VOTE SOLAR Analysis of California Solar Initiative Benefits

Summary of Assumptions and Results

Assumptions	
Start Year of Program	2006
Societal Discount Rate	5%
Solar Capacity Factor (ac)	18%
Operational Lifetime (years)	25
Energy % Generated Summer On-Peak	26%
Energy % Generated Summer Partial Peak	38%
Energy % Generated Winter Partial Peak	37%

Proposed Budget and Solar Installations			
Total Installed Solar by 2016 (MW)		3,073	Megawatts
Total Program Budget	$	3,150	Million
Total Solar Installed as a result of CSI Market Transformation (2006-2026)		10,973	Megawatts

Assumptions: Avoided Electric Generation Costs ($/kWh)

Avoided Costs of Solar Power	Avoided Cost Cases		
	Low	Medium	High
Summer Peak	$ 0.11	$ 0.23	$ 0.32
Summer Partial Peak	$ 0.06	$ 0.08	$ 0.10
Winter Partial Peak	$ 0.06	$ 0.07	$ 0.10

Results: Benefits of Avoided Electricity Purchases Over 3 Analysis Horizons

NPV Benefits of CSI in Millions of 2005 Dollars, based on Avoided Cost Cases ($Millions)	Avoided Cost Cases		
	Low	Medium	High
1. NPV benefits of 25 years of electricity production from solar installed during CSI (2006-2016)	$ 1,217	$ 3,134	$ 5,195
2. NPV benefits of 25 years of electricity production from solar installations as a result of CSI (2006-2026) (21 years of installations)	$ 7,340	$ 12,574	$ 18,205

Results: Environmental and Job Benefits

Avoided Carbon Dioxide Emissions and Job Creation	PV Installed 2006-2016	PV Installed 2006-2026	
Carbon Dioxide Emissions Avoided	52,766,066	188,419,746	Tons CO2
Equivalent Cars Removed From Roads	1,055,321	3,768,395	Cars
Nitrogen Oxide Emissions Avoided	27,255	97,324	Tons NOx
Manufacturing Job-Years Created	19,083	68,142	Job-Years
Operations/Maintenance Job-Years Created	3,687	13,167	Job-Years

Conclusions:

Taking into account market transformation is the most appropriate way to analyze overall benefits to electric customers from avoided electric generation.
Market transfomation illustrates the benefits of using a declining rebate program to establish a self-sustaining, customer financed solar market.
Such a market will generate very valuable, pollution-free energy during peak demand periods requiring no rate recovery of system costs.
Depending on the value assumed for of the avoided generation costs, the net benefits to customers range from $1.2 to $18.2 billion in 2005 dollars.
Regardless of the value of avoided generation costs, the creation of a self-sustaining PV industry in California will yield billions of dollars in benefits

Notes

Low avoided cost values are derived from Draft Resolution E-3942 Regarding 2004 Market Price Referent filed 7/5/05
Medium avoided cost values are from the American's for Solar Power 4/13/05 filing to CPUC Proceeding 04-03-017
High cost avoided cost values are from the Vote Solar 4/28/05 filing to CPUC Proceeding 04-03-017