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To: Members of the South Carolina CECAC Energy Supply TWG
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Subject: Capital Cost Projections and the Federal Investment Tax Credit for PV

This memo summarizes CCS’s findings and recommendations on capital cost reductions and the federal investment tax credit for photovoltaic (PV) generation resources for homes and businesses.

Capital Cost Projections for PV

We identified a number of sources that project greater capital cost reduction for PV than currently assumed for the analyses of policy options ES-1, ES-3, and ES-8. These reductions and their sources are summarized in Table 1. The last column of Table 1 shows the projected percent reduction in capital costs over the time period indicated.

Table 1. Comparison of PV Cost Projections

	Scenario	Time Period	Cost Reduction		Unit	% reduction
DOE/EERE website ¹	n/a	2008-2020	3.5	- 2	\$/kW	43%
US DOE/EERE 2007 ²	Baseline	2007-2015	27.5	- 14	cents/kWh	49%
	Accelerated	2007-2015	27.5	- 10	cents/kWh	64%
SEIA 2004 ³	Baseline	2010-2020	4.87	- 3.76	\$/kW	23%
	Accelerated	2010-2021	4.65	- 3.01	\$/kW	35%
Prometheus Institute ⁴	n/a	2008-2015	5.75	- 3	\$/kW	48%
AEO 2007 ⁵	n/a	2010-2020	4105	- 3569	\$/kW	13%

¹DOE/EERE website. n.d. "Costs of Solar Power from Photovoltaics," available at http://www1.eere.energy.gov/tribalenergy/guide/costs_solar_photovoltaics.html

²DOER/EERE 2007. Solar America Initiative: A Plan for the Integrated Research, Development, and Market Transformation of Solar Energy Technologies, Draft Paper, February 5, 2007, available at http://www1.eere.energy.gov/solar/solar_america/publications.html

³SEIA (Solar Energy Industries Association) 2004. Our Solar Power Future: the U.S. Photovoltaics Industry Roadmap Through 2030 and Beyond, available at <http://www.seia.org/roadmap.pdf>

⁴Personal contact with Travis Bradford at Prometheus Institute (<http://www.prometheus.org/>)

⁵Energy Information Administration, U.S. Department of Energy. *Annual Energy Outlook 2007*. Available at: <http://www.eia.doe.gov/oiaf/archive/aeo07/index.html>.

Based on those sources, we recommend revising the analyses to reflect a 45% capital cost reduction between the current year and 2020 for PV. (The draft analyses assume a 13% reduction by 2020 based on the PV cost assumption in EIA’s AEO 2007.)

Federal Tax Credit for PV

New photovoltaic resources currently receive a federal investment tax credit of 30%. The draft analyses assume a 15% investment tax credit for PV throughout the study period due to uncertainty in the future availability of this incentive. However, there now appears to be greater certainty that the federal tax credit will be extended. For example, the U.S. Senate just adopted the Cantwell-Ensign amendment (S.Amdt.4419) by a vote of 88-8, extending the commercial solar ITC by 6 years, residential solar ITC by 1 year, and lifting the cap on residential PV. Thus we propose to assume a 30% tax credit until 2012 declining gradually to 15% by the end of 2020. This is consistent with the tax credit assumption used for RCI policy options analysis.