



Energy+Environmental Economics

NEM Revisit – Template for Customer Bill Model

Template for Comparison of NEM Successor Tariff proposals

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- + Purpose of the Customer Bill Model
- + Description of the Data Template
- + Q&A



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Customer Bill Model



Purpose of the Customer Bill Model

+ E3 is developing a Customer Bill Model

- Goal is to produce a standardized analysis of the proposed NEM successor tariffs to enable comparison among proposals

+ Primary inputs to the Customer Bill Model

- Proposal templates filled and submitted by each party to the CPUC
- 2021 Avoided Cost Calculator

+ Model will include representative customers for each IOU

- CARE and Non-CARE
- Solar and solar+storage

+ Metrics for evaluation (outputs, 2023 and 2030 scenarios):

1. **First-year customer bill savings** (after adoption,)
2. **Simple Payback Period** = [Upfront System Cost] / [First-year Bill Savings]
3. **First-year Cost-Shift** = [First-year Bill Savings] – [First-year Avoided Costs]



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Data Template



Data template – overview

- + Proposal evaluation will include both Residential and Small Commercial customers if both are included in the proposal**
- + Residential tariff proposals: fill out “Residential” worksheet**
 - If proposing a new import rate, also fill out “New Residential Import Rates”
- + Small commercial tariff proposals: fill out “Small Commercial” worksheet**
 - If proposing a new import rate, also fill out “New Small Comm Import Rate”
 - Large commercial and industrial customers are not considered in Customer Bill Model

- + Parties do not need to provide both residential and commercial tariffs**



Hourly import rate (\$/kWh)

- + ***The \$/kWh rate paid by the customer for net imports on an hourly or subhourly basis***
- + **Options available for import rates include:**
 1. Any existing IOU rate (party does not select any one in particular)
 - E3 will use the most common residential / commercial rate for NEM customers for each IOU
 2. Existing EV rates (assume these are available to all NEM customers)
 - PG&E EV2, SCE TOU-D-PRIME, EV-TOU-5
 3. A specific IOU existing rate (party must indicate the specific rate schedule)
 4. IOU proposed rates (from Joint Utilities DG Tariff Successor proposal)
 5. New rates (describe on “New Residential Import Rates” worksheet)
- + **Indicate any differences in import rate for a low-income customer (e.g., CARE discount)**
- + **Any proposed differences in the import rate for a new customer in 2030 (e.g., due to a “glide path”) must be described**



Export rate for net billing (\$/kWh)

- + ***The \$/kWh credit for net exports to the grid. The export rate is assumed to vary by TOU period***
 - Under NEM 2.0, this would be the hourly import rate minus the Non-Bypassable Charges
- + **Indicate the netting period for net billing**
 - *I.e., on what timeframe are imports vs. exports determined?*
- + **Export rates may be based on avoided costs, import rate, and/or other components**
- + **Under NEM 2.0, the CARE discount is applied to exports as well**
 - Indicate if CARE customers would now receive the same export rate as non-CARE customers or some other export rate altogether



System sizing and Net Surplus Compensation

- + Under NEM 2.0, if customer's solar system produces electricity in excess of their on-site load over the 12-month "Relevant Period," excess generation is paid at *Net Surplus Compensation*
 - Under NEM 2.0, excess generation is not calculated independently for each TOU period
- + Indicate any proposed change to solar system sizing and/or treatment of NSC
 - Proposals may specify the minimum solar system size
 - Proposals may change the threshold beyond which exports would receive Net Surplus Compensation instead of the export rate
 - Proposals may change the timeframe for the Relevant Period
 - Proposals may suggest that excess generation be calculated separately for each TOU period



Hourly self-consumption rate (optional) (\$/kWh)

- + Unless specified, assumption is that self-consumption of on-site generation results in no charges for imports and no credits for exports
- + A number of proposals include an hourly self-generation rate separate from import rate
 - *The \$/kWh rate paid by the customer for consumption of self-generated power on an hourly or subhourly basis*
- + Proposed self-consumption rates must be specified for each IOU and TOU period



Customer charge (optional) (\$/month)

- + *A fixed \$/month customer charge that is independent of consumption, demand, or solar system size*
- + **This and other charges may vary for different kinds of customers and in different years. For all such charges, please indicate:**
 - Any differences for a CARE vs. Non-CARE customer
 - Any differences for a solar vs. solar+storage system
 - Any differences for a new customer in 2023 vs. 2030 (e.g., due to a “glide path”)



Minimum bill (optional)

- + *A fixed \$/month minimum bill*
- + **Minimum bill may be fixed \$/month for all customers**
- + **Alternatively, this may be tied to solar system size**
 - If so, select the \$/kW AC-month as the “unit”
- + **Indicate any distinctions for different kinds of customers and in different years**



Solar system fixed charge (optional) (\$/kW AC-month)

- + *A monthly fixed charge based on the size of the customer's solar system***
- + Indicate any distinctions for different kinds of customers and in different years**



Upfront incentive (optional) (\$)

- + A one-time, *upfront incentive paid to new solar or solar+storage customers*
- + Indicate any distinctions for different kinds of customers and in different years



Self-generation incentive (optional) (\$/kWh of customer generation)

- + *A self-generation incentive paid as \$/kWh of solar system generation*
- + **The Market Transition Credit (MTC) proposed in the January 2021 E3 NEM successor white paper is an example of a self-generation incentive**



Other key elements (optional)

- + Any components of the successor tariff not captured in sections of the template should be indicated here
- + Additional information or suggestions not directly related to the tariff for a new customer are beyond the scope of the Customer Bill Calculator and will not be considered
 - For example, do not provide recommendations on future treatment for existing NEM 2.0 customers



Transitional rates: 2030 phase (optional)

- + Some proposals include a step-down in rates and/or other tariff components based on the adoption of customer solar or solar+storage
- + If a proposal includes phases or tranches based on the growth of customer solar or solar+storage, indicate the phase or tranche anticipated for each IOU in 2030
- + This will be used to determine the appropriate export rate and other components for a new customer in 2030



Further questions

- + If you have further questions that you need answered in order to complete the template, please email aryeh.goldparker@ethree.com
 - cc Christopher.Westling@cpuc.ca.gov
 - Include “NEM Template” in the subject line



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Thank you

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