



EDL-Generation Public Company

Opportunity Day Presentation
19 May 2022



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Section 1: Lao PDR Overview



Country Overview

“Lao PDR is a land-linked country strategically located to benefit from growth in the region.”

Key Stats

GDP⁽¹⁾:

USD 19.13 billion

Population⁽¹⁾:

7.2 million

GNI per capita⁽¹⁾:

USD 2,629

Land area⁽¹⁾:

236,800 km²

Population density⁽¹⁾:

32 people per km²

GDP growth⁽¹⁾:

0.5%

Inflation⁽²⁾:

5.07%

Lao PDR is the member of:

ASEAN since 1997

WTO since 2013



71.9%⁽¹⁾ of the country is covered by forest and woodland with rugged mountains – ideal for hydroelectric generation⁽²⁾

Situated in the center of Greater Mekong Subregion.

Lao PDR is politically stable with strong social order

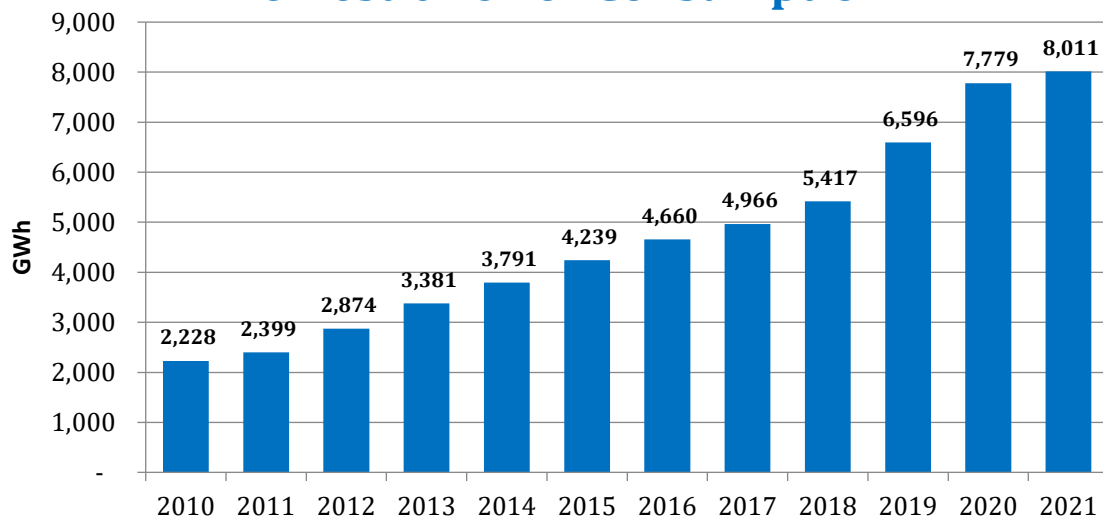


BBB-/Negative
by TRIS Rating

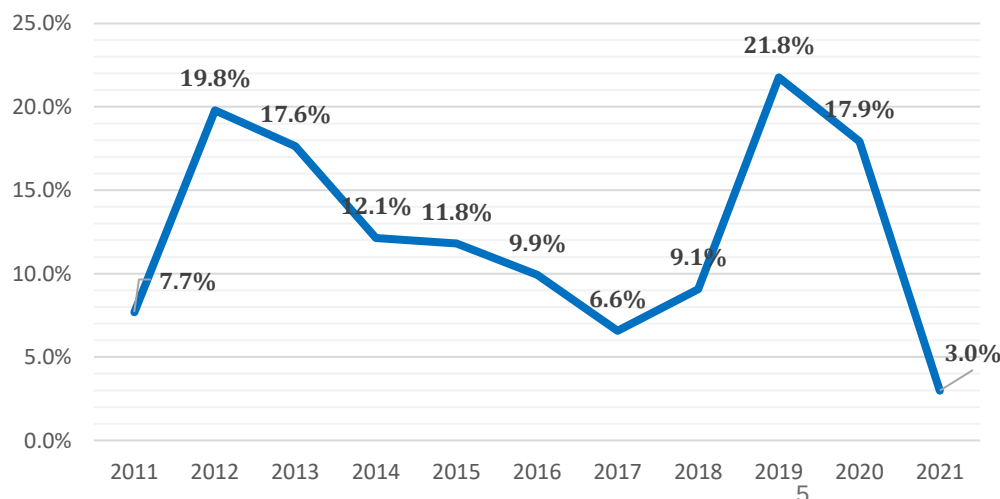
Long Term Robust Demand Growth: Laos Electricity Consumption 2010-2021



Domestic Power Consumption



Power Consumption Annual Growth Rate



Total power consumption in Laos in 2021 was 8,011 GWh (preliminary data from EDL), growing at 3.0% YoY, driven by a continuous consumption increase from top two consumer groups: industry (4.0% YoY) and residential (6.7% YoY).

The slower pace of growth in 2021 was contributed by a YoY contraction in Commercial, Entertainment, Sports & Education and Irrigation Sectors.

For 2010-2021 period, Laos electricity consumption has a compound annual growth rate (CAGR) of 12.3%.

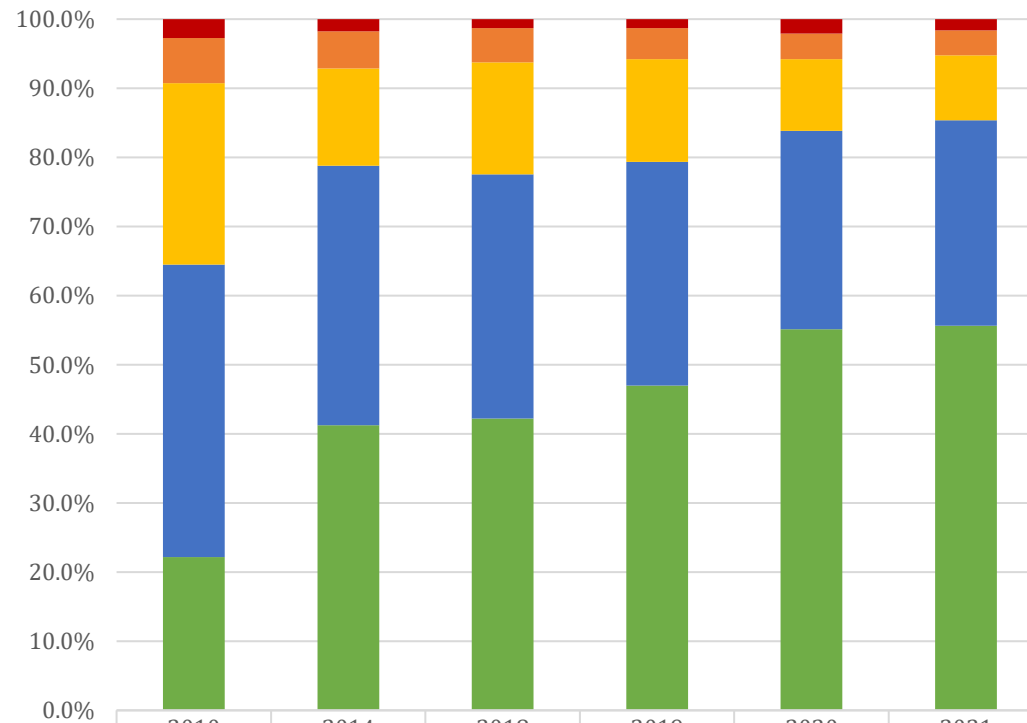
Source: The total domestic power consumption data are derived from EDL eight consumer groups reported in EDL Statistics Books 2011-2019. 2020 and 2021 data are preliminary from EDL.



Electricity Consumption by Consumer Groups

Selected years between 2010-2021 period

Domestic Electricity Consumption by Consumer Groups



■ Other 4 groups	2.7%	1.8%	1.3%	1.3%	2.1%	1.6%
■ Government	6.5%	5.4%	4.9%	4.5%	3.7%	3.6%
■ Commercial & Service	26.2%	14.0%	16.2%	14.9%	10.4%	9.4%
■ Residential	42.3%	37.6%	35.3%	32.4%	28.7%	29.7%
■ Industry	22.2%	41.2%	42.2%	47.0%	55.1%	55.7%

■ Industry ■ Residential ■ Commercial & Service ■ Government ■ Other 4 groups

Among 8 consumer groups, 4 groups covering more than 97% of total consumption from 2010-2021 are: industry, residential, commercial & service, and government.

The largest consumer group was Residential from 2010-2013 but was replaced by Industry group since 2014.

In 2021, Industry group covered 55.7% of total consumption.

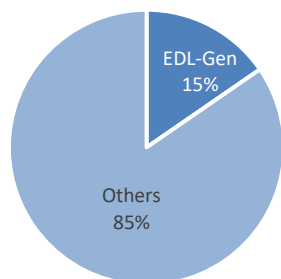
Compound Annual Growth Rate (CAGR) for 2010-2021:

- **Industry (22.1%)**
- **Residential (8.8%)**
- **Government (6.5%)**
- **Commercial (2.3%)**

Major Power Generators in Lao PDR



Total Power Capacity Breakdown



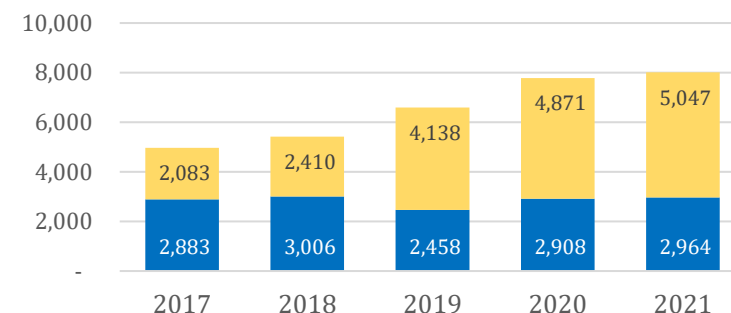
	Power Capacity (MW)	%
EDL-Gen	1,683	15.4%
Others	9,273	84.6%
Total	10,956	100%

Source: EDL Electricity Statistics 2021

EDL-Gen's Domestic Power Market Shares by Sales of Electricity

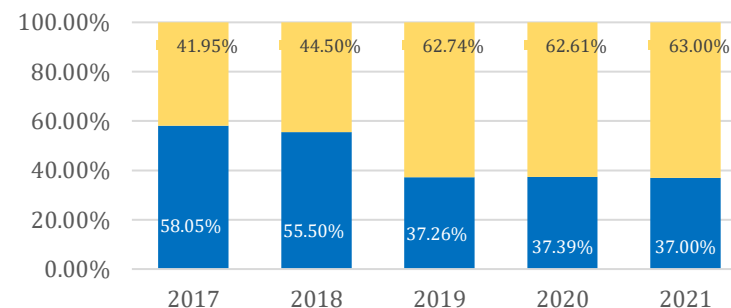
The graphs below show proportion of EDL-Gen's sales of electricity from its HPPs and its proportionate electricity sales from its IPPs to EDL compared to the total domestic power consumption.

GWh Domestic Supply: EDL-Gen vs Others (GWh)



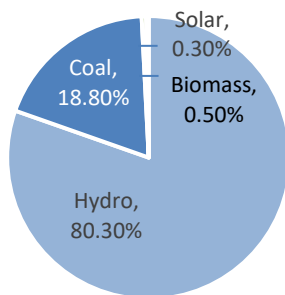
■ EDL-Gen Supply (including its IPPs) ■ Other domestic supply

Domestic Supply: EDL-Gen vs Others (%)



■ EDL-Gen Supply (including its IPPs) ■ Other domestic supply

Source of Power Breakdown



	Power Capacity (MW)	%
Hydro	8,910	80.3%
Coal	1,878	18.8%
Biomass	112	0.5%
Solar	56	0.3%
Total	10,956	100%

Source: EDL Electricity Statistics 2021



EDL-Gen MW for Domestic and Export Market

EDL-Gen Market Share in MW

- According to MEM, the total installed capacity of Lao PDR in 2021 is **10,956 MW**.
- Therefore, EDL-Gen's installed capacity of 1,683 MW covers around **15.4%** of the country's total installed capacity.

EDL-Gen Operating MW in 2021 by Off-takers				
	Equity MW	EGAT (Thailand)	EDL (Laos)	EDC (Cambodia)
Wholly-owned	699	0	699	0
IPPs	984	705	227	52
Total	1,683	705	926	52
%	100.0%	41.9%	55.0%	3.1%



Section 2:

EDL-Generation Public Company

EDL-Gen at a Glance

A key player in power industry in Lao PDR



EDL-Generation Public Company ("EDL-Gen"), an **electricity generating firm** in **Lao PDR**, has been **established in 2010** by splitting the generation division from Electricite Du Laos ("EDL") to establish as a public company

Key Financial Stats

LAK 7,705 bn Market Cap⁽¹⁾

(EDL-Gen accounts for c.50% of the total market capitalization of Laos Securities Exchange)

LAK 26,552 bn Asset⁽²⁾

LAK 17,321 bn Debt⁽²⁾

LAK 9,231 bn Equity⁽²⁾

BBB-/Negative
by TRIS Rating

Capacity

Total Company's Equity Attributed Capacity

1,683 MW ⁽²⁾

Including

10 Wholly-owned – 699 MW ⁽²⁾

16 IPPs – 984 MW ⁽²⁾



Major Shareholder - EDL

51% of EDL Gen is owned by Electricite du Laos ("EDL") - a state-owned corporation operating the country's main generation, transmission and power-distribution assets in Lao PDR.

24% is owned by Phongsupthavy Group - a private company domiciled in Lao PDR operating construction business, which covered construction of roads, general civil works and power projects.

10.1% is owned by Ratch Group - a Thailand-based holding company engaged in electricity generation, investment in power plant operations and maintenance services

EDL-Gen Operations

EDL-Gen operates the **wholly-owned** hydropower generation assets acquired from EDL and built for selling electricity to EDL.

EDL-Gen invests in equity shares in **Independent Power Producers ("IPPs")** and built the transmission lines including power stations for selling electricity to EDL and Electricity Generating Authority of Thailand ("EGAT").

EDL-Gen also provides operation and maintenance services of power-generation assets in Lao PDR.

Business Overview

EDL-Gen – generating & wholesale of electricity in Lao PDR



Generate electricity for wholesale to EDL

- Generate electricity & sell 'wholesale' to EDL to be sold domestically or export
- Build transmission lines & electro stations as required

❑ 10 Wholly owned projects with the total installed capacity of 699MW

Invest or joint venture in other electricity generating projects (IPPs)

- Invest in the electricity-generating projects of EDL that are currently under construction or in the planning phase
- Replace EDL as shareholder in these projects

❑ 16 IPPs with the equity installed capacity of 984 MW

Provide management & maintenance services for other electricity generating projects

- Serve all the electricity-generating projects in the country
- Boost, repair, & maintain the generators (electro stations)

❑ EDL-Gen Operation and Maintenance Service Co., Ltd



Current EDL-Gen Capacity (as of 31 Dec 2021)

13 WO: 717 MW (11 WO: 699 Under Operation)

No	Name	Location	MW	COD
1	Nam Ngum 1	Vientiane	155	1971
2	Nam Leuk	Vientiane	60	2000
3	Nam Mang 3	Vientiane	40	2005
4	Xeset 1	Saravanh	45	1991
5	Xeset 2	Saravanh	76	2009
6	Selabam	Champasak	5	1969
7	Nam Song	Vientiane	6	2012
8	Nam Sana	Vientiane	14	2014
9	Houay Lamphanh Gnai	Xekong	88	2015
10	Nam Khan 2	Luang Prabang	130	2015
11	Nam Ngum 1 Unit 7-8	Vientiane	80	2018
12	Xeset 2 Ext.	Saravanh	10	[2022]
13	Selabam Ext.	Champasak	8	[2022]

21 IPP: 1,232 MW (16 IPP: 984 MW operating)

No.	Name	Location	%	Equity MW	COD
1	Theun Hinboun	Bolikhamxai	60%	312.0	1998, 2013
2	Nam Ngum 2	Vientiane	25%	153.8	2012
3	Houay Ho	Attapeu	20%	30.4	1998
4	Nam Lik 1-2	Vientiane	10%	10.0	2010
5	Nam Ngum 5	Vientiane	15%	18.0	2012
6	Nam Long	Luangnamtha	20%	1.0	2013
7	Nam Beng	Oudomxay	10%	3.4	2016
8	Nam Ou 2	Luang Prabang	15%	18.0	2017
9	Nam Ou 5	Phongsaly	15%	36.0	2017
10	Nam Ou 6	Phongsaly	15%	27.0	2017
11	Nam Mang 1	Bolikhamxai	10%	6.4	2017
12	Solar (32MW)	Vientiane	60%	19.2	2017, 2018
13	Don Sahong	Champasak	20%	52.0	2019
14	Xayaburi	Xayaburi	20%	257.0	2019
15	Nam Lik 1	Vientiane	10%	6.0	2019
16	Nam tha1	Bokeo	20%	33.6	2019
17	Lower Huaylamphanh	Xekong	60%	9.0	2021
18	Nam Dik 1	Huaphanh	70%	10.5	[2025]
19	Nam Phoun	Xayaburi	51%	23.0	[2026]
20	Nam Theun 1	Bolikhamxai	15%	97.5	[2022]
21	Nam Bi 1, 2, 3	Xekong	80%	108.0	[2028]

Total Capacity Under EDL-Gen Ownership is **1,949 MW**

- **1,683 MW** under operation
- **266 MW** under construction/development)



Current Capacity Expansion Plan

Wholly-owned Projects						
No.	Project Name	Stake	COD	Expected Transfer Year	Total MW	Equity MW
1	Xeset 3	100%	2018	2022	23	23
2	Nam Khan 3	100%	2018	2023	60	60
3	Nam Chiane	100%	2018	2022	104	104
4	Selebam (Expansion)	100%	2022	2022	8	8
5	Xeset 2 (Expansion)	100%	2022	2022	10	10
6	Nam Ngum 1 (Ex-Unit 6)	100%	2021	2024	40	40
7	Nam Hinboun	100%	2021	2025	30	30
Total					275	275

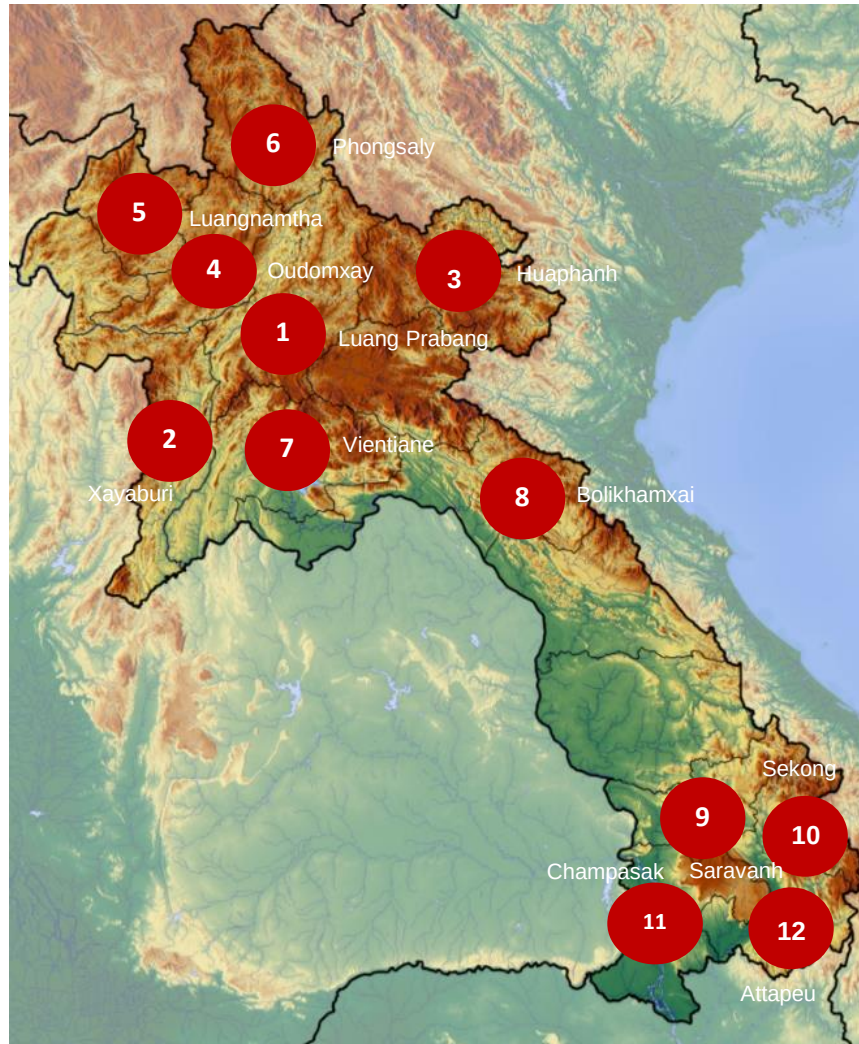
Independent Power Producers (IPPs)

No.	Project Name	Stake	COD	Expected Transfer Year	Total MW	Equity MW
1	Nam Ngiep 2	10%	2016	2022	180	18.0
2	Lower Houay Lamphan	60%	2021	2022	15	9.0
3	Xekaman 3	15%	2022	2022	250	37.5
4	Nam Theun 1	15%	2022	2022	650	97.5
5	Nam Dik 1	70%	2025	2025	15	10.5
6	Nam Phoun	51%	2026	2026	45	23.0
7	Nam Dik 2-3	70%	2025	2025	25	17.5
8	Nam Bi 1,2,3	80%	2028	2028	135	108.0
9	Pak Beng	19%	2030	2030	912	173.3
Total					2,227	494

- From 2021 to 2030, EDL-Gen total capacity is expected to increase to around 2,452 MW.
- Over this period, the company expects to add a total of 769 MW to its capacity, in which:
 - 275 MW come from 7 Wholly Owned Assets; and
 - 494 MW from shareholdings in 9 IPPs.



The Location of Current Assets



- 1 HPP: Nam Khan 2
IPP: Nam Ou 2
- 2 IPP: Xayaburi
IPP: Nam Phoun
- 3 IPP: Nam Dik 1
- 4 IPP: Nam Beng
- 5 IPP: Nam Long
- 6 IPP: Nam Ou 5
IPP: Nam Ou 6
- 7 HPP: Nam Ngum 1
HPP: Nam Leuk
HPP: Nam Mang 3
HPP: Nam Song
HPP: Nam Sana

IPP: Nam Ngum 2
IPP: Nam Lik 1-2
IPP: Nam Ngum 5
IPP: Solar (32MW)
IPP: Nam Lik 1
- 8 IPP: Theun Hinboun
IPP: Nam Mang 1
IPP: Nam Theun 1
- 9 HPP: Xeset 1
HPP: Xeset 2
HPP: Selabam
HPP: Houay Lamphanh Gnai
- 10 IPP: Lower Huaylamphanh
IPP: Nam Bi 1, 2, 3
- 11 IPP: Don Sahong
- 12 IPP: Houay Ho



Water inflows in 2021 and Outlook in 2022

- ❑ The below table shows water inflow statistics of 8 major HPPs (which produce more than 98% of total power generation) between 2016-2021 and 2022 plan

Inflow Statistics

No	Name of HPP	Capacity (MW)	Water Inflows (Unit: Million m3)						
			2016	2017	2018	2019	2020	2021	2022 Plan
1	Nam Ngum 1	155	10,453	10,067	15,547	8,234	8,697	9,202	9,777
2	Nam Leuk	60	440	401	405	225	524	378	464
3	Nam Mang 3	40	151	130	163	102	168	143	150
4	Xeset 1	45	467	568	710	544	519	615	459
5	Xeset 2	76	444	522	648	498	488	534	453
6	Nam Sana	14	172	135	190	93	127	124	156
7	Nam Khan 2	130	1,954	1,293	4,711	1,329	981	1,228	1,598
8	Houay Lamphan Gnai	88	289	352	274	232	308	282	316
			14,370	13,468	22,648	11,257	11,811	12,505	13,372

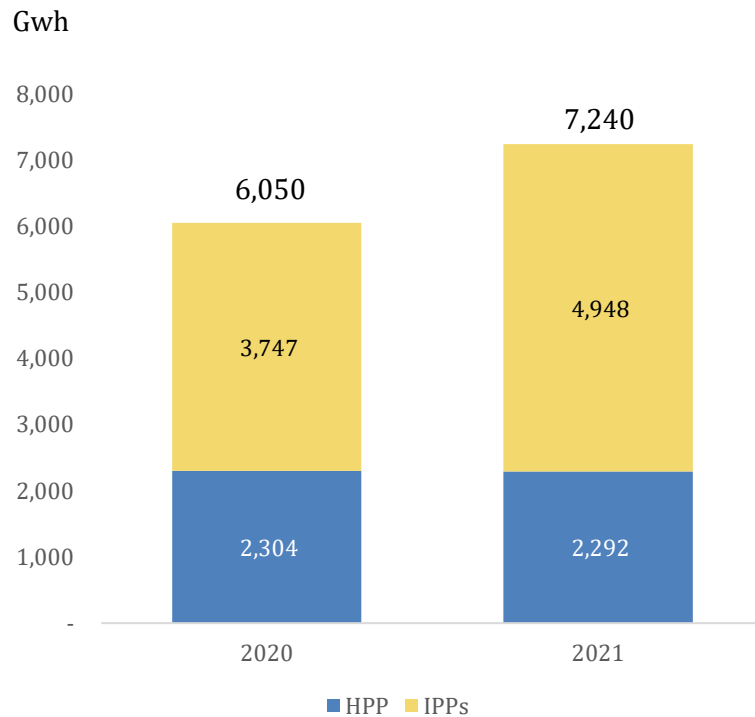
Comparisons		
21 vs 20	21 vs 5Y avg	22 Plan vs 21
106%	87%	106%
72%	95%	123%
86%	100%	104%
118%	109%	75%
109%	103%	85%
98%	86%	126%
125%	60%	130%
92%	97%	112%
106%	85%	107%

- ❑ 2021 water inflows were better than 2020, but still below the 5-year average.
- ❑ However, EDL-Gen plan for 2022 indicates better inflows than 2021.

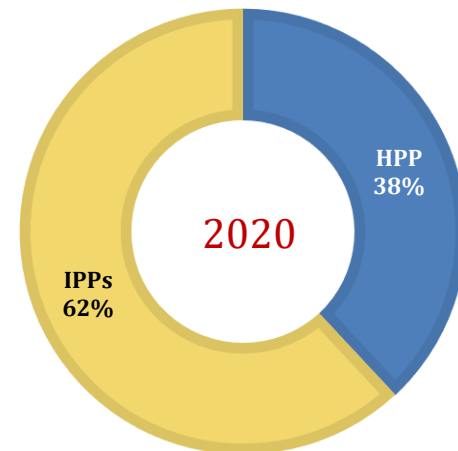
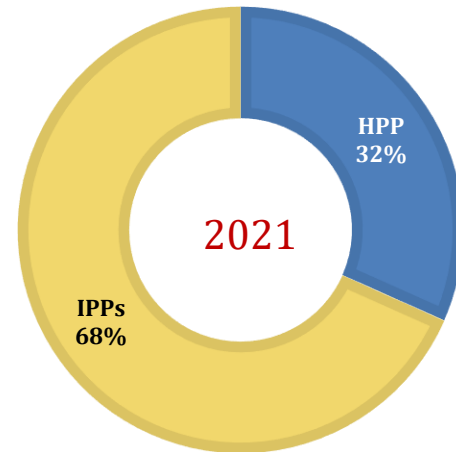


2021 Operation Performance

Power Generation



**In 2021, power generation increased
by 19.7% compared to 2020**

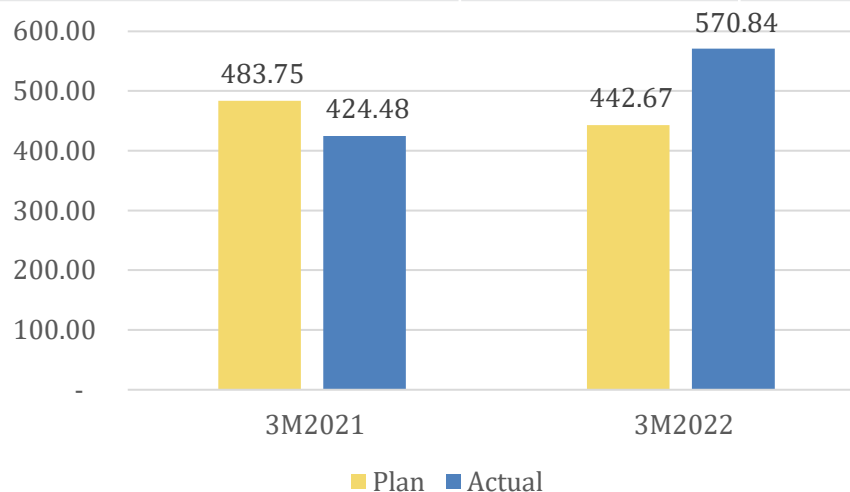




Operation Performance 3M 2021 vs 3M 2022

Power generation plan of HPP

No	Power Plant	3M 2021		3M 2022	
		Plan (GWh)	Actual (GWh)	Plan (GWh)	Actual (GWh)
1	Nam Ngum1 HPP	297.78	230.54	205.12	201.65
2	Nam Khan 2 HPP	-	0.43	63.00	63.95
3	Houay LamphanGnai HPP	96.52	84.42	75.60	124.27
4	Xeset 2 HPP	5.80	18.65	12.76	15.98
5	Nam Leuk HPP	30.00	30.17	30.00	36.14
6	Xeset 1 HPP	8.55	13.68	9.00	13.17
7	Nam Mang 3 HPP	21.00	22.80	26.00	28.97
8	Nam Sana HPP	2.80	2.16	2.80	4.10
9	Nam Song HPP	1.50	1.19	1.85	0.44
10	Selabum HPP	-	-	2.14	4.82
11	Nam Ngum 1 Unit 7-8	19.80	20.46	14.40	76.09
Total		483.75	424.48	442.67	570.84



❑ Q1/2022 generation exceeded plan by 28.95% and increased by 34.5% compared to Q1/2021.

Financial Performance

Income Statement (2021 Financial Statements)



	2021 Actual vs Plan			Year-on-year comparison		
<u>Unit: Billion LAK</u>	Plan	Actual	%	2020	2021	% Change
Revenue form sale	1,356	1,197	-12 %	1,167	1,197	2.5 %
Other income	14	55	308 %	44	55	25.4 %
Share of profit from investment in IPPs	736	961	30 %	499	961	92.6 %
Total Revenue	2,106	2,213	5 %	1,710	2,213	29.4 %
Cost of sales (Excluding Depreciation)	-61	-66	8 %	-52	-66	26.3 %
Administrative expenses	-200	-154	-23 %	-198	-154	-22.3 %
EBITDA (excl. FX gain/loss)	1,845	1,993	8 %	1,460	1,993	36.5 %
Depreciation	-466	-520	12 %	-516	-520	0.9 %
Foreign exchange gain/loss, net	9	-613	-7,202 %	-45	-613	1,250.4 %
EBIT	1,388	860	-38 %	899	860	-4.3 %
Interest expenses	-667	-856	28 %	-741	-856	15.5 %
Income tax	0	0		0	0	
Net Income	721	4	-99 %	157	4	-97.5 %

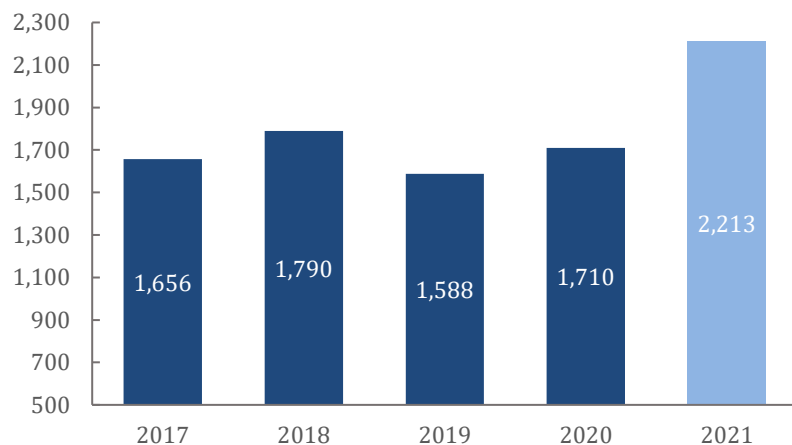


Financial Performance

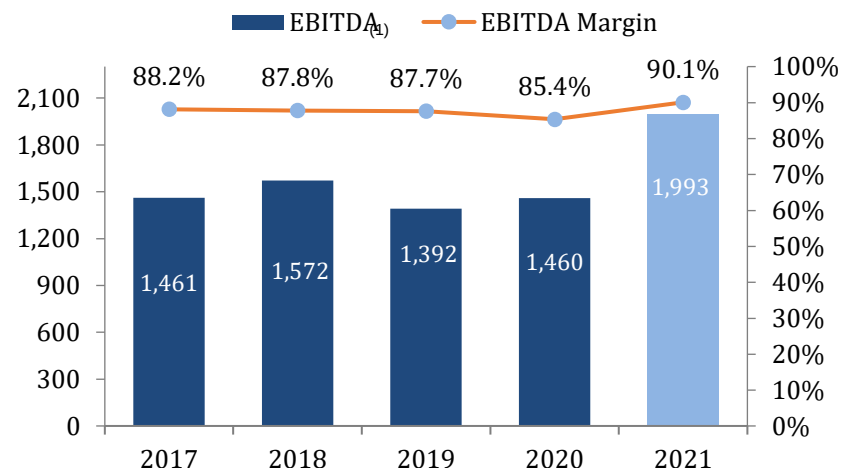
Income Statement (2021 Financial Statements)

Total Revenue

LAK Billion

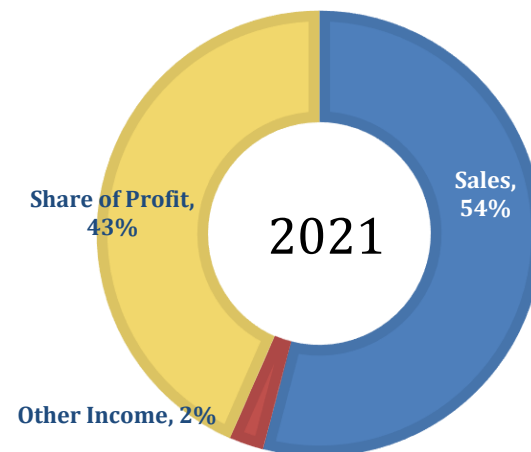
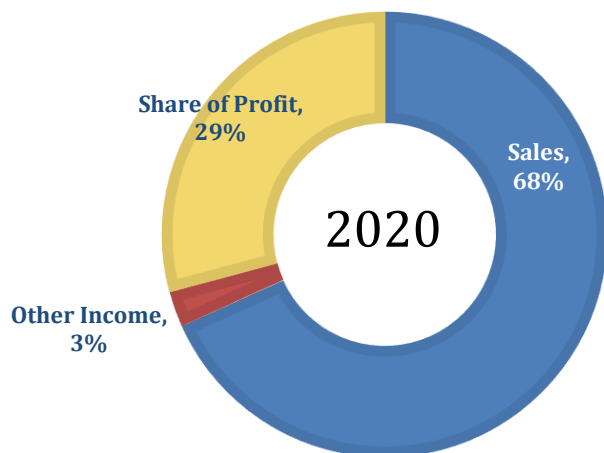


EBITDA



Notes: (1) EBITDA excludes foreign exchange gain/loss

Revenue Breakdown 2020 vs 2021

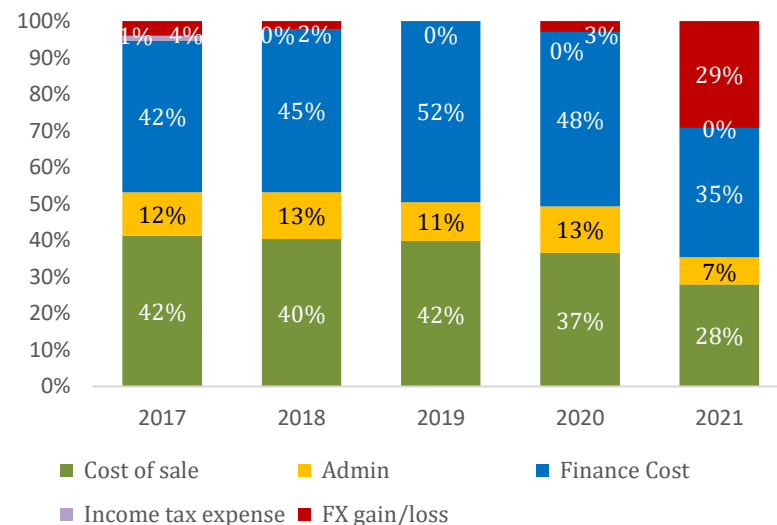
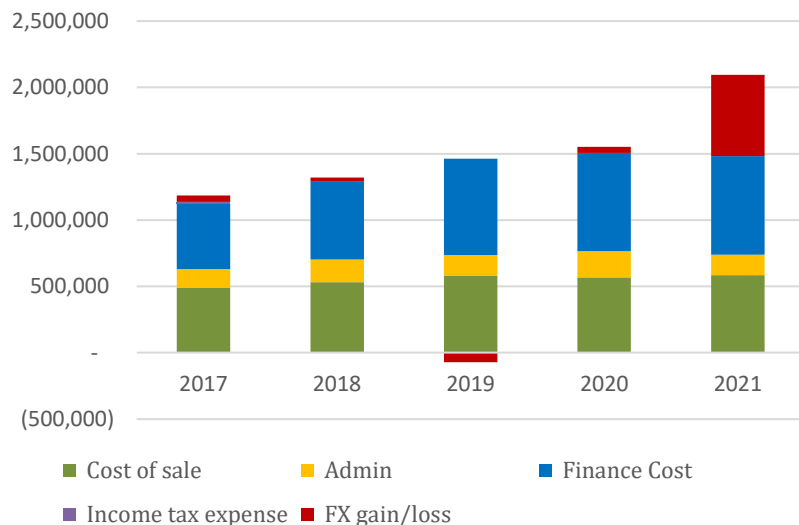




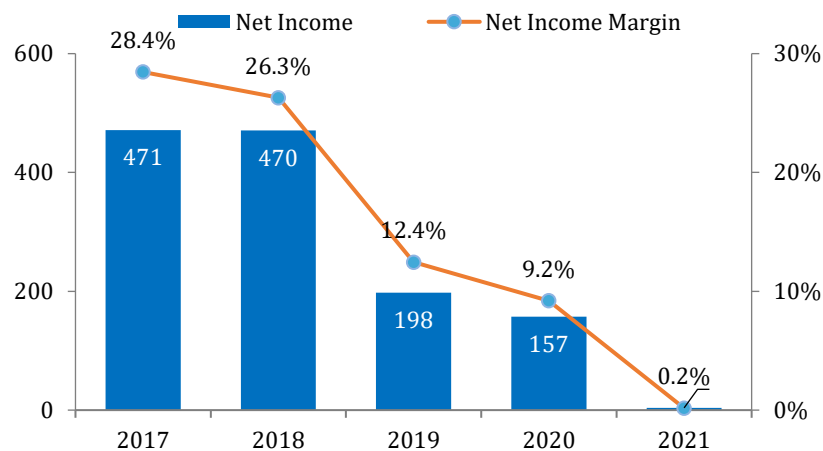
Financial Performance

Income Statement (2021 Financial Statements)

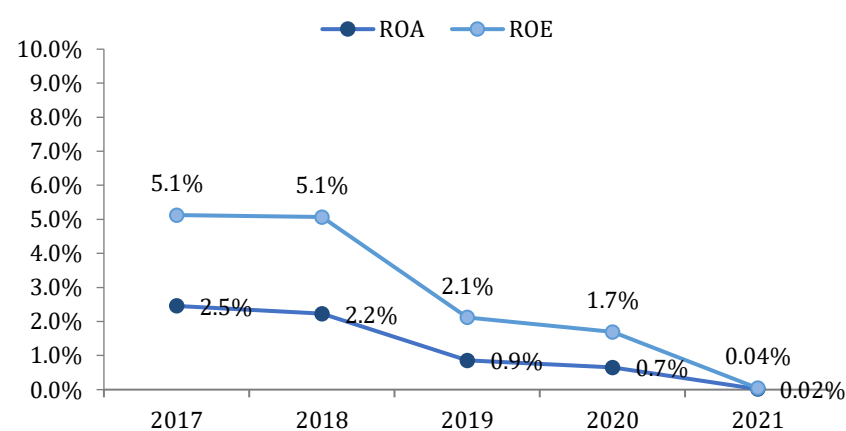
Total Expenses



Net Income



Profitability Ratios



Notes: ROA = Net Income / Average Total Assets
ROE = Net Income / Average Total Equity

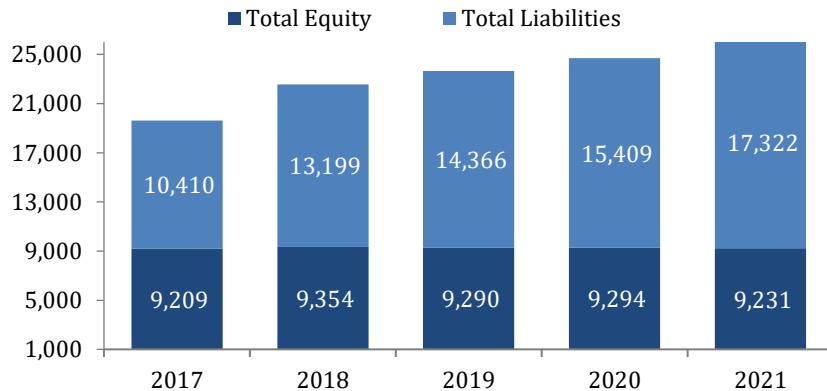
Financial Performance

Balance Sheet (2021 Financial Statements)



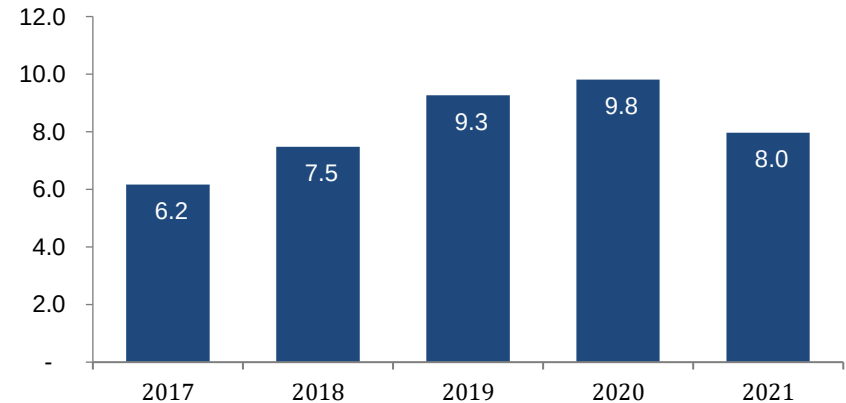
Total Asset

LAK Billion



Net Debt / EBITDA

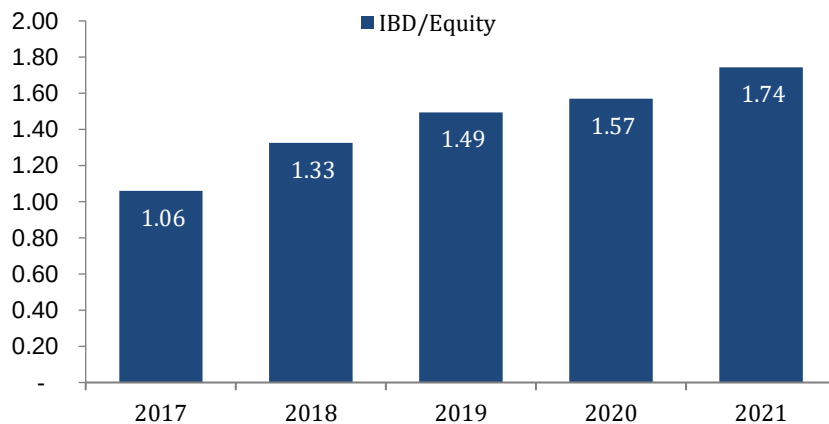
Times



Notes: Net Debt = Interest Bearing Debt – Cash and cash equivalents

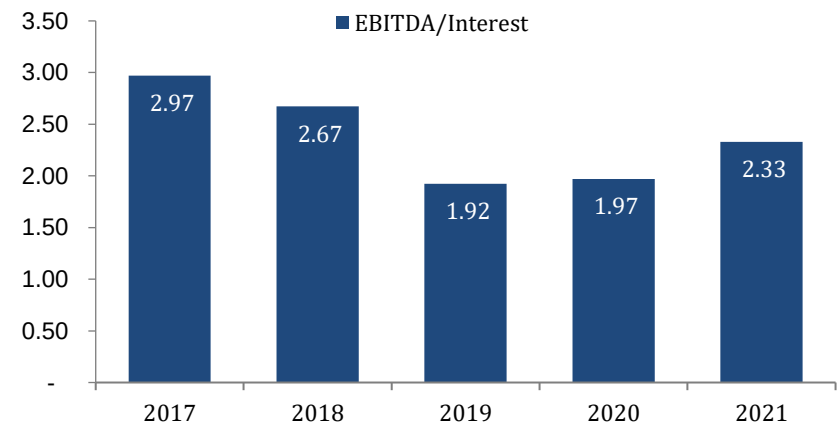
Interest Bearing Debts / Equity

Times



EBITDA / Interest

Times



EDL-Gen's Award in 2021



ASEAN Business Awards Laos and Skill Development 2021



EDL-Gen's Certificates & Awards



Nam Ngum 1

DAS Certification Environmental Management System, ISO 14001:2004



Selabum Hydro Power Plant

ASEAN Best Practices Renewable Energy Project Awards



THB 6.5bn Triple Tranche Bond

Asiamoney Country Deals 2014 Awards & IFR Asia Awards 2015 "Frontier Markets Issue"



The Asset Asian Awards 2016

Best Deal – Southeast Asia
"Best Bond"



ASEAN Business Awards (ABA) 2017

The ASEAN Business Awards recognize represents the Industry's most prestigious awards for success



ISO 9001:2008 Certificate of Quality Management System

For EDL-Gen head office in the time period 2014-2017



EDL-Gen Receives ASEAN-China Award 2017

"Outstanding Figures for Promoting ASEAN-China Enterprise Cooperation"



EDL-Gen Receives the Green Leadership Award in Asia Responsible Enterprise Award (AREA) 2018



EDL-Gen Receives Asia Corporate Excellence & Sustainability Awards (ACES) 2018

Highlights



1. Strong asset growth	• Since 2012, EDL-Gen invested in 10 wholly-owned power producers, 15 IPPs and 1 Solar to increase its equity attributed capacity to 1,949 MW, 1,683 MW of which is operational • Equity attributable capacity is expected to increase to approximately 2,452 MW in 2030
2. Growing regional power demand	• Location in the Indochina region will allow exporting power to insatiable neighbours • Regional power demand expected to increase by 128,746 MW or CAGR of 9.80% from 2010 to 2020
3. Strong support from government	• Government supports on power industry especially Hydropower projects
4. Secured off-takers	• The company ensures its off take with long term PPA agreements • All off take contracts are state-owned enterprises (EGAT and EDL)
5. Strategic location	• Lao PDR is criss-crossed with many rivers and streams and has the largest catchment area of Mekong River basin and contributes 35% of the water in the Mekong River. • Improving infrastructure in the region will lead to enhanced economic cooperation with neighbouring countries.
6. The largest market capitalization in LSX	• Approximately 350 million USD as of 30 December 2021



Q & A Session