



Renewable Generation Report

Q4

Oct 2022-Dec 2022



Public Utilities Commission of Sri Lanka

Introduction:

This report provides information on Monthly Renewable Energy Generation. Government policy targets, renewable energy development potential, generation expansion plan, and Renewable Energy procurement process. The outputs of the report would be used for the investment opportunities in the energy sector in Sri Lanka.

The main NCRE resources in Sri Lanka are Mini Hydro, Wind, Solar PV, Biomass and Municipal Solid Waste. Most solar PV systems tend to be either utility-scale installations with a capacity usually above 1 megawatt (MW) or rooftop PV typically below 1 MW. Residences may limited to small systems usually up to 20 kilowatts (kW), while larger public, commercial, and industrial buildings may have systems with a capacity as large as 1 MW or even more. Land based wind power projects have been implemented so far while offshore wind projects are considered in the pipeline.

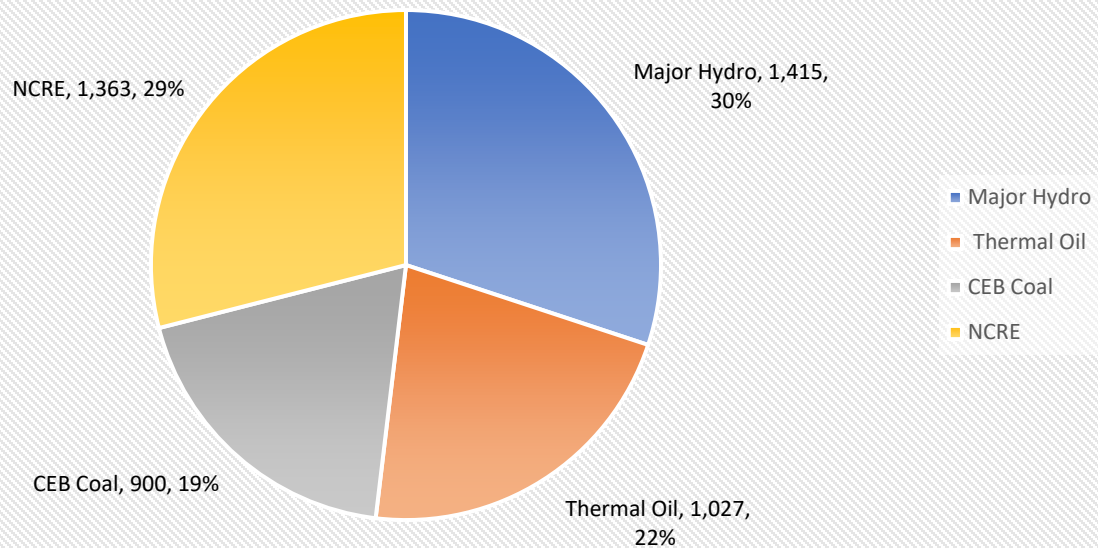
In 2019, the Minister of Power, Energy, and Business Development published the National Energy Policy & Strategies of Sri Lanka, prepared after reviewing and revising the National Energy Policy and Strategies of Sri Lanka published in the Gazette Extraordinary No. 1553/10 of 10.06.2008. The primary objective of the energy policy is to ensure energy security through supplies that are cleaner, secure, economical, and reliable, and to provide convenient, affordable energy services to support the socially equitable development of Sri Lanka.

Policy guidelines such as the 'General Policy Guidelines on the Electricity Industry' as required under Sri Lanka Electricity Act No. 20 of 2009 statutorily required to be issued for each sub-sector, are expected to be prepared and issued, based on this national energy policy.

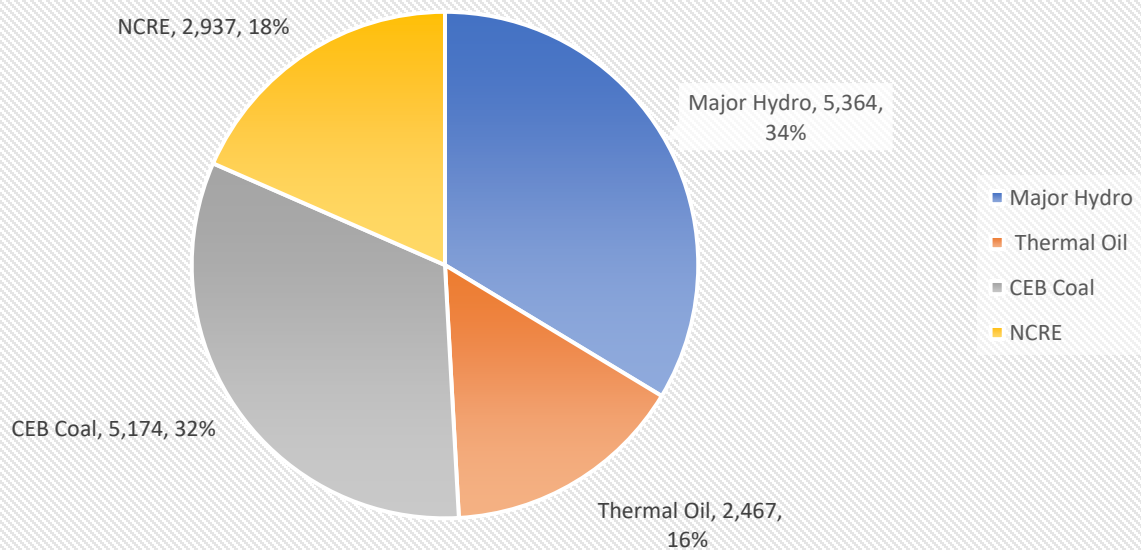
Sri Lanka's power sector development is carried out based on the Long-term generation expansion plan (LTGEP) prepared by the Transmission Licensee (ie. Ceylon Electricity Board (CEB)) and approved by the Public Utilities Commission of Sri Lanka (PUCSL). LTGEP is a rolling plan prepared in every two years incorporating the changes introduced by the varying economic and technical parameters used in the planning process.

**Target: To increase the renewable energy (RE) share
from 50% to 70% by 2030.**

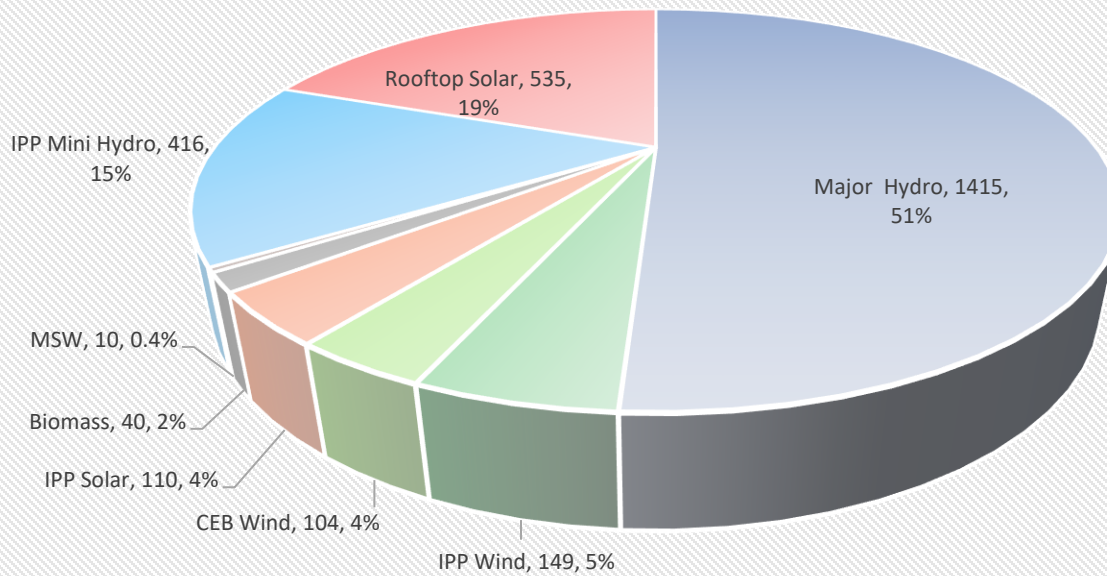
Installed Capacity (MW) by Source - as at 31.12.2022



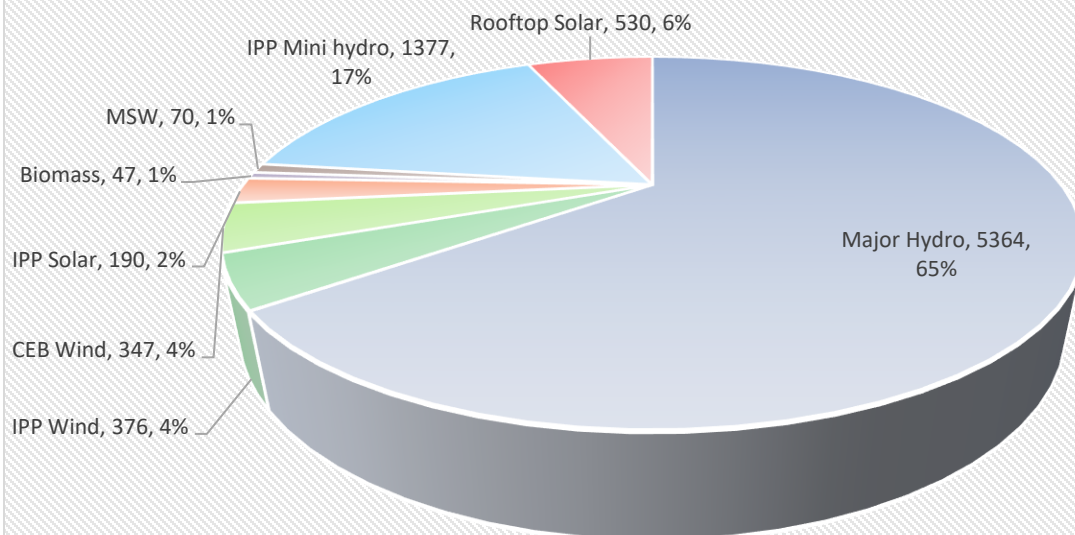
Total Generation by Source - 2022



Renewable Energy Capacity (MW) as at 31.12.2022

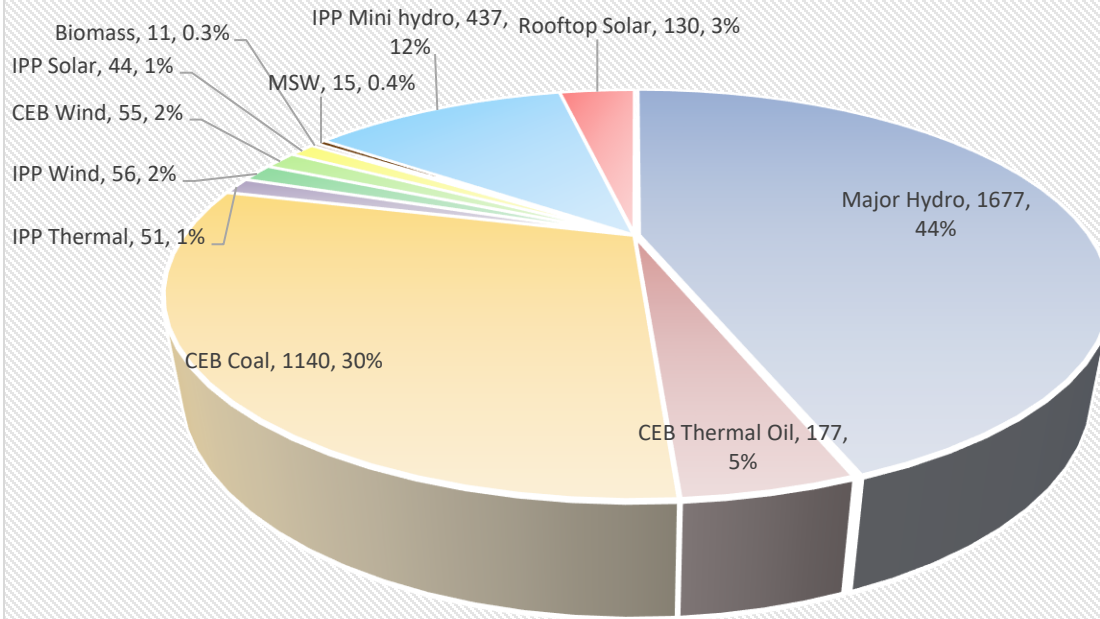


Total Renewable Generation - 2022

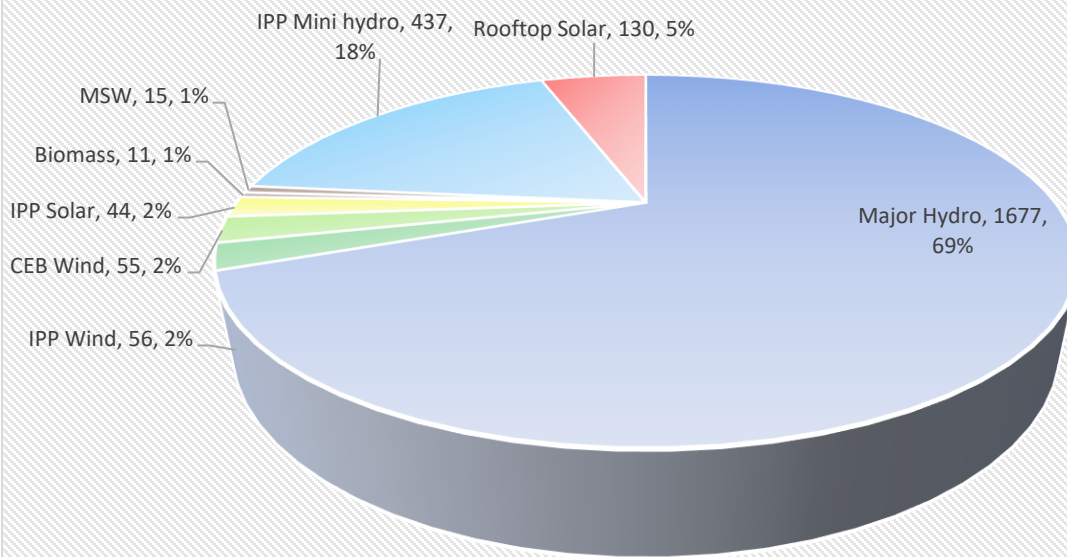


Note: The Rooftop data excludes Rooftop capacity and Generation in the LECO area.

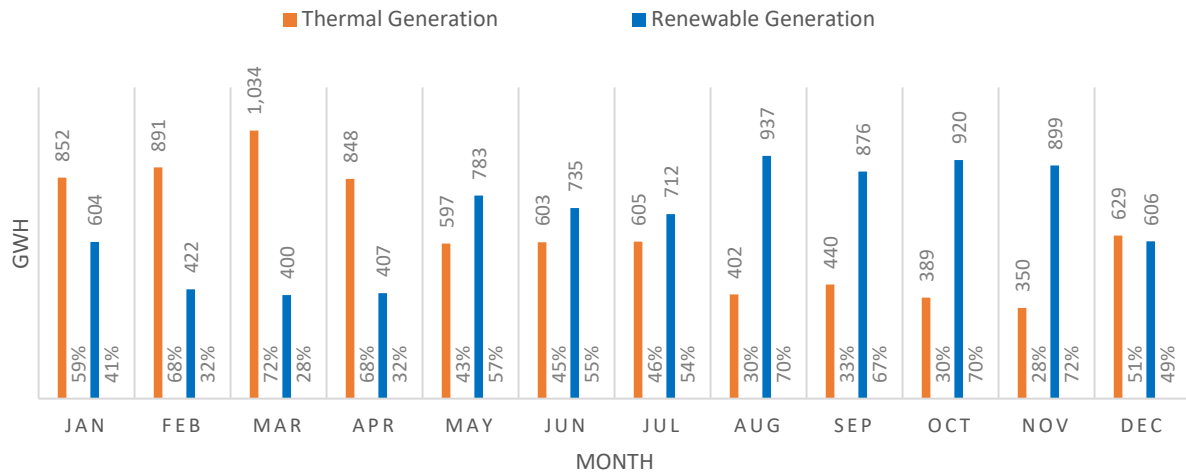
Generation Mix (GWh)- Q4 2022



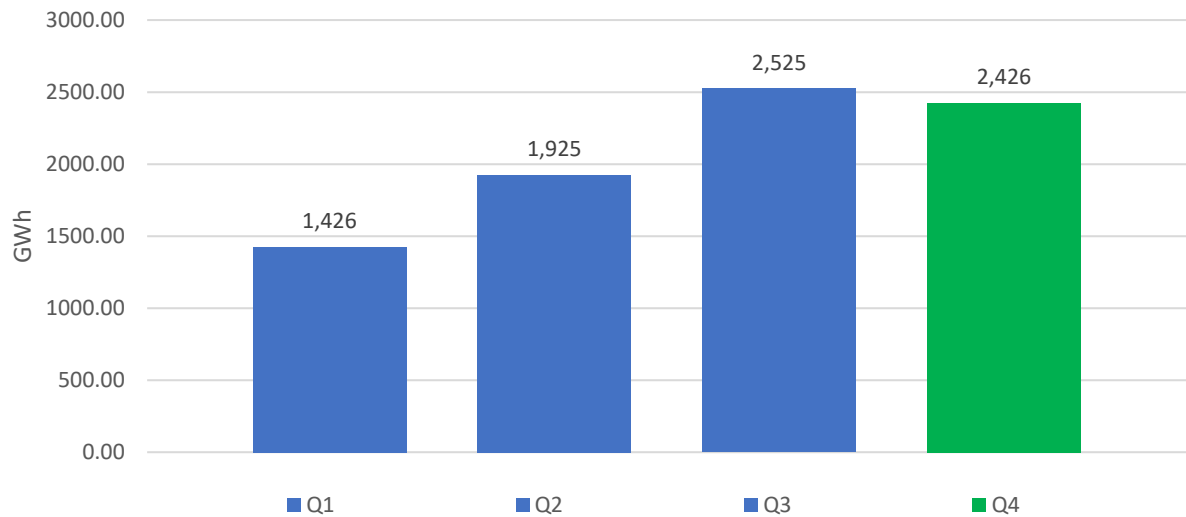
Renewable Generation Mix (GWh) - Q4 2022



MONTHLY GENERATION COMPARISON



Renewable Generation



Increased by 70.1% as compared to Q1

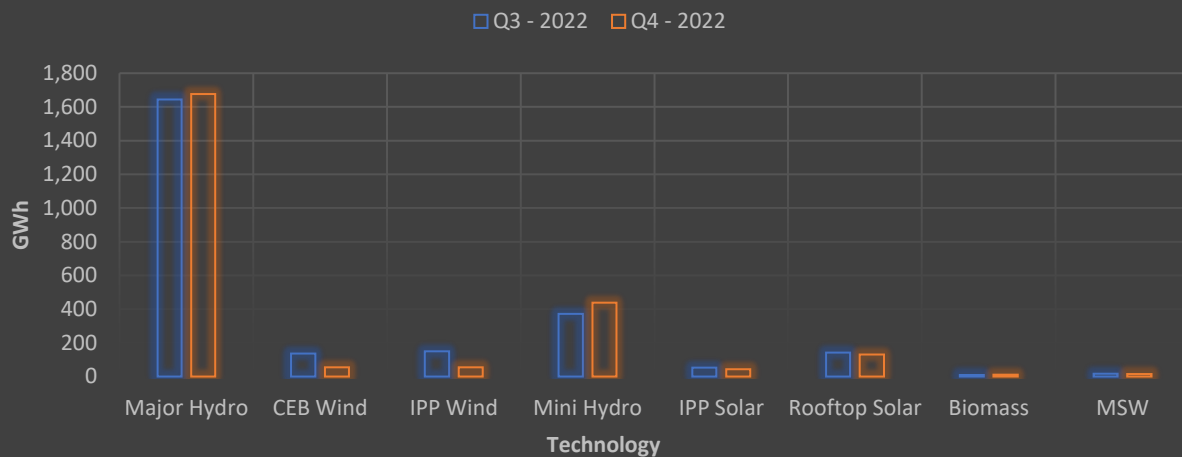
Increased by 26% as compared to Q2

Decreased by 3.9% as compared to Q3

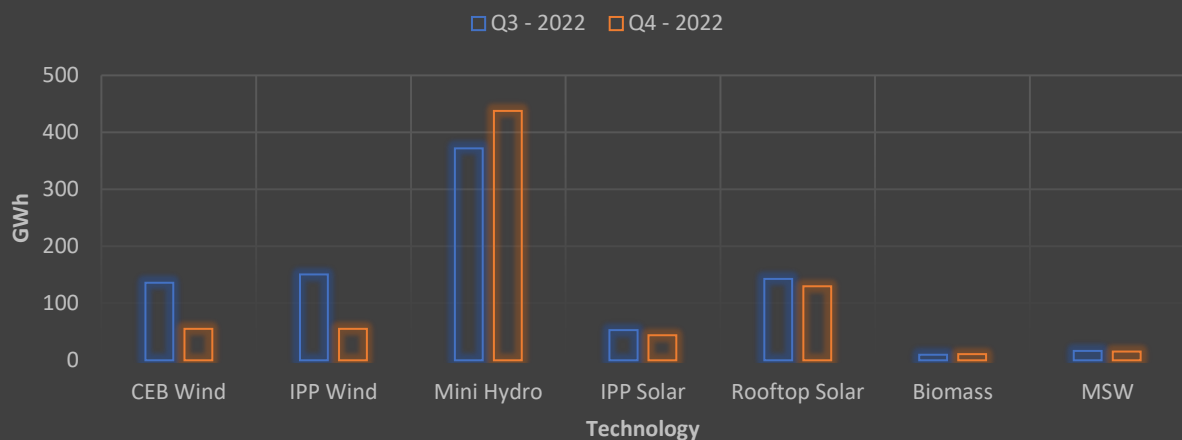
Renewable Generation-3rd Quarter 2022 Vs 4th Quarter 2022

Technology	Renewable Generation (GWh) Q3 - 2022	Renewable Generation (GWh) Q4 - 2022
Major Hydro	1,644	1,677
CEB Wind	136	55
IPP Wind	151	55
Mini Hydro	372	437
IPP Solar	53	44
Rooftop Solar	143	130
Biomass	10	11
MSW	16	15

Q3 - 2022 and Q4 - 2022 (with Major Hydro)

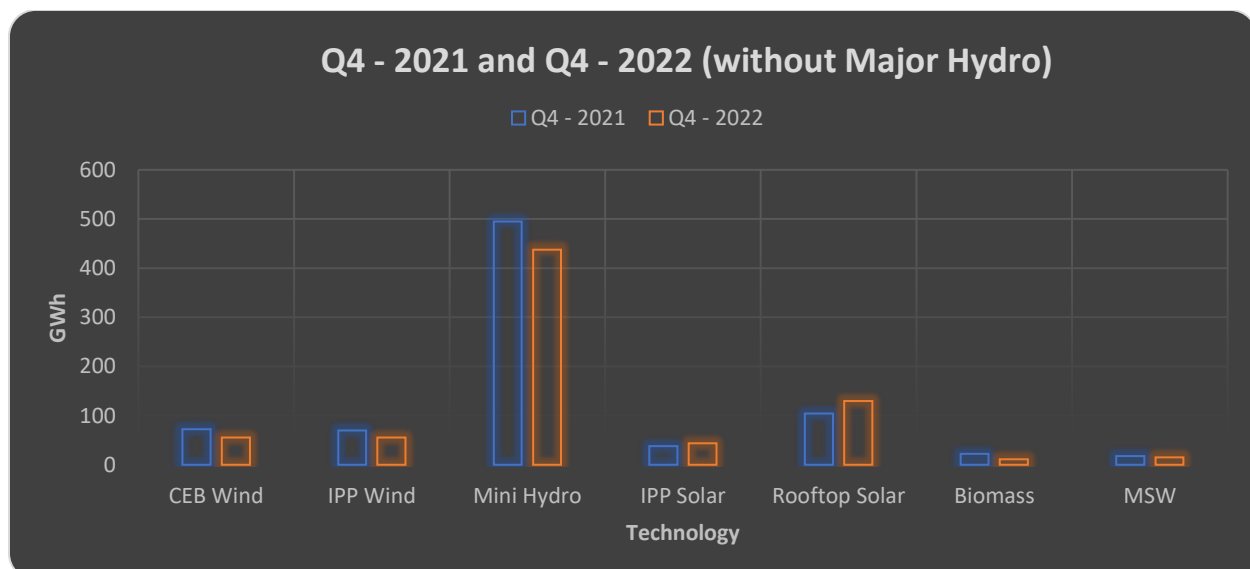
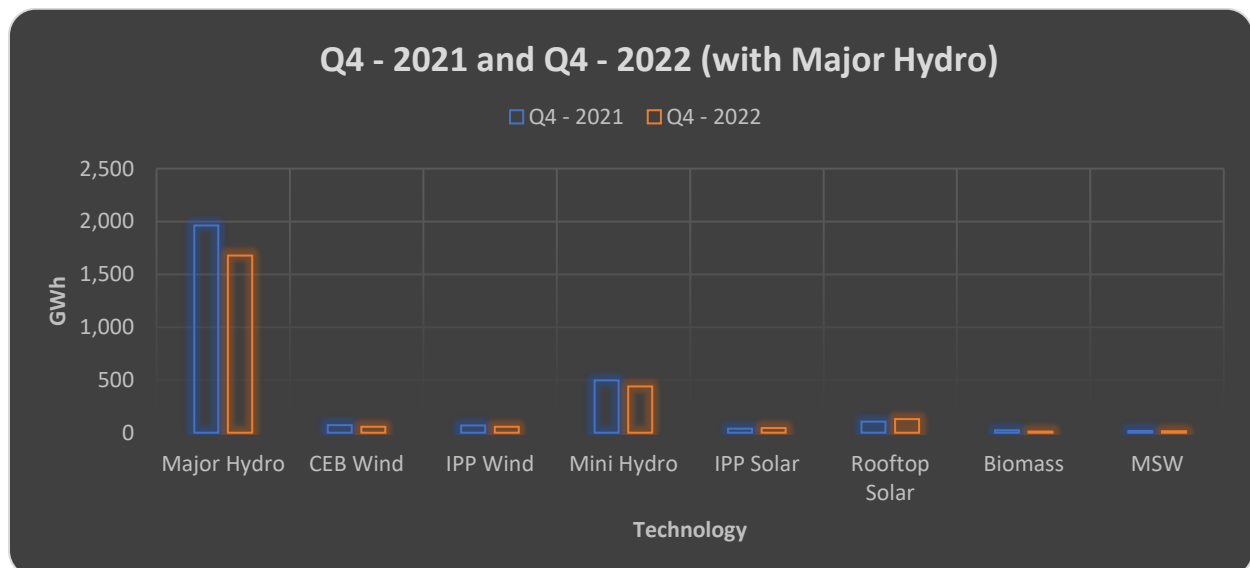


Q3 - 2022 and Q4 - 2022 (without Major Hydro)

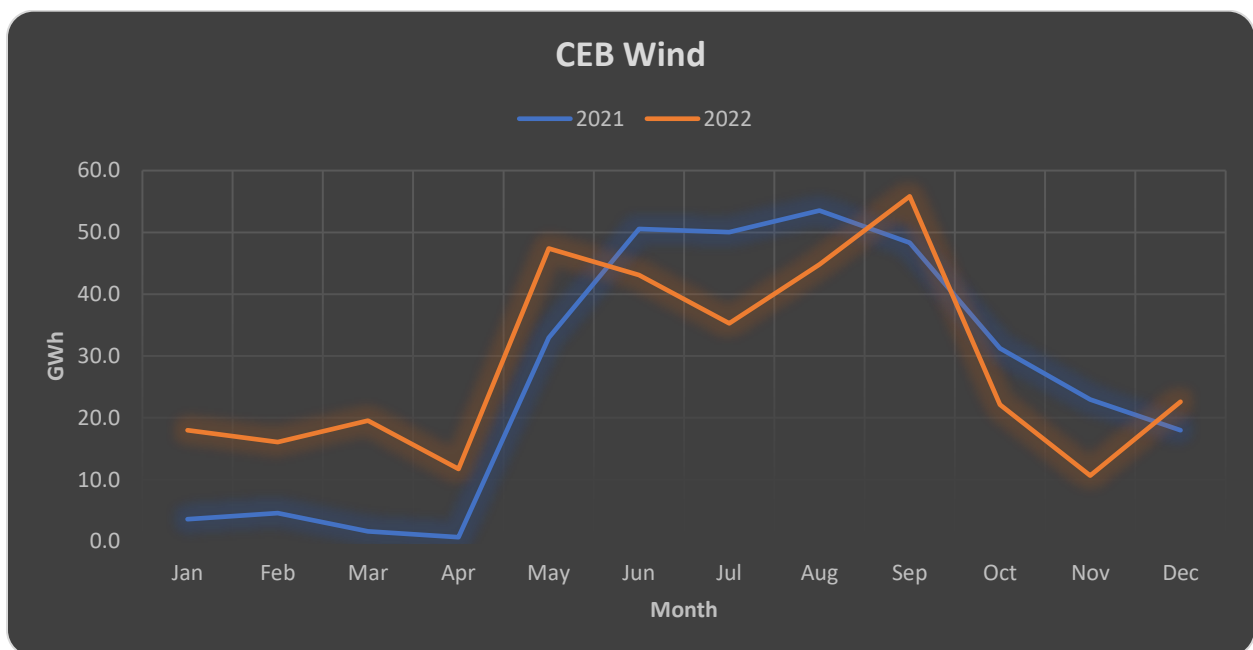


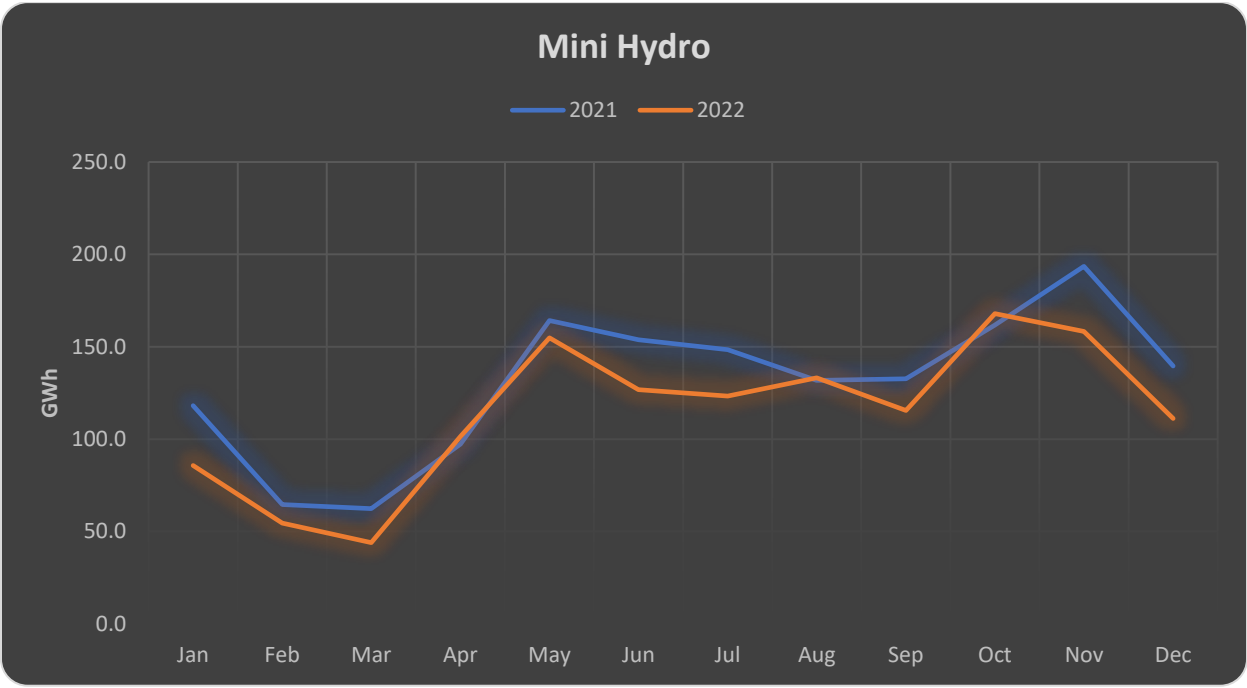
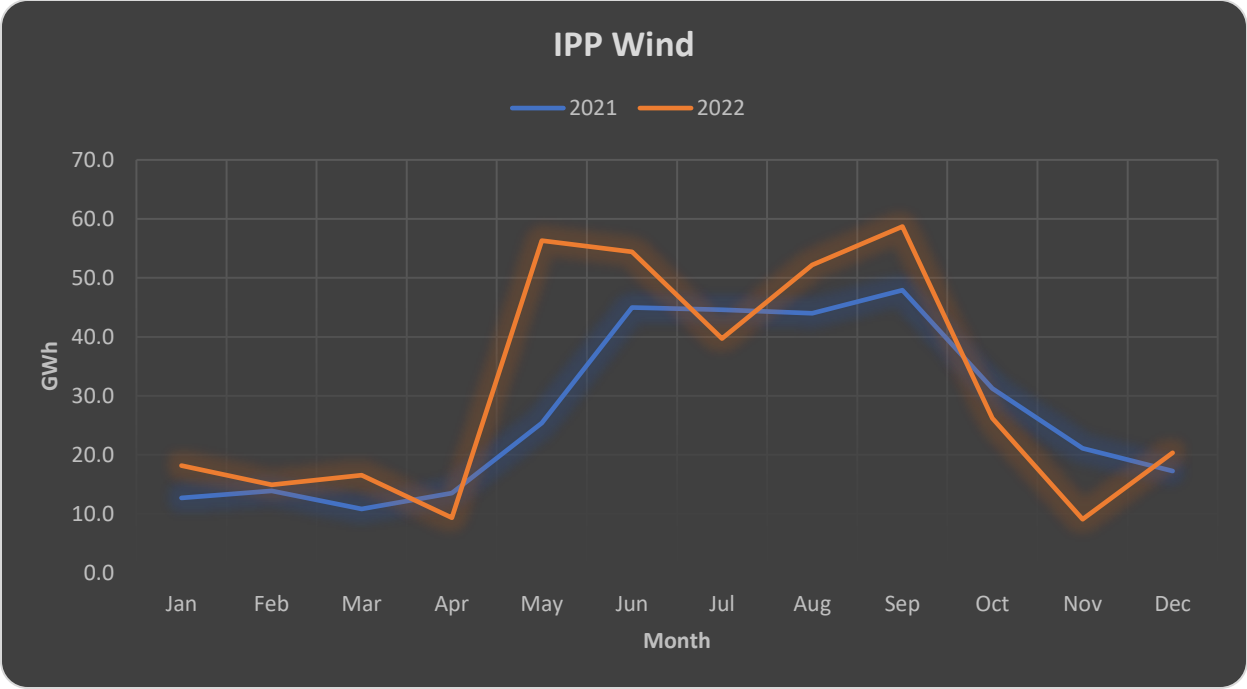
Renewable Generation-4th Quarter 2021 vs 4th Quarter 2022

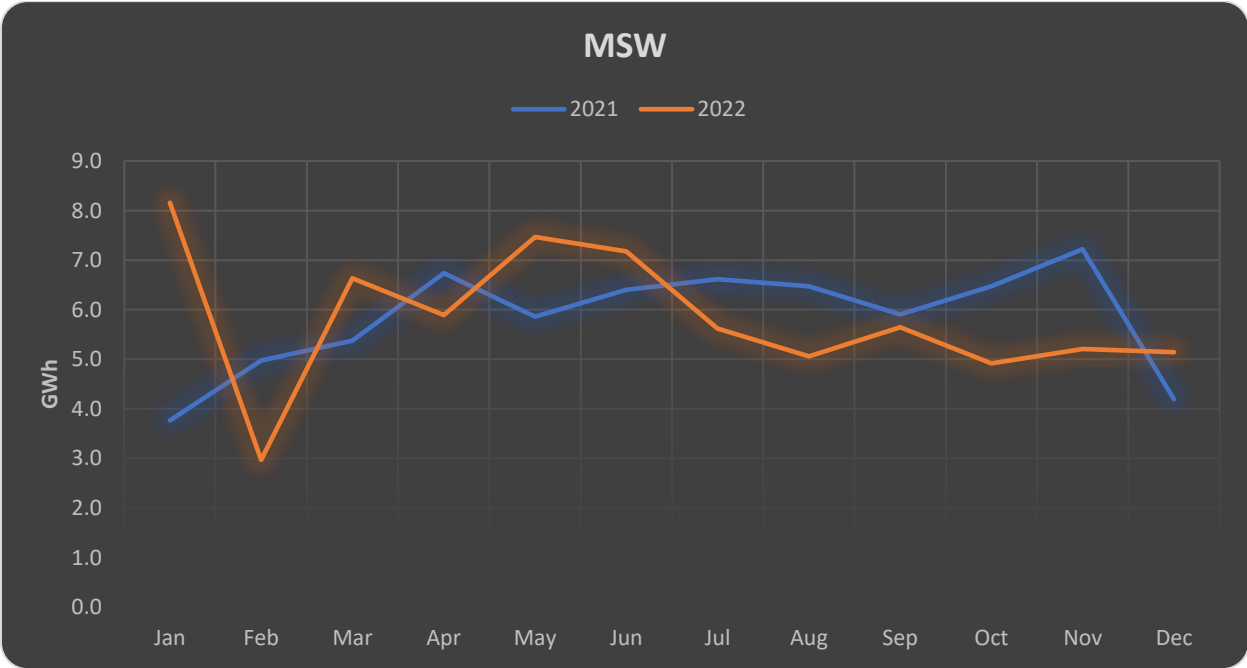
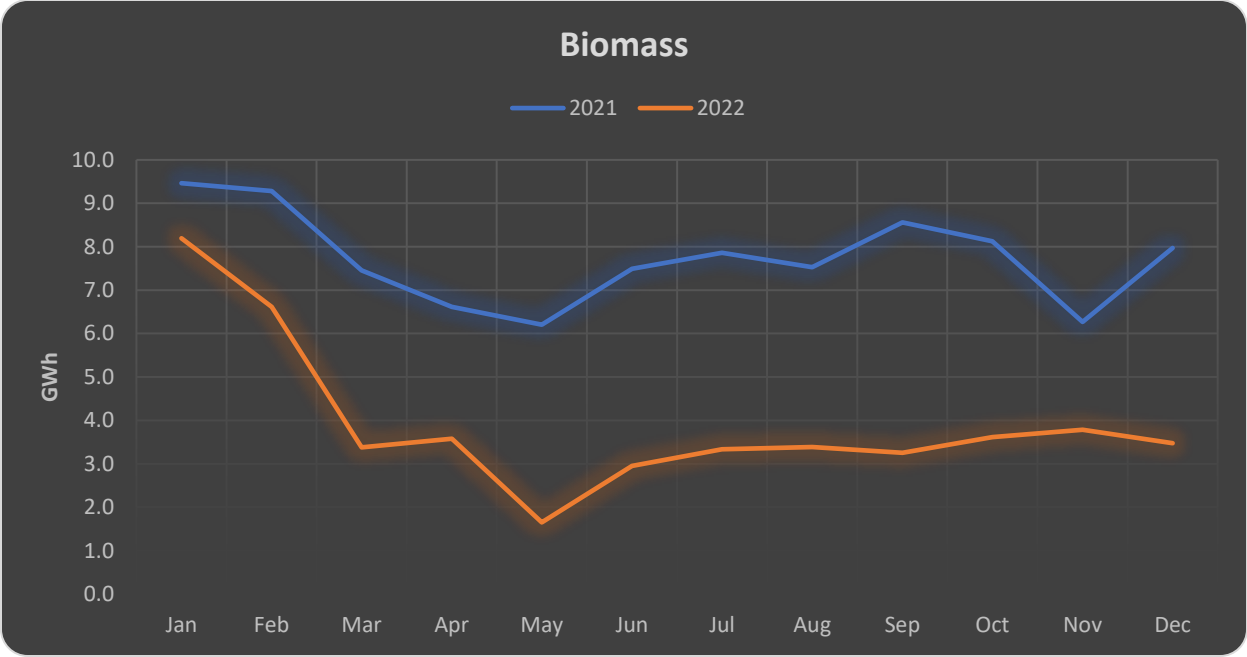
Technology	Renewable Generation (GWh) Q4 - 2021	Renewable Generation (GWh) Q4 - 2022
Major Hydro	1,962	1,677
CEB Wind	72	55
IPP Wind	70	56
Mini Hydro	495	437
IPP Solar	38	44
Rooftop Solar	104	130
Biomass	22	11
MSW	18	15

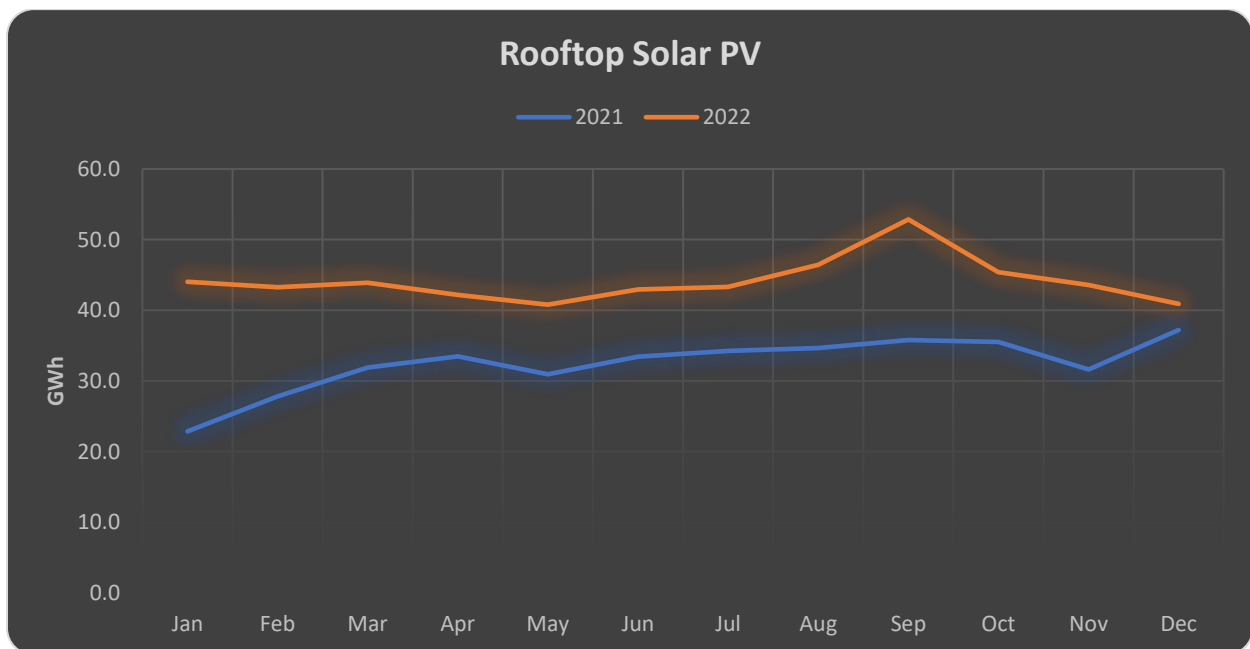
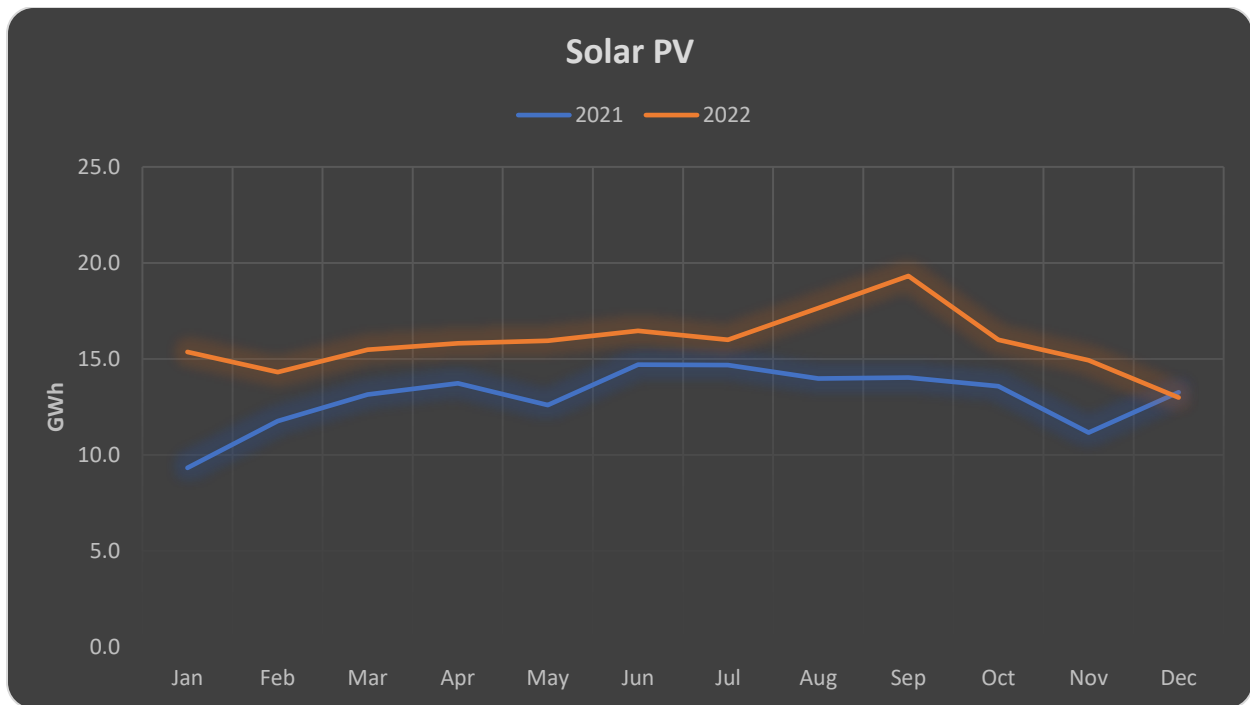


Variation of Renewable Generation – Technology Wise



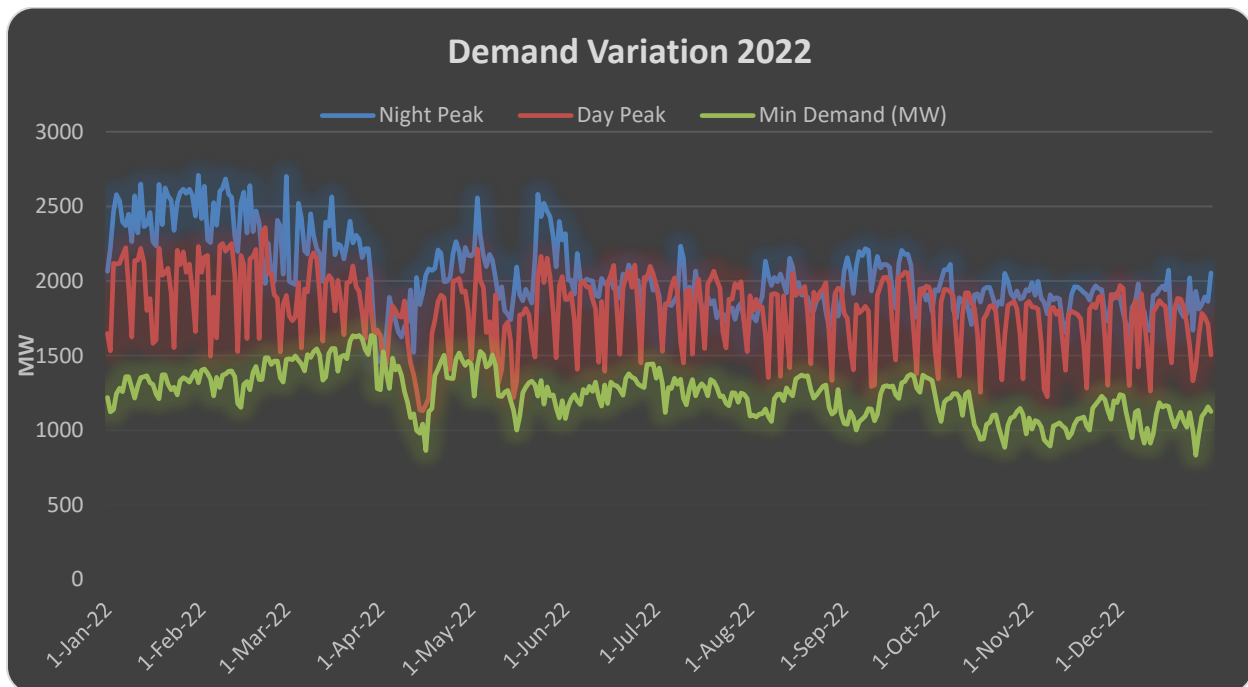






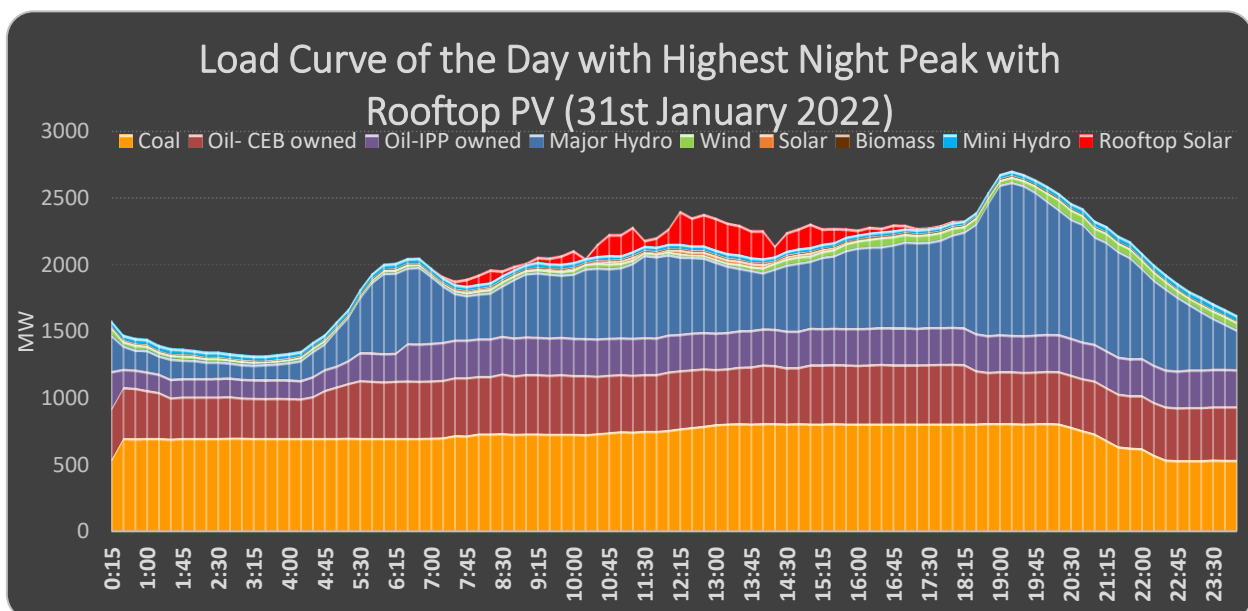
Source: CEB monthly Review Reports

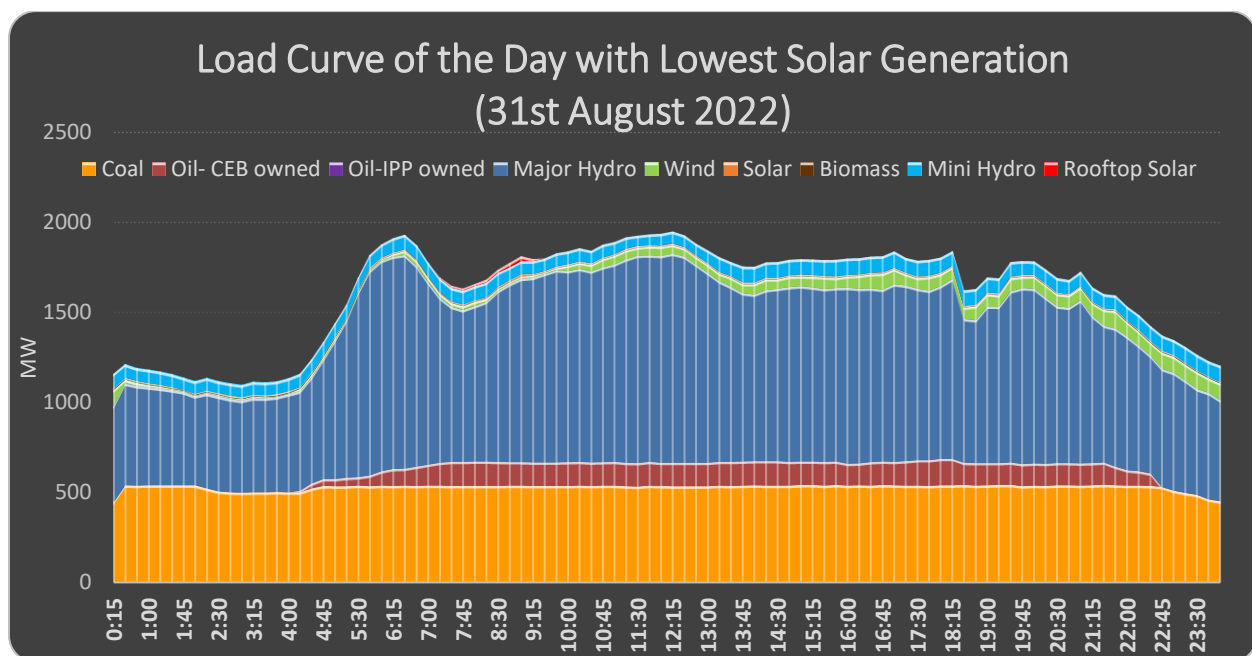
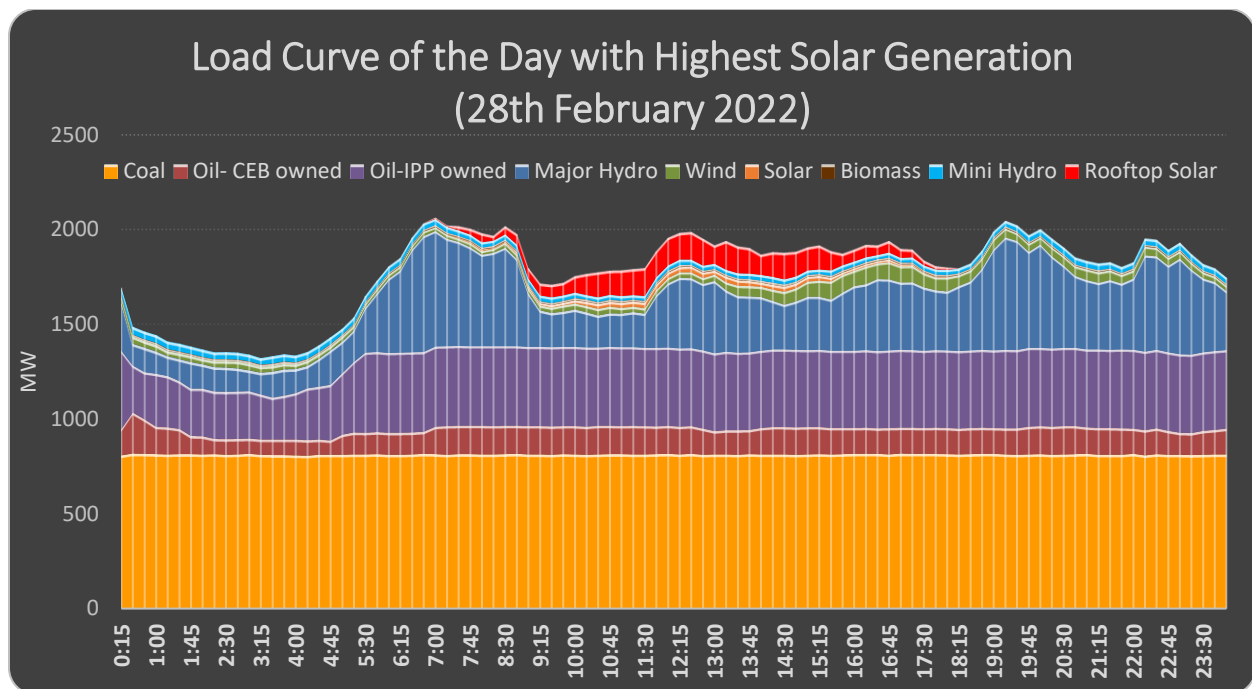
Daily Demand Variation



Maximum recorded night peak demand	2708.6	MW	31 - Jan
Lowest recorded night peak demand	1,457.0	MW	31 - Mar
Maximum recorded day peak demand	2,358.1	MW	22 - Feb
Lowest recorded day peak demand	832.9	MW	26 - Dec

Note: Load shedding occurred on March 31st, 2022.





Note: Rooftop Generation under CEB extrapolated with respect to metered Solar PV Generation. Also, this data excludes the 1MW solar, certain Wind plants, and Mini Hydro plants.

PUCSL Approvals issued for Renewable Generation

RFP Approvals 2022

PROJECT	PROPOSED COMMISSIONING YEAR	TECHNOLOGY	CAPACITY
Siyambalanduwa Power Plant	2026	Solar PV	100 MW
Solar Power plants in 1-5MW capacity on BOO basis	2024	Solar PV	90 MW
Solar Power plants in 5MW capacity on BOO basis	2025	Solar PV	60 MW
Onshore Wind Power Plant in 1-5MW	2024	Wind	40 MW
73MW Solar Power Plants	2025	Solar PV	73 MW

Approvals for Energy Purchasing to TL-2022

Technology	Cumulative Capacity (MW)	No. of Projects
Solar	133.9	18
Mini Hydro	29.72	26
BMP - Dendro / Waste	21.9	6
Wind	10	1

Generation License issued in 2022.

Generation License details can be found via the following Link:

<https://www.pucsl.gov.lk/electricity/licensee/list-of-licensees/>

Renewable Generation Power Plants in Sri Lanka

Renewable Power plants can be found via the following link.

<https://www.pucsl.gov.lk/electricity/quality/environment-and-renewable-energy/>