



EDL-Generation Public Company

Opportunity Day Presentation
17 May 2023



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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 15.05 billion

Population⁽¹⁾:

7.4 million

GDP per capita⁽¹⁾:

USD 2,022

Land area⁽²⁾:

236,800 km²

Population density⁽²⁾:

32 people per km²

GDP growth⁽¹⁾:

4.4%

Inflation⁽¹⁾:

23.0%

Lao PDR is the member of:

ASEAN since 1997

WTO since 2013



71.9%⁽²⁾ 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

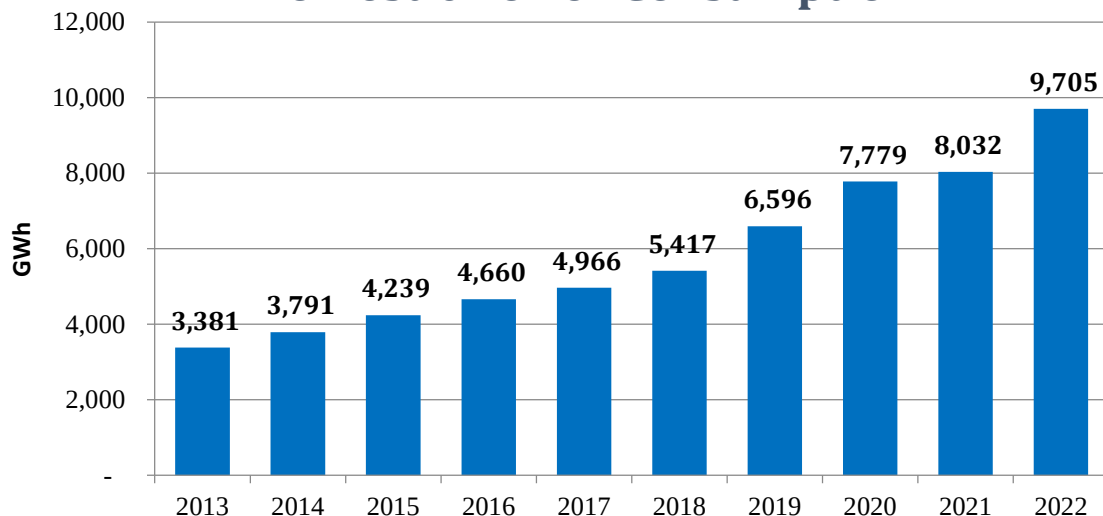


BBB-/Stable
by TRIS Rating

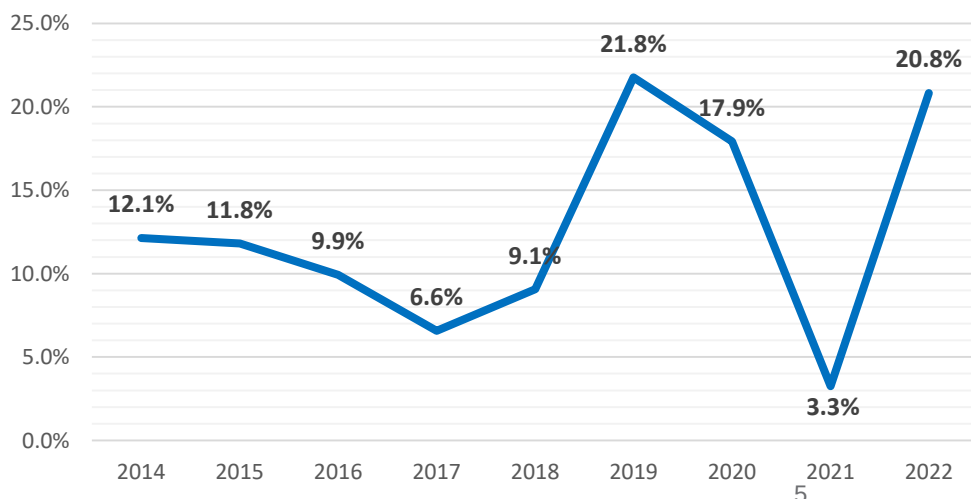
Long Term Robust Demand Growth: Laos Electricity Consumption 2010-2022



Domestic Power Consumption



Power Consumption Annual Growth Rate



Total power consumption from EDL's 8 consumer groups in 2022 reached 9,705 GWh (preliminary data from EDL), growing at 20.8% YoY, driven by growth in:

- 1. industry (33.8% YoY)**
- 2. Consumption rebound from Commercial & Service (29.2%), Entertainment (20.7%) and Education & Sports (27.5%).**

Over the past 10 years (2013-2022), Laos electricity consumption has a compound annual growth rate (CAGR) of 12.43%.

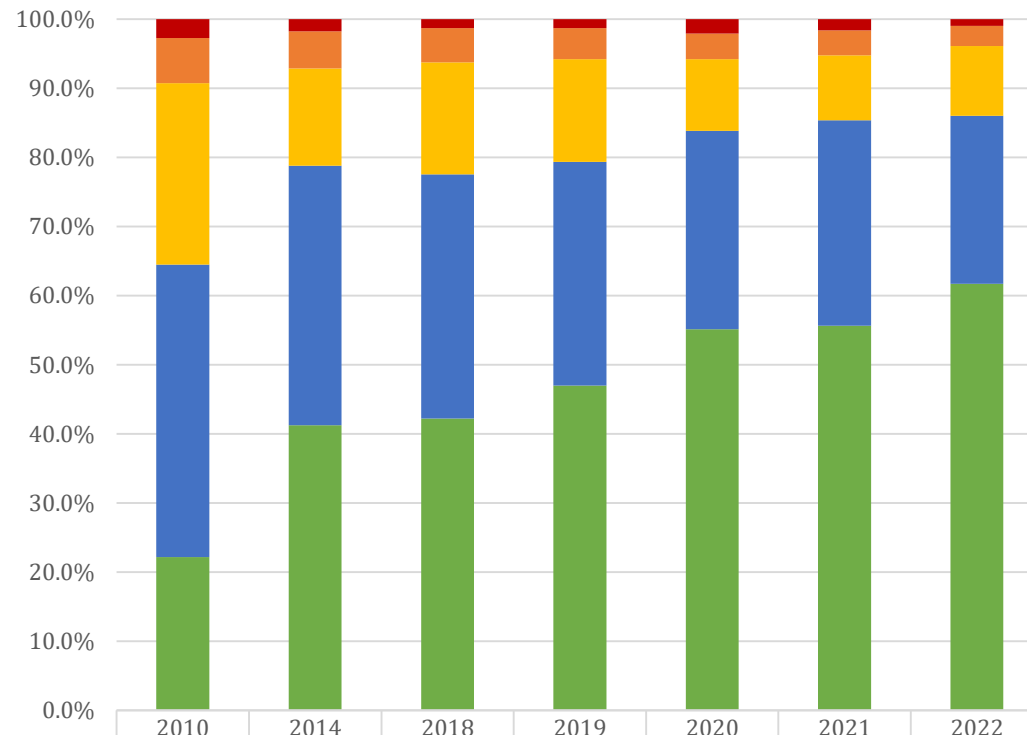
Source: Domestic power consumption data are from EDL's 8 consumer groups



Electricity Consumption by Consumer Groups

Selected years between 2010-2022 period

Domestic Electricity Consumption by Consumer Groups



	2010	2014	2018	2019	2020	2021	2022
Other 4 groups	2.7%	1.8%	1.3%	1.3%	2.1%	1.6%	1.0%
Government	6.5%	5.4%	4.9%	4.5%	3.7%	3.6%	2.9%
Commercial & Service	26.2%	14.0%	16.2%	14.9%	10.4%	9.4%	10.1%
Residential	42.3%	37.6%	35.3%	32.4%	28.7%	29.7%	24.3%
Industry	22.2%	41.2%	42.2%	47.0%	55.1%	55.7%	61.7%

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

Among 8 consumer groups, 4 groups covering more than 98% of total consumption from 2018-2022 are: industry, residential, commercial & service, and government.

Since 2014, the largest consumer group has been Industry group.

In 2022, Industry group covered 61.7% of total consumption.

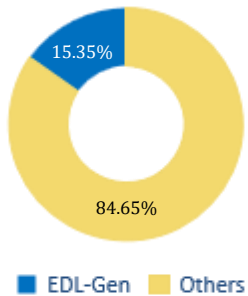
Compound Annual Growth Rate (CAGR) for past 10 years (2013-2022):

- Industry (20.5%)
- Residential (7.0%)
- Government (4.6%)
- Commercial (3.3%)

Major Power Generators in Lao PDR



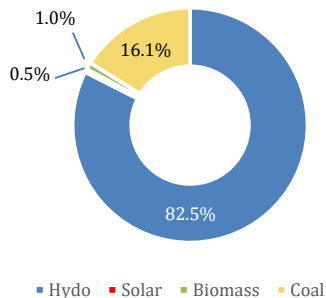
Total Power Capacity Breakdown



	Power Capacity (MW)	%
EDL-Gen	1,790	15.35%
Others	9,871	84.65%
Total	11,661	100%

Source: Ministry of Energy and Mines

Source of Power Breakdown

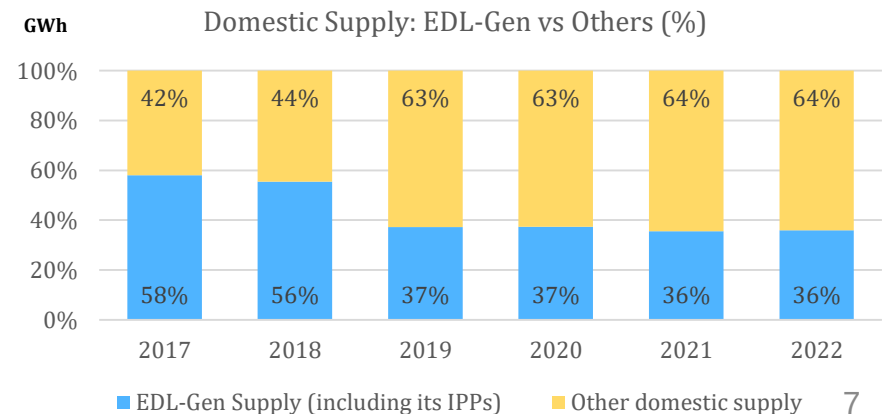
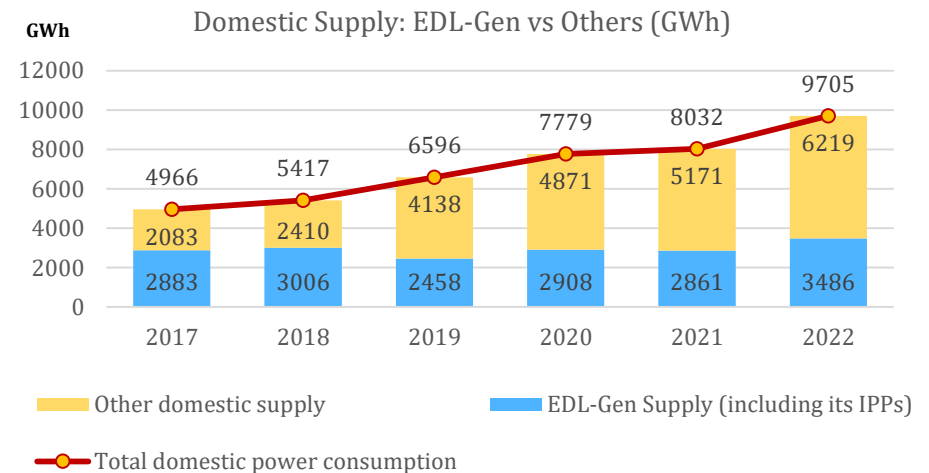


	Power Capacity (MW)	%
Hydro	9,615	82.5%
Coal	1,878	16.1%
Biomass	112	1.0%
Solar	56	0.5%
Total	11,661	100%

Source: Ministry of Energy and Mines

Estimated EDL-Gen Shares in Domestic Power Supply in Gwh

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





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 2022 is **11,661 MW**.
- Therefore, EDL-Gen's installed capacity of 1,790 MW covers around **15.35%** of the country's total installed capacity.

EDL-Gen Operating MW in 2022 by Off-takers				
	Equity MW	EGAT (Thailand)	EDL (Laos)	EDC (Cambodia)
Wholly-owned	699	0	699	0
IPPs	1.091	783	256	52
Total	1.790	783	955	52
%	100.0%	43.7%	53.4%	2.9%



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 3,862 bn Market Cap⁽¹⁾

(EDL-Gen accounts for c.28.5% of the total market capitalization of Laos Securities Exchange)

LAK 29,669 bn Asset⁽²⁾

LAK 18,083 bn Debt⁽²⁾

LAK 11,586 bn Equity⁽²⁾

BBB-/Stable
by TRIS Rating

Operating Capacity

Total Company's Equity Attributed Capacity

1,790 MW⁽²⁾

Including

10 Wholly-owned – 699 MW⁽²⁾

18 IPPs – 1,091 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

❑ 18 IPPs with the equity installed capacity of 1,091 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 2022)

(10 WO: 699 MW)

No	Name	Location	MW	COD
1	Nam Ngum 1	Vientiane	155+80	1971 2018
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

Addition of 106.5 MW in 2022 come from 2 IPPs :

- (1) Lower Houay Lamphanh (9 MW)
- (2) Nam Theun 1 (97.5 MW)

(18 IPP: 1.091 MW)

No.	Name	Location	%	Equity MW	COD
1	Theun Hinboun	Bolikhambxai	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	Bolikhambxai	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%	6.5	2019
16	Nam tha1	Bokeo	20%	33.6	2019
17	Lower Huaylamphanh	Xekong	60%	9.0	2021
18	Nam Theun 1	Bolikhambxai	15%	97.5	2022



Current Capacity Expansion Plan

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

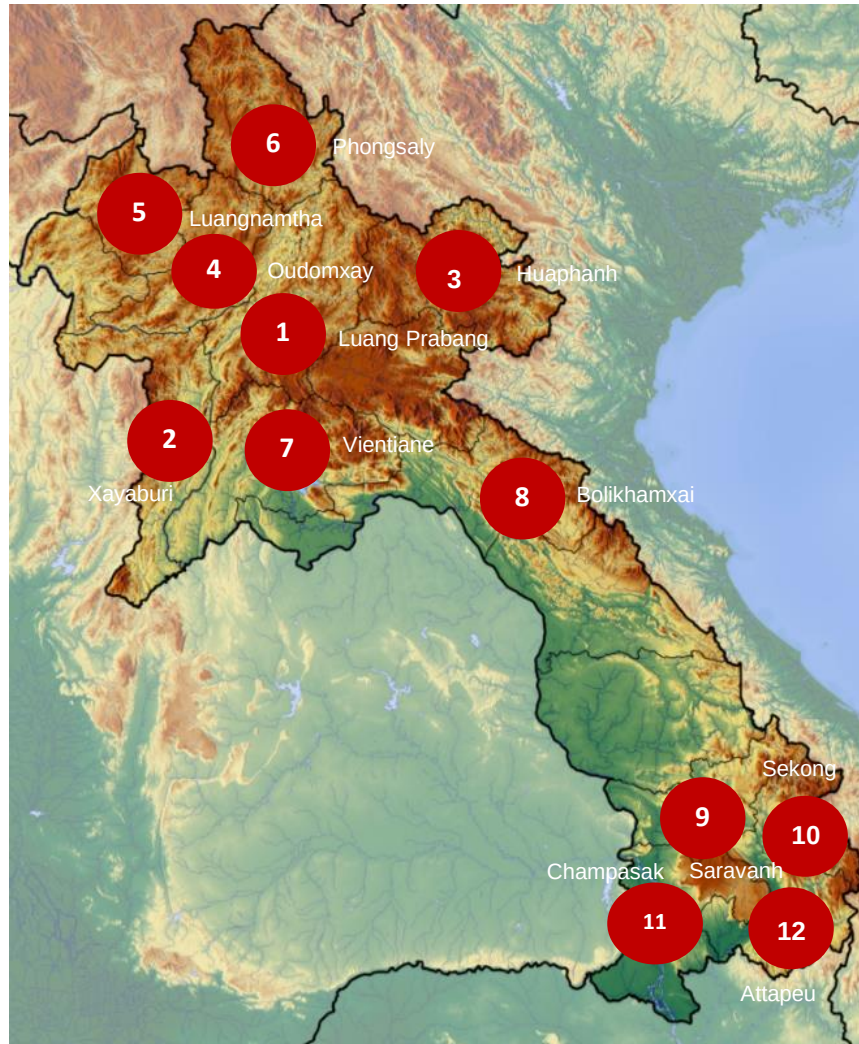
Independendent Power Producers (IPPs)

No.	Project Name	Stake	COD	Expected Transfer Year	Total MW	Equity MW
1	Nam Ngiep 2	10%	2016	[2023]	180	18.0
2	Xekaman 3	15%	2022	[2023]	250	37.5
3	Nam Dik 1	70%	2025	[2025]	15	10.5
4	Nam Phoun	51%	2026	[2026]	45	23.0
5	Nam Bi 1,2,3	80%	2028	[2028]	135	108.0
6	Pak Beng	19%	2030	[2030]	912	173.3
	Total				1,537	370

- From 2022 to 2030, EDL-Gen total capacity is expected to increase to around 2,435 MW.
- Over this period, the company expects to add a total of 645 MW to its capacity, in which:
 - 275 MW come from 7 Wholly Owned Assets; and
 - 370 MW from shareholdings in 6 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 2022 and Outlook in 2023

- ❑ The below table shows water inflow statistics of 8 major HPPs (which produce more than 98% of total power generation from wholly owned plants) between 2017-2022 and 2023 plan

No	Name of HPP	Capacity (MW)	Water Inflows (Unit: Million m3)							Comparisons		
			2017	2018	2019	2020	2021	2022	2023 Plan	22 vs 21	22 vs 5Y avg	2023 Plan vs 2022
1	Nam Ngum 1	235	10,067	15,547	8,234	8,697	9,202	11,313	10,843	123%	109%	96%
2	Nam Leuk	60	401	405	225	524	378	515	462	136%	133%	90%
3	Nam Mang 3	40	130	163	102	168	143	154	149	108%	109%	97%
4	Xeset 1	45	568	710	544	519	615	636	443	103%	108%	70%
5	Xeset 2	76	522	648	498	488	534	530	437	99%	98%	83%
6	Nam Sana	14	135	190	93	127	124	155	148	126%	116%	95%
7	Nam Khan 2	130	1,293	4,711	1,329	981	1,228	1,413	1,559	115%	74%	110%
8	Houay Lamphan Gnai	88	352	274	232	308	282	418	312	149%	145%	74%
			13,468	22,648	11,257	11,811	12,505	15,134	14,353	121%	106%	95%

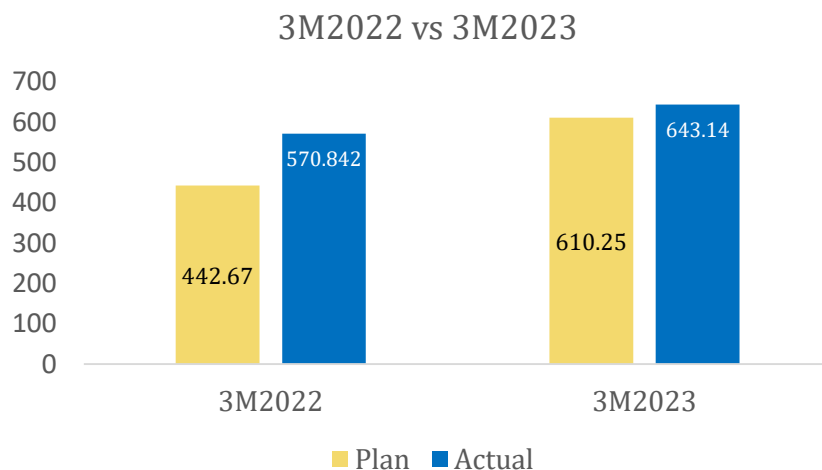
- ❑ 2022 water inflows were better than 2021 by 21% and higher than the average of preceding 5 years by 6%.
- ❑ However, EDL-Gen's water inflows outlook in 2023 is expected to be lower than 2022 but still generally in line with the average of the preceding 6 years (2017-2022).
- ❑ Nevertheless, the water level and reservoir stock at year end 2022 (or beginning of 2023) at 5 major reservoir plants were generally higher than previous year.

No.	Reservoir HPPs	Water Level (masl)			Reservoir Stock at Year End (mil. m3)		
		2021	2022	2022 vs 2021	2021	2022	2022 vs 2021
1	Nam Ngum 1	209.74	210.79	1.05	6,274.55	6,616.48	341.93
2	Nam Mang 3	748.24	748.16	- 0.09	35.95	35.35	- 0.59
3	Nam Leuk	403.11	404.52	1.41	160.36	177.72	17.36
4	Nam Khan 2	471.55	473.01	1.46	607.16	640.61	33.45
5	Houay Lamphan Gnai	817.83	819.34	1.51	127.64	136.88	9.24



Operation Performance 3M 2022 vs 3M 2023

Power generation plan of HPP					
No	Power Plant	3M 2022		3M 2023	
		Plan (GWh)	Actual (GWh)	Plan (GWh)	Actual (GWh)
1	Nam Ngum1 HPP	219.52	277.74	363.01	282.53
2	Nam Khan 2 HPP	63.00	63.95	62.01	76.32
3	Houay LamphanGnai HPP	75.60	124.27	93.00	111.38
4	Xeset 2 HPP	12.76	15.98	13.27	14.21
5	Nam Leuk HPP	30.00	36.14	36.30	41.35
6	Xeset 1 HPP	9.00	13.17	9.30	12.13
7	Nam Mang 3 HPP	26.00	28.97	27.00	29.69
8	Nam Sana HPP	2.80	4.10	2.35	2.31
9	Nam Song HPP	1.85	1.69	1.85	0.98
10	Selabum HPP	2.14	4.82	2.16	4.09
Total		442.67	570.84	610.25	643.14



- Q1/2023 generation exceeded plan by 5.38% and increased by 12.66% compared to Q1/2022.

Financial Performance

Income Statement (2022 Financial Statements)



	2022 Actual vs Plan			Year-on-year comparison		
<u>Unit: Billion LAK</u>	Plan	Actual	%	2021	2022	% Change
Revenue form sale	1,226	1,267	3%	1,197	1,267	6%
Other income	21	4,027	19177%	55	4,027	7,184%
Share of profit from investment in IPPs	861	1,439	67%	961	1,439	50%
Total Revenue	2,108	6,734	219%	2,213	6,734	204%
Cost of sales (Excluding Depreciation)	-68	-93	37%	-66	-93	41%
Administrative expenses	-247	-210	-15%	-154	-210	36%
EBITDA (excl. FX gain/loss)	1,275	6,431	404%	1,993	6,431	223%
Depreciation	-517	-540	4%	-520	-540	4%
Foreign exchange gain/loss, net	-218	-2,623	1103%	-613	-2,623	328%
EBIT	1,388	3,268	135%	860	3,268	280%
Interest expenses	-808	-1,049	30%	-856	-1,049	23%
Income tax	0	-80		0	-80	
Net Income	248	2,138	760%	4	2,138	54,975.0%

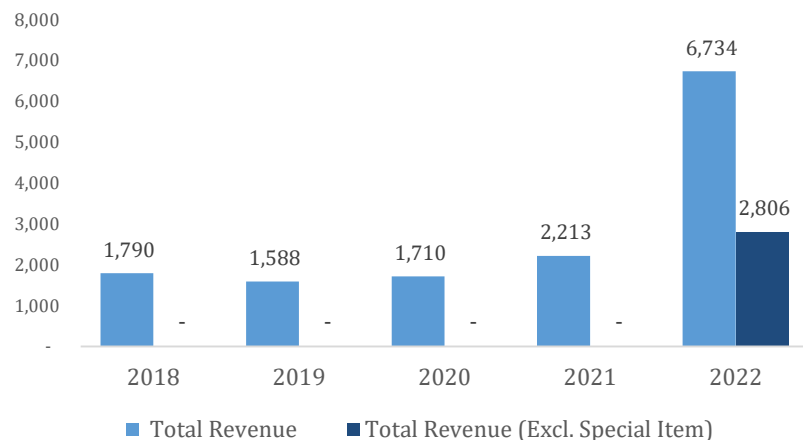


Financial Performance

Income Statement (2022 Financial Statements)

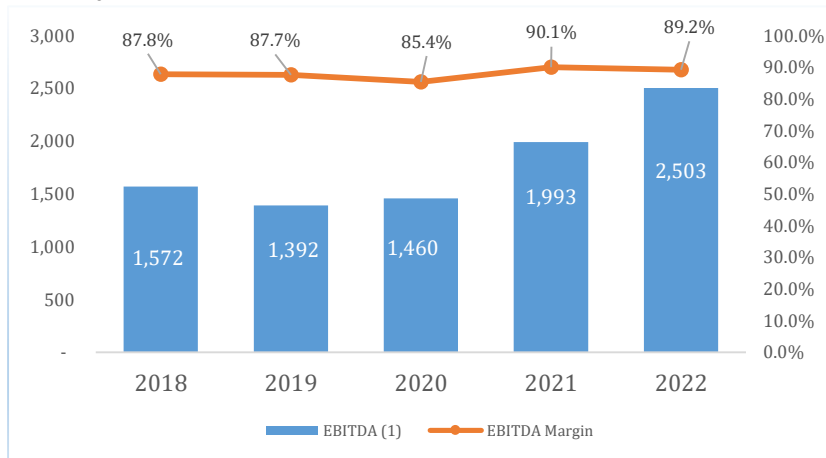
Total Revenue

LAK Billion



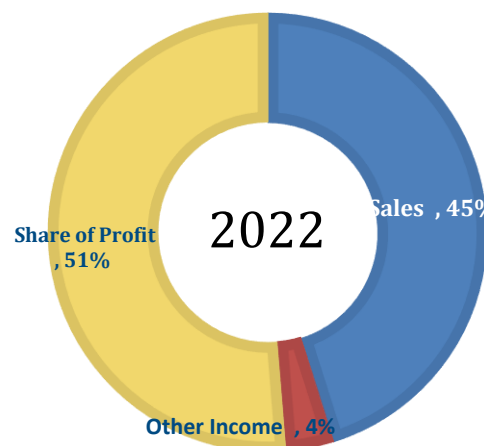
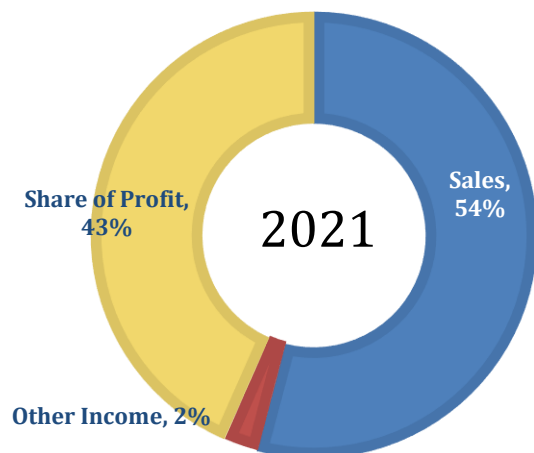
EBITDA

LAK Billion



Notes: (1) EBITDA excludes other income from special item and foreign exchange gain/loss

Revenue Breakdown 2021 vs 2022



Notes: Other Income excludes other income from special item

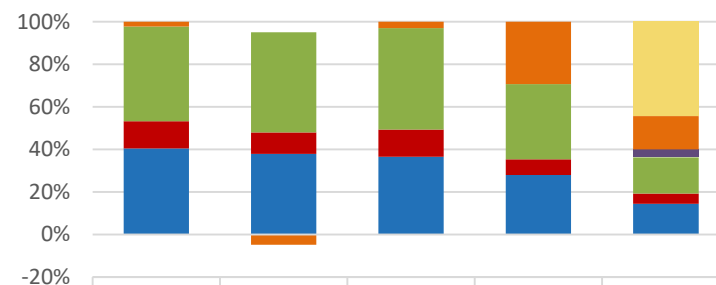
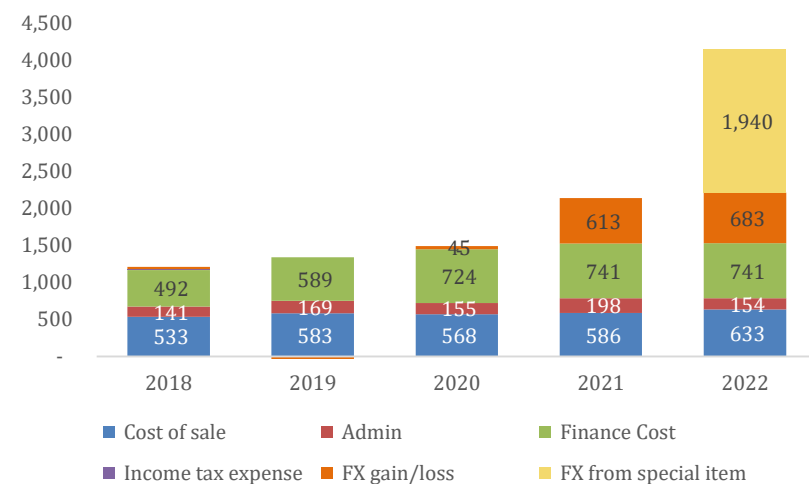


Financial Performance

Income Statement (2022 Financial Statements)

Total Expenses

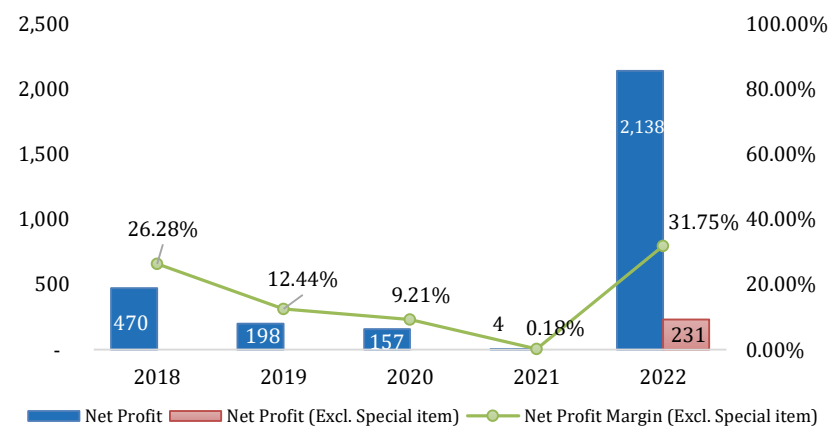
LAK Billion



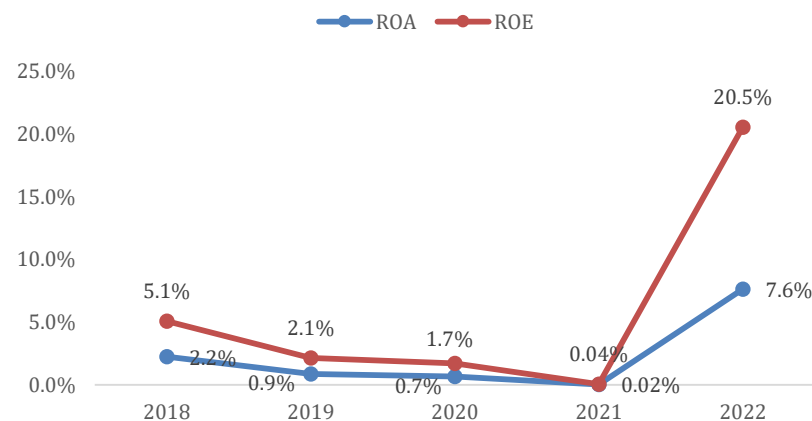
	2018	2019	2020	2021	2022
FX from special item	0%	0%	0%	0%	45%
FX gain/loss	2%	-5%	3%	29%	16%
Income tax expense	0%	0%	0%	0%	4%
Finance Cost	45%	52%	48%	35%	17%
Admin	13%	11%	13%	7%	5%
Cost of sale	40%	42%	37%	28%	15%

Net Profit

LAK Billion



Profitability Ratios



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

EDL-Gen's Award in 2022



Most Sustainable Practice in Energy in Laos



Priority Integration Sectors Excellence Sector,
Energy Sector



EDL-Gen's 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



No. 10496



012

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



ASEAN Business Awards Laos and Skill Development 2021



• **THE MOST SUSTAINABLE PRACTICEES IN ENERGY IN LAOS, 2022**



EDL-Generation Public Company

Q & A Session