

Demand Side Management (DSM) for PV Rooftop Customer in PLN UID Banten

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Abstract

As a company with a profit oriented principle and a public service obligation in accordance with its mission, PLN UID Banten seeks to increase the amount, quality and reliability of electric power in accordance with the standards. The existence of MLS that occurred in recent months due to transmission and power disruptions, this is also due to reserve margin which is less than 30%. The development of a go green life style, encourages household, business and industrial customers to transform into eco friendly and renewable energy based. An estimated 25% of total customers start installing PV Rooftop. Where the use of industrial customer KWh is 52% of the total KWh of PLN UID Banten, so that it will have an impact on the sales and revenues of PLN UID Banten by using PV Rooftop. In addition to the challenges in this disruption era, PLN UID Banten is encouraged to collaborate and become a solution to develop renewable energy in Indonesia especially di Banten Province. To solve these problems, PLN UID Banten design demand side management for PV Rooftop customers.

Currently, PLN UID Banten has 30 Rooftop PV customers; 3 customers with business tariffs, power over 11,000 VA and 27 customers with household tariffs below 13.200 VA. In November 2018, 22 of the 30 Rooftop PV customers at PLN UID Banten exported the KWh to grid of PLN UID Banten by 7,3 GWh (65% which measured at the export-import KWh meter). Rooftop PV Industry customers on grid with the PLN network will have capacity charges and emergency capacity charges in accordance with the provisions of parallel operations.

In this study an estimation number and power of Rooftop PV customers, estimates of export-import KWh to PLN UID Banten grid, simulation and calculation of Rooftop PV usage opportunities, export-import KWh for household, business and industrial customers. The demand side management is used to overcome the lack of reserve margin by purchasing electricity from Rooftop PV produced by customers. It is hoped that the Sife Demand Management can be used as a win-win solution between PLN UID Banten and customers. Besides that, it is also a marketing strategy in increasing the company's sales and earnings.