



# Assumptions for the Long-Term Distributed Solar Generation Forecast

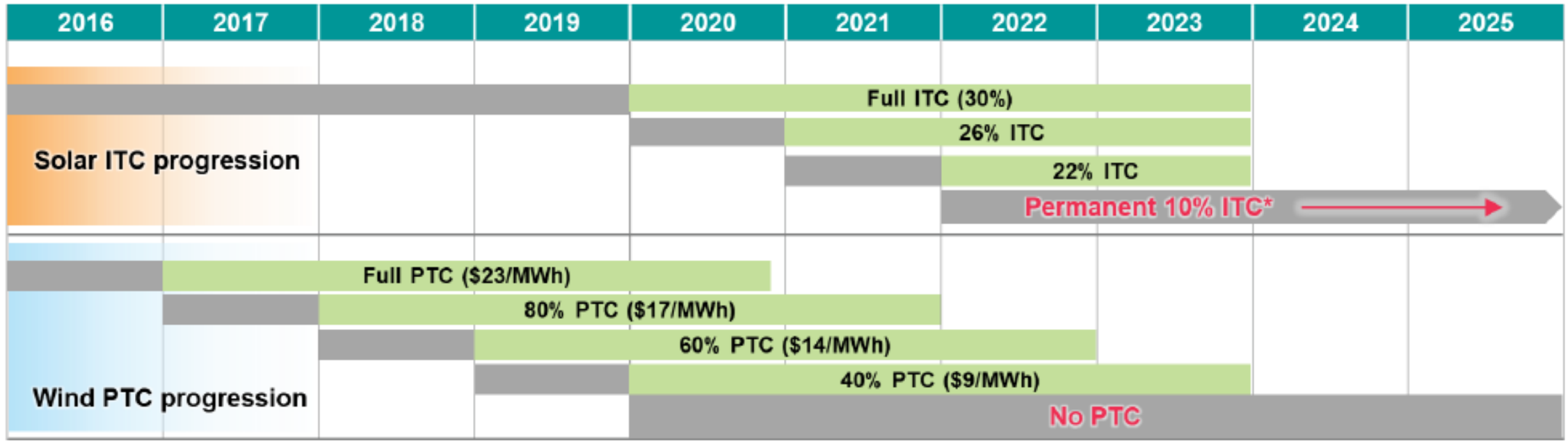
Load Analysis Subcommittee  
August 6, 2019

- Increase transparency of long-term distributed solar forecast that will be used in the 2020 load forecast
- Foster open dialogue in the stakeholder process regarding the major assumptions in the long-term distributed solar forecast
- Any federal or state policy assumptions discussed herein are based on currently mandated and funded policies

Solar forecast scenario overview	
Assumptions	Scenario 2: “NEM reform”
Federal policy support	Current ITC schedule
Net energy metering (NEM) policies and retail rate structures	From 2020–25, utilities adopt (and regulators approve) changes to NEM and retail rate structures which result in a more cost-based approach to customer-sited solar compensation Current detailed state NEM policy.
Solar costs (\$/kW)	Solar costs decline by 18–23% in nominal terms from 2019–35
State policy support	Current RPS policies and state-level incentives maintained

## Current Investment Tax Credit (ITC) schedule

Evolution of tax credits by under-construction deadline and online date



Start of construction      Online date

Notes: Assumes that solar projects may be completed within two years of qualifying for the tax credit via start of physical construction or "safe harbor" provisions. \*ITC applied to residential taxes terminates for projects that start construction after 2021.

Source: IHS Markit

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## Current RPS and NEM policy by state

State	RPS target (% of retail sales)*	Solar carve-out (% of retail sales)	NEM cap (% or capacity)	NEM system size limits by segment (MW)
DE	24% by 2026	3.5% by 2026	5% of aggregated customer peak demand (utility can increase the cap)	.025 (residential), 2 (Delmarva non-residential), .5 (DEC non-residential)
DC	100% by 2032	10% by 2041	N/A	1 (single meter); 5 (community renewables)
MD	50% by 2030	14.5% by 2030	1500 MW	2 or 200% of customer load
NJ	50% by 2030*	5.1% by 2021	5.8% of retail sales	100% of customer load
OH	8.5% by 2026**	-	N/A	Not to exceed 120% of customer annual average load
PA	8% by 2021	0.5% by 2021	N/A	.050 (residential), 3 (non-residential), 5 (microgrids)
WV	-	-	3% of peak demand during previous year	.025 (residential), 2 (industrial for large IOUs), .500 (commercial for large IOUs), .050 (C&I for small IOUs)
IN	-	-	1% of utility's summer peak load	1
IL	25% by 2025***	1.5% by 2025***	5% of utility's peak load in prior year	2
KY	-	-	1% of utility peak load in prior year	0.03
MI	35% by 2025****	1% by 2025	0.75% of prior year peak load	0.15
NC	12% by 2021*****	0.2% by 2020*****	N/A	1
VA	-	-	1% of state's peak load for prior year	.020 (residential), 1 (non-residential)
TN	-	-	N/A	N/A

Note: \*RPS includes solar carve-outs \*\* NEM remuneration is a tariff structure under which the utility pays customers for excess generation, up to a given amount. The most common arrangement is "full retail rate NEM," in which excess generation is paid the same volumetric price that the customer pays for electricity, so exports are effectively netted against grid consumption over a given period (typically one year). NEG over that period is sometimes paid at a lower rate, often based on the utility's avoided cost \*\*\* New Jersey RPS target only includes Class I renewable technologies and the solar carve-out. \*\*\*\* IL solar carve-out requires 50% of the solar procurements must be from distributed/community solar. RPS mandates least 75% of the standard come from wind and solar. \*\*\*\*\*Utilities in MI have more ambitious renewables goals. \*\*\*\*\*RPS compliance in NC can be achieved through energy efficiency and Renewable Energy Credits (RECs) from any state. The primary drivers for solar development include existing PURPA policy, planned RfPs, solar resources, solar costs and the previous state tax credit.

Source: IHS Markit

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## Current RPS and NEM policy by state

State	NEM Remuneration for onsite use or export generation**	NEG Remuneration**	Community Solar
DE	Retail	Retail	Virtual net metering
DC	Retail	Carries over at retail rate indefinitely, at generation rate for systems over 100 kW	Virtual net metering
MD	Retail	Credited to customer's next bill at retail rate; reconciled annually in April at the commodity energy supply rate	Pilot program
NJ	Retail	Retail	Pilot program
OH	Less than retail	Credited to next bill at unbundled generation rate	none
PA	Retail	Credited at retail rate for a year, then any leftover excess is credited at generation and transmission portion of the retail rate, but not the distribution.	none
WV	Retail	Retail	Virtual net metering
IN	Less than Retail after 2022	Less than Retail after 2022	none
IL	Retail	Credited to next bill at retail rate, excess at end of year is granted to utility.	Virtual net metering
KY	Less than retail	N/A	Utility run program
MI	Less than Retail	Less than Retail	none
NC	Retail	Carries over at retail rate, granted to utility at beginning of summer billing period	Utility run program
VA	Retail	Retail	Utility run program
TN	N/A	Retail	none

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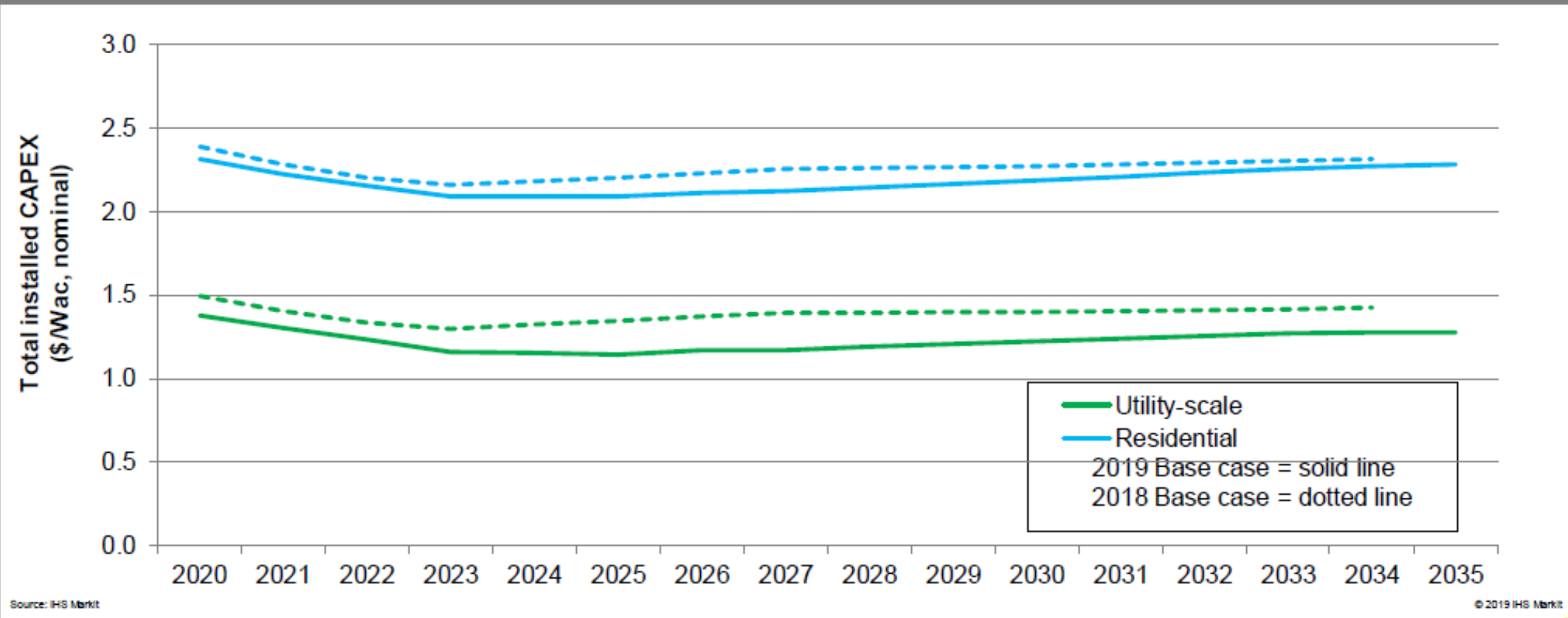
# RPS and NEM Policy Assumptions by State (cont.)

## Current RPS and NEM policy by state

State	Unbundled energy attribute certificates (EACs)	Virtual Power Purchasing allowed	Renewable energy offerings from utilities or electric suppliers / Green tariff	Production for self consumption- net metering
DE	Allowed		Retail choice	up to 2MW
DC	Allowed		Retail choice	up to 1 MW
MD	Allowed	Allowed	Retail choice	up to 2 MW
NJ	Allowed	Allowed	Retail choice	Cannot exceed onsite load
OH	Allowed	Allowed	Retail choice	no size limit
PA	Allowed	Allowed	Retail choice	up to 3 MW
WV	Allowed	Allowed	-	up to 2 MW
IN	Allowed	Allowed	-	up to 1 MW
IL	Allowed	Allowed	Retail choice	up to 2 MW
KY	Voluntary		-	up to 30 kW
MI	Allowed		-	up to 150 kW
NC	Allowed		Green tariff in development	up to 1 MW
VA	Allowed	Allowed	Green tariff enabled	up to 1 MW
TN	Voluntary		-	-

Notes: green tariffs only include programs where utilities build new renewables on behalf of corporate customers

PJM solar costs , nominal





- Feedback on the assumptions is requested. Please provide by **Monday, August 26, 2019** to [Load\\_Analysis\\_Team@pjm.com](mailto:Load_Analysis_Team@pjm.com).
- Additional questions and comments are welcome and can be submitted to the Load Analysis Team via this email address: [Load\\_Analysis\\_Team@pjm.com](mailto:Load_Analysis_Team@pjm.com)