First Capital
A Janashakthi Group Company

GREEN ENERGY; POWERING THE TRANSITION

UTILITIES SECTOR (RENEWABLE ENERGY) | 24 AUG 2021 | SRI LANKA

FIRST CAPITAL RESEARCH

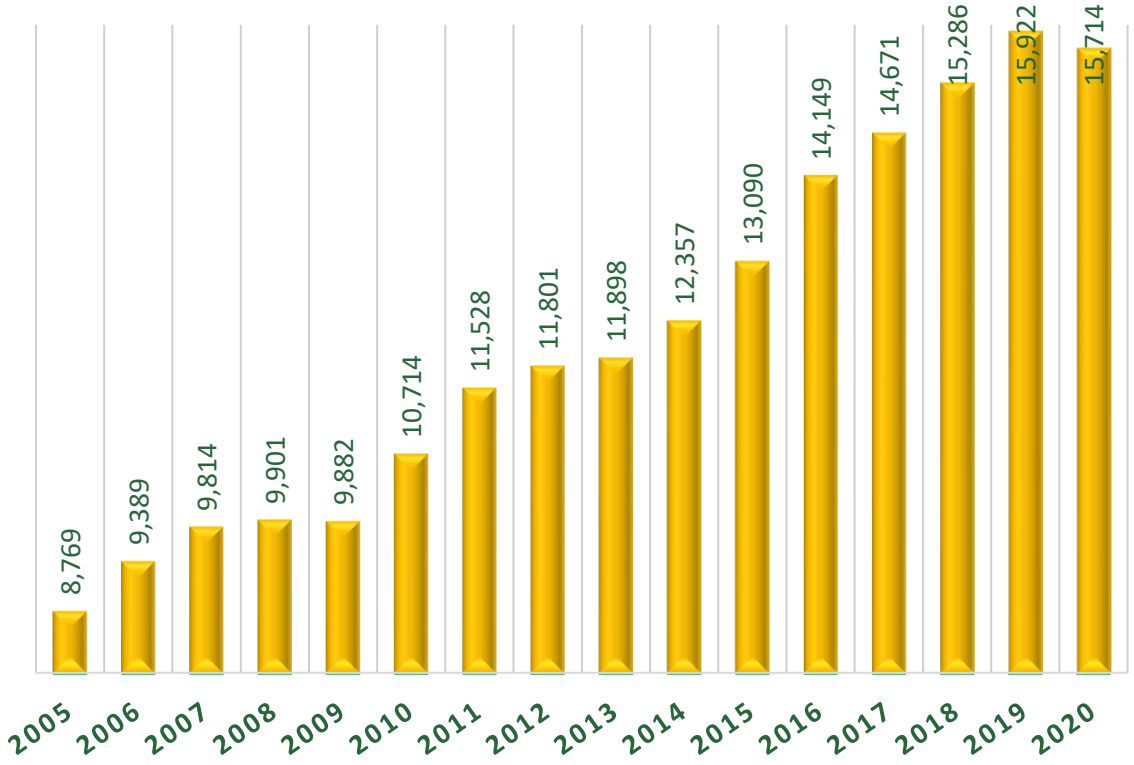
Vidushika Perera
+96 11 2639 864 | vidushika@firstcapital.lk

CONTENTS

01 Steady Uptick in Power Demand to Promote Capacity Expansions

Power generation headed upward over the years as defensiveness made the sector resilient against economic fluctuations

Power generation in GWh has been continuously growing in Sri Lanka over the decades at a 15-year CAGR of 6% and it is expected to grow at even a faster pace over the next decade.



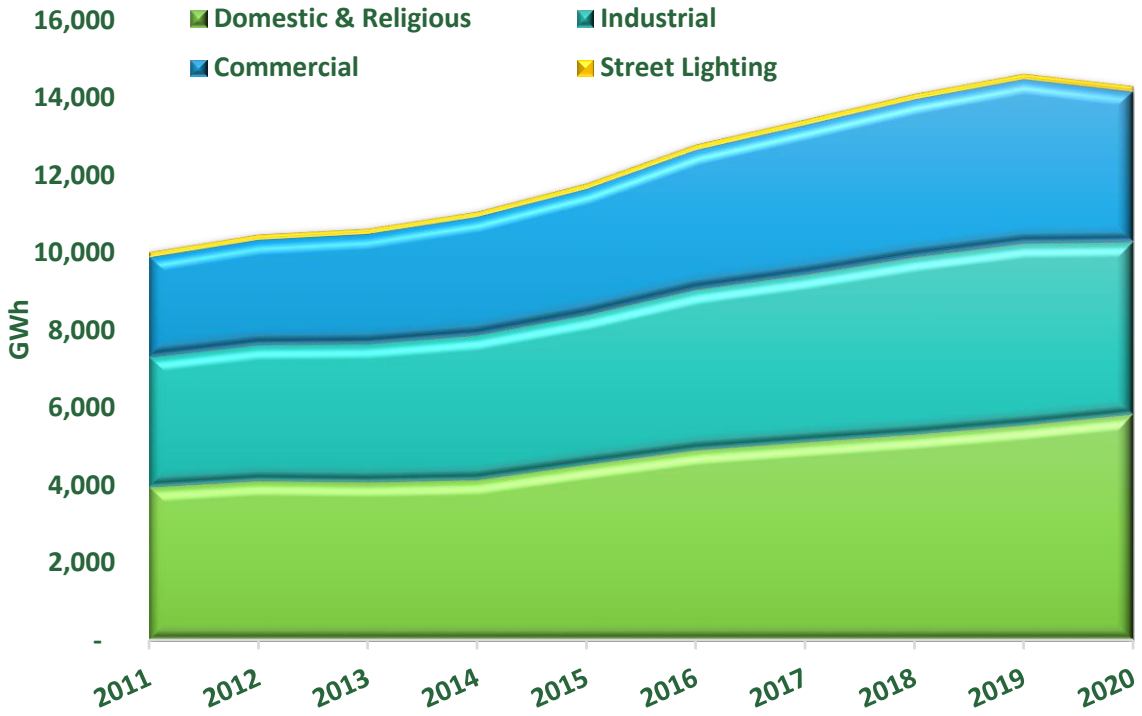
Source: CBSL Annual Reports

Statistics Showcase the Growth Story Over the Previous Decade

	2010	10 YEARS ADDITION	2020
Number of Power Stations (No.)	128	178	306
Installed Capacity (MW)	2,818	1,447	4,265
Maximum Demand (MW)	1,955	762	2,717
Avg. Daily Generation (GWh/Day)	29	14	43
Per Capita Consumption (kWh/Person)	449	203	652
Total Consumers (No.)	4,480,423	2,155,843	6,636,266
Transmission & Distribution Lines (Circuit km)	104,153	46,834	150,987
Substations (No.)	22,106	12,761	34,867

Source: CEB Statistical Reports

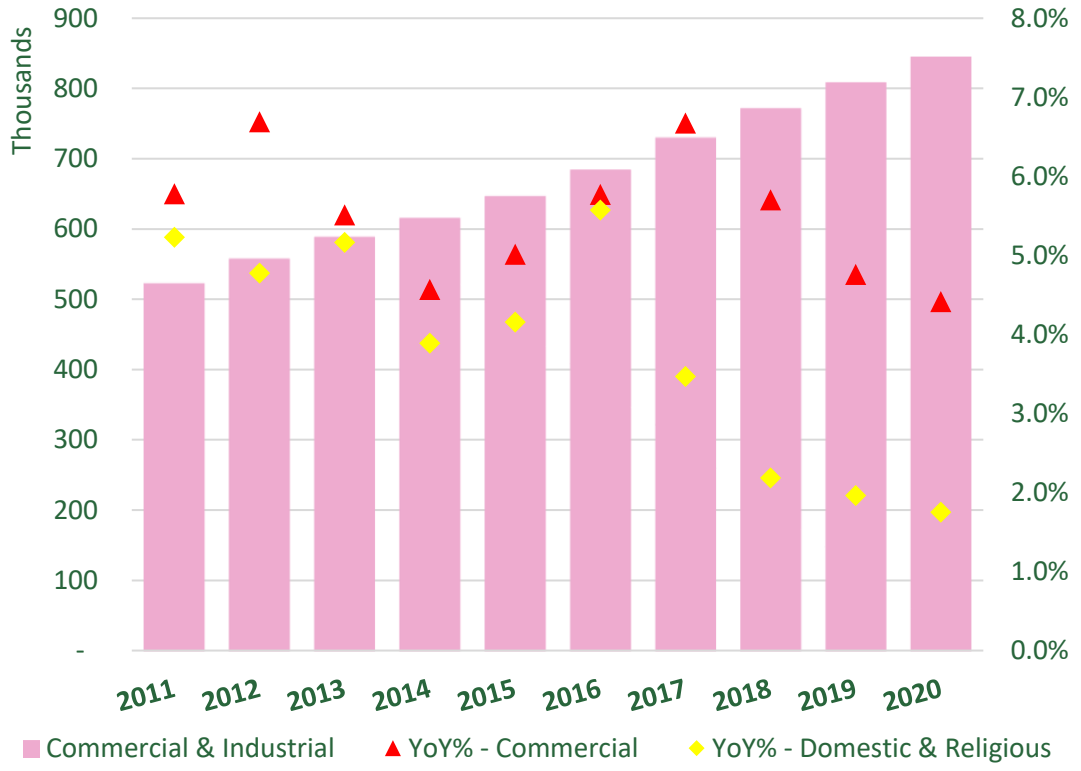
Booming commercial and industrial sectors...



Growth in electricity consumption under the tariff categories of 'Industrial' and 'Commercial' may further accelerate with the gradual rebound in economic activities along with rapid digitalization despite a temporary set back due to the Covid-19 pandemic.

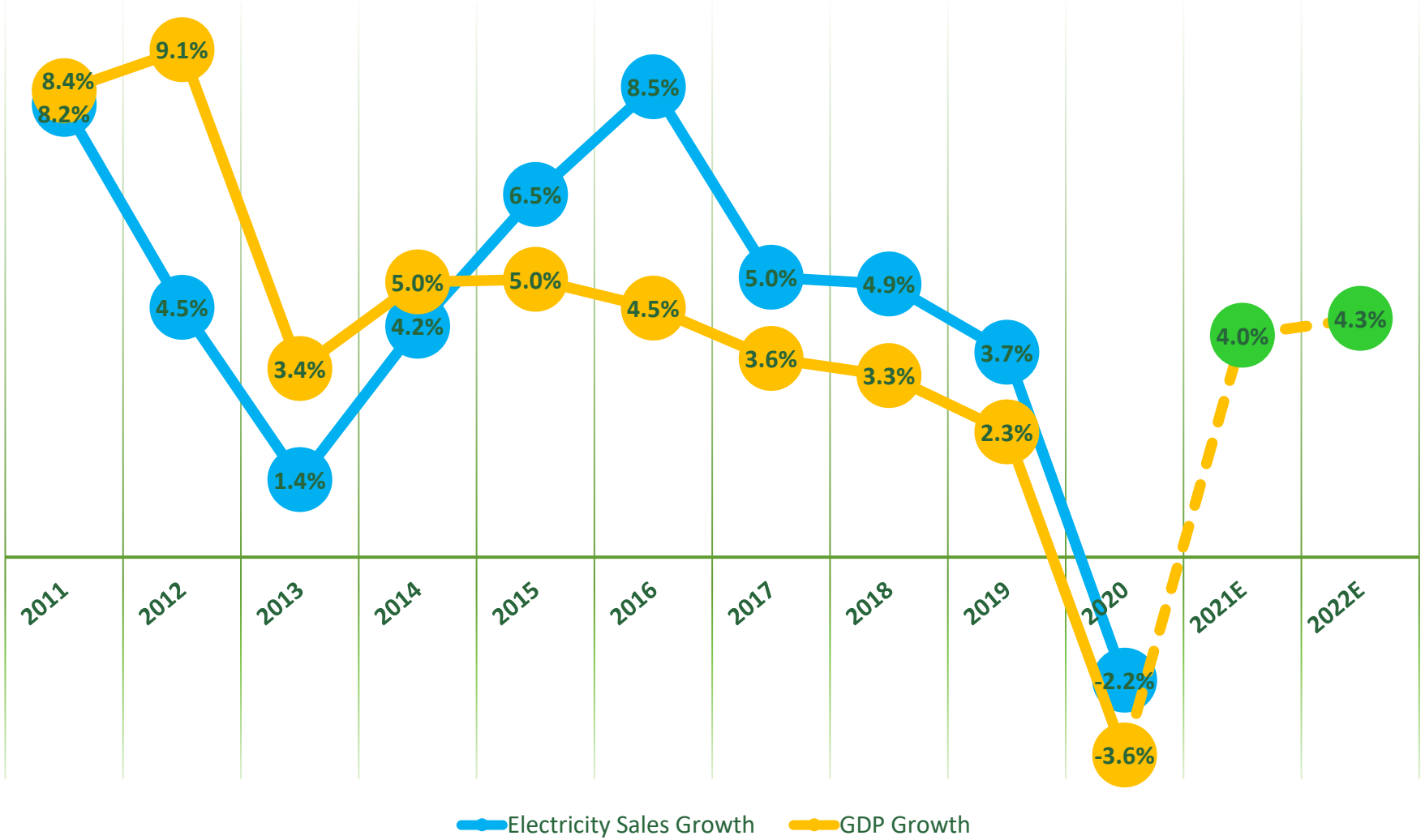
Source: CBSL Annual Reports

No. of consumer accounts under the commercial category has been growing over the years at a faster rate than the Domestic & Religious category.



Source: CEB Statistical Reports

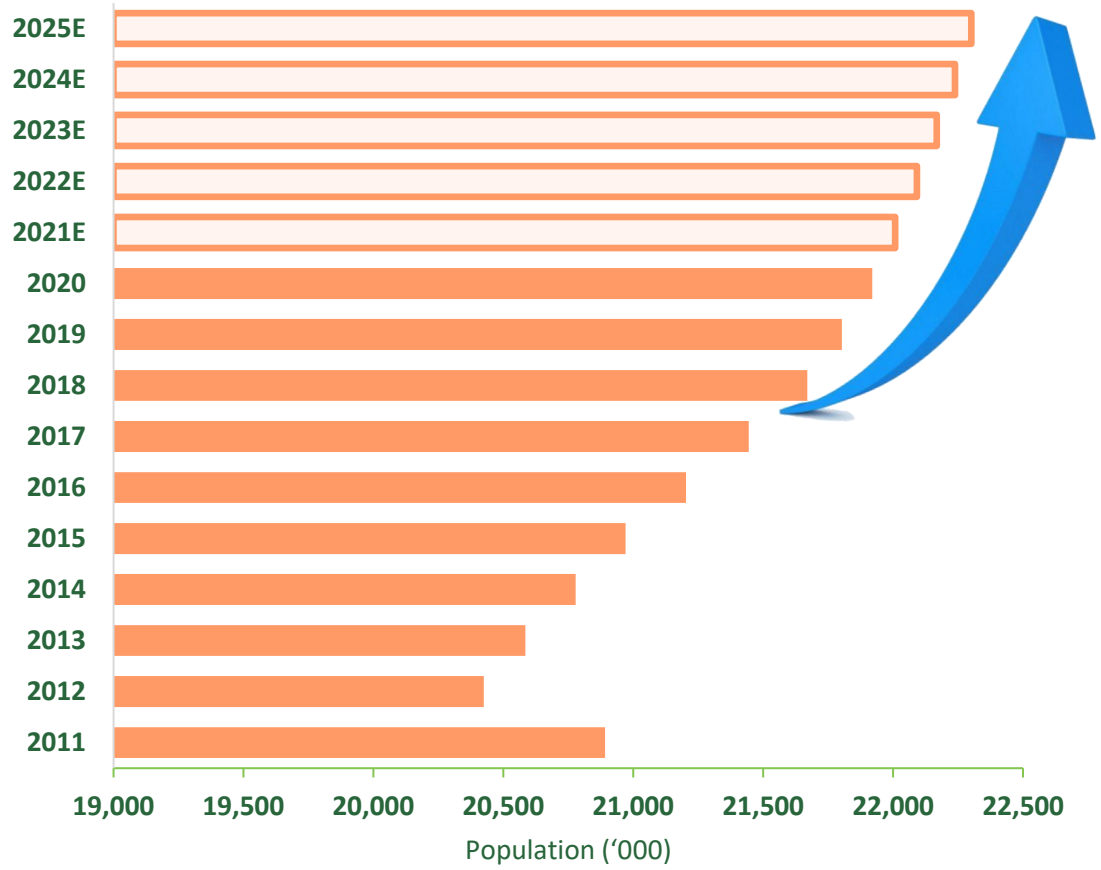
...spring from the anticipated growth in GDP...



Growth in electricity sales in GWh over the years has been gravitated to the growth in GDP and is expected to follow a similar trend in the coming years.

Source: CBSL, First Capital Research Estimates

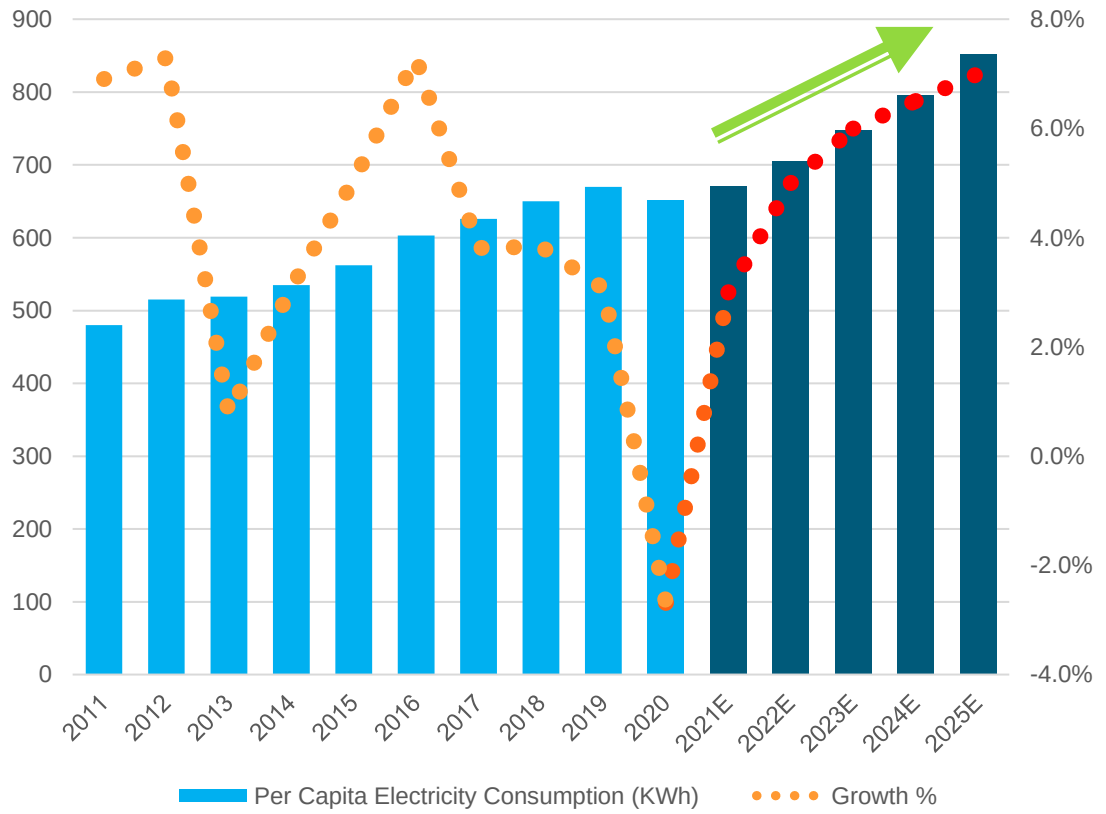
...paired with the population growth are expected to amplify future electricity consumption



Population in Sri Lanka is expected to grow at a CAGR of 0.3% over the next 5 years.

Source: CBSL, World Bank Data

Per capita electricity consumption over the last decade convey an upward momentum, albeit a slight dip in 2020.

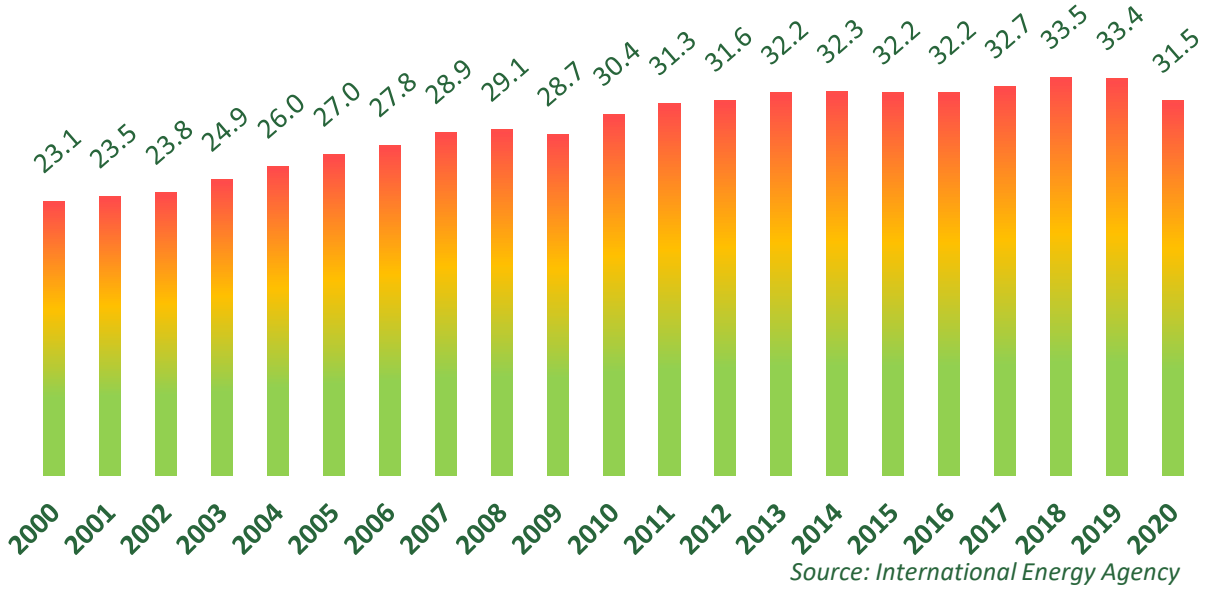


Source: CEB Statistical Reports, First Capital Research Estimates

02 Transitioning Towards Renewables; A Reshape in Energy Mix

Pressure mounts on spurring concerns over environmental protection...

Global energy related CO2 emissions measured in gigatons (Gt) per year has been on a ballooning mode.



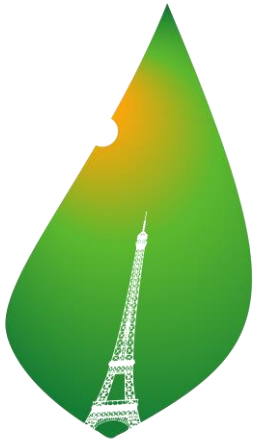
Source: International Energy Agency

Emissions from fossil fuels turn out to be the dominant contributor for the global warming and climate change.

The planet's average surface temperature has risen about 2.12 degrees Fahrenheit (1.18 degrees Celsius) since the late 19th century, a change driven largely by increased carbon dioxide emissions into the atmosphere

NASA

A carbon pricing has been introduced by imposing a carbon tax upon the carbon content of fossil fuels, thereby making carbon-based fuels more expensive.



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

...and sustainable development objectives...

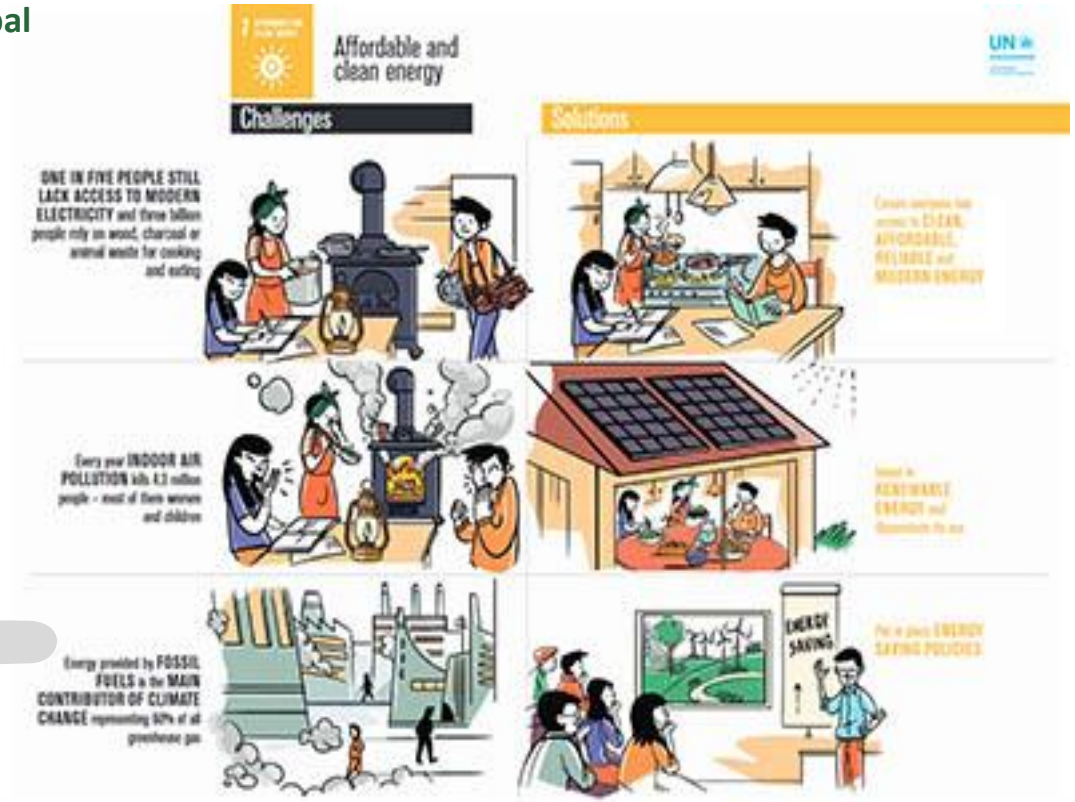
UN sustainable development goal 7 paving the pathway for a transitioning towards clean energy while mitigating climate change and the associated risks.

Ensure universal access to affordable, reliable and modern energy services

Increase substantially the share of renewable energy in the global energy mix

Ensure universal access to affordable, reliable and modern energy services

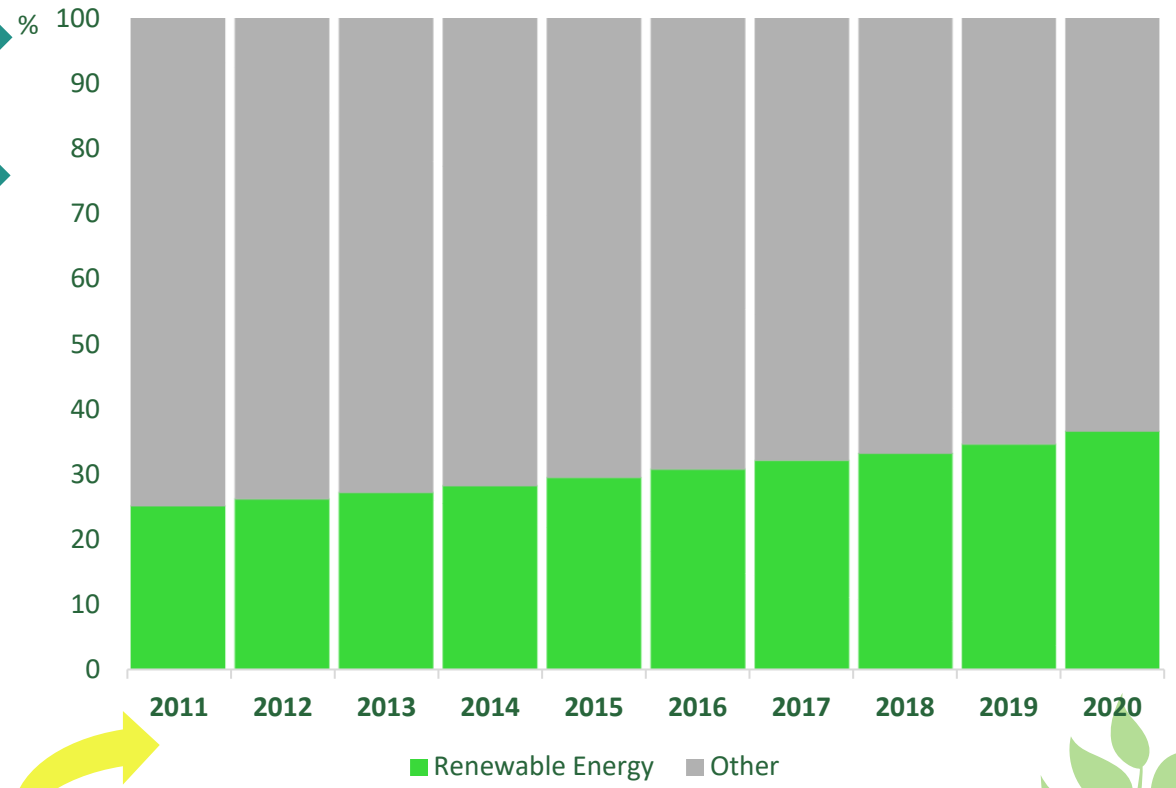
‘100% Renewable Electricity Supply by 2050’



Source: United Nations - Department of Economic and Social Affairs

...leading countries to phase out from fossil fuel usage...

- **United States** Zero Carbon Emissions — **2050**
- **United Kingdom** Zero Carbon Emissions — **2050**
- **Bangladesh** 40% RE Power Generation — **2041**
- **Thailand** 30% RE Power Generation — **2037**
- **India** 40% Installed Capacity of RE — **2030**
- **China** 40% RE Power Generation — **2030**
- **Australia** 50% Renewable Power — **2030**
- **Canada** 90% Non-emitting Sources — **2030**



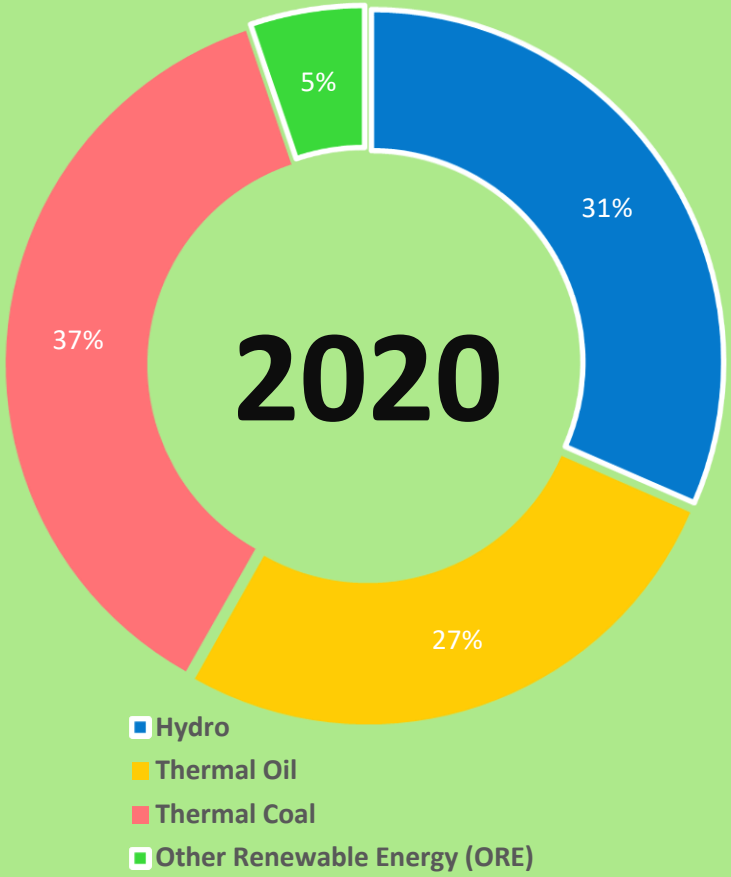
Global renewable energy share as a % of electricity capacity is poised to grow as various countries around the world have launched multiple initiatives to wipe out overall carbon emissions.

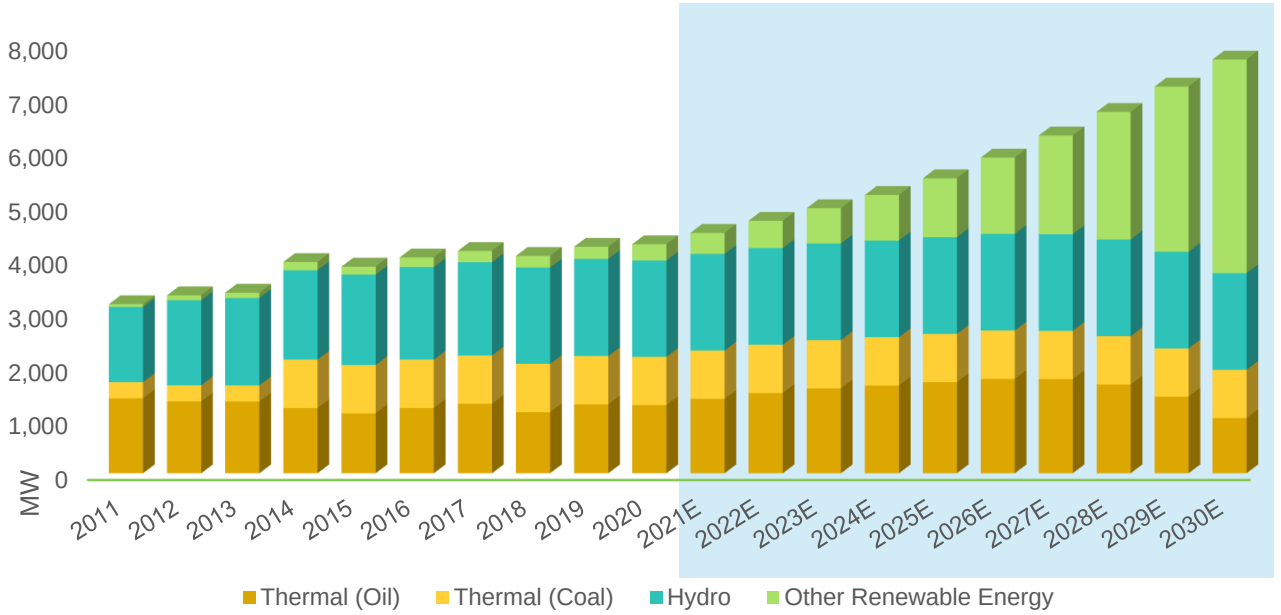
Source: International Renewable Energy Agency

...while redirecting Sri Lanka's journey towards attaining an ultimate goal of 70% green energy by 2030

Sri Lanka Energy Mix (GWh)

Total Renewable Energy has a share of **36%** of the overall mix





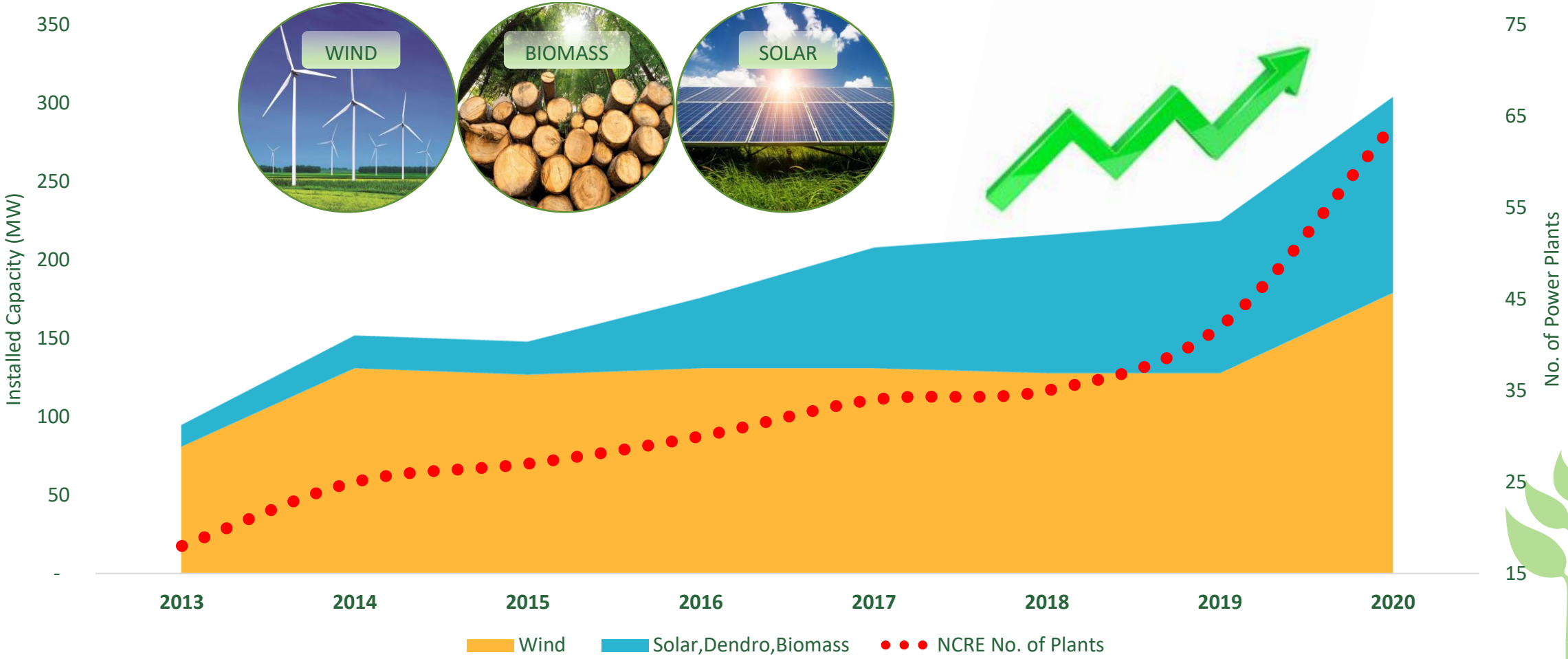
Composition of the total Installed Capacity (MW) over the years shows a continuous growth in Hydro and ORE

Sri Lanka has laid foundation for various Projects in Sri Lanka towards its Renewable Energy Goal

- Vision to achieve 70% of electricity generated from RE and meet 1/3 of the energy demand from NCRE sources.
- Opened its largest wind farm, a 100MW facility in Mannar on Dec 2020.
- Planned capacity expansions at the end of 20 years are 1,323MW from wind, 2,210MW from solar, 654MW from mini-hydro and 144MW from biomass.
- CEB has signed Power Purchase Agreements (PPA) for further 539MW ORE power plants.
- Multiple roof-top solar projects to be developed with more private sector participation

Source: CBSL, Ceylon Electricity Board, First Capital Research Estimates

NCRE plants and capacity are scaling at a speedup mode



Source: CEB Statistical Reports

03 Local Industry Snapshot

Overview of Key Listed Players

Currently all players listed in the main board of Colombo Stock Exchange are involved in renewable energy operations which foresee a substantial upside potential in the future.

LVL ENERGY FUND
LVEF.N0000

Invest in the form of equity in power and energy sector projects in Sri Lanka and overseas.

WINDFORCE
WIND.N0000

Engage in development and operations in renewable energy projects that are mainly targeted on green energy.

VIDULLANKA
VLL.N0000

A Renewable energy developer that mainly engage in mini hydropower plant operations in Sri Lanka and overseas markets.

PANASIAN POWER
PAP.N0000

Carry out renewable, green power operations in supplying sustainable energy to the national grid.

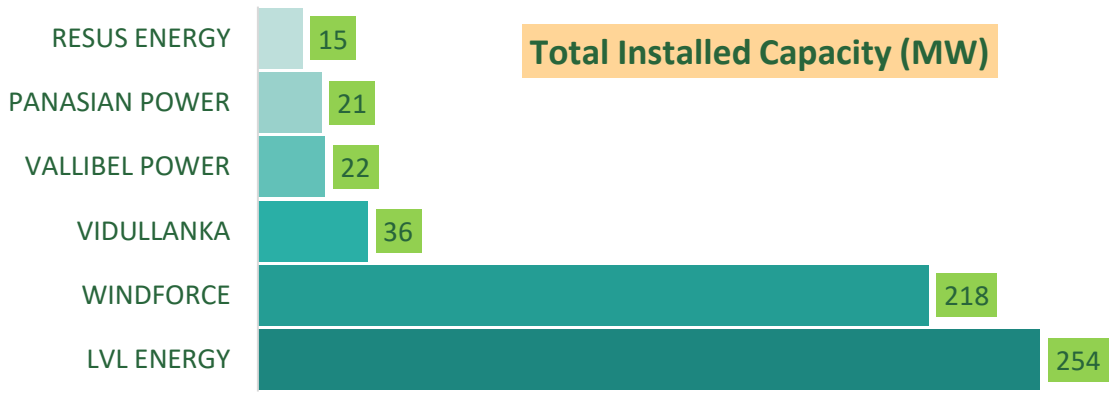
VALLIBEL POWER
VPEL.N0000

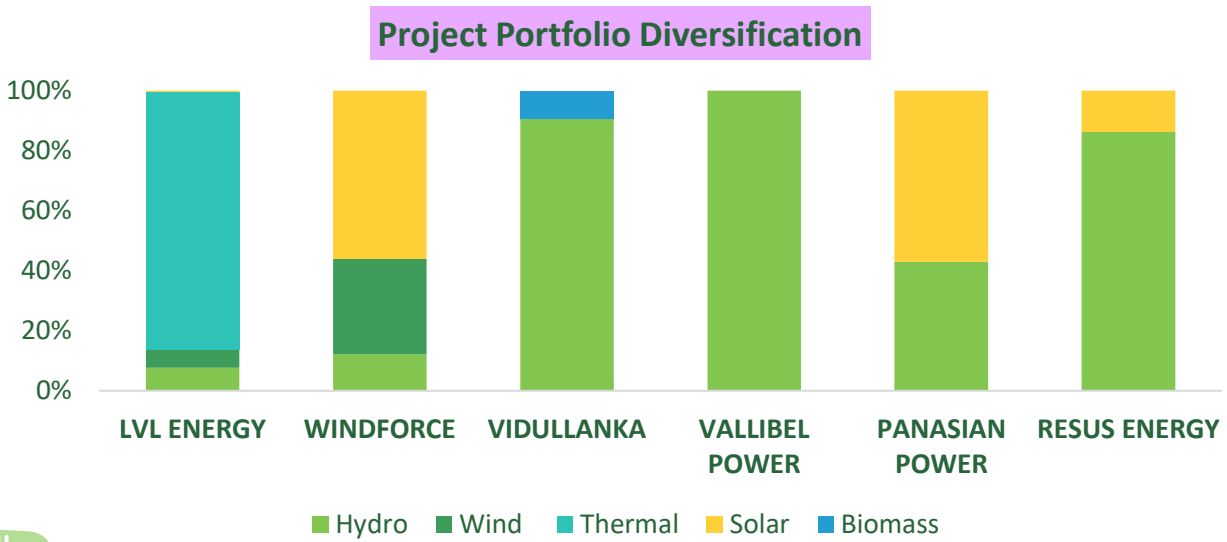
Operates solely in generating electricity to the national grid via mini hydropower projects.

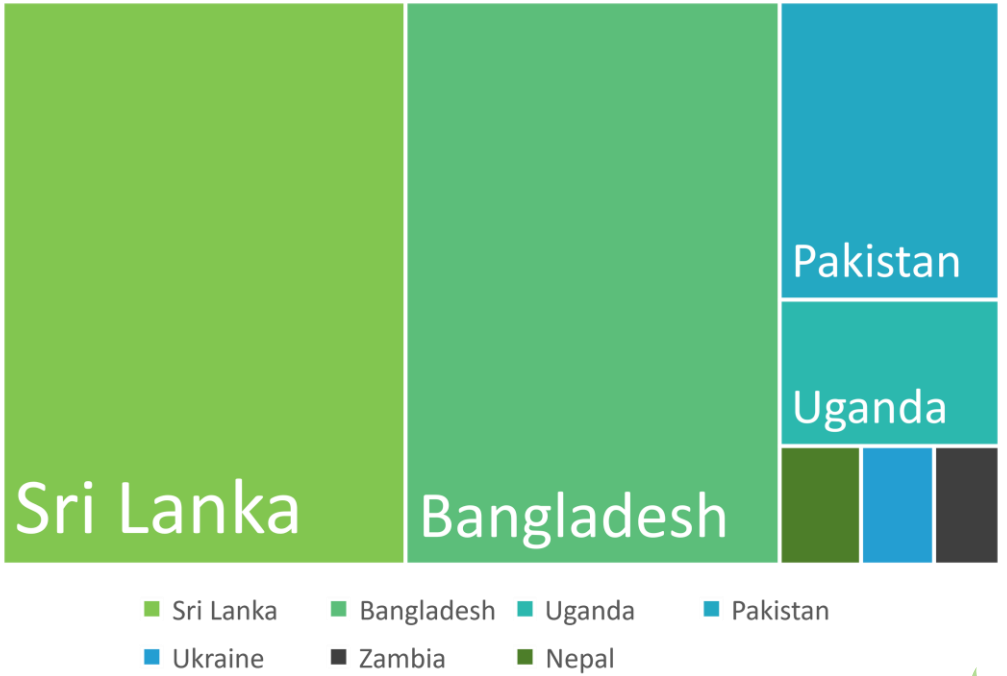
RESUS ENERGY
HPWR.N0000

Investment and development of renewable energy generating projects in Sri Lanka aiming at sustainable electricity.

Operational Statistics







Energy projects that are already commissioned as well as currently under construction have a wider geographical dispersion in terms of the aggregate installed capacity (MW).

Source: Company Annual Reports

Industry competitiveness among listed players looks attractive in multiple aspects

PORTER'S FIVE FORCES MODEL

HIGH
Limited suppliers of highly specialized plant and equipment which are mostly based in overseas countries will have a higher bargaining power due to the limited availability of alternatives.

Supplier Power

Buyer Power

MODERATE
Buyer power is highly concentrated on one large entity, CEB, hence the power is high. However due to the shortage of electricity supply the overall power is moderate.

Competitive Rivalry

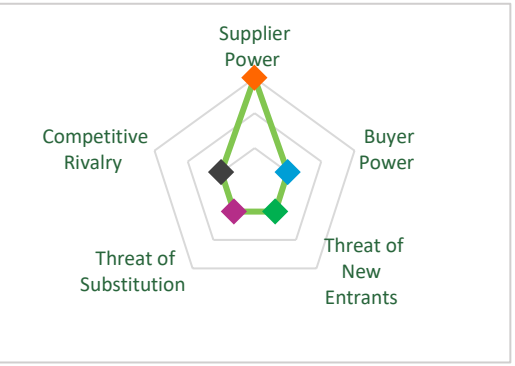
MODERATE
Few players in the industry claiming against a massive demand has curtailed the severity of the rivalry. However, emerging competition from foreign players may intensify the competition in future.

Threat of New Entrants

LOW
Power being a high capital-intensive industry which demands huge investments along with the regulatory approvals, new entrants to the industry are appeared to be low.

Threat of Substitution

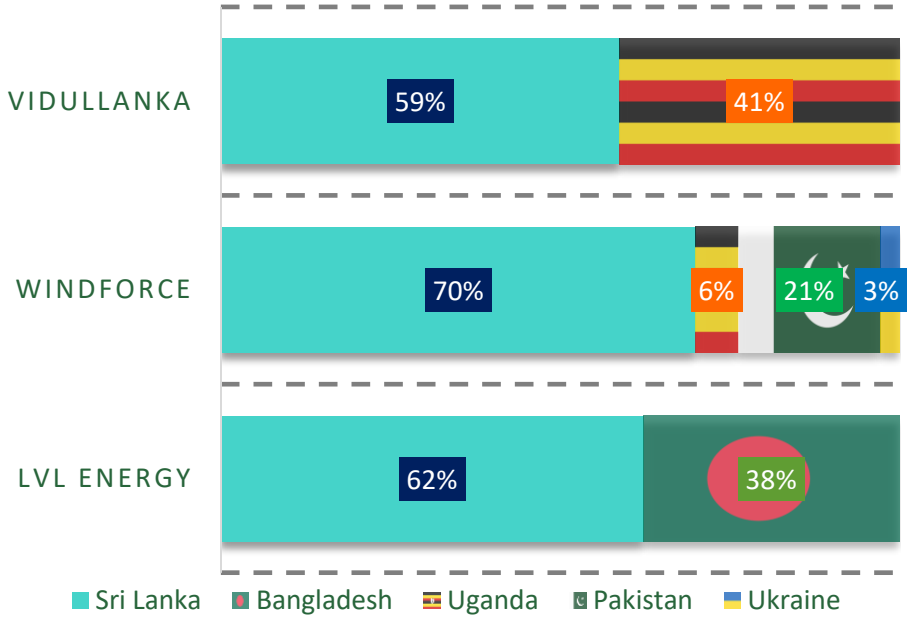
LOW
There are multiple sources for generating electricity. However, CEB is encouraged to promote renewable energy sources, hence the gravity of substitution is low.



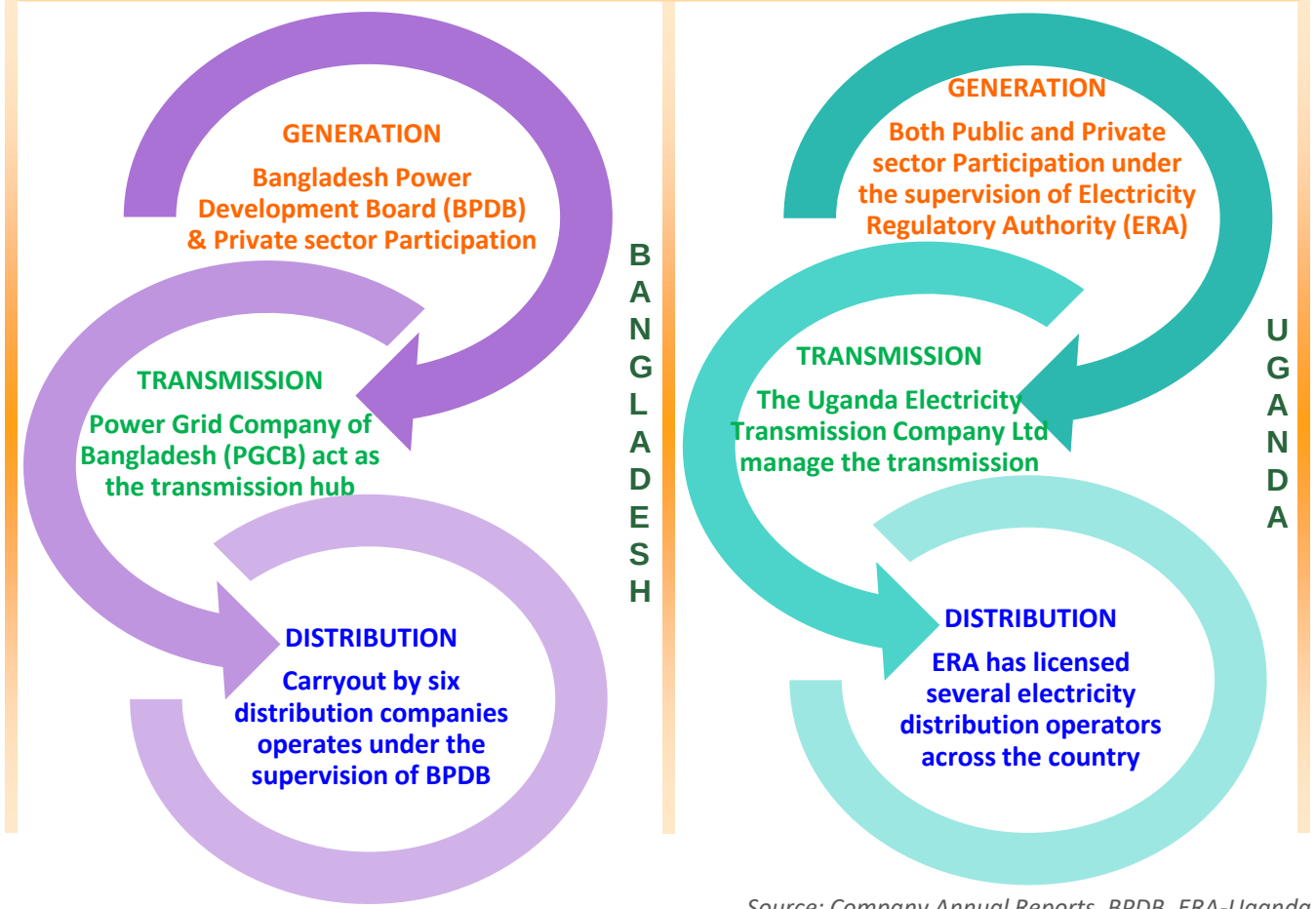
04 Power Revolution in Offshore Markets

Overseas operations by local players mainly positioned in Bangladesh and Uganda…

Operations in Bangladesh and Uganda are distinguished in the composition of income streams of local players, which accounts for a sizable portion in respect of foreign income. Pakistan and Ukraine also generate a noteworthy contribution while Nepal will also expect to join the pack in the coming years.

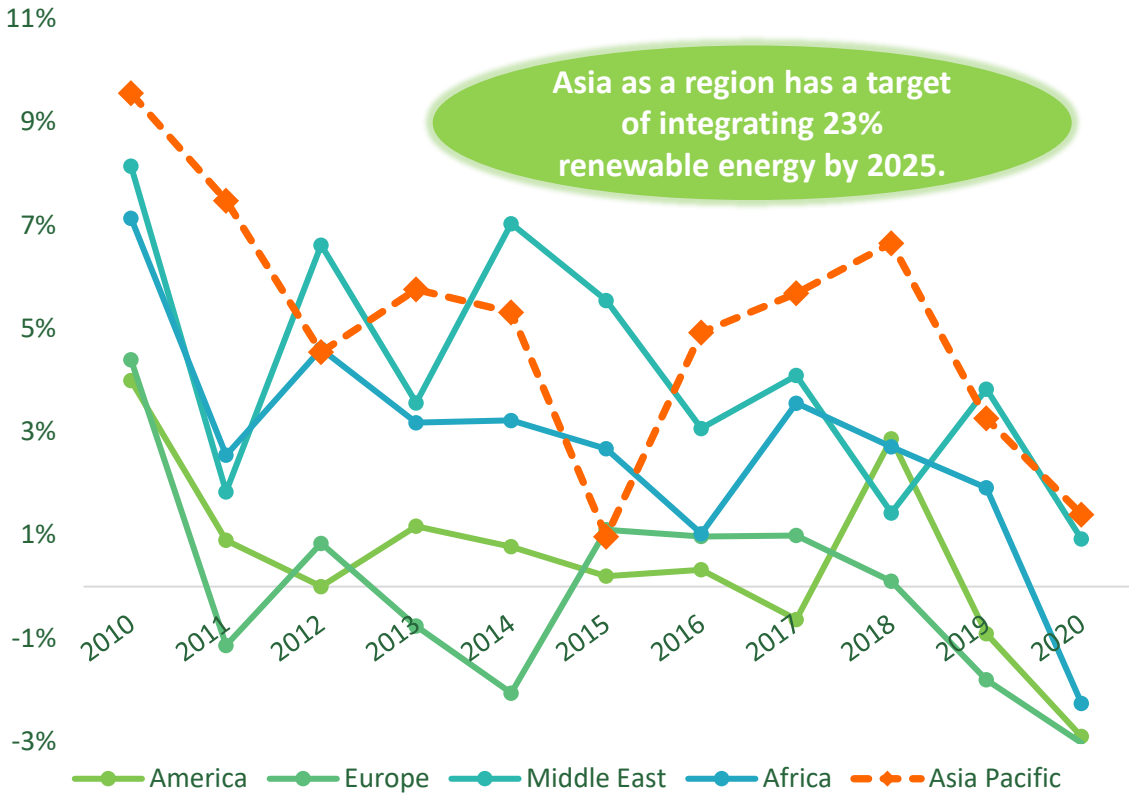


Structure of Power Sector in Bangladesh and Uganda adopts a similar flow to that of Sri Lanka



Source: Company Annual Reports, BPDB, ERA-Uganda

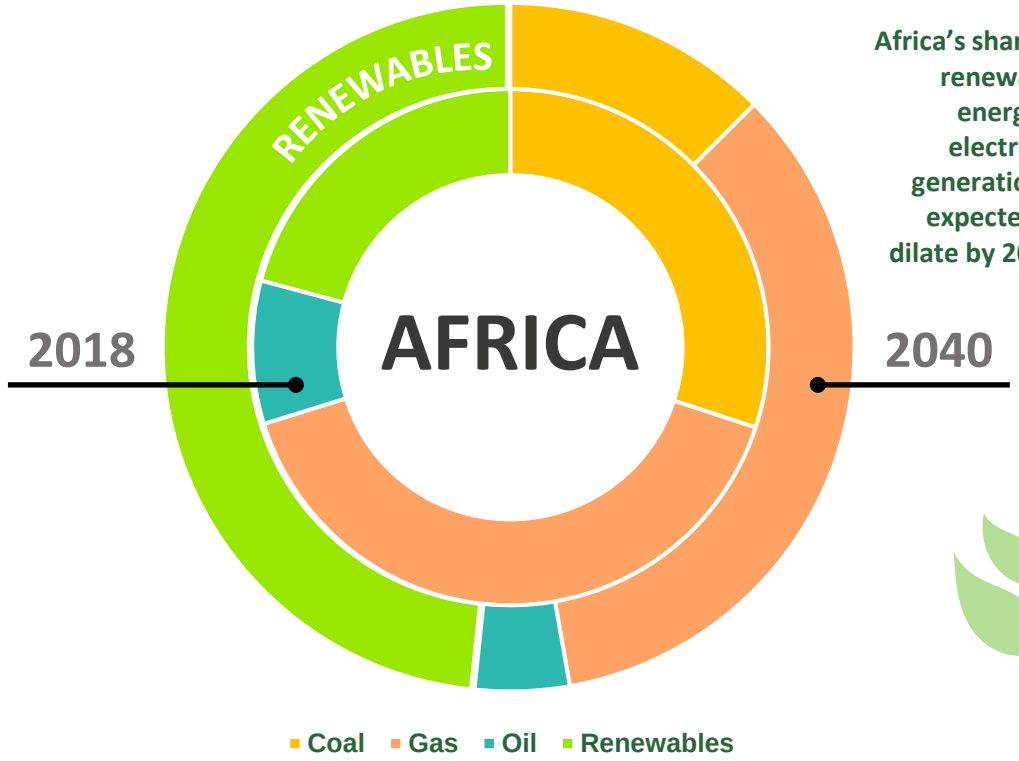
...which have further potential for growth in light of the regional prospects...



Asia as a region has a target of integrating 23% renewable energy by 2025.

Asia Pacific region show-up as one of the emerging regions in terms of YoY growth in electricity generation (TWh).

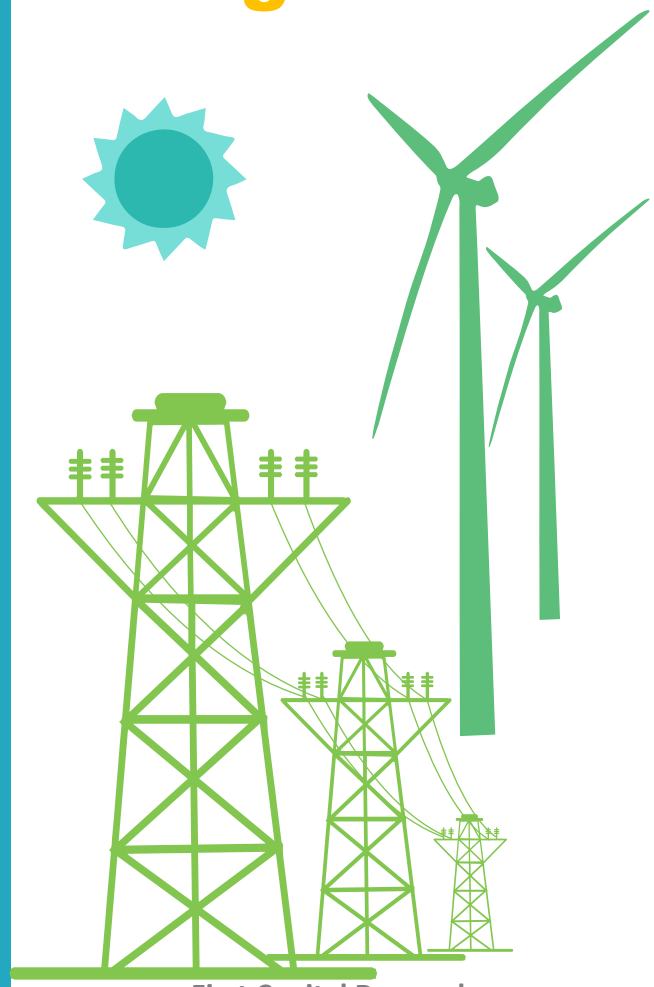
Africa has more than enough un-utilised renewable energy resources with the potential to generate more than 1,000 times larger than its projected demand for electricity in 2040.



Africa's share of renewable energy in electricity generation is expected to dilate by 2040.

Source: International Energy Agency, IRENA, BP Statistical Review of World Energy

Energy Prospects in Bangladesh & Uganda



Bangladesh

Power generation capacity to reach 30,000MW by 2030

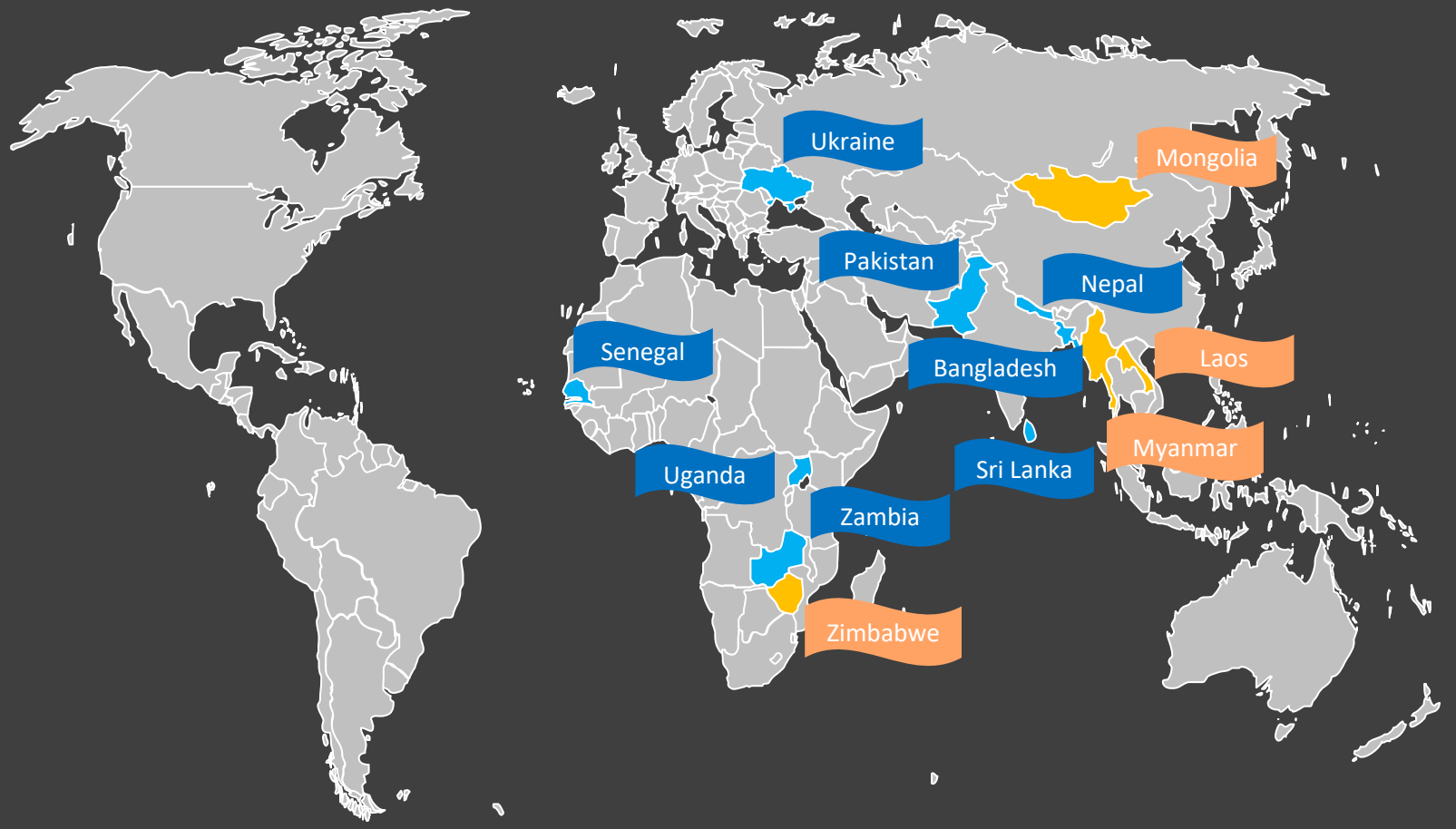
- Bangladesh is one of Asia's emerging economies with a growing need for power and energy.
- Existing power generation capacity of 21,000 MW is projected to reach 30,000 MW by 2030 and 57,000 MW by 2041.
- Gas is the primary source in power generation and is expected to gradually shift to a more cleaner energy mix.
- Aims to attain a target of 40% electricity generation via renewable sources by 2041 following the 2015 Paris Agreement on climate change.
- Government seeks to attract more private sector participation in meeting its energy goals.

Uganda

Government heading for a massive expansion in the energy sector

- Key objective of the Ugandan government is to transform the country from a peasant to a modern and prosperous country in 20 years urging massive developments in the energy sector.
- Power generation capacity is expected to widen at 42,000 MW (from 1,250 MW) by 2040.
- Electrification target to reach 80% of the population by 2040 while increasing per capita electricity consumption.
- Generation mix will be reshaped to adopt more renewable energy sources along with nuclear sources.
- Structural reforms in allowing private sector to play an important role in the sector.

...motivate players to broaden the feasibility of potential markets...



Existing Operations

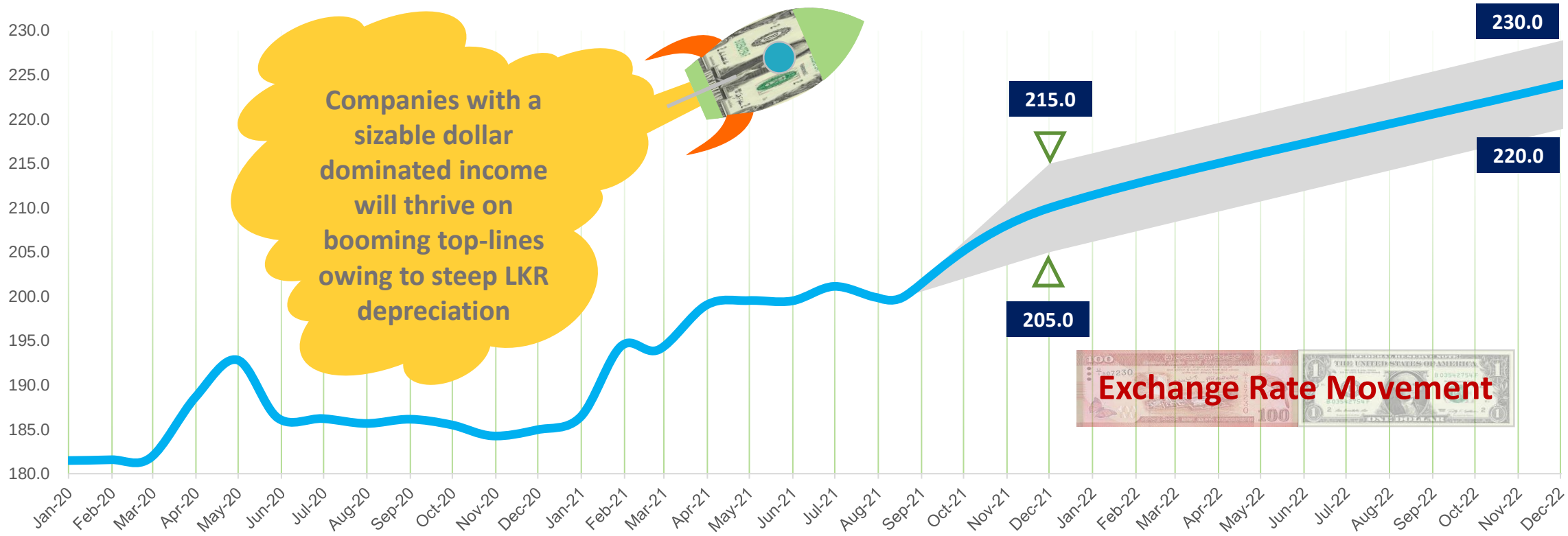
Markets Under Evaluation

Potential Global Markets

Source: Company Annual Reports

...while harnessing the benefits of exchange rate movements

Despite CBSL holding the currency float to stave off against a freefall, gradual relaxation of import restrictions coupled with the pressure from exporters are punching towards a free-float of currency which will lead to a significant devaluation of the rupee against the greenback. We expect USD to hike up to a range of LKR 220.0-230.0 by 2022.



Source: CBSL, First Capital Research Estimates

05 Embedded Risks

Heavy Dependence On A Single Buyer, CEB

Impact : **HIGH** | Likelihood : **MEDIUM**

- Ceylon Electricity Board (CEB) is basking on a monopoly status over electricity transmission and distribution in Sri Lanka together with its subsidiary, Lanka Electricity Company (Pvt) Ltd (LECO).
- Although the power projects are being offered under a competitive bidding process, CEB may have a high bargaining power over transmission.
- CEB's failure to fulfill its contractual obligations under the Power Purchase Agreements or any delay in making contractual payments may adversely affect the profitability of the players.
- Possible failures in CEB distribution plants and machinery may also impact the power generation entities as a whole.

Currency Risk and Interest Rate Risk

Impact : **HIGH** | Likelihood : **HIGH**

- Unexpected and volatile fluctuations in the foreign exchange rates may result in an unfavourable impact on the players who have a significant portion of foreign revenue.
- When projects are financed with foreign borrowing, it may require a currency hedge to protect against the currency fluctuation, which will turn up as an additional cost. Conversely, if the exposure is left unhedged, it may also produce an additional cost burden upon LKR devaluation.
- Power sector players are highly dependent on debt financing. Major adverse fluctuation in interest rates may pose a risk upon debt financed on a floating rate basis.

Pressure from Weather Patterns and Operational Disruptions

Impact : **HIGH** | Likelihood : **HIGH**

- Renewable energy projects such as wind, solar are highly dependent on climate related factors which are beyond control.
- Unexpected change in weather patterns might lead to lower than expected energy generation (low plant factor) from the power projects, causing a contraction in revenue streams.
- Machinery breakdown is another common type of loss in the power sector that requires additional cost to repair or replace along with operational disturbances depending on the magnitude of the incident.

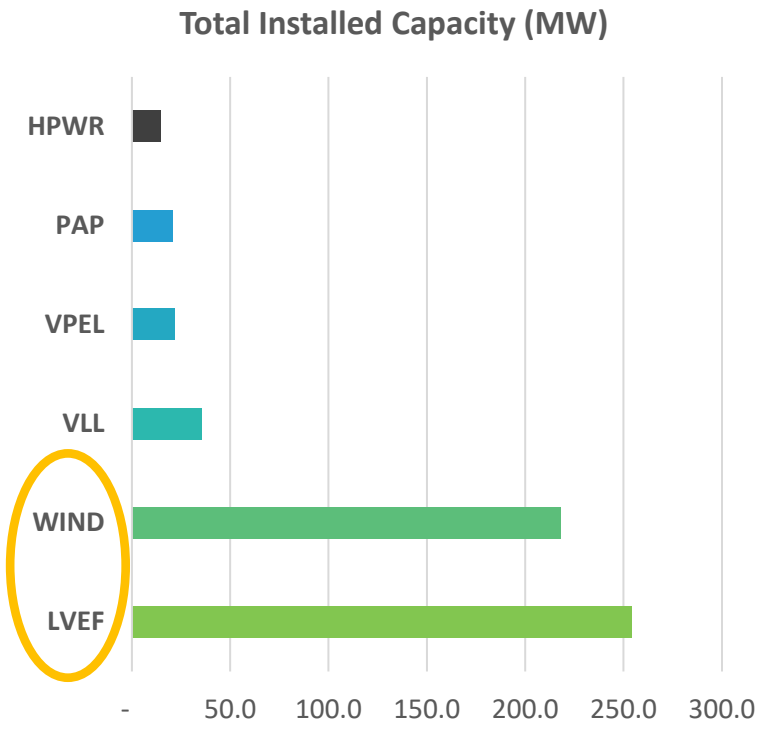
Changes in Policies and Regulations

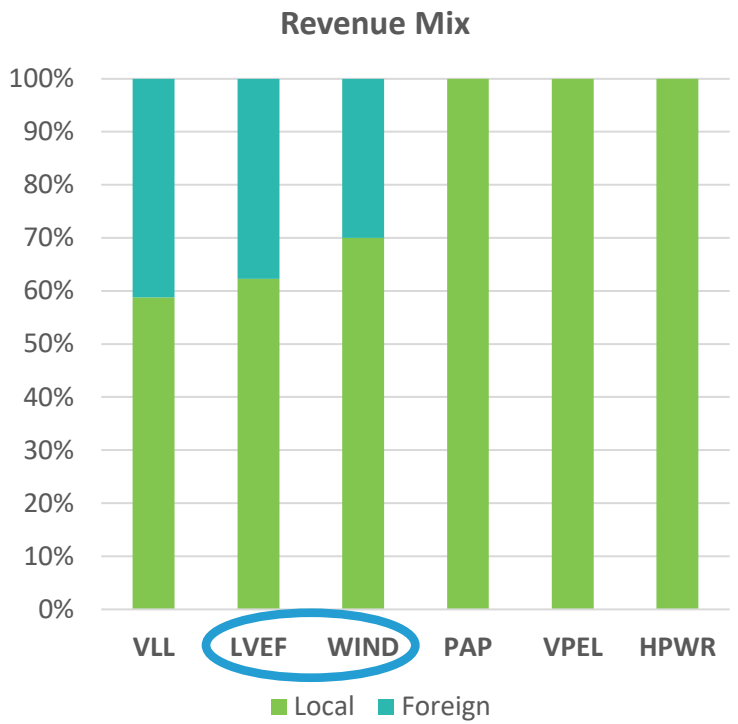
Impact : **HIGH** | Likelihood : **MEDIUM**

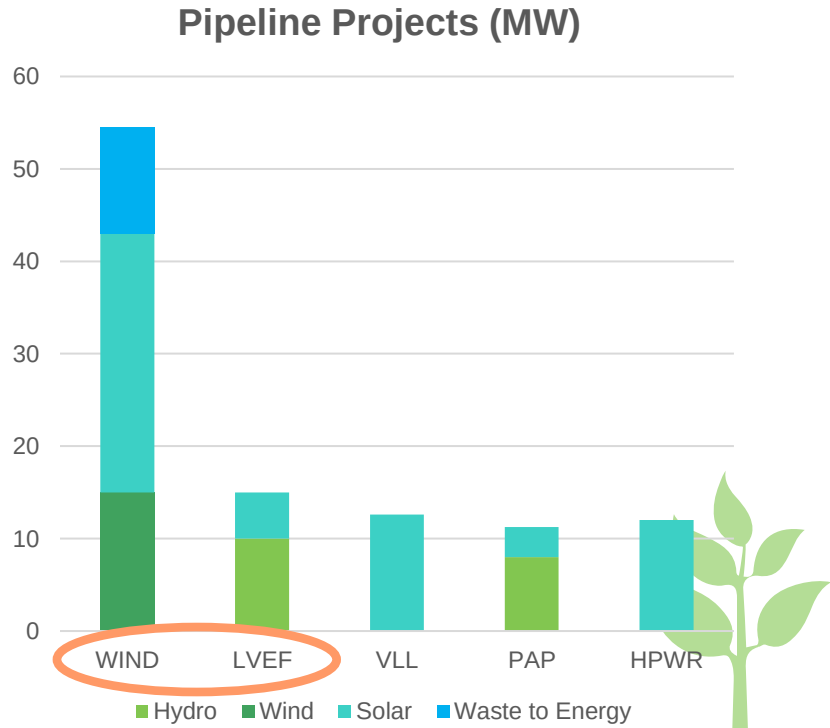
- Occasional changes in policies and regulations pertaining to the power generation will deliver a higher level of risk towards the stability of the sector
- Inability to enforce the policies and goals established upon the adoption of renewable energy sources will lead to confusion and distress among the players as the majority of renewable energy produced by private players.
- Given the long-term nature of the projects and high switching costs, any regulatory revisions, political unrest and change in government perception towards the power sector in overseas regions will bring additional risk for the players who are engaged in overseas operations.

06 Key Outperformers

Based on the key selection criteria of total installed capacity, level of foreign income generation and the disclosed pipeline project capacities, LVEF and WIND appear to be lucrative among the sector







Statistics of all listed players (Main Board)

Name	Symbol	Market Price (LKR)	Installed Capacity (MW)	Market Cap. (Mn)	NAVPS (LKR)	Trailing PER	PBV
WINDFORCE LIMITED	WIND.N0000	18.60	217.9	25,124.30	15.4	12.7	1.4
LVL ENERGY FUND LIMITED	LVEF.N0000	10.80	254.1	6,288.60	8.8	9.1	1.2
VALLIBEL POWER ERATHNA PLC	VPEL.N0000	8.30	21.8	6,201.01	3.3	11.2	2.5
VIDULLANKA PLC	VLL.N0000	5.90	35.7	5,005.91	3.9	9.3	1.5
PANASIAN POWER PLC	PAP.N0000	4.10	20.7	2,562.50	3.4	12.0	1.2
RESUS ENERGY PLC	HPWR.N0000	26.80	14.5	2,118.02	15.3	6.9	1.8

* Market prices are as at 26th Aug 2021

LVEF (LVL ENERGY FUND PLC)

LVEF.N0000 Current Price: LKR 10.7 Fair Value: LKR 13.0 (FY22E), LKR 19.0 (FY23E)

"Reaping the benefits planted over the years"

Pipeline projects to commence by FY22E

LVL Energy Fund possesses pipeline projects in local as well as overseas markets which are expected to be commissioned during FY22E period. The major project is the upcoming hydro project in Nepal with an installed capacity of 10MW, anticipated to be commissioned by 4QFY22. It has also ventured into the solar power segment via successfully commissioning of its first solar project with a capacity of 1MW in 1QFY22 in the Matugama while having additional 5MW projects in the pipeline with 2MW in Pallekale, Kandy and 3MW in Mano, Kurunegala which are expected to be commissioned by 3QFY22. The management of LVEF is confident that focusing on increasing the power generation from the existing plant capacities which were accumulated over time is well enough to position themselves to reap substantial returns in the future. The company has currently positioned itself in Bangladesh and Nepal with further planned intentions to reach out to other potentially sound markets such as Africa and Southeast Asia.

WIND plants recommence generation; Thermal plant to upscale

Resulting from the equipment failure in the CEB's Norochcholai grid substation, LVEF 2 major wind plants Pawan Danavi (10.2MW) and Nala Danavi (5.1MW) were unable to supply power to the grid from 25 Jul 2020. With the repair now in the completion stage, the company is expecting to supply power back to the grid from Sep 2021 onwards. Further, Feni, the large 114MW Thermal power plant operating in Bangladesh has been operating at plant factor of below 10% during the most part of FY21 due to excess supply in Bangladesh. However, with business operations normalizing in Bangladesh, the power utility is requiring higher power generation, resulting in Feni Lanka expecting generate high quantum of power from FY22E onwards significantly improving the plant factor and the profitability of the plant.

Rupee deprecation; an added reward

Persistent depreciation in LKR against the greenback will be an added benefit for LVEF, having 38% of its revenue generated via overseas operations and planned future add-ons. We expect a currency depreciation of 12% for 2021E and accordingly, LKR is expected to float within a range of 205-215 by the end of Dec 2021 and LKR 220-230 for Dec 2022 resulting in a major benefit for the company.

Fair Value is estimated at LKR 13.0 for FY22E and at LKR 19.0 for FY23E - BUY

We have estimated the share price of LVEF to reach LKR 13.0 by FY22E and LKR 19.0 by FY23E indicating an annulised return of 46% for FY22E and 45% for FY23E. **BUY**

P/E 31 March	*FY18*	*FY19*	*FY20*	*FY21*	*FY22E*	*FY23E*	*FY24E*
Estimates (LKR 'Mn)							
Revenue	349	430	345	346	365	428	498
EBIT	220	275	217	206	215	252	293
Profit Before Tax	498	643	487	796	1,162	1,690	1,995
Net Profit	**399**	**516**	**375**	**691**	**929**	**1,352**	**1,596**
EPS (LKR)	0.7	0.9	0.6	1.2	1.6	2.3	2.7
YoY Growth (%)	*-2%*	*29%*	*-27%*	*85%*	*34%*	*45%*	*18%*
Valuations							
PER (x)	**15.6**	**12.1**	**16.6**	**9.0**	**6.7**	**4.6**	**3.9**
PBV (x)	**1.8**	**1.6**	**1.4**	**1.2**	**1.1**	**1.0**	**0.9**
DY (%)	6.0%	6.1%	3.3%	3.3%	7.5%	10.8%	12.8%

COMPANY PROFILE

LVL Energy Fund PLC has commenced its operations in 2006 as an entity engaged in investments in the form of equity in the companies which undertake projects in power generation sector in Sri Lanka and overseas. Lanka Ventures PLC is the parent company of LVEF holding a 57% of equity stake. LVEF currently holds a diversified project portfolio with a total installed capacity of 254MW dispersed across three regions.

WIND (WINDFORCE PLC)

WIND.N0000 Current Price: LKR 18.8 Fair Value: LKR 21.0 (FY22E), LKR 25.0 (FY23E)

"Promising outlook amidst strong projects on the pipeline"

Solid projects in the pipeline and strong capital structure to facilitate further new expansions

WIND's two new projects 30MW Solar plant in Senegal and 15MW wind plant in Mannar are in the process while Mannar plant is expected to contribute to the revenue from FY23E onwards although project in Senegal is still in the preliminary stage. WIND is also in the process of implementing further two new projects; namely solar universe which is a 10MW project that will be located in Batticaloa and is expected to add to the grid by Feb 2022.The second project is a 11.5MW waste to energy project with an investment of LKR 12.5Bn. Waste to energy project will be located in Karadiyana and has an 18 months timeline for the commencement. Accordingly, total of 66.5MW is expected to be added to the total capacity from future projects. We expect continuous addition of solid new projects to WIND's pipeline to contribute to the future top line and bottom-line growth. Moreover, WIND's current debt to equity ratio stands at 27%, and we expect its strong capital structure to ensure its ability to obtain more debt for future expansions.

Norochcholai grid substation to resume power intake

WIND was also impacted due to an equipment failure at the CEB's Norochcholai grid substation and due to that none of the plants including WIND's and other providers had been able to dispatch power to the grid since 25 Jul 2020. We expect it to return to normalcy by 2HFY22 and to contribute to revenue thereafter.

Geographical footprint to provide a strong impetus relative to its competitors

Africa is considered an attractive destination to expand the Renewable Energy and it needs a significant scale-up in electricity sector investment in generation for which it currently ranks among the lowest in the world. Despite being home to 17% of the world's population, Africa currently accounts for just 4% of global power supply investment. We expect WIND's footprint to African region through plants in Uganda and proposed plan in Senegal to untap the renewable energy potential while bringing a significant first mover advantage. Moreover, WIND's 30% of the revenue is generated from foreign projects and expected LKR depreciation against USD (First Capital Research expects a currency depreciation of 12% for 2021E while expecting LKR to hover in the range of LKR 205-215) is expected to be a further sweetener for the topline and bottom line growth.

Fair Value is estimated at LKR 21.0 for FY22E and at LKR 25.0 for FY23E- BUY

Based on the estimated earnings we believe that WIND is currently trading at a discount to its true potential. We have valued the share at LKR 21.0 for FY22E and at LKR 25.0 for FY23E implying an annulised return of 31% for FY23E and 24% for FY23E. **BUY**

P/E 31 March	FY18	FY19	FY20	FY21	FY22E	FY23E	FY24E
Estimates (LKR 'Mn)							
Revenue	2,636	2,826	3,515	4,564	6,298	8,691	11,298
Gross Profit	1,902	2,011	2,384	2,977	4,345	5,910	7,683
EBIT	1,709	1,741	1,906	2,543	3,689	4,942	6,376
Net Profit	**1,278**	**1,107**	**1,545**	**1,683**	**2,285**	**3,295**	**4,490**
Adjusted EPS (LKR)	0.9	0.8	1.1	1.2	1.7	2.4	3.3
YoY Growth (%)	16%	-13%	40%	9%	36%	44%	36%
Valuations							
PER (x)	19.9x	22.9x	16.4x	15.1x	11.1x	7.7x	5.7x
PBV (x)	3.8x	3.2x	1.6x	1.4x	1.2x	1.1x	1.1x
DY (%)	N/A	N/A	N/A	4.6%	6.3%	9.1%	12.4%

COMPANY PROFILE

WIND is the Sri Lanka's largest Independent Power Producer (IPP) in the renewable energy industry, having begun operations in 2010. In addition, operations in Sri Lanka, WIND has expanded its reach by investing in plants in Pakistan, Uganda, and Ukraine. To present, WIND's total capacity is 218MW consisting of Wind, Solar and Hydro plants.

DISCLAIMER

This Review is prepared and issued by First Capital Holdings PLC based on information in the public domain, internally developed and other sources, believed to be correct. Although all reasonable care has been taken to ensure the contents of the review are accurate, First Capital Holdings PLC and/or its Directors, employees, are not responsible for the correctness, usefulness, reliability of same. First Capital Holdings PLC may act as a Broker in the investments which are the subject of this document or related investments and may have acted on or used the information contained in this document, or the research or analysis on which it is based, before its publication. First Capital Holdings PLC and/or its principal, their respective Directors, or Employees may also have a position or be otherwise interested in the investments referred to in this document. This is not an offer to sell or buy the investments referred to in this document. This Review may contain data which are inaccurate and unreliable. You hereby waive irrevocably any rights or remedies in law or equity you have or may have against First Capital Holdings PLC with respect to the Review and agree to indemnify and hold First Capital Holdings PLC and/or its principal, their respective directors and employees harmless to the fullest extent allowed by law regarding all matters related to your use of this Review. No part of this document may be reproduced, distributed or published in whole or in part by any means to any other person for any purpose without prior permission.

Contact Us

First Capital Holdings PLC
No: 02, Deal Place,
Colombo 00300,
Sri Lanka.
E: research@firstcapital.lk

Dimantha Mathew
Head of Research
T: +94 11 2639 853
E: dimantha@firstcapital.lk

Atchuthan Srirangan
Manager - Research
T: +94 11 2639 863
E: atchuthan@firstcapital.lk

Hiruni Perera
Assistant Manager- Research
T: +94 11 2639 864
E: hiruni@firstcapital.lk

Vidushika Perera
Assistant Manager- Research
T: +94 11 2639 864
E: vidushika@firstcapital.lk

First Capital
A Janashakthi Group Company

Thank You

“Successful Investment Is About Managing Risk…”