Lao PDR Power Policy and Development Program

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# Table of Content

- Development History
- Existing and Planned Projects
- Participation of Private Sector
- Other Tangible Benefits of Hydropower
- Vision 2030
Development History

By Year 1975

☐ Only 3 hydro power plants with 32 MW, 240GWh

☐ Population ~ 3 millions

☐ Only 5 main cities electrified

☐ Estimated less than 10% of families have access to electricity;
1\textsuperscript{st} Power Sector Policy was formulated in 1990:

1. Earn foreign exchange through electricity export to finance the country’s economic and social programs;

2. Increase access to electricity by grid extensions and off-grid rural electrification;

3. Maintain an affordable tariff to promote economic and social development;

4. Replace dependence on imported fuels for energy generation.
In early 2005, the power sector played more significant and strategic role when the Govt’ laid out important targets in the NSEDP:

- Provide a source of foreign exchange to fund economic and social development and alleviate poverty;
- Meet the commitments under intergovernmental MOUs and Agreements with Thailand, Vietnam and others;
- Extend rural electrification to promote better socio-economic development and reach the government target of 70% and 90% by year 2010 and 2020 respectively;
- Integrate power sector and maintain its economic development as a whole with international communities through its power exchange programs and foreign direct investment.
Projects supported by International Financing Institution

**NamNgum-1**: UN-ESCAP, USaid, Japan, Netherland, Canada, Thailand, France, Denmark, Australia, New Zealand, Germany, India, Switzerland, WB, OPEC, SKF

**Xeset-1, NamLeuk, Namsong, NamMang-3, TheunHinboun**: ADB, NORAD

**NamTheun-2**: WB, ADB
**Development History**

**Present day**

- Population of **6.4 mil. or ~27 people/square kilometers**;
- GDP is US$ 11 Billions (2013) and expected to grow at an average rate of 7.7%;
- Electrification ratio reached **87% of total households in 2014**, increased **36% from 2000**;
- Per Capita Electricity Consumption of **470 kWh/a** but has been growing at an average rate of more than **10% in the last 15 years**;
- **Electricity export ~ 15% of total country’s export revenues**;
- Power sector’s contribution to GDP is projected to increase to **~16% in 2020**;
Buying price from power generators 6.5UScent/kWh
Development of Hydropower in Lao PDR

- **Inst. Capacity (MW):**
  - 1975: 32
  - 2000: 640
  - 2010: 1,930
  - 2015: 3,294
  - 2020: 7,586
  - 2030: 17,000

- **Dom. Demand, [MW]:**
  - 2000: 12
  - 2010: 180
  - 2015: 590
  - 2020: 2,774
  - 2030: 5,028
Existing and Planned Projects
(as per March 2015)

1. 27 hydro Projects in operation: 3,294MW with energy output 15,887GWh
2. 2 Biomass power plants: 35MW with 163GWh

3. 44 hydro + 1 thermal projects under construction: 6,185MW with energy output 32,866GWh

4. 24 hydro projects under final preparation / negotiation and F/S: 1,642MW with energy output 7,305GWh

5. Hydro potential in Laos is about 26,000 MW
List of Potential Hydropowers on Mekong Mainstream

1. PakBeng  921MW
2. LuangPrabang  1,200MW
3. Xayabouri  1,285MW
4. Paklay  800MW
5. Sanakham  660MW
6. PhouNgoy  651MW

5,517MW

Distributary of Mekong River
1. Donsahong  260MW
Alternative energy project

Wind:
- 500MW (1st phase: 250MW) under negotiation for development
- 3 additional projects under field investigation

Solar:
- Only Home Solar System (SHS) (50–100W) (25,000 HH)
- 100kW demonstration project (Japan grant)
Participation of the Private Sector

**Major Players:**

- **Buyer:** IPP/Lender – GOL

**Major documents:**

- MOU – PDA – PPA – CA

**Major Stages:**

- Planning
- Design
- Construction
- Operation
5Ps MODEL:
Public - Private - Professional Partnership for the People

- Lenders
  - BBL
  - KTB
  - SCB
  - KBank
  - TISCO
  - EXIM
- EdL
- CK
- NSC
- EdL
- EGCO
- BECL
- PT
- Shareholders
- GOL
- Grantor
- Contractor & Supplier
  - CHK
  - PÖYRY, AF-Consult, CNR, TEAM GROUP, SEAN
- Engineering Consultants
  - EGAT
- Offtakers
Financial Incentives offered to Investors

- Reasonable tax holiday (5 years)
- Several taxes and other Government imposts waived
- Withholding tax on net profit repatriated to home/third countries waived
- Special rates of import duty for materials, equipment and supplies
- Foreign contractors/labors accepted
- Concession period of 25–30 years
- ROI of 12–15%
- Off-shore bank account permitted
Other Tangible Benefits of Hydropower
Advantages of Hydropower

- Hydropower is renewable
- ……is an enabler
- ……… is affordable
- …………… is reliable
- …is good for economic and social development
- ……………….is clean
- ……………………. is versatile
- ……………………. is lifesaving
- ……………………. is recreational
- …………………….is creating value-added property
Why does Lao PDR choose Hydropower?

- Hydropower offers sustainable income resources;
- Lao PDR has 40 years experience starting with iconic NamNgum-1 hpp;
- Hydropower offers more than electric power;
- Hydropower is a non-consumptive use of water.
Vision 2030 of the Power Sector

- Developing all potential renewable resources available based on competitiveness, sustainability and efficiency;

- Promoting the power interconnection with the region by harmonizing and strengthening the national power grid;

- Ensuring the reliable supply to all sectors in line with the industrialization and modernization policy;
To study cross border power trade from Lao PDR to Singapore for 100MW with existing facilities.

The pilot project will serve as a pathfinder to complement existing efforts towards realizing the APG.

Aim at creating opportunities for multilateral electricity trading beyond neighbouring borders.
The Lao PDR’s vast hydropower potential provides the opportunity to become a “battery” to stimulate the regional power trade and so optimizing the energy-mix of the GMS countries.

However, this opportunity requires optimal development of the country’s hydropower resources in a sustainable way by sharing the multifaceted benefits delivered.
Thank you !!!

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