Solar PV Capacity Addition Forecast for PJM States: 2016–31

30 November 2015
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Summary

• IHS Energy forecasts 22.3 GW$_{AC}$ of solar photovoltaic (PV) capacity will be added in states that are fully or partially in the PJM market between 2016 and 2031.

• Virginia, New Jersey, and North Carolina collectively account for 13.5 GW$_{AC}$ (60%) of the forecast.

• Solar capacity connected at the distribution level, including both customer-sited and utility-scale, is expected to total 13.9 GW$_{AC}$, exceeding the 8.3 GW$_{AC}$ of additions expected from transmission-connected utility-scale solar.

• The federal investment tax credit’s (ITC) scheduled reversion to 10% at the end of 2016 is fueling a near term surge in solar additions in 2016 (>1.5 GW$_{AC}$), which will not be reached again in the outlook until 2026.
Key policy assumptions

### Federal policies

<table>
<thead>
<tr>
<th>Policy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment tax credit (ITC)</td>
<td>30% of qualifying capital investment through the end of 2016, 10% thereafter</td>
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<tr>
<td>Depreciation</td>
<td>Five-year modified accelerated cost recovery system</td>
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</tbody>
</table>

### Renewable power policy

- Mandatory solar/distributed generation req.
- Mandatory unconstrained renewable power req.

Key: Mandatory solar/distributed generation req.
Mandatory unconstrained renewable power req.

Notes: See summary report for additional state-level policy details.
Source: IHS © 2015 IHS

### Net energy metering (NEM) policy

- Mandatory full retail rate NEM
- No mandatory full retail rate NEM

Key: Mandatory full retail rate NEM
No mandatory full retail rate NEM

Notes: See summary report for additional state-level policy details.
Source: IHS © 2015 IHS
Key solar technology and power market assumptions

Solar PV capital costs by segment

<table>
<thead>
<tr>
<th>Year</th>
<th>Utility-scale (SAT)</th>
<th>C&amp;I</th>
<th>Residential</th>
</tr>
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<tbody>
<tr>
<td>2015</td>
<td>$3.00</td>
<td>$2.50</td>
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<td>2020</td>
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<td>2030</td>
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</tbody>
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Notes: Includes installation and development costs. “SAT” stands for single-axis tracking. “C&I” stands for commercial and industrial. Source: IHS

Power price and demand growth (avg.)

- Power prices: 2.3% / year
- Power demand: 0.8% / year

Source: IHS

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Cumulative solar PV capacity additions by state (2016–31)

Cumulative solar PV capacity additions by state, 2016–31 (entire state)

Source: IHS

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# Solar PV capacity additions by segment

## Annual solar PV capacity additions by segment (entire state)

<table>
<thead>
<tr>
<th>Year</th>
<th>Utility-transmission connected</th>
<th>Utility-distribution connected</th>
<th>C&amp;I</th>
<th>Residential</th>
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### Key drivers

- **2016**: 30% federal ITC

## 2016–31: 22.3 GW<sub>AC</sub>

Source: IHS

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Virginia solar PV capacity additions by segment

Virginia: Annual solar PV capacity additions by segment (entire state)

2016: 30% federal ITC

2019–31: Solar’s capacity value and CPP compliance. Retail rate NEM.

Source: IHS
New Jersey solar PV capacity additions by segment

New Jersey: Annual solar PV capacity additions by segment (entire state)

2016: 30% federal ITC

2017–22: State solar mandate, equal to 4.1% of retail sales in 2028.

2023–31: Full retail rate NEM. State solar mandate (expiring SREC eligibility for systems online for 15 years).

Source: IHS

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Maryland solar PV capacity additions by segment

Maryland: Annual solar PV capacity additions by segment (entire state)

- **2016**: 30% federal ITC.
- **2022–31**: Full retail rate NEM.

Source: IHS
North Carolina solar PV capacity additions by segment

North Carolina: Annual solar PV capacity additions by segment (entire state)

2016: 30% federal ITC and QF policy.

2017–21: Capacity needs and QF policy.

2022–31: Solar's capacity value. Retail rate NEM.

Annual capacity additions (MW_{AC})

Year

Utility-transmission connected
Utility-distribution connected
C&I
Residential

Source: IHS

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