ELECTRICITY DEMAND AND SUPPLY OUTLOOK (2025)

FOR INFORMATION

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BACKGROUND

1 The Centralised Process framework coordinates the planting of new generation capacity in Singapore by the private sector and ensures there is sufficient generation capacity to serve demand in a secure and reliable manner.

2 As part of the Centralised Process, EMA will provide the electricity demand forecast ("**EDF**") and EMA's projection of other generation resources (e.g. solar photovoltaic ("**PV**"), waste-to-energy facilities, electricity import, retirements and new plantings). Based on this information, EMA will determine the amount of generation capacity needed to meet system needs five years ahead.

3 Should the five-year forward projection show insufficient generation capacity to meet the projected Base EDF and Required Reserve Margin ("**RRM**") of 27%, EMA will conduct a Request For Proposal ("**RFP**") for the private sector to Build, Own, Operate the required new generation capacity.[1] Conversely, if no new capacity is required, EMA will inform the industry accordingly.

4 This information paper provides EMA's projected electricity demand and supply outlook in Singapore and the five-year ahead generation capacity requirements for 2025.

[1] In Singapore, the minimum reserve margin has been set at 27% to ensure system reliability. The reserve margin is a system-wide indicator. For more details, please refer to https://go.gov.sg/required-reserve-margin.

ELECTRICITY DEMAND AND SUPPLY OUTLOOK

5 Singapore's electricity demand is driven by factors such as weather patterns, population changes and economic activities, based on investment and development outlooks from economic and planning agencies. Our system peak demand has been increasing steadily and is projected to grow at a Compound Annual Growth Rate ("**CAGR**") per annum of 2.4% - 4.8% (or 2.0GW – 4.3GW) from 2025 to 2034.[2]

6 The Base EDF adopts a macro-econometric approach based on forecasted GDP growth, while the Upper-bound EDF reflects a higher demand scenario that incorporates potential demand from additional investments in emerging high-demand industrial and digital sectors (e.g., the advanced manufacturing sector and data centres). Actual electricity demand may deviate from the Electricity Demand Forecast (EDF) due to changes in economic conditions which affects the timing of entry and ramp-up of energy-intensive sectors.

Table 1a: Projected System Peak Demand in 10-year EDF (GW)[3]

Year	Total (Base EDF, GW)	Total (Upper-bound EDF, GW)
2025	8.2	8.6
2026	8.5	8.9
2027	8.7	9.3
2028	8.9	9.7
2029	9.2	10.3
2030	9.4	10.8
2031	9.6	11.4
2032	9.8	11.9
2033	10.0	12.2
2034	10.2	12.5

[2] The electricity demand forecast presented in Table 1a and 1b is based on information available as of Oct 2025. CAGR for the next ten years (i.e. 2025-2034) was calculated using latest available actualised peak demand for 2025 (i.e. 8,189 MW recorded in Jul 2025) for precision.

[3] Numbers are rounded to one decimal place.

Table 1b: Projected Total Generation in 10-year EDF (GWh)[4]

Year	Projected Generation to meet Base EDF (GWh)	Projected Generation to meet Upper-bound EDF (GWh)
2025	60,100	62,900
2026	61,600	65,400
2027	63,200	68,800
2028	64,800	72,100
2029	66,500	76,300
2030	67,600	80,400
2031	68,900	85,100
2032	70,100	89,200
2033	71,300	91,700
2034	72,600	94,300

7 Table 2 shows the projected total electricity supply in the coming years. The projection takes into account the expected retirement of generating units and projected growth of other generation resources, and does not include electricity imports projects.[5] This is considering that necessary regulatory approvals and licences have to be obtained before the electricity import projects can commence construction. Given this uncertainty, to ensure the continued reliability and security of our Power System, electricity import projects are not included in the supply projections until they are firm (e.g. commencement of construction work). For avoidance of doubt, the projected electricity supply has taken into account the following:

a. About 0.7GW of existing generation capacity possibly retiring in 2031 as these plants will be relatively old (>35 years old);

b. Projected domestic solar PV growth to 2GWp by 2030 with a revised solar PV effective capacity of 26%;[6] and

c. New combined cycle gas turbine ("**CCGT**") generation capacity of Keppel Sakra Cogen (600MW) and Sembcorp Cogen (600MW) by 2027, YTL PowerSeraya (600MW) by 2028, PacificLight Power (670MW) by 2029.

[4] Refers to gross electricity generation by commercial power generation companies and consumers with own / embedded generation including solar generation. The numbers are rounded to the nearest hundred.
[5] For embedded generation, a load factor of 70%, derived from historical generation data, is used to determine their capacity contribution to the required reserve margin.
[6] With a solar PV effective capacity of 26%, which is reviewed annually, this means that 2GWp (equivalent to 1.54GWac) of solar provides about 400MWac of effective supply. More details on the solar effective capacity are available on https://go.gov.sg/solar-effective-capacity.

Table 2: Projected Electricity Supply (GW) and Reserve Margin (%)[7]

Year	Projected Total Electricity Supply (GW)	Projected Reserve Margin corresponding to the 10-year Base EDF (%)	Projected Reserve Margin corresponding to the 10-year Upper-bound EDF (%)
2025	10.9	33	27
2026	11.7	38	31
2027	12.9	48	39
2028	13.5	52	39
2029	14.2	54	38
2030	14.3	52	32
2031	13.5	41	18
2032	13.5	38	13
2033	13.6	36	11
2034	13.6	33	9

8 With respect to the Base EDF, the reserve margin for 2030 is projected to be above the 27% reserve margin required to ensure power system reliability. Therefore, no additional generation capacity will be needed in 2030.

[7] The projected electricity supply is rounded to the first decimal place, and the projected reserve margin is rounded to the nearest whole number.