ASEM Ministerial Conference on Energy Security
Brussels, 18th June 2009

Lao PDR

Key economic and energy data

Economic indicators		1990	2004	2005	2006
Population	Millions	4.1	5.8	5.9	6.1
GDP growth rate	%/year	6.7	6.3	7.0	7.3
GDP/capita	US $	209	424	553	565
Energy security indicators					
Energy independence rate	%	94	88	86	83
Share of oil imported(+) exported(-)	%	100	100	100	100
Energy efficiency indicators					
Total consumption/GDP *	1990=100	100	61.6	60.0	57.9
Transport and distribution rate of losses	%	10.6	6.9	6.9	6.9
Efficiency of thermal power plants	%	23.7	33.2	33.2	33.2
CO2 emissions indicators					
CO2 emissions/GDP *	kg/$95	0.11	0.20	0.21	0.22
CO2 emissions/capita	tCO2/cap.	0.10	0.32	0.35	0.38
* at purchasing power parity					
Source: Enerdata from IEA, Eurostat, Cedigaz, World bank, IMF, APERC, ADB and national data.					

Energy supply

The main sources of energy and economic wealth are hydroelectricity (potential of 18 000 MW with only 600 MW used) and the heavily exploited forest. Exploration for hydrocarbons started in 1991 but has so far been unsuccessful.

The total electricity generating capacity is 610 MW, of which 600 MW is hydro. The main hydroelectric power plants are Nam Ngum (150MW), Xeset (45MW), Nam Theun Hinboun - the main IPP (210 MW), Huai Ho (126 MW) and Nam Leuk (60 MW). Approximately 80% of the electricity is exported to Thailand, with 3 dams dedicated almost exclusively to exports: Nam Ngum 1, Nam Theun Hinboun and Houay Ho.

The maximum electricity production varies between 3.2 and 3.6 TWh according to water availability. The exports are around 2 TWh/year. Some regions are supplied with imports from Thailand or by diesel groups. The existing electricity network is not interconnected: there are 4 networks, the most important of which is that of the Ventiane region («Central 1»).

Since 1989 Lao has produced limited quantities of coal (210 kt), the major part of which is exported to Thailand.

Energy demand

The energy consumption is relatively low: 0.39 toe/capita (0.15 toe/capita without biomass), 200 kWh of which is electricity.

Biomass meets 61% of the energy needs followed by oil (24%), coal (9%) and hydro (5%). Electricity consumption is increasing rapidly (on average 10%/year since 1995). The Ventiane region uses 50% of the electricity consumed in the country. Households are the main consumers (50%). The electrification rate is increasing rapidly: the electricity network serves approximately 47% of the population (against 36% in 2000). The low electricity price in this region favors a rapid spread of the use of electricity, in particular, to replace the use of traditional cooking fuels. The transport sector absorbs most of the oil products and commercial energy. Industry consumes a very limited amount of energy.

Energy efficiency

Efforts are currently aimed at setting up institutions to implement policies and regulations.

Environment: CO_2 emissions

Lao ratified the Kyoto Protocol in 2003.

Institutions: main players

The Ministry of Energy and Mines is responsible for the energy sector and the Ministry of Trade (www.moc.gov.la) supervises the hydrocarbons sector.

The **National Energy Committee** (www.poweringprogress.org), under the supervision of the Ministry of Energy and Mines, operates as a governmental agency in charge of the development of electricity projects. The Committee of Planning and Cooperation is the highest authority for the coordination of the sectoral plans.

The **Science, Technology and Environment Agency (STEA)** (www.culturalprofiles.net/laos/Units/603.html) is in charge of coordinating the environmental policies and of the research and development projects in the energy sector.

Main energy companies

Three foreign firms are active in the exploration of hydrocarbons (since 1991): 2 British firms (Enterprise Oil and Monument Oil and Gas) and an American firm (Hunt Oil). As far as distribution is concerned, several foreign firms, mainly Thai, operate alongside the national company Lao State Fuel Enterprise.

EDL, Electricité de Laos (www.edl-laos.com) is a public company responsible for the production, transport, distribution and export of electricity. There are plans to create an electricity transmission company (LNGC, Lao National Grid Company).

Two independent producers operate in the country: **THPC**, Nam Hinboun Power Company Ltd, for Nam Theun Hinboun hydropower plant and **Houay Ho Power Company Ltd** (www.houayho.com) for Houay Ho hydropower plant.

Energy balance (2006)

(Mtoe)	Coal	Crude Oil	Oil Products	Natural Gas	Primary Elec.**	Elec.	Biomass	Total*
Production	0.21				0.30		1.43	1.95
Imports			0.57			0.04		0.61
Exports						-0.22		-0.22
Intl. Marine bunkers								
Stock changes								
Primary consumption	**0.21**		**0.57**		**0.30**	**-0.17**	**1.43**	**2.34**
Petroleum refineries								
Power plants					-0.30	0.30		
Others						-0.02	-0.04	-0.06
Final Consumption	**0.21**		**0.57**			**0.10**	**1.40**	**2.28**
of which :								
Industry			0.004			0.02		0.03
Transport			0.54					0.54
Households & services	0.21		0.02			0.08	1.40	1.71
Non energy uses								

* Including heat ** Nuclear, hydroelectricity, wind and geothermal

Source: Enerdata from IEA, Eurostat, Cedigaz, APERC, ADB and national data