

# POLICY BRIEF

## Fair Value of Solar

Across the nation, solar power is the fastest growing source of new electricity generation capacity due to falling costs, financial incentives, and supportive policies. Alabama has a high technical potential for solar but is ranked among the lowest in the nation for installed capacity of utility-scale and distributed solar photovoltaics, primarily due to lack of legislative and regulatory support in the state. Solar deployment offers net benefits through avoided and reduced energy costs, capital investments and air pollution, as well as through increased local economic growth. Citizens of Alabama would benefit from a rigorous, collaborative, transparent and precise analytic “value of solar” study and ratemaking approach that would credit solar owners for the real value that solar provides to the electric system. Energy Alabama is committed to supporting solar owners and businesses in receiving fair compensation for solar generation.

*Specifically, Energy Alabama supports the establishment of an analytic “Value of Solar” study and ratemaking process to quantify the present value of costs and benefits of solar.*

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### Background |

The state of Alabama is rich with renewable energy resources such as hydropower, biomass, and solar, but the state has seen relatively low adoption of distributed solar photovoltaic (PV) generation compared to neighboring Southeastern states. Various factors such as challenging politics, poor energy planning and regulatory oversight, and lack of transparency have left Alabama behind in the transition to clean energy. Solar development in the state is slowly growing, primarily due to deployment of utility-scale solar; however, a fair valuation and subsequent compensation of distributed solar PV would allow customers of Alabama’s monopoly utility, Alabama Power, to recuperate their investment in solar.

As distributed solar PV generation becomes increasingly significant in the power mix in Alabama, utilities, customers, and businesses would benefit from a “value of solar” (VOS) study to investigate the true cost and benefits of solar PV to the electricity system and ratemaking proceeding to establish how to fairly compensate solar customers. The most common method of compensation for distributed generation is net energy metering (NEM), a policy which allows distributed generation customers to sell excess electricity to a utility at a retail rate and receive credit on their utility bill.<sup>i</sup> A VOS policy for distributed solar ratemaking would work similarly to NEM rate structure, except the tariff would be determined independently of the retail rate and would include avoided utility costs such as fuel, power plant operation and maintenance, generation capacity, reserve capacity, transmission capacity, distribution capacity, and environmental attributes.<sup>ii</sup>

41 states, in addition to Washington D.C., American Samoa, U.S. Virgin Islands, and Puerto Rico have a mandatory NEM policy, which is a foundational policy that supports the growth of distributed solar PV. Minnesota and Austin, Texas have established the first VOS tariffs in the country, which have pioneered transparent and market-based rates for solar energy in the nation. Alabama is one of six states with no net metering or distributed generation policies in the country, which allows Alabama Power to impose high fees and taxes on residential solar customers as well as low compensation rates for clean electricity provided to the electricity system. Alabama is one of just three states, including Tennessee and South Dakota, without a NEM policy. Due to policy and regulatory barriers, Alabama has seen minimal solar PV growth and forfeited beneficial economic opportunities compared to neighboring Southeastern states with NEM policies.

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## Specific Examples |

States in the Southeast such as North Carolina and Georgia have seen high growth of solar, primarily from large-scale utility projects. North Carolina has been a leader in clean energy policy, with over 3,000 MW of solar installed, ranking second in the nation for cumulative solar electricity capacity installed through 2016. The solar industry in the state supports over 7,000 jobs and 256 companies and has seen over \$5 million in solar investments<sup>iii</sup> The success of solar in North Carolina is attributed to renewable energy tax credits that expired in 2015, which led to large utility-scale solar farm development.

Georgia is another leader in installed solar capacity in the Southeast with 1,500 MW of solar installed, supporting 4,000 solar jobs and 238 solar companies.<sup>iv</sup> Like North Carolina, solar development in Georgia is led by large utility-scale solar installations. Despite growth in utility scale solar in the Southeast, distributed solar has not seen the same growth due to weak NEM policies.

As of December 2016, California, New Jersey, Massachusetts, Arizona, New York and Maryland lead the nation in distributed solar PV installed capacity.<sup>v</sup> With California leading the charge, these states have consistently steered the nation to a clean energy transition both in distributed and utility-scale deployment of solar. These states have a variety of market expanding policies for distributed solar such as mandatory renewable portfolio standards, mandatory statewide net-metering policies, third-third party ownership, community solar, interconnection laws and solar access laws that contribute to widespread distributed solar deployment. Alabama has none of these important policy drivers, highlighting the importance of policy action to incentivize distributed solar in the state.

Although some Southeastern states are successes in terms of utility-scale solar deployment, they lack progressive NEM policies that give utility customers fair compensation for distributed solar PV generation and lead to widespread distributed solar PV adoption. Successful compensation policies such as a NEM or a VOS tariff would drive distributed solar PV growth in the Alabama and across the Southeast.

California, the leader of the nation's solar industry has seen several changes to its NEM program over the last two decades. Most recently in a 2016 decision, the California Public Utilities Commission made several changes to the NEM program "to align the costs of NEM successor customers more closely with those of non-NEM customers."<sup>vi</sup> The NEM Successor Tariffs requires that all investor owned utilities have time-of-use retail rates, a one-time interconnection fee for customers with systems under 1 MW and payment of non-bypassable charges of 2-3 cents per kWh consumed.<sup>vii</sup> The NEM program has changed in a variety of ways, but before the 2016 decision, customers had no fees except those related to installing a two-way meter and customers were compensated at the retail rate of electricity for surplus electricity they generated.

In 2014, Minnesota became the first state to adopt a VOS tariff as an alternative to NEM, setting the precedent for setting a transparent, market-based price for solar energy. The VOS tariff is based on avoiding purchase of energy from polluting sources, avoiding the need to build additional power plant capacity, providing energy at fixed prices and reducing wear and tear on the electric grid.<sup>viii</sup> The key differences between VOS and NEM is that the electricity credit value is the VOS rate rather than the retail electricity rate. The concept behind VOS is that utilities should pay a transparent and market-based price for solar energy, benefitting solar energy producers, utilities and ratepayers.



**In 2014, 72% of residential solar PV systems were financed through third parties.**

***U.S. Residential Solar Financing 2015-2020***  
***Green Tech Media***

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## Benefits |

Citizens of Alabama gain numerous benefits from solar energy such as cost savings, increased home value, greater energy choice and reduced air pollutants. Although Alabama has a below average retail electricity rate, rooftop solar is increasingly cost-effective for home owners, business owners and communities due to technology improvements and falling price of distributed solar PV. Utility customers can save money on their monthly utility bill by installing a residential solar PV system. When the sun is shining, solar customers get power from their PV systems rather than paying the utility for electricity, and solar customers can sell electricity back to the utility for any excess generation, creating savings over the lifetime of the solar PV system. In addition to the savings on utility bills, solar panels can improve the resale value of a home.

Another important consideration for many Alabamians is the ability to choose what resources power their homes. For many, the option to consume clean, renewable electricity powered by the sun is extremely attractive. Unlike fossil fuels that provide the bulk of Alabama Power’s power supply, solar PV panels generate electricity with no air or carbon pollution and no inputs other than sunlight.

In addition to the benefits homeowners and utility customers can realize by installing solar PV panels, the growth of solar creates new economic and job opportunities for the local state economy. Solar power has proven to be a strong driver of economic development around the nation with 250,271 workers employed by the solar industry as of November 2017.<sup>ix</sup> The Alabama solar industry currently supports 530 solar jobs and 48 solar companies, with room for growth as demand for solar increases.



**“Regular Alabamians deserve a fair market value for the energy they sell to a utility company. They should not be singled out as a threat to the utility company’s monopoly.”**

**Daniel Tait  
Technical Director  
Energy Alabama**

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## Legislative and Regulatory Obstacles |

Alabama has not seen the growth of solar like the rest of the country primarily due to lack of legislative and regulatory support. In addition, the state’s regulated monopoly utility, Alabama Power, that provides power to 1.4 million customers in the state, does not operate under a transparent and public regulatory process like most other IOUs in the nation.

The Alabama Legislature has taken no actions to support the distributed solar PV industry. Without a NEM or VOS policy that compensates rooftop solar PV owners for generating power at the retail rate or at the VOS tariff, the amount compensated to utility customers is within Alabama Power’s discretion and is prohibitively low. Without a mandate to compensate solar generators through NEM or VOS, the Alabama Public Utilities Commission will not implement fair compensation for solar PV generators.

Due to the lack of legislative action, Alabama Public Service Commission has no mandate to fairly compensate distributed solar PV utility customers, which allows Alabama Power to set rates and fees without transparent public input. Alabama Power customers billed under Rate Purchase of Alternate Energy only receive about \$0.03/kWh compared to the retail rate of about \$0.12/kWh and must pay a fixed “capacity reserve charge” of

up to \$5/kW monthly, one of the highest fixed charges in the nation, which effectively reduces solar savings by as much as 50%. The prohibitive fixed charge and low compensation rate is a major barrier to Alabama Power customers seeking to lower their utility bill and choose clean, renewable electricity.

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## Other Considerations |

Utilities often claim that adopting NEM or a VOS tariff would cause cost shifting from solar-owning customers to non-solar customers. In states like Alabama with low solar penetration, there is minimal to no cost shifting.<sup>x</sup> Adopting a market-based VOS tariff through stakeholder and public input on a VOS study would address any concerns of the true benefits and costs of solar to the electricity system.

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<sup>i</sup> <https://www.nrel.gov/technical-assistance/basics-net-metering.html>

<sup>ii</sup> <https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/9703/Masters%20Project-Hacerola%2C%20Isaac%20and%20Liberman%2C%20Isaac.pdf?sequence=1>

<sup>iii</sup> <https://www.seia.org/state-solar-policy/north-carolina-solar>

<sup>iv</sup> <https://www.seia.org/state-solar-policy/georgia-solar>

<sup>v</sup> <https://www.nrel.gov/docs/fy17osti/68425.pdf>

<sup>vi</sup> <http://digital.sandiego.edu/cgi/viewcontent.cgi?article=1076&context=jcel>

<sup>vii</sup> <https://news.energysage.com/net-metering-2-0-in-california-everything-you-need-to-know/>

<sup>viii</sup> <http://ilsr.org/wp-content/uploads/2014/04/MN-Value-of-Solar-from-ILSR.pdf>

<sup>ix</sup> <https://www.seia.org/research-resources/solar-jobs-census-2017>

<sup>x</sup> <https://emp.lbl.gov/sites/all/files/lbnl-1007060.pdf>