Value of Solar Methodology Review

Resource Management Commission

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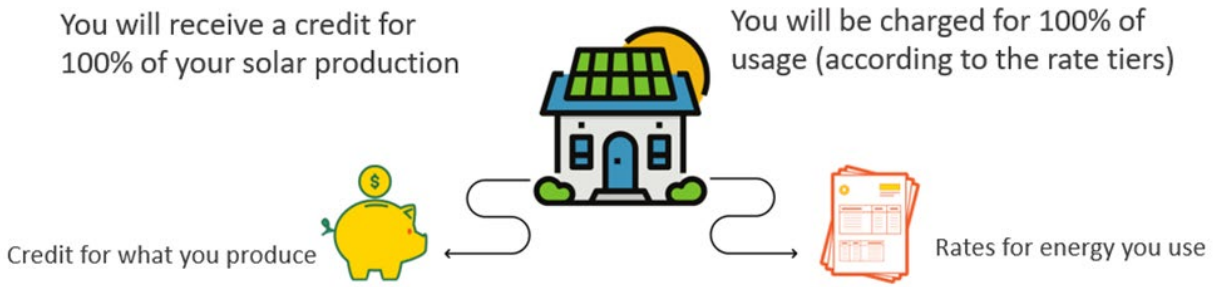
Value of Solar

What is the Value of Solar?

The Value of Solar is the rate at which Austin Energy credits solar customers for the energy produced at their homes and businesses.

How Does it Work?

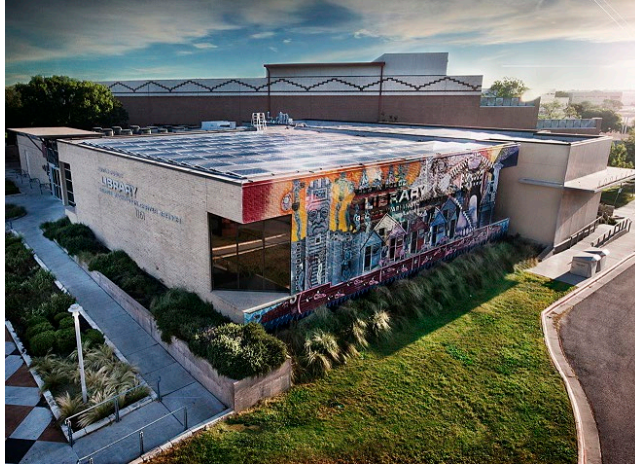
- A solar meter measures the amount of energy that the solar system generates
- Austin Energy multiples the monthly generation by the Value of Solar rate and issues a bill credit
- Extra bill credits roll over to the next bill
- Solar credits only apply to the electric portion of the bill



Value of Solar: A New Approach

Why does Austin Energy need to review the Value of Solar now?

- To fulfill previous base rate review commitments
- To update the rate components
- To better align solar production value with appropriate funding sources.



Explaining Value of Solar Customer Categories

Value of Solar Customer Category Details		
Customer Type	Solar Capacity	Examples
1. Residential and Commercial* Non-Demand Customer	N/A	Homeowners; small businesses such as florists, salons, daycare centers.
2. Commercial Demand Customer	<1,000 kW-ac	Some business types include breweries, multi-tenant commercial, schools, retail and grocery stores.
3. Commercial Demand Customer	≥1,000 kW-ac	Some business types include large retail and grocery, manufacturing facilities and hospitals

*Commercial customer is a business/non-residential customer

CURRENT STRUCTURE

Components		Description	Customer Type 1	2	3
	Energy Value	Values the cost of fuel that Austin Energy does not have to buy, based on the time that solar energy is produced	X	X	X
	Plant Operations & Maintenance	Avoided cost of operations and maintenance associated with owning a natural gas plant	X		
	Generation Capacity	Values the cost of additional power plants that do not have to be built	X		
	Transmission & Distribution	Values the transmission cost savings that result from reduced consumption at peak times by solar customers	X	X	
	Environmental	Values the avoided carbon emissions of conventional generation	X	X	X

The components with orange symbols are related to costs that Austin Energy avoids due to local solar energy production

PROPOSED STRUCTURE

Components		Description	Customer Type 1	2	3
	ERCOT Energy Savings	The weighted average of the price of energy in the ERCOT market at the time that solar energy is produced	X	X	X
	Ancillary Service Savings	The weighted average of the cost to make sure that the right number and type of power plants are running (to prevent an outage)	X	X	X
	Transmission Savings	Calculates savings based on the average generation at peak times, the sum of wholesale transmission service charges, and the total solar generation	X	X	
	Societal Benefits	References the federal social cost of carbon report based on integrated assessment models and Texas-specific carbon per kWh	X	X	X

Proposed Methodology Calculations

ERCOT Energy Savings

This element is based on the weighted average price for energy at the time of PV generation and is calculated as the sum of the Austin Energy Node (AEN) day-ahead price for each hour in the year multiplied by the PV generation for that same hour divided by the total PV generation, as shown in the formula below.

$$Ercot\ Energy\ Savings = \frac{(\Sigma\ (\text{AEN}) * (\text{Hourly PV Generation}))}{(Total\ Annual\ PV\ Generation)}$$

Transmission Savings

This component is based on average PV generation during the ERCOT Four Coincident Peak (4CP) periods multiplied by the ERCOT postage stamp rate (the sum of the individual wholesale transmission service charges billed by each transmission service provider in ERCOT) divided by the total PV generation, as shown in the formula below.

$$Transmission\ Savings = \frac{(Average\ PV\ Generation\ during\ ERCOT\ 4CP) * (\text{Postage Stamp Rate})}{(Total\ Annual\ PV\ Generation)}$$

Proposed Methodology Calculations

Ancillary Service (AS) Savings

This component is based on the weighted average price for AS at the time of PV generation. ERCOT has four ancillary service products currently that support the transmission of energy to loads and the reliable operation of the bulk electric system. These four products are:

1. Regulation Service – Up (REG UP)
2. Regulation Service – Down (REG DOWN)
3. Responsive Reserve Service (RRS)
4. Non-spinning Reserve Service (NSRS)

The Ancillary Service Savings is calculated as the sum of the Scaled AS Price (the sum of the four different ancillary service products in each hour scaled to its relevant proportion with overall ERCOT energy load) for each hour multiplied by the PV generation for that same hour divided by the total PV generation, as shown in the formula below.

$$Ancillary\ Service\ Price = \frac{(\Sigma(\text{Scaled AS Price}) * (Hourly\ PV\ Generation))}{(Total\ Annual\ PV\ Generation)}$$

Proposed Methodology Calculations

Societal Benefits

This component is calculated by multiplying the emission year dollar per metric ton of CO2 (from Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990) by the prevailing CO2 metric tons per kWh (from the U.S. Energy Information Administration's Texas specific State Electric Profiles report, using the CO2 lbs/MWh emissions statistic).

$$Societal\ Benefit = (Emission\ Year\ \$/Metric\ ton\ CO2 * Prevailing\ Metric\ ton\ CO2/kWh)$$

Realignment Explanation

Realignment Considerations

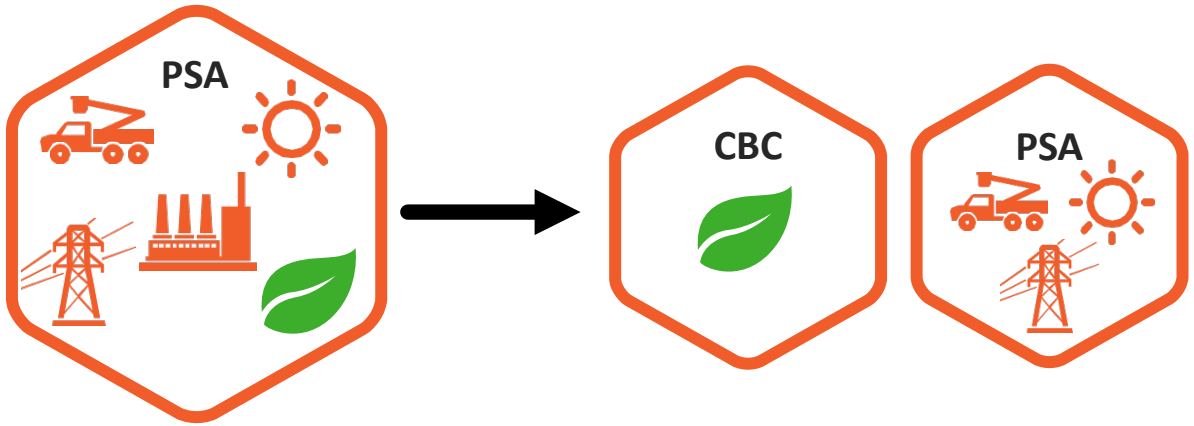
- Austin Energy proposes to align avoided costs associated with local solar energy with the PSA and transition the societal benefits to the CBC.

Why does this realignment matter to customers?

Austin Energy wants to be clear about how customer charges are being used to support clean energy and align the impacts with the most appropriate fund.

Power Supply Adjustment (PSA): recovers the costs of fuel for power plants and electricity purchased from the grid.

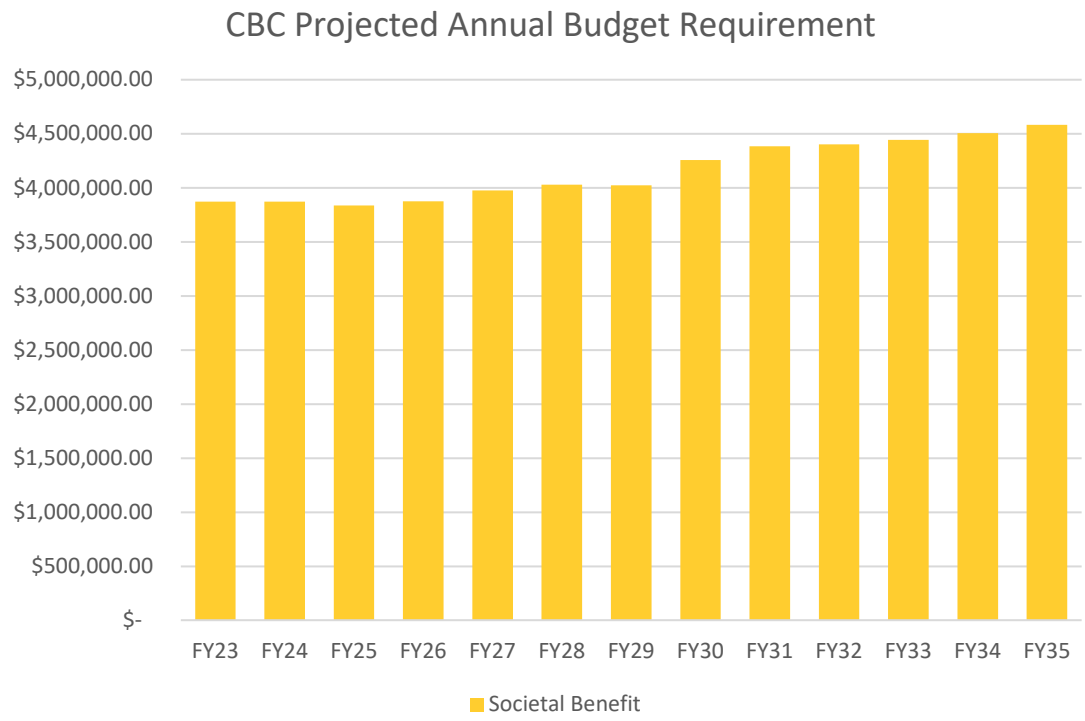
Community Benefit Charges (CBC): funds additional programs and services that provide a benefit to the greater community, including the Customer Assistance Program, energy efficiency and solar programs.



Societal Benefits Projected Annual Budget Requirement to the CBC

Realignment Considerations

- Societal Benefits do not represent avoided costs to the utility, but rather represents avoided costs to society.
- Shifting the Environmental Benefits/Societal Benefits to the CBC will result in increased costs to the CBC and proportional decreased costs to the PSA
- Separating this value increases transparency and facilitates discussion



Results

Proposed Methodology FY22 and FY23

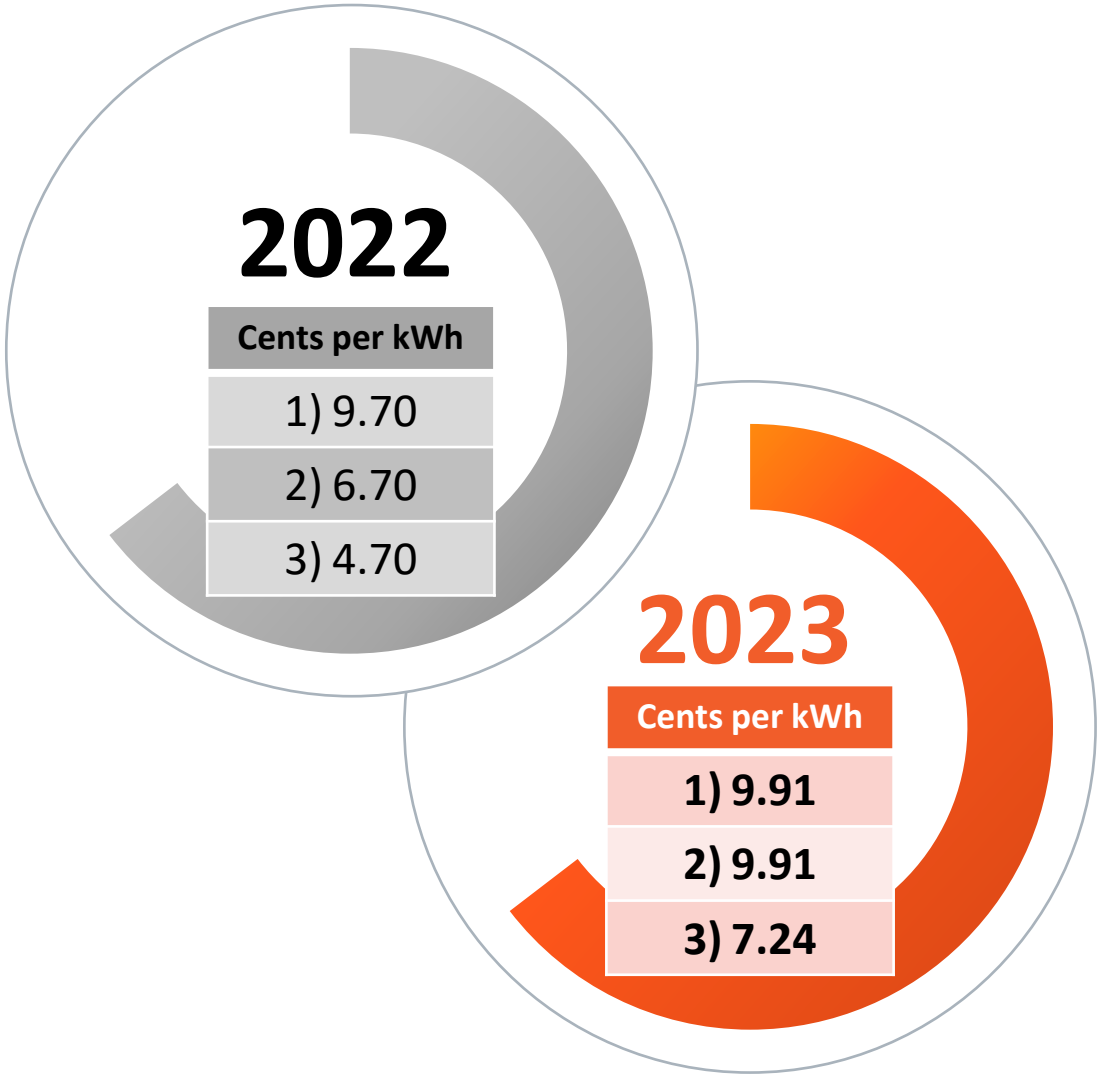
Component	FY2022 Avoided Cost ($/kWh)		FY2023 Avoided Costs ($/kWh)	
	< 1,000 kW-ac	≥ 1,000 kW-ac	< 1,000 kW-ac	≥ 1,000 kW-ac
ERCOT Energy Price	$ 0.0367	$ 0.0367	$ 0.0467	$ 0.0467
Transmission Savings	$ 0.0250	$ -	$ 0.0267	$ -
Ancillary Service Price	$ 0.0015	$ 0.0015	$ 0.0027	$ 0.0027
Avoided Costs	$ 0.0632	$ 0.0382	$ 0.0761	$ 0.0494
Societal Benefits	$ 0.0226	$ 0.0226	$ 0.0230	$ 0.0230
Total VoS	$ 0.0858	$ 0.0608	$ 0.0991	$ 0.0724

Notes:
Values have been adjusted for line losses at 5.14%

FYs above represents implementation year, test data is from a previous FY, example: FY23 implementation year uses Fy21 test year data and FY22 uses Fy20

How will the proposed methodology impact the Value of Solar rate?

Customer Type	Sample PV kWh	Current Value of Solar Credit	Proposed Value of Solar Credit
Residential and Commercial Non-Demand Customer	1,500	$145.50	$148.65
Commercial Demand Customer <1,000 kW-ac	30,000	$2,010.00	$2,973.00
Commercial Demand Customer ≥1,000 kW-ac	165,000	$7,755.00	$11,946.00



Share Your Thoughts

An Independent Consumer Advocate (ICA) represents residential and small business customers in the base rate review.

- ✓ ICA receives customer feedback and presents findings to the Impartial Hearing Examiner
- ✓ Contribute feedback by July 1 at **speakupaustin.org/rates**

An Impartial Hearing Examiner (IHE) will listen to all issues and positions from formal Participants and make a recommendation to Austin City Council.

- ✓ Austin Energy customers may submit a request to formally Participate between April 18 – May 18, 2022
- ✓ Learn how to submit a request to Participate at **austinenergy.com/rates**

More questions or comments?

Email:
rates2022@austinenergy.com

Fill out a feedback form:
speakupaustin.org/rates

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