



The Role of SGIP in a Sustainable and
Affordable Energy Future

Marcel Hawiger, Energy Attorney

TURN – A Consumer Advocacy Organization

- Representing Residential and Small Commercial Utility Customers Since 1973
 - Founded by legendary advocate Sylvia Siegel
 - Approximately 20,000 members statewide
 - Alliances with numerous consumer and environmental justice groups
- Non-Profit Consumer Advocacy
 - 15 staff, including 7 energy/telecom attorneys, community organizer, etc.
- Advocacy
 - Litigation at the California Public Utilities Commission
 - Legislative work in Sacramento
 - Community organizing with allies



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- SGIP has gone through three main phases since 2001, including valuable modifications in SB 412 and CPUC Decision 11-09-015 implemented in 2012.
- Presently, SGIP predominantly subsidizes Bloom Energy, GE, Tesla and Core States Construction. The primary technologies are fuel cells using natural gas and battery storage associated with solar PV systems.
- SGIP customer-side projects do not assist with current system needs for flexibility and ramping, and are very expensive methods of GHG reduction. Energy efficiency, utility renewable energy procurement and the new mandate for utility storage procurement are all more cost-effective.
- Residential ratepayers do not benefit from subsidies.
- No evidence of reduced system costs (market transformation).
- SGIP should not be reauthorized, or at minimum funding should be reduced and eligibility limited to renewable technologies.



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In 2001-2006, SGIP Promoted Solar PV and Internal Combustion Engines

Technology	Incentive Paid	Capacity [kW]	\$ per KW
Photovoltaic	\$478,052,658	144,311	\$3,313
Internal Combustion	\$86,720,611	145,325	\$597
Fuel Cell Electric	\$32,239,816	10,350	\$3,115
Microturbine	\$20,094,826	22,968	\$875
Gas Turbine	\$6,564,285	26,451	\$248
Fuel Cell CHP	\$5,617,357	2,250	\$2,497
Wind Turbine	\$993,171	875	\$1,135
Grand Total	\$630,282,724	352,529	\$1,788



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In 2007-2010, SGIP Became a Subsidy Mechanism for Fuel Cells Using Natural Gas

Technology	Incentives (2007-2013)	Rated Capacity [kW]	\$/kW
Fuel Cell Electric	\$236,871,580	64,510	\$3,672
Fuel Cell CHP	\$44,197,500	13,715	\$3,223
Wind Turbine	\$26,057,676	21,888	\$1,191
Internal Combustion	\$9,601,600	11,940	\$804
Storage	\$5,904,444	2,914	\$2,027
Microturbine	\$2,022,200	2,061	\$981
Pressure Reduction Turbine	\$625,000	500	\$1,250
Gas Turbine	\$600,000	4,394	\$137
Grand Total	\$325,880,000	121,921	\$2,673



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SGIP 2007-2010: Subsidy Program for Bloom Energy Corporation

Manufacturer

**Incentives
(2007-3Q2013)**

Bloom Energy Corporation	\$170,068,200
Fuel Cell Energy	\$43,875,000
UTC Power / ClearEdge	\$16,502,000
GE Energy	\$10,801,000
Mitsubishi Power Systems	\$5,250,000
All Others	\$18,912,476
Total	\$265,408,676



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SGIP From 2011: Subsidy for Bloom Energy,
GE Energy and Tesla Motors

Manufacturer	SGIP Incentives In Progress
Bloom Energy Corporation	\$116,676,100
GE Energy	\$34,723,660
Tesla Motors Inc	\$26,184,124
Stem Inc	\$9,362,448
Caterpillar	\$6,293,000
All Others	\$62,667,184
Total	\$255,906,516

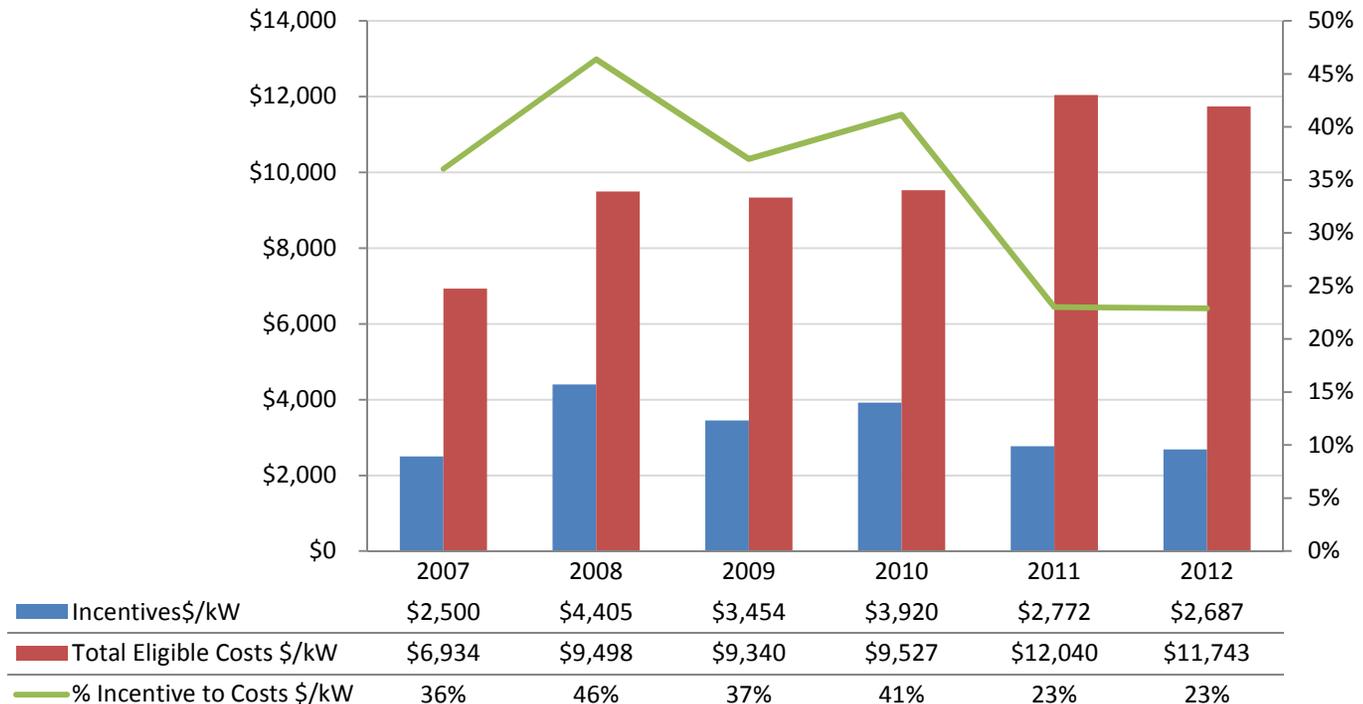


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Market Transformation: NO Evidence of Declining Costs for Fuel Cells

Fuel Cell Incentives and Costs \$/kW





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SGIP – Residential Customers Pay In, But Get No Benefits

	2007-2013	% Of Incentives
	PAID	
Commercial	\$187,632,676	70.70%
Government	\$37,089,000	13.97%
Non-Profit	\$955,800	0.36%
Residential	\$712,500	0.27%
(FIELD blank)	\$39,018,700	14.70%
Total	\$265,408,676	



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But SGIP Is Not Cost Effective

- Emissions reductions cost about \$311/ton, versus carbon price of about \$10-\$15/ton presently.
- Peak demand reduction benefits of only \$7 mm
- Most of the peak reductions and energy shown in the Itron Report are from the legacy dirty internal combustion engines. Only 30% of total energy in 2012 from renewable projects.
- Incentives cost about \$2,200/kW for systems that cost about \$6000-\$8000/kW; compared to system costs for large wind and solar of \$2000-\$4500/kW.
- Little evidence of decreased costs.



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Is There A Continuing Need for SGIP?

- Peak Demand Reduction for Reliability
 - System peak demand is not a key reliability issue due to “resource adequacy” rules
 - Key problems – addressing steep ramp due to solar output (duck curve) and meeting local reliability due to OTC retirement and SONGS
 - SGIP projects not useful to address these problems. Customer-side projects provide no flexibility benefit to CAISO.
- GHG Reduction
 - SGIP funds the most expensive technologies (fuel cells and batteries) that achieve lower GHG reductions than renewables (solar/wind/etc.)
- Distributed Generation - Why should residential ratepayers pay for fuel cells and batteries for state agencies and private companies? Why should electric ratepayers subsidize Bloom, GE, Tesla and Core States Construction with no equity stake?
- Wholesale procurement methods for all technologies – RAM, Storage Procurement, RPS – better use of ratepayer money.