/DOE</p> <p>MIH/DOE</p> <p>MIH/DOE</p> <p>MIH/DOE</p> <p>LNCE in conjunction with lines ministries</p>	<p>ADB (requested)</p> <p>GOL (confirmed)</p> <p>ADB (requested)</p> <p>WB (confirmed)</p> <p>NEF (Japan) (confirmed)</p> <p>ADB (request pending – timing to be decided)</p> <p>ADB (confirmed)</p>	Jun 2004 Jun 2003 2004 2004 2004 (progressive) Mar 2004 (progressive) 2008 (progressive) Dec 2003

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion date
Objective 4.2: Define clear electricity pricing guidelines	<ul style="list-style-type: none"> Define fair tariff-setting principles that recognize needs of electricity retailers and customers Implement a study (i) establish the real cost of electricity in the EdL system, (ii) assess the socio-economic impacts of increasing tariffs, (iii) propose tariff strategies to reconcile social and economic priorities, and (iv) propose a target date for introducing a cost-recovery tariff (Refer Obj.4.3(b)). Implement a public awareness program to inform and explain tariff increases (to be implemented through SPRE-2). Publish tariff-setting guidelines that set out mechanisms for determining tariff in the Main Grids applicable to the following periods: <ul style="list-style-type: none"> transition of tariff to cost-recovery levels; maintenance of tariffs at cost-recovery levels. Prepare a GOL paper outlining options for regulation in the Lao power sector in respect of tariff setting and licensing. <p>(b) Consider and evaluate models for achieving independent regulation of the Lao power sector.</p>	<ul style="list-style-type: none"> MIH in co-ordination with Ministry of Finance MIH/EdL MIH in coordination with Ministry of Finance MIH/DOE & LNCE in conjunction with line ministries 	<ul style="list-style-type: none"> WB (requested) WB (requested) WB (requested) ADB (requested) 	<ul style="list-style-type: none"> Jan 2005 Jan 2005 Jan 2005 2003
Objective 4.3: Establish EdL on a sound commercial footing	<ul style="list-style-type: none"> Revise EdL Charter to reflect GOL policy Implement financial restructuring of EdL <p>(a) Revise EdL Charter to reflect GOL policy</p> <p>(b) Implement financial restructuring of EdL</p> <ul style="list-style-type: none"> Issue revised EdL Charter Improve the debt:equity position to 60:40 by conversion of EdL debt to equity, relaxation of loan terms and by other means. Implement the Contract Plan 2001 – 2003. [delete ????? see under 4.3(c)] Revalue EdL's fixed assets. 	<ul style="list-style-type: none"> MIH & /MOF Ministry of Finance EdL Ministry of Finance 	<ul style="list-style-type: none"> GOL (confirmed) n/a EdL EdL 	<ul style="list-style-type: none"> 2003 Completed Progressive Completed

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion date
(c) Establish EdL operations on a sound commercial basis	<ul style="list-style-type: none"> Review and update EdL's capital expenditure program in accordance with the Power Development Plan. Reduce losses (technical and non-technical) to [12%] through cost-effective loss reduction strategies. Beginning Year 2002, maintain levels of electricity tariffs to meet EdL's tariffs to meet EdL's financial performance objectives and loan covenants. Implement computerized systems for management information and billing & collection. THPC dividends in excess of EdL's obligations under its credit agreements to be remitted to GOL. Determine the value of electricity tariff needed in the EdL system to recover costs, and fix a target date for introducing a cost-recovery tariff (refer Obj.4.2(a)). Identify EdL functions that may be divested or outsourced. Prepare a discussion paper on taxation reform in the power sector applicable to power sector [check] 	MIH/DOE/EdL In conjunction with MOF ???	WB (confirmed) EdL (progressive) EdL	Sep 2003 2012 Progressive
(d) Review EdL functions with a view to encouraging greater private sector involvement		EdL	EdL (confirmed)	2003
(e) Review taxation arrangements applicable to power sector		EdL	n/a	Jan 2005
		MIH in co-ord. with Ministry of Finance	WB (requested)	Dec 2003
		PMO	GOL (progressive)	Dec 2003
		MIH in coordination with Ministry of Finance	ADB (requested)	Dec 2003
Objective 4.4 Create institutional arrangements conducive for Off Grid developments				
(a) Promote establishment of ESCOs	<ul style="list-style-type: none"> Issue and oversee pilot ESCO Off-Grid concessions under auspices of Off-Grid Fund committee and secretariat in Vientiane Province, Xiengkhouang, Sayabouri and Luang Prabang. 	MIH/DOE	WB (confirmed)	2003 (progressive)

Policies	Implementation Steps	Executing Agencies	Possible Source of Funding	Completion date
(b) Establish and manage the Off Grid Fund to promote self-sustaining Off Grid schemes	<ul style="list-style-type: none"> • Further ESCO concessions to be issued in Oudomxay, Luangnamtha, Champassak and Bokeo. • Off-Grid Fund to be established with a permanent secretariat within DOE. • Secure funding of pilot Off-Grid Fund secretariat for two years from July 2004 to July 2006. • Design self-financing mechanism for Off-Grid Fund secretariat and committee through hire-purchase repayments. • Include capacity-building proposals for Rural Electrification Div. and provincial authorities in proposals made to donors. 	MIH/DOE MIH/DOE MIH/DOE MIH/DOE	WB (confirmed) GOL (repayment of customers) WB (confirmed) WB (confirmed)	2003 (progressive) 2003 (progressive) Jun 2004 (progressive) Dec 2003 (progressive)
(c) Strengthen institutional capacity to oversee Off Grid fund disbursements and monitoring		MIH/DOE	WB (requested)	2004