Service sector units push rooftop solar in Maharashtra

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Organisations in the public services sector, including educational institutions, healthcare facilities, sports clubs, ports and airports, courts and prisons and other government establishments, are driving the adoption of rooftop solar solutions in Maharashtra, according to data compiled by Artha Energy Resources.

While industries and commercial consumers lead the space with 292 and 128 installations respectively, out of total over 580 plants installed in the State, it is the public sector where the density of installations is the highest – at 16 per cent, compared to just 2.6 per cent in the industrial segment.

According to Animesh Damani, Managing Director, Artha Energy, educational institutions, healthcare facilities and NGOs enjoyed a captive solar rooftop plant subsidy of 30 per cent on rooftop solar till March 31, 2018. For these organisations, electricity accounts for the major part of their cost structure in comparison to industries, Damani noted.

Savings on energy bill

Industry experts say adoption of rooftop solar help save 20 to 30 per cent on electricity bills, with internal rate of return (IRR) for the commercial consumers being the highest at 33 per cent, with a payback period of just a little over two years, as the cost of installation is ₹45,000 per kW.

"Maharashtra has seen a steady growth in the adoption of rooftop solar in commercial and industrial segment. Since last year, the strong demand from educational institutions and government buildings in the State has driven the industry," Gajanan Nabar, CEO, CleanMax Solar, one of the largest rooftop solar developers, told *Business-Line*. Pune-headquartered Knorr Bremse, manufacturer of braking systems for rail vehicles, opted for solar rooftop installation executed by CleanMax and is 100 per cent solar dependent during daytime. Its savings on electricity bills are estimated at ₹34 lakh annually, Nabar said.

Co2 reduction

He noted that the biggest saving comes from carbon footprint reduction with 1 MW solar plant able to reduce approximately 1,200 tonnes of Co2 a year.

According to Nabar, while there is stable growth in solar rooftop segment, to reduce the power deficiency in the State, solar needs to be given adequate push and the Discoms should become enablers.

Maharashtra topped the list of States in terms of adoption of rooftop solar with total of 237 MW capacity as on September, 30, 2017, according to Bridge to India.

Tariff savings per kW on installation of rooftop solar

Tariff Type	Base energy cost (in ₹)	Levelised cost for solar (capex model)	Saving per year (in ₹)	Tax saving in 3 Years Via AD (in ₹)	Payback period (in years)	IRR %
HT 1 A-Industrial-general	7.13		10,695	10,350	3.54	20.35
HT 1 B-Industrial-seasonal	7.83		11,745	10,350	3.20	22.54
HT 2-Commercial	11.35		17,025	10,350	2.15	33.51
HT 5-Agriculture	4.35	₹2.6-3	6,525	10,350	6.16	11.69
HT 9 A -Government Educational institutions and hospitals	7.10		10,650	10,350	3.55	20.26
HT 9 B-Public service - others*	9.00		13,500	10,350	2.75	26.18
Assumption						
Cost to install per kW	45,000					
O&M + Admin + insurance (per kW)	900					
Yearly generation 1,500 kW						

*Educational institutions, health care facilities, sport clubs etc

Note:
Industrial tariff includes manufacturing, processing units, ice factories, stone crushing industries

Industrial consumers who opt for seasonal consumption max up to 9 months like Cotton ginning, pressing industries

Non-residential, commercial and business premises, including shopping malls and showrooms, repair shops

HT = High tension electricity tariff
Source: Green Artha – Database by Artha Energy Resources