Israeli
Electricity
Authority

Renewable Energy Targets in Israel's Electricity Sector – 2024 Status Report

Renewable Energy in Israel - Overview

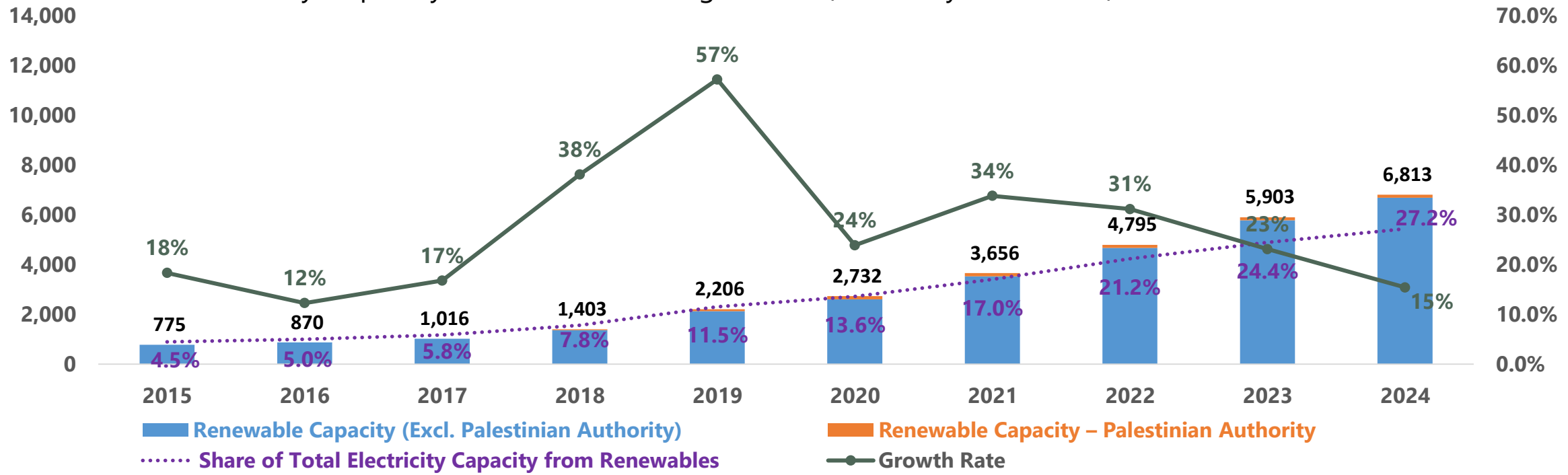
The Israeli government has set national targets for the share of electricity to be generated from renewable energy sources. Progress toward these targets depends on three key factors: The total installed renewable capacity, the amount of energy produced annually by that capacity and the total national electricity consumption in a given year. This periodic report aims to provide the public with comprehensive and transparent data and indicators for evaluating progress toward the national targets.

Highlights from 2024:

- In 2024, 911 MW of renewable generation capacity was connected to the grid.
- Renewable energy consumption reached 10,908 MWh—an increase of approximately 21.6% compared to 2023.
- By year-end, renewable energy accounted for 14.7% of actual electricity consumption and 16.2% of potential consumption.

Installed Renewable Capacity (MW)

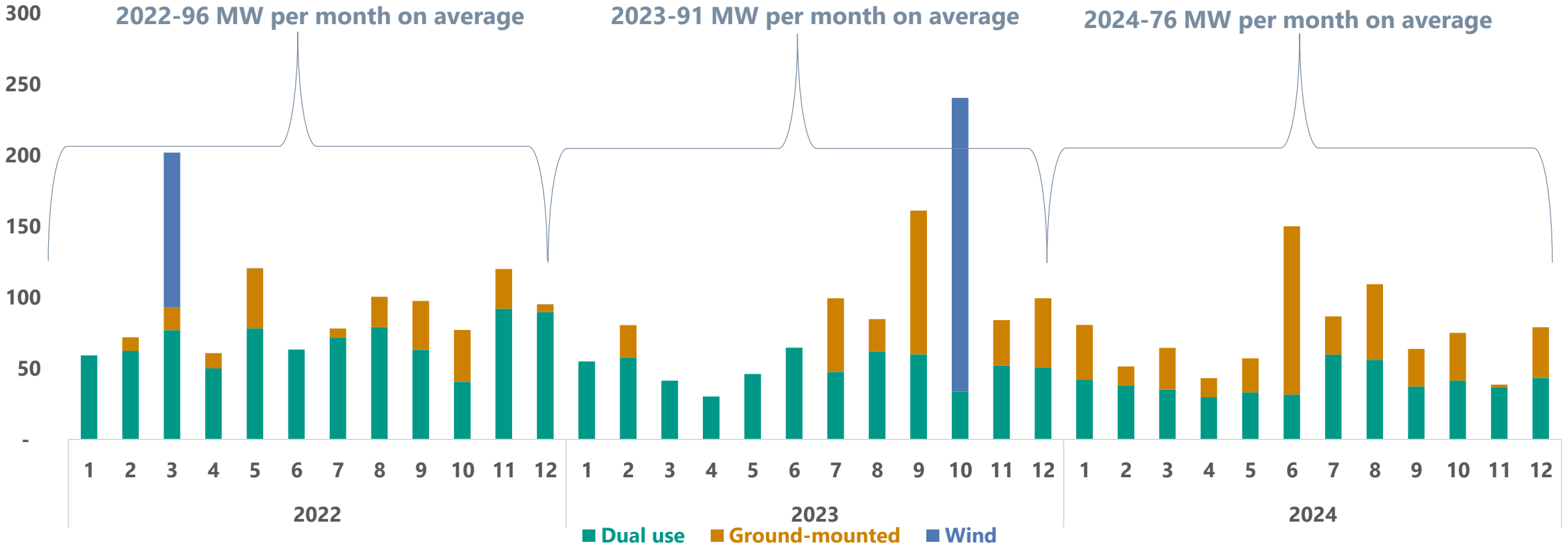
The chart below presents the installed renewable energy capacity in Israel (in megawatts) and its share of total national electricity capacity, from 2015 through 2024 (end-of-year values).



The data show a significant increase in installed renewable capacity over recent years. However, as total capacity grows, the annual growth rate has gradually slowed.

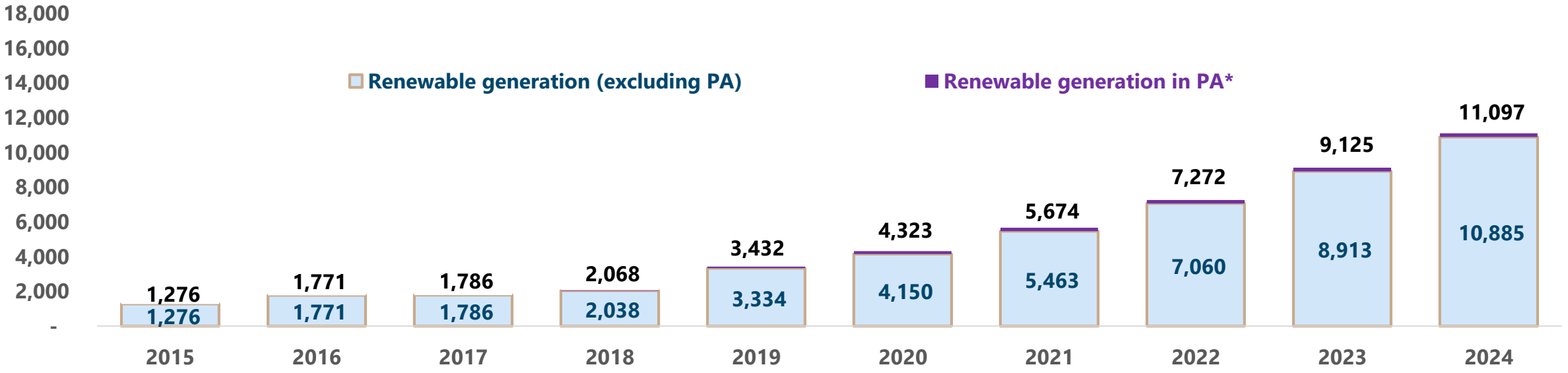
Installation Rate(MW)

The chart below shows the monthly installation rate of renewable energy systems in Israel from 2022 through 2024.



Generation (actual)

The chart presents data on the actual volume of renewable energy generated in Israel each year from 2015 through 2024.:



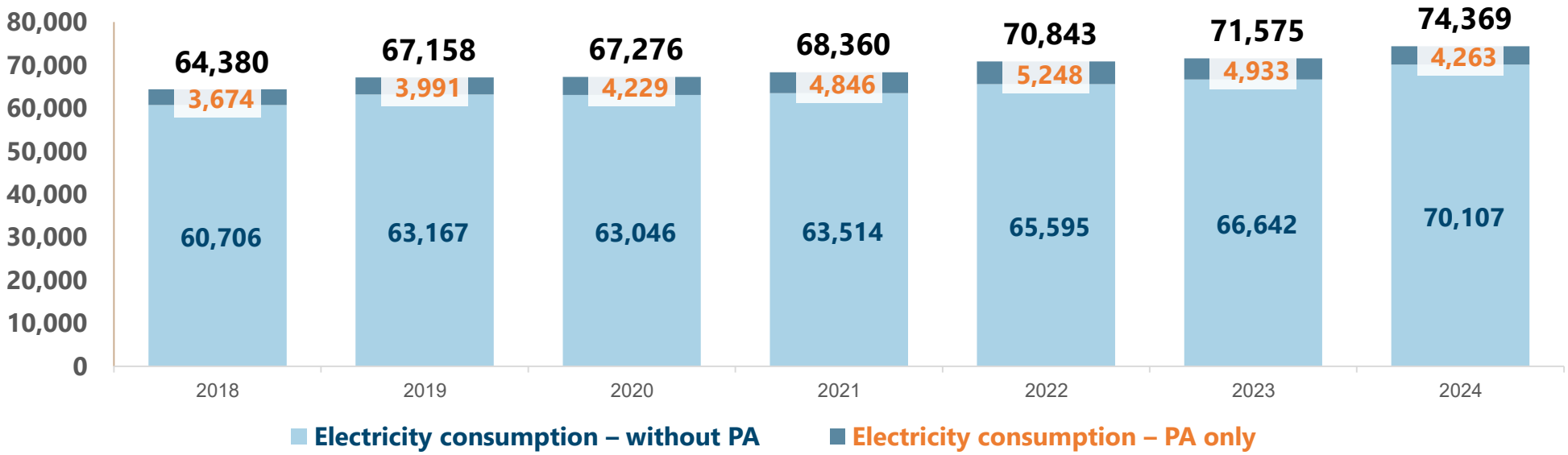
** Figures for 2024 are preliminary and not yet final. In addition, official data from the Palestinian Authority on added renewable capacity between 2021 and 2024 has not yet been received.*

***Unlike conventional power plants, many solar generators are installed within consumer's property and may not be connected to metering systems. As a result, there is no exact measurement of their production, particularly for self-consumed energy. Estimates are therefore based on annual generation potential.*

****To align generation data with consumption metrics, estimated grid losses are deducted.*

Electricity Consumption

Electricity demand in Israel is rising rapidly due to high population growth and relatively strong economic expansion. To maintain the renewable share, significant new renewable generation capacity must be added each year. The chart presents electricity consumption data for Israel from 2018 through 2024, with and without consumption in the Palestinian Authority (GWh).



* *2024 figures are preliminary. Consumption in the Palestinian Authority is based on estimates.*

Renewable Energy Consumption Rate

Two key metrics are commonly used worldwide to assess the share of renewable energy consumption: **the actual consumption rate** and the **potential annual consumption rate** from renewable sources.

1. Actual Renewable Consumption Rate (year-over-year comparison):

This indicator measures the proportion of electricity actually consumed from renewable sources in a given year, relative to total national consumption that same year.

It reflects real, measurable impact—such as emissions reductions—based on verified energy use. However, it does not account for new renewable capacity added throughout the year that begins generating but is not yet fully captured in annual totals.

The metric can only be calculated with precision several months after year-end, once generation and consumption data have been finalized.

Moreover, it presents a methodological challenge due to the difficulty of estimating behind-the-meter and self-consumed generation, especially from rooftop solar systems.

2. Potential Annual Renewable Consumption Rate:

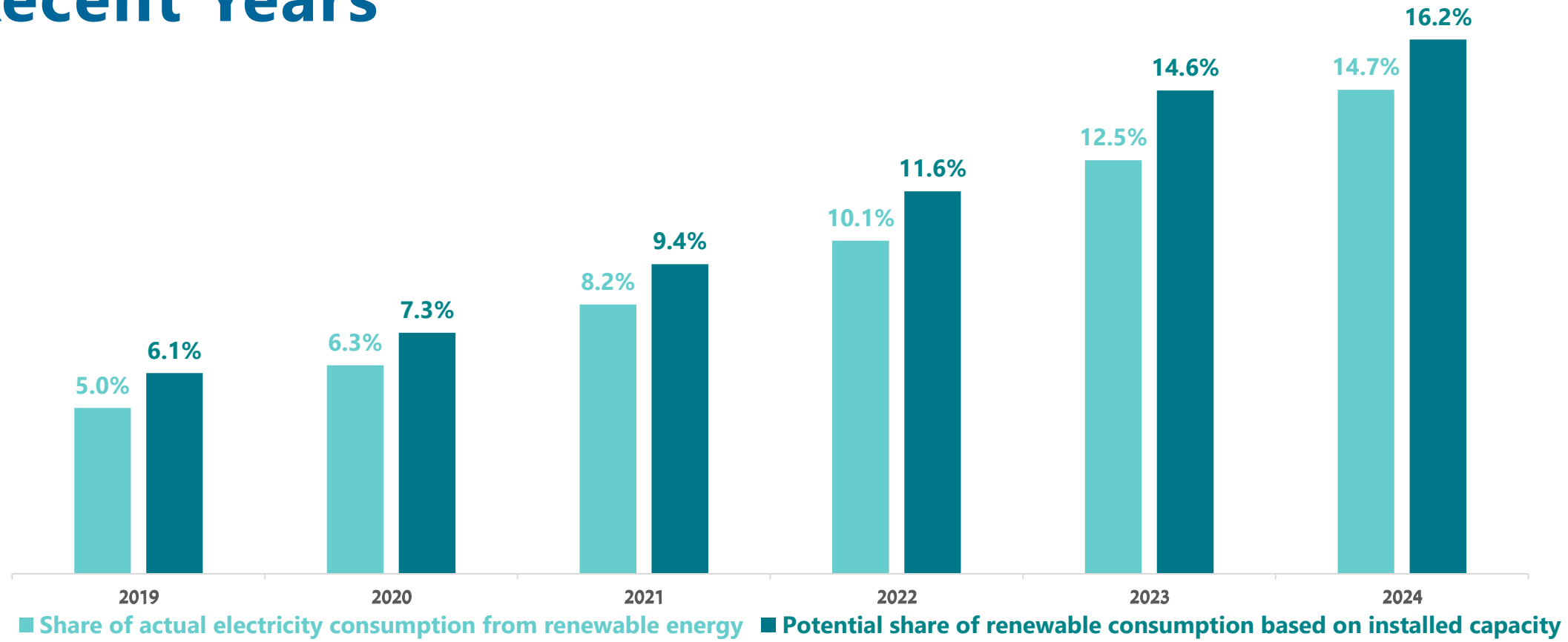
This metric represents the share of total annual electricity consumption that could be supplied by the installed renewable capacity at a given point in time. It is calculated as the expected annual output from the renewable capacity already connected to the grid, relative to average annual electricity consumption.

Average annual consumption is based on the mean of the previous year's actual consumption and the forecast for the upcoming year. This provides a real-time snapshot, rather than relying solely on past data.

Renewable consumption potential is derived from projected generation, adjusted for grid losses, and calculated separately for each technology type (e.g., rooftop solar, ground-mounted solar, wind).

This forward-looking metric reflects the current status of renewable energy deployment. It smooths out seasonal and annual fluctuations—both in consumption and generation—caused by weather variability, allowing for clearer tracking of progress at any point during the year, not just at year-end.

Actual and Potential Renewable Consumption Rates in Recent Years



Summary of Key Indicators

The following table summarizes all reported data (in standardized units):

Year	2019	2020	2021	2022	2023	2024
Electricity Consumption (GWh)	67,158	67,276	68,360	70,843	71,575	74,369
Renewable energy consumption (GWh)	3,372	4,250	5,578	7,148	8,970	10,908
Installed renewable capacity (MW)	2,206	2,732	3,656	4,795	5,903	6,813
Annual renewable generation potential based on installed capacity (GWh)	4,084	4,952	6,475	8,501	10,615	12,163
Share of actual renewable consumption	**5.0%**	**6.3%**	**8.2%**	**10.1%**	**12.5%**	**14.7%**
Share of potential renewable consumption	**6.1%**	**7.3%**	**9.4%**	**11.6%**	**14.6%**	**16.2%**