

Agreement to Move to Solar Choice Net Metering in South Carolina & Implications for North Carolina¹

I. Background

In early 2020, the South Carolina representatives of Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP” and together “Duke Energy”) facilitated stakeholder workshops to solicit feedback and input to be used in the development of the next generation of net energy metering (“NEM”) in South Carolina under Energy Freedom Act, S.C. Act No. 62 of 2019 (“Act 62”).

Specifically, [Section 5 of Act 62](#) requires the South Carolina Utilities Commission to establish a successor tariff to the current NEM program for customers adopting solar after June 1, 2021. Act 62 requires this NEM successor tariff to:

- (1) build upon the successful deployment of solar generating capacity through Act 236 of 2014 to continue enabling market-driven, private investment in distributed energy resources across the State by reducing regulatory and administrative burdens to customer installation and utilization of onsite distributed energy resources;
- (2) avoid disruption to the growing market for customer-scale distributed energy resources; and
- (3) require the commission to establish solar choice metering requirements that fairly allocate costs and benefits to eliminate any cost shift or subsidization associated with net metering to the greatest extent practicable.

As a result of these meetings and other stakeholder collaboration about implementing the Act 62 NEM requirements Duke Energy reached an agreement with NCSEA and other clean energy advocates on a proposed successor tariff that will fulfill the spirit of Act 62 by (i) building upon the Companies’ current NEM programs in a way that benefits the Companies and their customers and (ii) furthering the goal of a clean energy future in South Carolina. In addition to Duke Energy and NCSEA, the parties to the agreement include Vote Solar; Sunrun Inc.; and the Southern Environmental Law Center on behalf of South Carolina Coastal Conservation League, Upstate Forever, and Southern Alliance for Clean Energy. Each organization that is part of the agreement will continue to advance the proposed successor tariff to other stakeholders, with the ultimate goal of obtaining approval from the Public Service Commission of South Carolina (“PSCSC”) and the North Carolina Utilities Commission (“NCUC”), as appropriate, to implement the successor tariff.

As with any settlement, the Solar Choice Net Metering represents compromises on both sides, but NCSEA believes this is a win-win for clean energy advocates, future NEM customers, Duke Energy, and those considered that NEM customers are receiving a subsidy from other electricity rate payers.

¹ Adapted from the September 21, 2020 Executive Summary from Duke Energy with original analysis from NCSEA

II. Implications for North Carolina

In 2017, the North Carolina General Assembly passed [House Bill 589](#) to “Reform North Carolina’s approach to integration of renewable electricity generation. Part VI. of the legislation requires the North Carolina Utilities Commission to establish net metering rates according to the following conditions:

- (a) Each electric public utility shall file for Commission approval revised net metering rates for electric customers that (i) own a renewable energy facility for that person's own primary use or (ii) are customer generator lessees.
- (b) The rates shall be nondiscriminatory and established only after an investigation of the costs and benefits of customer-sited generation. The Commission shall establish net metering rates under all tariff designs that ensure that the net metering retail customer pays its full fixed cost of service. Such rates may include fixed monthly energy and demand charges.
- (c) Until the rates have been approved by the Commission as required by this section, the rate shall be the applicable net metering rate in place at the time the facility interconnects. Retail customers that own and install an on-site renewable energy facility and interconnect to the grid prior to the date the Commission approves new metering rates may elect to continue net metering under the net metering rate in effect at the time of interconnection until January 1, 2027

House Bill 589 made clear that the status quo of net energy metering would be challenged and likely altered. It is the intent of NCSEA, it’s partners, and Duke Energy to build upon the success of collaborating on the South Carolina Solar Choice Net Metering proposal and to bring a similar proposal and request for approval before the North Carolina Utilities Commission in order to meet the NEM requirements outlined in House Bill 589.

III. Highlights of the South Carolina Solar Choice Metering Proposal

The Solar Choice Metering Tariff applies to residential solar PV customers applying on or after January 1, 2022 while existing customers may remain on an interim tariff until May 31, 2029. The proposed tariff includes Critical Peak Pricing (“CPP”) time-of-use (“TOU”) rates as follows:

Table 1: Residential Solar Choice Net Metering Tariff

	Price without Bill Riders	
	(per kWh unless otherwise noted)	
Duke Utility	DEC	DEP
Peak	\$0.154444	\$0.161400
Off-Peak	\$0.090270	\$0.098050
Super-Off-Peak	\$0.062952	\$0.072940
Critical Peak	\$0.25	\$0.25
Basic Facilities Charge	\$13.09	\$14.63
Grid Access Fee for Systems > 15 kW assessed per kW-dc	\$5.86	\$3.95

- Annual on-peak periods would be from 6:00 pm – 9:00 pm (EST, with additional on-peak periods during the months of December-February from 6:00 am – 9:00 am. The super-off-peak period would be from March-November from 12:00 am – 6:00 am. Weekends and holidays would be designated as all off-peak.
- The designation of up to 20 CPP days per year will be set daily and customers will be notified before CPP goes into effect during the peak hours for that day.
- Customer's energy imports and exports would be netted within each TOU pricing period and monthly net exports would be applied as a bill credit at avoided cost, and this bill credit can be used to reduce a customer's bill after the minimum bill has been applied. CPP applies to all imports during the CPP hours. Any energy exports during the CPP hours will be netted against peak imports, not the Critical Peak imports.
- A minimum monthly bill of \$30.00 for each Solar Choice Metering customer will be assessed to recover estimated customer and distribution costs. The minimum monthly bill is reduced by the basic facilities charge and the portion of the customer's monthly volumetric energy charges specific to customer and distribution costs. Bill riders such as storm cost recover and fuel are non-bypassable charges.
- Non-residential customers applying for interconnection after June 1, 2021 would be served under their existing tariff and the Solar Choice Metering rider that would include monthly netting of excess energy applied as a bill credit at avoided cost. Customers with systems less than 30 kW may be transitioned to a mandatory TOU rate. Duke Energy and stakeholders have agreed to work on the details for this transition and potential future incentives for non-residential Solar Choice Net Metering customers.

IV. Smart Thermostat & Solar Incentive

As a condition to the agreement on Solar Choice Net Metering with NCSEA and others, Duke Energy will request that it be allowed to offer a \$0.36/Watt-dc incentive for new qualifying Solar Choice Metering tariff customers. Customers must enroll in the proposed winter smart thermostat program for a contract period of 25 years, which allows Duke Energy to make brief, small adjustments to the thermostat during times of peak electric demand and offers an additional upfront \$75 bill credit and then an annual bill credit of \$25. The cumulative impact of both incentives is \$0.39 cents/watt, if approved by the NCUC and SCPSC.

In addition to the smart thermostat incentive, Duke Energy and stakeholders have agreed to identify other peak load reduction technologies that can be paired with solar to produce a reliable reduction of at least ~1 kW per hour during peak winter hours. Duke Energy and stakeholders will also explore a Solar Choice program tailored to low-income customers.

V. Examples

Tables 2-4 compare the estimated monthly bills over one year for customers served under current NEM rates to the estimated monthly bills if those customers were served under the proposed Solar Choice Net Metering rates with the CPP-TOU components. The data informing the comparisons comes from an average of hourly electricity imports and exports for a sample of current NEM customers provided by Duke Energy with the specified PV system sizes. The comparisons also include the financial impact of the smart thermostat incentive prorated over the contract period of 25 years.

Table 2 shows that the bill impact for most customers with a 5 kWdc PV system that enroll in the proposed smart thermostat program will be minimal (only \$1.53 more for the entire year) as compared to their current electric bills. Larger systems will likely see more of a bill increase under the Solar Choice Net Metering rates. For example, with the smart thermostat incentive, the analysis of customers with 10 kWdc PV systems in Table 3 shows a bill increase of \$30 over the course of the entire year (a 6% increase). PV systems larger than 15 kWdc will incur the grid access fees under the Solar Choice Net Metering tariff. This fee combined with the \$30 minimum bill requirement had a greater impact on the average of customers with 16 kWdc systems shown in Table 3 and led to a 61% increase in their bills over the course of a year.

Table 2: Bill Impact of Solar Choice Net Metering on Average of 5 kWdc PV Systems

Month	Proposed NEM CPP-TOU Bill	Current NEM Residential Bill	Smart Thermostat Incentive	Billing Difference between Proposed NEM and Current Including Incentive	% Difference
January	\$106.36	\$86.28	\$6.50	\$13.58	16%
February	\$73.63	\$62.96	\$6.50	\$4.16	7%
March	\$36.46	\$36.28	\$6.50	\$(6.32)	17%
April	\$30.00	\$15.85	\$6.50	\$7.65	48%
May	\$46.04	\$42.91	\$6.50	\$(3.38)	8%
June	\$69.66	\$66.87	\$6.50	\$(3.70)	6%
July	\$89.29	\$82.19	\$6.50	\$0.60	1%
August	\$82.77	\$78.66	\$6.50	\$(2.39)	3%
September	\$73.73	\$70.75	\$6.50	\$(3.52)	5%
October	\$49.03	\$47.38	\$6.50	\$(4.85)	10%
November	\$54.50	\$56.03	\$6.50	\$(8.03)	14%
December	\$99.85	\$85.62	\$6.50	\$7.73	9%
Total	\$811.31	\$731.79	\$78.00	\$1.53	0%

Note: does not include bill riders like REPS, Fuel, and DSM-EE

Proposed Smart Thermostat Incentive		
	<i>Input</i>	<i>Unit</i>
<i>Cumulative Incentive</i>	\$0.39	per Watt-dc
<i>PV System Size</i>	5,000	Watts
<i>Total Incentive</i>	\$1,950.00	
<i>Contract Term</i>	25	years
<i>Prorated Incentive</i>	\$6.50	per month

Table 3: Bill Impact of Solar Choice Net Metering on Average of 10 kWdc PV Systems

Month	Proposed NEM CPP-TOU Bill	Current NEM Residential Bill	Smart Thermostat Incentive	Billing Difference between Proposed NEM and Current <i>Including Incentive</i>	% Difference
January	\$118.65	\$92.98	\$13.00	\$12.68	14%
February	\$77.60	\$63.66	\$13.00	\$0.94	1%
March	\$32.57	\$16.07	\$13.00	\$3.50	22%
April	\$30.00	\$14.00	\$13.00	\$3.00	21%
May	\$34.59	\$14.00	\$13.00	\$7.59	54%
June	\$44.25	\$14.00	\$13.00	\$17.25	123%
July	\$66.26	\$39.32	\$13.00	\$13.95	35%
August	\$61.78	\$56.76	\$13.00	\$(7.98)	14%
September	\$56.02	\$48.74	\$13.00	\$(5.72)	12%
October	\$41.07	\$33.15	\$13.00	\$(5.09)	15%
November	\$50.22	\$52.29	\$13.00	\$(15.07)	29%
December	\$103.58	\$85.54	\$13.00	\$5.04	6%
Total	\$716.59	\$530.50	\$156.00	\$30.08	6%

Note: does not include bill riders like REPS, Fuel, and DSM-EE

Proposed Smart Thermostat Incentive		
	<i>Input</i>	<i>Unit</i>
<i>Cumulative Incentive</i>	\$0.39	per Watt-dc
<i>PV System Size</i>	10,000	Watts
<i>Total Incentive</i>	\$3,900.00	
<i>Contract Term</i>	25	years
<i>Prorated Incentive</i>	\$13.00	per month

Table 4: Bill Impact of Solar Choice Net Metering on Average of 16 kWdc PV Systems

Month	Proposed NEM CPP-TOU Bill	Current NEM Residential Bill	Smart Thermostat Incentive	Billing Difference between Proposed NEM and Current <i>Including Incentive</i>	% Difference
January	\$164.50	\$122.32	\$20.80	\$21.38	17%
February	\$99.31	\$73.34	\$20.80	\$5.17	7%
March	\$35.86	\$14.00	\$20.80	\$1.06	8%
April	\$35.86	\$14.00	\$20.80	\$1.06	8%
May	\$35.86	\$14.00	\$20.80	\$1.06	8%
June	\$54.73	\$14.00	\$20.80	\$19.93	142%
July	\$79.58	\$14.00	\$20.80	\$44.78	320%
August	\$75.57	\$14.00	\$20.80	\$40.77	291%
September	\$70.04	\$14.00	\$20.80	\$35.24	252%
October	\$51.47	\$14.00	\$20.80	\$16.67	119%
November	\$57.85	\$14.00	\$20.80	\$23.05	165%
December	\$124.33	\$73.80	\$20.80	\$29.73	40%
Total	\$884.96	\$395.46	\$249.60	\$239.90	61%

Note: does not include bill riders like REPS, Fuel, and DSM-EE

Proposed Smart Thermostat Incentive		
	<i>Input</i>	<i>Unit</i>
<i>Cumulative Incentive</i>	0.39	per Watt-dc
<i>PV System Size</i>	16,000	Watts
<i>Total Incentive</i>	\$6,240.00	
<i>Contract Term</i>	25	years
<i>Prorated Incentive</i>	\$20.80	per month