

Distributed Generation / Solar Carve-Out

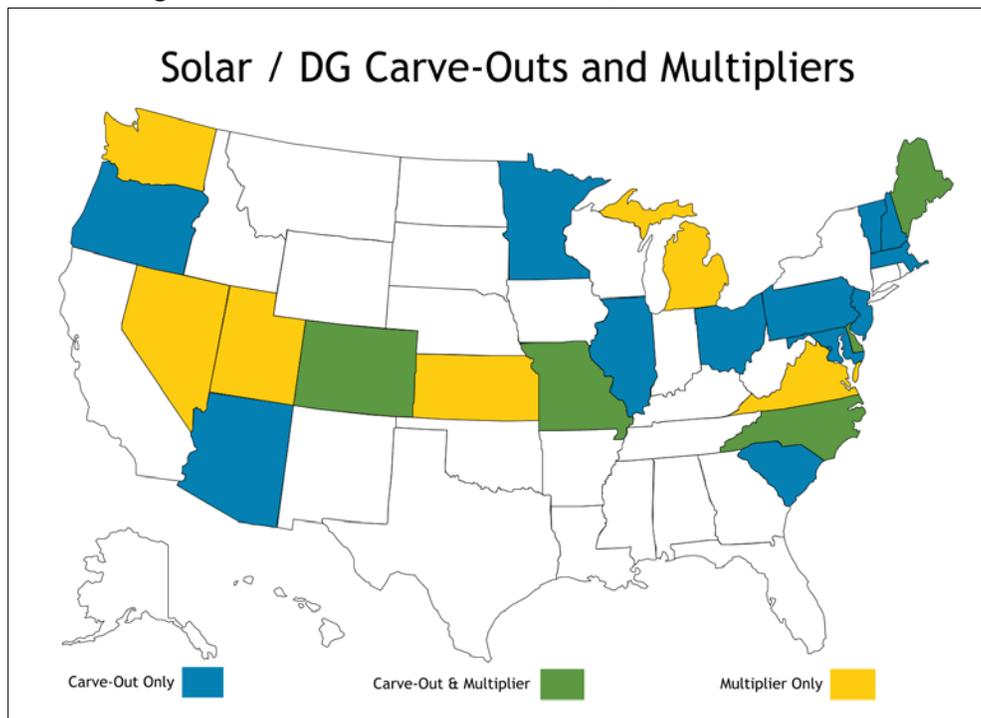
Description:

While renewable portfolio standards (RPSs) specify a percentage of utility sales or a specific megawatt hour (MWh) capacity to be provided by renewable energy resources by a specific date, sometimes these standards do not advance distributed or customer-sited renewable resources (e.g. distributed solar). As a result, many states promote distributed resources through ‘carve-outs’ and / or ‘multipliers’. Carve-outs require that a certain percentage of the generation used to meet the RPS come from distributed generation (DG). Multipliers promote investment in DG by increasing the resource’s value for meeting an RPS. For example, under [Oregon’s RPS](#), each kilowatt hour (kWh) generated by a small solar installation (500 kilowatts to 5 megawatts) counts as two kWh towards RPS compliance. While multipliers can increase the value of DG to utilities and can incentivize investment, their use can lead to a lower overall amount of renewable generation installed to meet an RPS.

Discussion of the Policy:

DG can play a unique role in an electric system, reducing line losses because it is closer to the load, providing for ancillary services such as [voltage/VAR regulation](#), and enhancing micro-grid capability, resiliency, and reliability (see [Grid Modernization](#)). Most DG carve-outs target solar specifically, and though we often think of DG as being customer-sited generation, many states have instead identified a megawatt (MW) limitation that is targeted toward sub-station capacity. For example, Colorado shifted their solar carve-out to a DG carve-out in 2010 and identified DG as renewable generation facilities producing up to 30 MW. States also allow renewable thermal technologies like solar thermal to count towards compliance with their RPS (generally through a British thermal unit (BTU) to kWh conversion rate).

Example State Programs: To date, 17 states have adopted DG carve-outs.



- Oregon's RPS:
<https://www.oregon.gov/energy/energy-oregon/Pages/Renewable-Portfolio-Standard.aspx>
- Massachusetts' RPS:
<https://www.mass.gov/renewable-energy-portfolio-standard>
- New Jersey's RPS:
<https://www.aeltracker.org/bill-details/17982/new-jersey-2018-a3723>
- Vermont's Renewable Energy Standard:
<https://puc.vermont.gov/electric/renewable-energy-standard>

Key Components:

- Define DG, establish a percentage or capacity objective, and specify a date by which the goal is to be reached.
- Define eligible technologies - is the carve-out open to multiple technologies (including small wind or small hydropower), limited to solar, certain solar technologies (photovoltaic, solar thermal)?
- Define the size of qualified systems - is there a cap on the size of the systems either as a specific MW cap or as a percentage of onsite demand?
- Establish wholesale and retail carve-outs - is there a need to limit the amount of capacity supplied by wholesale systems that feed directly to the grid? Is there a need to limit or specifically target capacity provided by retail systems that are customer sited and net metered? See [Net Metering](#)
- Establish market segmentation - is there a need to provide different incentives to or limit the amount of capacity supplied by commercial installations (larger) and / or residential systems (sometimes based on the percentage of sales to each)?
- Set regional objectives - is there a need to target rural, or other, locations? This can be done either through a specific capacity target or by providing incentives.
- Consider community ownership - is there a need to promote community-owned systems? See [Shared Renewables](#)

More Information:

- Clean Energy States Alliance (CESA): Renewable Portfolio Standards and the RPS Collaborative:
<https://cesa.org/projects/renewable-portfolio-standards/>
- Database of State Incentives for Renewables and Efficiency (DSIRE):
<https://www.dsireusa.org/>
- Lawrence Berkeley National Laboratory (LBNL): Renewables Portfolio Standards Resources:
<https://emp.lbl.gov/projects/renewables-portfolio>
- National Conference of State Legislatures: State Renewable Portfolio Standards and Goals:
<http://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx>
- U.S. Department of Energy's WINDEXchange: Distributed Wind Energy
<https://windexchange.energy.gov/markets/distributed>