

Forecasting PV Installed Capacity in Japan toward FY 2030 (2018 - 2019 Edition)

PV Market Outlook in Japan

- Toward making PV a mainstream power source -

October 2018
RTS Corporation

Highlights of “Forecasting PV Installed Capacity in Japan toward FY 2030”

- ✓ **Forecast on PV installed capacity in Japan based on the Fifth Strategic Energy Plan which positions renewable energy as a mainstream power source, as well as the global trends of PV power generation**
As a result, the Japanese PV market with 150 GW installation with high feasibility was forecast, largely exceeding the “energy mix” estimated by the Japanese government
- ✓ **Forecast on short- to mid-term PV installed capacity toward FY 2020s**
Forecast was made based on the accurate analysis of developments in the FIT program and the electricity system reform
- ✓ **Long-term forecast on PV installed capacity toward FY 2030**
Forecast on PV installed capacity was made by assuming global energy trends and the image of energy-saving smart society in Japan
- ✓ **Forecast on PV price trends by capacity range**
Forecast on price trends was made by capacity range
- ✓ **Forecast on PV installed capacity by service area of each electric company**
Impacts on forecasting PV installed capacity were studied in relation to output curtailment by area
- ✓ **Forecast on PV installed capacity by capacity range**
Forecast was made by capacity range used by METI, for better understanding by the readers
- ✓ **Forecast on PV installed capacity by application**
Indicators to understand future applications are presented by categorizing ground-mounted and rooftop systems
- ✓ **POST-FIT business models**
Business models which are assumed to emerge after the FIT program are presented

Introduction

In Japan, the Fifth Strategic Energy Plan was approved by the Cabinet and the efforts to make renewable energy a mainstream power source will be promoted. In particular, under the Feed-in Tariff (FIT) program which started in FY 2012, PV power generation has been exponentially disseminated in Japan, taking advantage of significant benefits. Meanwhile, the target installed capacity of renewable energy including PV in FY 2030 has remained unchanged from the previous discussion for the revision in FY 2014. Given this, motivation toward efforts for the future is not picking up very well.

Under such circumstances, in the spring of 2018, RTS Corporation made a recommendation titled “PV150,” a concept of 150 GW PV installed capacity in Japan in FY 2030 covering the backgrounds, challenges and efforts by industries and users to achieve it, so that PV power generation will take the two-digit share in the electricity demand, as a pioneer of the mainstream energy source. At present, the momentum for reviewing the ratio of PV power generation in the energy mix is increasing both in and outside the PV industry.

Based on these situations, we have made forecasts on PV installed capacity by Fiscal Year (FY), taking into account of social backgrounds and system cost reduction by market segment (residential, industrial, MW-scale PV projects, etc.) toward FY 2030. By reflecting the “PV150” installation scenario, we assumed how PV will be installed in practical applications and present specific examples in this report. We revised our previous forecast on PV installed capacity in Japan by taking into consideration of the results of study on the trends of architecture and electricity business as well as the issues of output curtailment.

We hope that this report would contribute to further dissemination of PV power generation in Japan under sound market competitions, by overcoming various challenges we face.

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