Ad Energy comments on Solar Successor Program: Staff Straw Proposal, 5.27.21

We appreciate the BPU staff's efforts in crafting this straw proposal. Moreover, in the main we assess the proposal to be of robust design, and something that can support a strong move in the state towards a renewable future. We look forward to participating in this 30-year sprint to 100% clean energy!

Executive Summary

1. We support the proposed overall program architecture of the Successor program, specifically the segment specific, incentive budget-based approach

2. We believe the proposed megawatt targets by segment are reasonable

3. We believe incentive levels are close to appropriate, but need to be increased somewhat across all segments; incentive budgets per segment should be increased commensurately
    a. We discuss residential incentive levels in detail below

4. We note that cost cap compliance is not an immediate concern, as (i) issues with cost cap compliance are only forecast to arise several years in the future, and (ii) the BPU has the tools by statute to manage legacy SREC costs as needed

5. We believe quarterly volume caps, specifically for the residential segment, are disruptive to business operations and will create cost; we prefer active management of the incentive level to achieve the incentive budget
    a. We discuss an approach below

6. Thoughts on the future
    a. Management of the successor program
        i. Incentive budgets should rarely, if ever, be reallocated between segments
        ii. Total incentive budget should be adjusted from time to time to achieve the right balance between clean energy goals and ratepayer costs
    b. Setting the state's strategic direction
        i. We are planning a sprint to 100% clean energy over the next 30 years, we must always anchor these conversations to that goal
        ii. Substantial disagreement remains on how best to achieve this goal; some disagreement is healthy, intransigence is not
        iii. We need a continued public debate on this issue post this stakeholder process ending
    c. Reducing the cost of solar in New Jersey

i. Crafting a durable successor program is necessary but not sufficient; this collection of people (the stakeholders) should be engaged in discussions of how to reduce cost
ii. Whether this is better led by the BPU or the governor's office itself we don't know

Residential Solar Incentive Level

The particular challenge we face in setting an appropriate incentive level is the concurrence of two major market changes: the transition to the TREC program, and the pandemic. The solar market slowed abruptly in spring of last year, has partially recovered since, and it remains difficult to foresee whether we will experience a full recovery once the pandemic wanes. Using 2019, a 144 MW year, as a benchmark, we see post-pandemic/TREC PTO volumes are down roughly 30% (**Chart 1** below). New application activity suggests that the market is recovering, though it is early to call a full recovery (**Chart 2**). Current TREC value is $91.20. We believe that, on the balance of this evidence here, a NUREC value of $95 is appropriate to achieve 150 MW of residential solar.

Two asides. Aside #1 – evidence is strong of the elasticity of this market to incentive level (though this should hardly be a surprising fact). We see that market volumes are very sensitive to SREC value in both Maryland and New Jersey over the past 5 years (**Charts 3a and 3b** below).

Aside #2 – this question was posed in a stakeholder session, namely do we have an explanation for the recent several year decline the NJ residential market. We believe this decline is primarily the result of a small number of large market participants, in 2016 and 2017, either exiting the market entirely (Sungevity, Code Green), or substantially reducing their market presence (Solar City, Vivint) (**Chart 4**).

Quarterly Caps

Most of a residential solar company's cost structure, other than materials, is of a fixed nature. Installation staff, engineering and project management staff, marketing staff, sales staff need income whether projects are being sold and built or not. A market that routinely is closed and reopened will create significant disruption, and this disruption will create cost. Moreover, given the relative stability of market volumes in residential solar, we believe that the state's goal of managing to an incentive budget is achievable without quarterly caps.

A further complication arises from project cancellations. Any quarterly cap on applications received would need to allow for an expected rate of project cancellation. Application fees should reduce the percentage of project cancellations, but they will not eliminate them. While we are ambivalent on the concept of application fees, we do note that their introduction will change the expected cancellation rate in a way we cannot predict, adding a complication to the introduction of quarterly caps in the short term.

We propose a guard rail approach. First, note that volumes exhibit low volatility quarter to quarter (**Chart 5**). Relying on this fact, we propose the following heuristic, using application volumes adjusted for expected cancellation rates:

Market exceeds quarterly target by 25%: Close program for that quarter, adjust incentive down by $5
Market exceeds or underperforms half-year target by 10%: adjust incentive down or up by $5
Market exceeds or underperforms annual target by 5%: adjust incentive down or up by $5

Management of the successor program

Incentive budgets should rarely, if ever, be reallocated between segments. A key benefit of the segment-based incentive budget approach to the successor program is the simplification it provides to the ongoing management of the program. Leaving segment level incentive budgets allocations constant will reinforce and allow us to capitalize on that simplicity. Segment level incentive amount discussions will be simplified by rationalizing the number of interested parties. Furthermore, this stability will create a strong incentive for participants in each segment to invest in working on policies and practices that will lower cost over time.

Total incentive budget, as opposed to its segment-by-segment allocation, should be adjusted from time to time to achieve the right balance between clean energy goals and ratepayer costs.

Setting the state's strategic direction

We observe stark differences amongst stakeholders about the correct approach to NJ achieving 100% clean energy. Different perspectives are healthy; they should make us better. Taking advantage of those differences, however, requires dialogue.

We note two key categories of disagreement – the appropriate use of out of state clean energy sources, and the appropriate mix of in-state siting, particularly given the differing costs to develop different categories of sites.

Continued public dialogue about the Energy Master Plan seems warranted, in which the realities of building in and out of state can be further studied.

We heard this soundbite – presumably it is meant only as a soundbite, but just in case – the ability to buy an out of state REC for $5 to $10 from a clean energy producer is not the same thing as:

(i) a real megawatt-hour delivered to New Jersey, and more importantly
(ii) there is no guarantee that these RECs and associated megawatt-hours will be available at this cost and at our required capacity for the next 30+ years, in particular as neighboring states develop their own aggressive clean energy goals.

Furthermore, New Jersey currently produces its own electricity. It is certainly possible that, with current transmission technology, if we were to build our electric infrastructure from scratch, that we might choose to locate more generation far away. But that is a radical statement and requires serious study.

A second siting dialogue would seem useful. The end result would be a description, by broad category, of solar site availability in New Jersey. This would inform conversations related to the need for variation in incentives offered to different site types. It would also identify particular policy steps we could take to unlock desirable site types that are under-penetrated (e.g. large warehouse roof spaces with low load).

Reducing the cost of solar in New Jersey

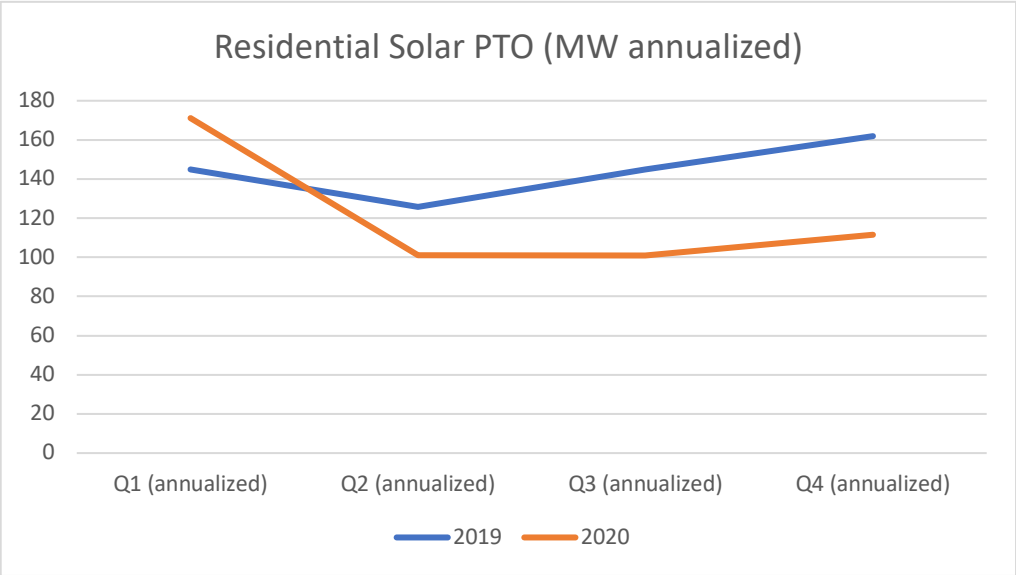
Crafting a durable successor program is necessary but not sufficient. This collection of people (the stakeholders) should be engaged in discussions of how to reduce the cost of solar in New Jersey. These dialogues should be to a degree segment specific – some issues cut across segments, others do not. Massive opportunities exist. Some are clearly under the remit of the BPU, others are not, others we believe are up to BPU's discretion. We dip a little into opportunities we see in residential solar below.

We see enormous opportunity to reduce the cost of residential solar. We are not alone. The Department of Energy recently published a target of 5 cents / kWh by 2030 (see **Chart 6**). Moreover, the DOE's target of 2030 looks unambitious when seen in the context of international residential costs (**Chart 7**). What DOE targets for 2030 here in the US, in some parts of the world is already here. Furthermore, Australia is currently installing 3 GW per year of residential solar, the equivalent on a per capita basis of 1 GW per year in New Jersey!

Our list is below, in decreasing order of importance:

- Direct pay for 25D tax credits (and the details matter)
- Short term NURECs, ideally one year qualification life
- Regulations to aid adoption of mortgage finance
- New home construction solar standard
- Rational approach to rapid shut down
- Eliminate panel tariffs
- Solve interconnection infrastructure constraints (though with each passing day and new closed circuit the importance of this grows)
- Remove net metering constraints on system size, capitalizing on economies of scale
- Remove requirement for revenue grade meters
- Streamline permitting, zoning, and inspection processes

Chart 1. Residential Systems Receiving PTO



(Q1 2021 PTO volume is not shown as data is still coming in, but it appears to be similar to Q4 2020.)

Chart 2. New Residential Applications

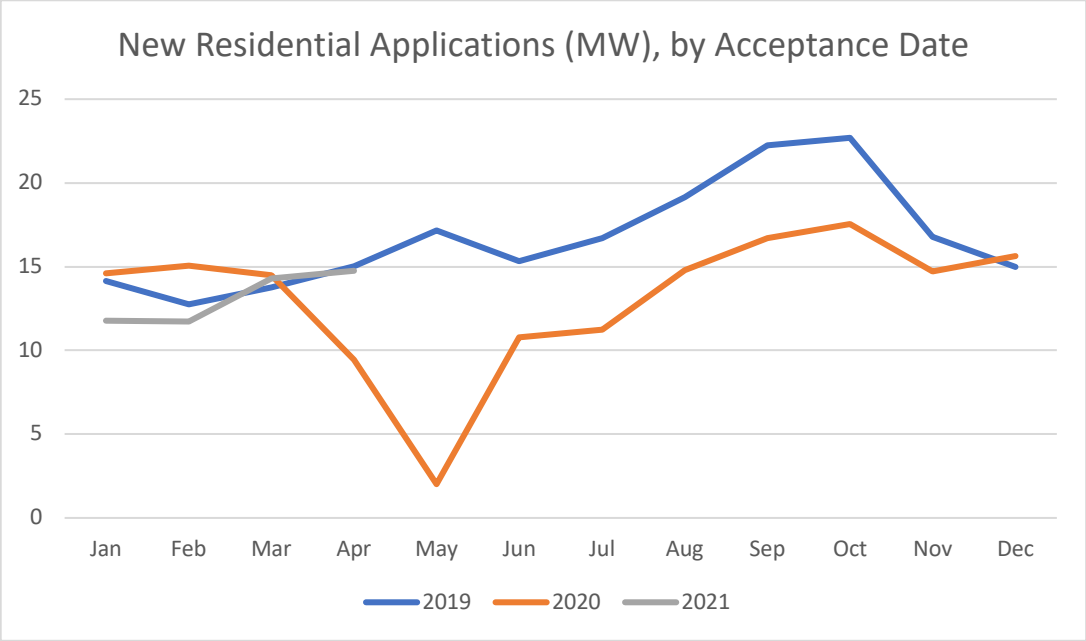
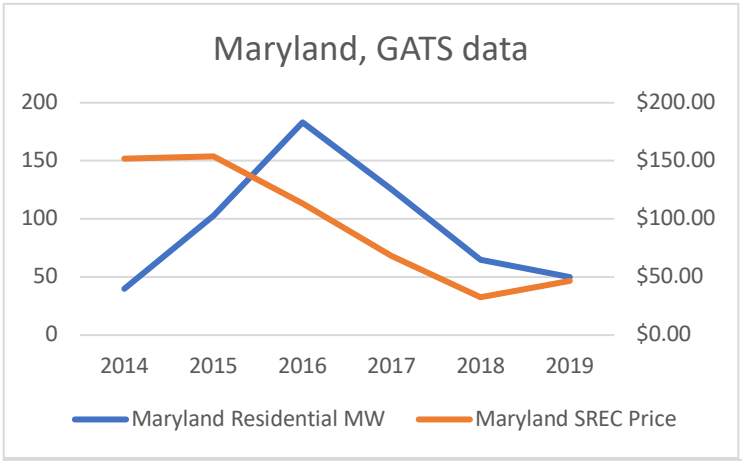
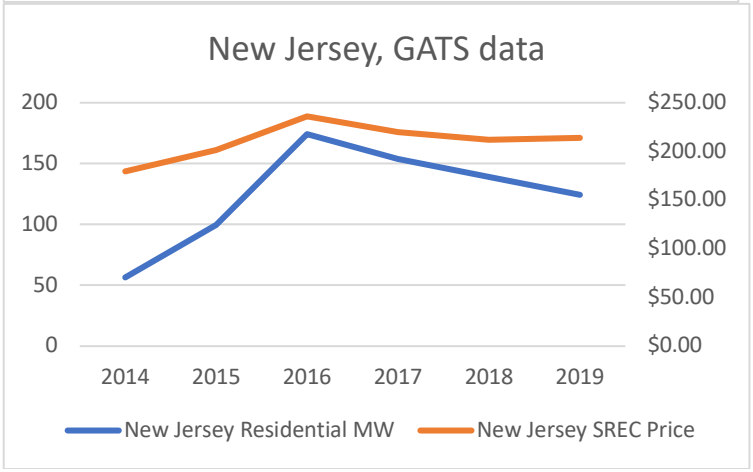


Chart 3a and 3b. Market sensitivity to SREC prices





(Note that at the time of this analysis there were likely a significant number of 2019 projects that had not completed GATS registration)

Chart 4. The impact of a few market participants on market volume

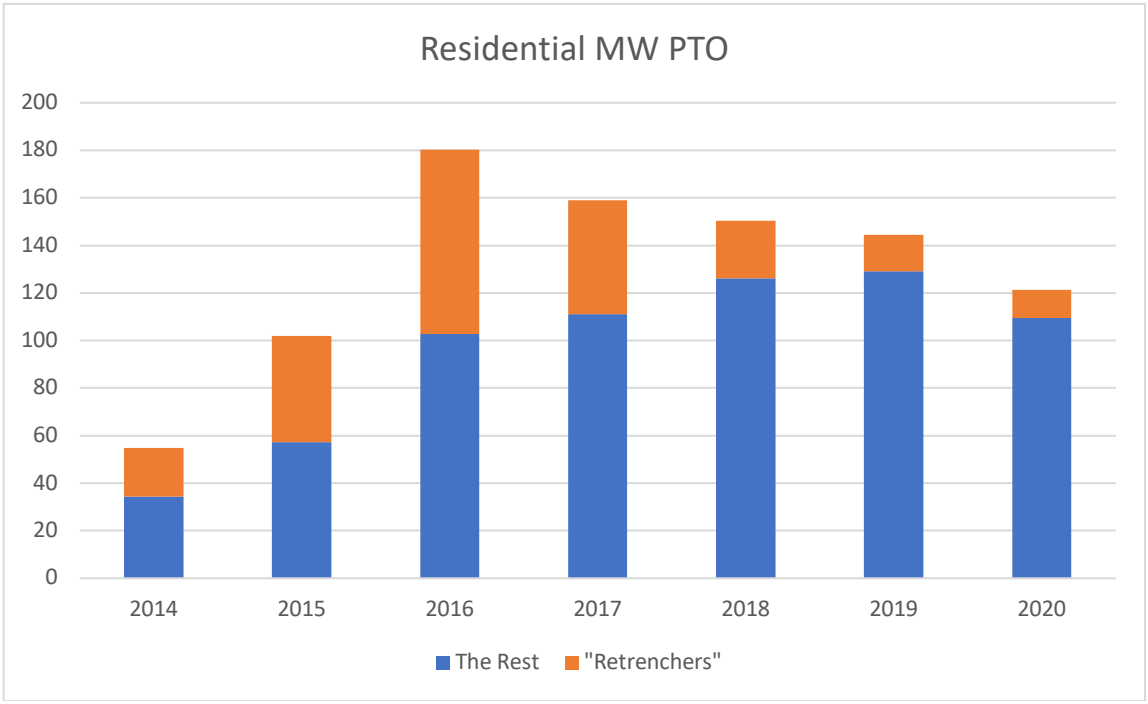
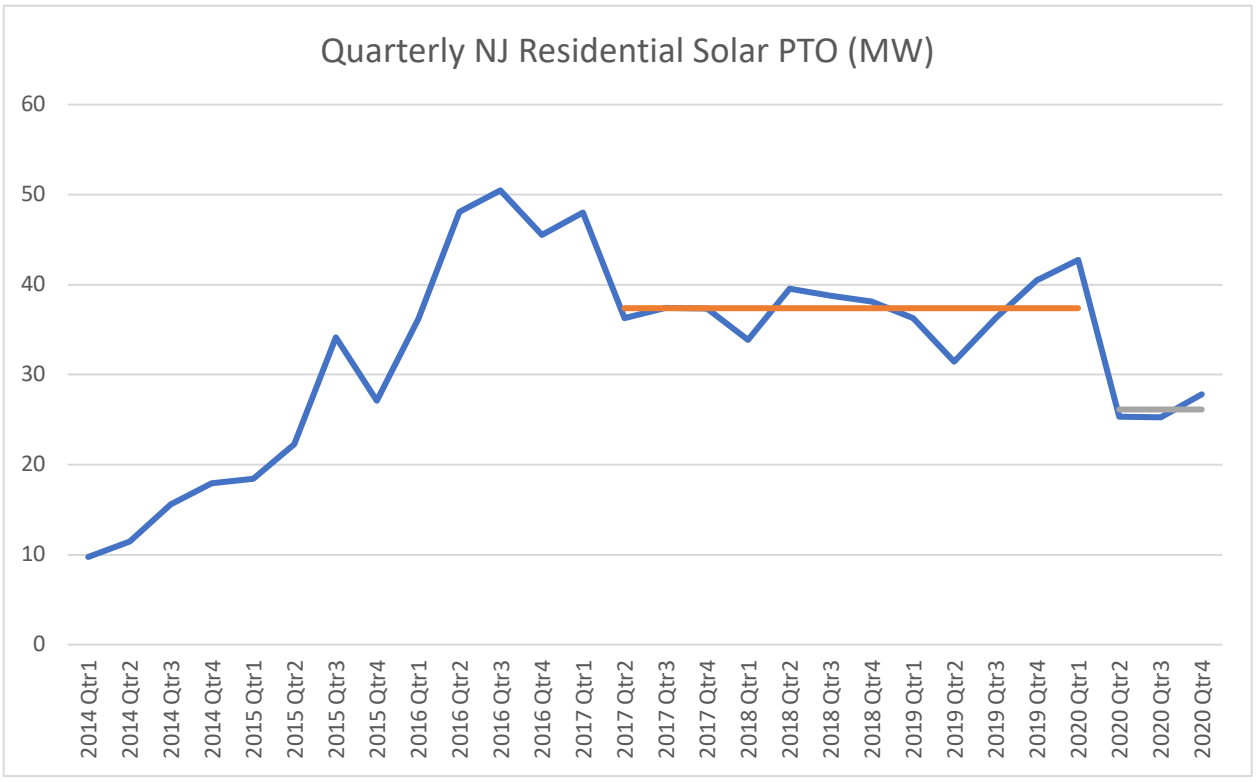


Chart 5a and 5b. Quarterly volatility of residential volumes is low.



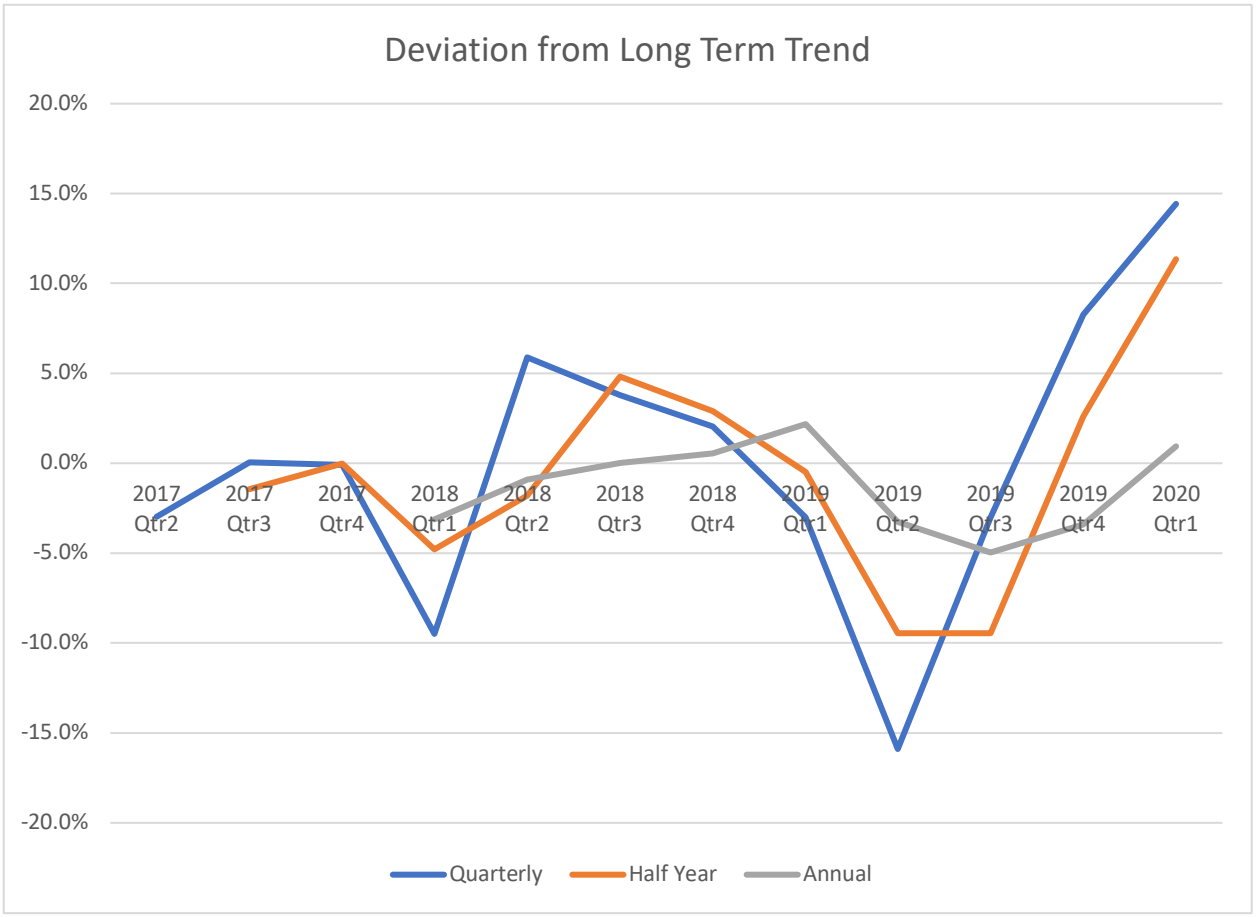

Deviation from Long Term Trend
20.0%
15.0%
10.0%
5.0%
0.0%
-5.0%
-10.0%
-15.0%
-20.0%
2017 Qtr2
2017 Qtr3
2017 Qtr4
2018 Qtr1
2018 Qtr2
2018 Qtr3
2018 Qtr4
2019 Qtr1
2019 Qtr2
2019 Qtr3
2019 Qtr4
2020 Qtr1
Quarterly
Half Year
Annual

Chart 6. Department of Energy, from "SETO SolarAPP+ Webinar Slides"

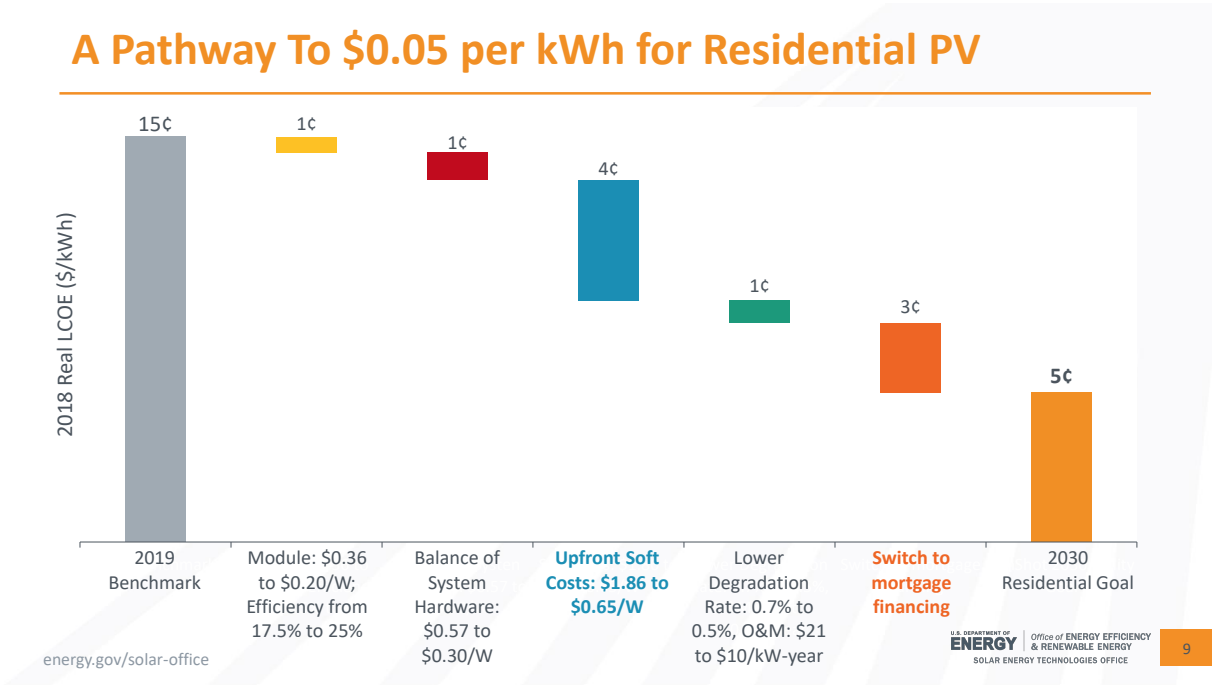


Chart 7. Bloomber NEF on residential solar international cost comparison.