

SEIA Comments on Renewable Energy Costs

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The Solar Energy Industries Association (SEIA)¹ is pleased to provide the following written comments on issues discussed at the May 22, 2012 lead commissioner workshop on renewable energy costs. SEIA focuses its comments on the questions addressed by the third panel at the workshop, on rate design policies. In particular, SEIA addresses Question 15 of the workshop agenda, as well as the comments at the workshop, concerning the ratepayer impacts of net energy metering (NEM).

NEM Subsidies. SEIA first responds to Southern California Edison's workshop presentation, which asserts at page 4 that there is an existing NEM subsidy of \$50 million per year from SCE's customers alone, and that this subsidy is expected to grow to \$250 million per year when SCE's installed NEM solar capacity reaches 5% of its system peak demand from the 1% of peak demand today. Existing studies of NEM, as well as recent developments in electric rate design and renewables costs, do not support SCE's claims that there is a NEM subsidy of this magnitude. In fact, there does not appear to be a significant cost from NEM at all, as explained below.

In 2009, the California Public Utilities Commission (CPUC) retained the Energy and Environmental Economics (E3) consulting firm to prepare a report to the Legislature on the cost-effectiveness of NEM (CPUC E3 NEM Report).² This is the most comprehensive study to date on the economics of NEM; it calculated that the net cost of NEM for the full development of the California Solar Initiative (CSI) would be approximately \$137 million per year *for all three IOUs combined*, or just 0.38 percent of projected IOU revenues in 2020.³ This is hardly the sort

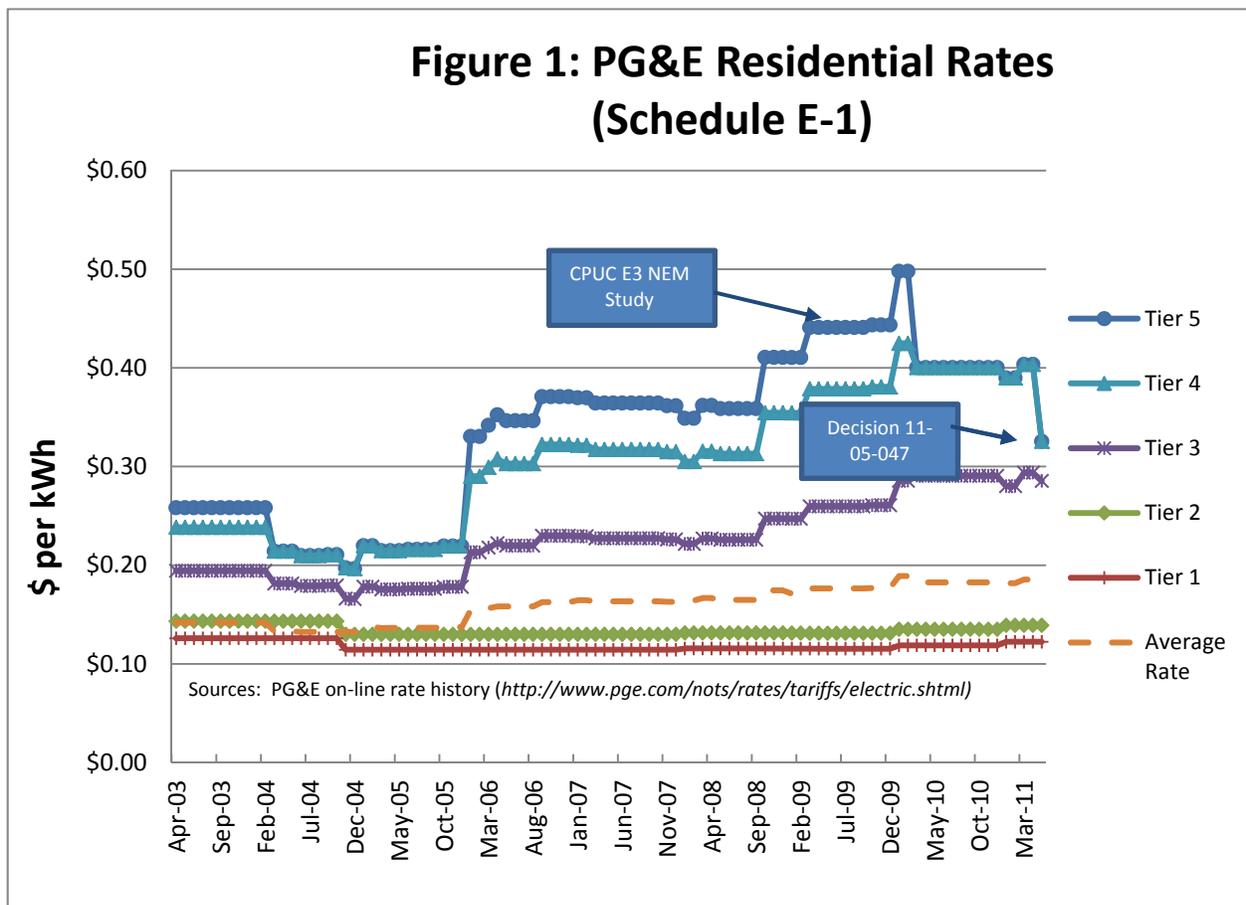
¹ The Solar Energy Industries Association is the national trade association of the United States solar industry. Through advocacy and education, SEIA and its 1,100 member companies work to make solar energy a mainstream and significant energy source by expanding markets, removing market barriers, strengthening the industry, and educating the public on the benefits of solar energy. These comments represent the position of the Solar Energy Industries Association as an organization, but not necessarily the views of any particular member with respect to any issue.

² *Net Energy Metering Cost Effectiveness Evaluation*, (E3, March 2010). This report, as well as the CPUC Energy Division's introduction to this study, are available at http://www.cpuc.ca.gov/NR/rdonlyres/0F42385A-FDBE-4B76-9AB3-E6AD522DB862/0/nem_combined.pdf.

³ CPUC E3 NEM Report, at page 8, Table 5.

of cost shift that would result in the “death spiral” which Dr. Borenstein unrealistically posited at the workshop, where adoption of solar causes substantially reduced utility sales, raising rates and resulting in even greater solar adoption. California has about 1 GW of installed PV capacity today; even at 5 GW of capacity, PV would produce only about 10,000 GWh per year, or less than 4% of 2010 statewide demand of about 270,000 GWh.

The CPUC E3 NEM Report determined that 87% of the subsidies or cost shifts from NEM were in the residential market, with fully two-thirds of this residential cost shift occurring in PG&E’s market as a result of its high upper tier residential rates.⁴ In 2008-2009, PG&E’s highest Tier 5 residential rate was well above \$0.40 per kWh, peaking at \$0.50 per kWh. Since then, in D. 10-05-051 and D. 11-05-047, the CPUC has ordered PG&E to eliminate its highest Tier 5 rate and has lowered PG&E’s Tier 4 rate substantially. These changes are shown in **Figure 1** below. As a result of these significant PG&E residential rate reductions, the costs of NEM today are certainly lower than reported in the CPUC E3 NEM Report.



⁴ CPUC E3 NEM Report page 7, Table 3. In 2009, PG&E’s highest fifth tier rate was well above \$0.40 per kWh, peaking at over \$0.50 per kWh. The residential market accounts for only one-third of solar capacity under the CSI; the CPUC E3 NEM Report showed only small cost shifts among non-residential commercial, governmental, and non-profit NEM customers who comprise two-thirds of net-metered CSI capacity.

In addition, the benefits of net-metered power are higher than calculated in the CPUC E3 NEM Report. In that study, E3 calculated the benefits of NEM power exported to the grid using an avoided cost model based on short-term market prices until 2015 and new fossil resources thereafter.⁵ The post-2015 costs for new fossil resources were similar to the Market Price Referent (MPR) which the CPUC has used as the cost benchmark for the Renewables Portfolio Standard (RPS) program. SB 2, the state's 33% RPS legislation, directed the CPUC to replace the MPR with a benchmark for the RPS program based on the costs of renewables.⁶ Projections of the costs of RPS power are generally above the MPR.⁷ In the light of SB 2, NEM power exported to the grid avoids central station RPS renewables at a higher cost than either E3's mix of market and fossil resources or the full MPR. As a result, the benefits of NEM generation exported to the grid are higher than reported in the CPUC E3 NEM Report.

For these reasons, the net impacts (costs less benefits), if any, of NEM are well below even the small impacts calculated in 2009 in the CPUC E3 NEM Report, and SCE's claims of large cost shifts are overstated many times over.

Importance of Rate Design. NEM is a foundational policy for the state's solar photovoltaics (PV) market, and has been instrumental in its growth and success. NEM is a simple billing arrangement that has been essential to consumer acceptance of solar PV and to the success to date of the CSI. Consumers understand the idea of running the meter backward, and the simplicity and understandability of NEM are an essential element in marketing DG systems to potential customers. NEM's simplicity ensures that consumers who are considering whether to buy solar or other distributed generation (DG) systems understand how those systems will impact their energy bills. In contrast, it would be much more confusing if consumers with DG systems received different prices for their energy imports versus exports. The fact that 43 states and the District of Columbia have followed California in adopting the use of NEM attests to the attractiveness of NEM as a key component in encouraging the use of DG.⁸

SEIA agrees with Dr. Borenstein's comments at the workshop that the problem that California must confront is how to change the increasing block residential rate design, not how to change net metering. The CPUC is expected soon to initiate a rulemaking proceeding on electric rate design, which SEIA hopes will be the forum for a measured transition to new rate design policies that will bring residential electric rates closer to costs and thus eliminate any question of cost shifts resulting from NEM. For example, encouraging the greater use of residential time-of-use (TOU) rates is one means both to move rates closer to costs and to recognize the value of DG systems that export power on sunny afternoons when the value of those exports to the grid is the highest. SEIA believes that encouraging greater customer understanding and use of TOU rates – and thus moving the rates paid by all customers closer to costs – is far preferable than divisive debates over narrow measures aimed specifically at NEM

⁵ CPUC E3 NEM Report, Appendix A, Figure 9, page 13.

⁶ See P.U. Code Section 399.15[c][2].

⁷ See workpapers for the IOU LTPP Testimony (*LTPP_EM_C_07-01-2011.xlsm*), comparing system average electric rates for 2011-2030 between the CPUC Trajectory and All-Gas cases.

⁸ See <http://www.dsireusa.org/summarymaps/index.cfm?ee=1&RE=1> . Three other states allow utilities to offer net metering on a voluntary basis.

customers, such as San Diego Gas & Electric 's "network use fee" which the CPUC recently and correctly rejected. SEIA is committed to working constructively with all stakeholders in any future CPUC efforts in this rulemaking.

Commercial & Industrial Rates. SEIA agrees with the apparent consensus at the workshop that the state's commercial & industrial (C&I) rates are generally close to cost-based, and thus with respect to NEM do not present the same issues as residential rate design. As noted by the utility representatives, C&I customers have installed the majority of the net metered solar PV capacity in the state. Under the CSI, one-third of state's net metered capacity is residential and two-thirds C&I (split equally between commercial and government/non-profit).

SEIA also appreciates the comments of Russ Garwacki of Southern California Edison (SCE) that cost-based C&I rate designs can be developed which encourage large customers to install renewable DG. A good example of such cost-based rates is SCE's Option R rates, which provide reduced demand charges but higher TOU energy rates for C&I customers who install on-site solar capacity. SEIA has worked closely with SCE in the development of its Option R rates, and urges the Commission to encourage the CPUC to adopt Option R-type C&I rates for those investor-owned utilities, such as Pacific Gas & Electric, which have yet to do so.

SEIA appreciates the opportunity to provide these comments to the Commission.