

Memorandum



Date: March 8, 2013

To: Dorothy Duda, Katherine MacDonald, and Scott Murtishaw

From: Energy Division – Ehren Seybert, Melicia Charles

Subject: Self-Generation Incentive Program Budget Report, Pursuant to D. 11-12-030, OP 2

Background and Overview

The CPUC's Self-Generation Incentive Program (SGIP) provides financial incentives for distributed energy systems installed on the customer's side of the utility meter. In September 2011, the Commission adopted decision (D.) 11-09-015, which modified the program pursuant to Senate Bill (SB) 412 (Kehoe, 2009) to support technologies that achieve targeted reductions in greenhouse gas (GHG) emissions. Qualifying technologies include wind turbines, waste heat to power technologies, pressure reduction turbines, internal combustion engines, microturbines, gas turbines, fuel cells, and advanced energy storage. Prior to the adoption of D.11-09-015, the SGIP was temporarily suspended in order to preserve the program's limited budget while the Commission implemented SB 412.

In December 2011, CPUC D.11-12-030 authorized \$83 million in annual SGIP funding for program years 2012, 2013 and 2014. D.11-12-030 also directs Energy Division (ED) staff to submit a SGIP budget report to the assigned Administrative Law Judge (ALJ) and Commissioner by March 15, 2013, with recommendations on any adjustments to the SGIP budget for 2013 and 2014.¹

Pursuant to D.11-12-030, OP 2, Energy Division staff prepared and reviewed SGIP data on participation levels, spending patterns by eligible technologies, and the use of carryover funding from prior years - included in this report as Attachments A-C.² Based upon available data, Energy Division recommends maintaining the \$83 million annual SGIP budget for 2013 and 2014, and makes the following observations:

1. Carryover funding from prior years has been reduced from \$165 to \$84 million since the adoption of D.11-09-015.

¹ D. 11-12-030, Ordering Paragraph (OP) 2 specifically directed ED to "review Self-Generation Incentive Program (SGIP) participation, spending patterns by eligible technologies, and the use of carryover funding from prior years and prepare an SGIP budget report with recommendations on any potential adjustments to the SGIP budget for 2013 and 2014. Energy Division shall submit the report to the Administrative Law Judge (ALJ) and assigned Commissioner no later than March 15, 2013." (pp.8-9)

² Data as of Feb. 20, 2013. Source: SGIP Online Database:

https://www.selfgenca.com/public_downloads/SGIP_EnergyDivisionBudgetReport_Feb2013.xlsx

2. There was a significant increase in the amount of incentives requested for energy storage technologies and a steady increase in the amount of funding for fuel cells in the 2011/12 period. The program has not received any applications for wind turbine systems sized below 30 kW since the adoption of D.12-05-037.
3. There is a sizeable amount of carryover funding for administration, measurement and evaluation (M&E), and marketing and outreach (M&O) expenses. However, Energy Division staff believes it is premature to transfer these funds until data is available on the costs associated with administering performance based incentive payments.

These points are discussed in more detail below.

1. Carryover funding from prior years has been reduced from \$165 to \$84 million since the adoption of D.11.09-015.

Since the adoption of D.11-09-015 in September 2011, the SGIP has received 770 applications totaling \$236 million³ in incentives. If all of these projects were to complete the application process, the amount of available carryover funding from previous years would be reduced by almost half, or \$82 million above the authorized annual SGIP incentive budget of \$77million⁴ (\$154 million for 2011 and 2012). The vast majority of applications have been reserved within the renewable and emerging budget, accounting for \$223 of the \$236 million in total incentives.

At the time of this report there is no indication of how many of these 770 projects will come to fruition. Of these 770 projects, 17 have been installed, and 3 have received an SGIP incentive. Most projects have two or more months remaining before they reach their reservation expiration date.

In addition, several developers have voiced concern that current metering requirements are a barrier to small (< 30 kW) energy storage participation in the SGIP, and may lead to the cancellation of a number of the 2011/12 energy storage applications. Because energy storage is currently unable to participate in net energy metering (NEM), applicants are responsible for all storage-related interconnection and metering fees under Rule 21. Energy Division staff has been working with developers and the utilities to explore potential opportunities to minimize these costs - such as using Smart Meters in place of more expensive meters, and alternative ownership payment structures. However, it remains unclear how much of a cost reduction can be achieved, and how current applications will ultimately be impacted.

2: There was a significant increase in the amount of incentives requested for energy storage technologies and a steady increase in the amount of funding for fuel cells in the 2011/12 period. The program has not received any applications for wind turbines sized below 30 kW since the adoption of D.12-05-037.

With the exception of energy storage, spending patterns by eligible technologies has been fairly consistent with prior years: In 2011, the majority of reserved SGIP funds went to electric only and combined heat and power (CHP) fuel cells (\$45 million, or 58%), followed by internal combustion

³ Includes pending 2012 SGIP applications still under review.

⁴ The total annual SGIP budget is \$83 million. The remaining \$5.81 million is set aside for administration, M&O and M&E expenses.

(IC) engines (\$11 million, or 15%), energy storage systems (\$10 million, or 13%), and wind turbines (\$9 million, or 12%). Accounting for both confirmed reservations and applications under review, the majority of 2012 SGIP funds went to energy storage systems (\$53 million, or 34%), followed by electric only and CHP fuel cell applications (\$52 million, or 33%), IC engines (\$24 million, or 15%) and wind turbines (\$15 million, or 9%).

The bulk of energy storage applications have been submitted from just a handful of developers, each focusing on a particular application/market - ranging from peak load shifting, demand reduction, backup power, and electric vehicle charging. The average energy storage system size is between 5 to 25 kW, which is relatively small compared to the average size of other participating SGIP technologies. This differential largely explains why energy storage requested only 27 percent of the overall funding during 2011/12, but accounted for over 80 percent of the number of applications received.

The SGIP has not received any applications for wind turbine systems sized below 30 kW since D.12-05-037 transitioned the California Energy Commission's (CEC) Emerging Renewable Program (ERP) to SGIP in May 2012.⁵ Additional research may be needed to determine if the current SGIP incentive rate of \$1.19/W is sufficient to create market momentum in the small wind sector.

3: There is a sizeable amount of carryover funding for administration, M&E and M&O expenses. However, Energy Division staff believes it is premature to transfer these funds until data is available on the costs associated with administering performance based incentive payments.

There is currently \$54 million in carryover funding for administration, M&E and M&O expenses, ranging in size from \$3.9 M for CCSE to \$22 million for SCE. As noted in D.11-09-015, since "the introduction of PBI [performance based incentive payments], the SGIP PAs now face a longer administrative commitment,"⁶ which will likely increase administrative expenditures. Because there is no data available on the costs associated with administering PBI payments at the time of this report (relative to upfront fixed incentives), Energy Division staff recommends reevaluating the appropriate levels of Program Administrator's administrative carryover funds for possible modification in the 2015 program year.

⁵ D.12-05-037, Section 7.3.2.2. Prior to D.12-05-037, wind turbine and fuel cell systems sized below 30 kW were incentivized through the California Energy Commission's Emerging Renewables Program.

⁶ D. 11-09-015, p. 57.

Attachment A

SGIP Budget Summary (2006-2013)

Table A-1

SGIP Budget Summary (2006-2013)

Excluding 2013 Authorized Collections

	Level 1 (Photovoltaic)	Level 2 (Renewable/ET)	Level 3 (Non-Renewable)	Admin/M&E	Other	Total
Current Balance	(\$1)	\$57,869,609	\$60,018,257	\$53,631,708	--	\$171,519,573
Pending Reservation		(\$31,539,484)	(\$2,231,000)	--	--	(\$33,770,484)
Wait List				--	--	\$0
2013 Authorized Collections		-	-	-		-
Authorized Carryover	\$22,803,842	\$40,343,832	\$54,301,174			\$117,448,849
Reallocation	(\$22,803,843)	\$17,525,777	\$5,717,083		(\$439,017)	\$439,017
2012 Authorized Collections		\$57,892,500	\$19,297,500	\$5,810,000	\$27,675	\$83,000,000
Authorized Carryover	\$22,803,842	\$88,511,398	\$53,299,100			\$164,614,340
Reallocation		\$9,466,223	(\$9,177,926)		(\$288,297)	\$288,297
Expenditure				(\$1,807,664)		(\$1,807,664)
Reserved Projects		(\$115,526,289)	(\$9,117,500)			(\$124,643,789)
2011 Authorized Collections		\$55,912,500	\$21,037,500	\$6,050,000		\$83,000,000
Authorized Carryover	\$22,803,842	\$74,766,431	\$67,573,267			\$165,143,540
Reallocation		\$33,732,667	(\$33,732,667)			\$0
Expenditure				(\$4,961,337)		(\$4,961,337)
Reserved Projects		(\$73,299,200)	(\$1,579,000)			(\$74,878,200)
Paid Projects		(\$2,601,000)				(\$2,601,000)
2010 Authorized Collections		\$37,350,000	\$37,350,000	\$8,300,000		\$83,000,000
Authorized Carryover	\$22,803,842	\$161,134,538	\$117,558,536			\$301,496,916
Reallocation		\$30,662,769	(\$28,807,769)	\$0	(\$1,855,000)	\$1,855,000
Expenditure				(\$3,284,287)		(\$3,284,287)
Reserved Projects		(\$13,000,000)	(\$9,232,500)			(\$22,232,500)
Paid Projects		(\$141,380,876)	(\$49,295,000)			(\$190,675,876)
2009 Authorized Collections		\$37,350,000	\$37,350,000	\$8,300,000		\$83,000,000
Authorized Carryover	\$22,803,842	\$154,090,838	\$88,669,236			\$265,563,916
Reallocation				\$0		\$0
Expenditure				(\$2,461,101)		(\$2,461,101)
Paid Projects		(\$30,306,300)	(\$8,460,700)			(\$38,767,000)
2008 Authorized Collections		\$37,350,000	\$37,350,000	\$8,300,000		\$83,000,000
Authorized Carryover	\$23,384,085	\$116,192,591	\$54,894,236			\$194,470,912
Reallocation	(\$580,243)	\$3,506,247	(\$3,500,000)	(\$3,909,833)	\$4,483,828	(\$4,483,828)
Expenditure				(\$2,516,854)		(\$2,516,854)
Paid Projects		(\$2,958,000)	(\$75,000)			(\$3,033,000)
2007 Authorized Collections		\$37,350,000	\$37,350,000	\$8,300,000		\$83,000,000
Authorized Carryover	\$65,336,054	\$81,654,476	\$25,745,236			\$172,735,765
Reallocation	(\$41,951,969)	\$2,945,615		\$0	\$39,006,353	(\$39,006,353)
Expenditure				(\$4,481,461)		(\$4,481,461)
Paid Projects		(\$5,757,500)	(\$8,201,000)			(\$13,958,500)
2006 Authorized Collections	\$307,500,000	\$37,500,000	\$37,500,000	\$42,500,000	\$42,208	\$425,000,000
Authorized Carryover	\$124,018,404	\$4,917,827	\$14,630,521			\$143,566,753
Reallocation	(\$217,295,378)	\$57,929,398	(\$14,029,785)	(\$13,337,986)	\$186,733,752	(\$186,733,752)
Expenditure				(\$5,065,592)		(\$5,065,592)
Paid Projects	(\$148,886,973)	(\$18,692,750)	(\$12,355,500)			(\$179,935,223)

* Data as of 2/20/2013. Excluding cancelled applications. Source: SGIP Online Database.

Attachment B

2011/12 SGIP Applications

Table B-1

SGIP Incentives by Technology

Equipment	Paid	Pending	Reserved	Total
2012	\$ 33,770,484	\$ 124,643,789	\$ 158,414,273	
A.E.S.	\$ 13,455,984	\$ 39,582,779	\$ 53,038,763	
Fuel Cell CHP	\$ 1,856,250	\$ 3,991,500	\$ 5,847,750	
Fuel Cell Electric		\$ 45,840,150	\$ 45,840,150	
Gas Turbine	\$ 4,056,000	\$ 1,006,000	\$ 5,062,000	
Internal Combustion	\$ 3,375,000	\$ 20,867,760	\$ 24,242,760	
Microturbine	\$ 1,533,000	\$ 4,336,000	\$ 5,869,000	
Pressure Reduction Turbine	\$ 571,250	\$ 2,393,700	\$ 2,964,950	
Waste Heat to Power	\$ 545,000	\$ 125,900	\$ 670,900	
Wind Turbine	\$ 8,378,000	\$ 6,500,000	\$ 14,878,000	
2011	\$ 2,601,000	\$ 74,878,200	\$ 77,479,200	
A.E.S.		\$ 9,913,600	\$ 9,913,600	
Fuel Cell CHP		\$ 900,000	\$ 900,000	
Fuel Cell Electric	\$ 2,512,500	\$ 41,675,350	\$ 44,187,850	
Gas Turbine		\$ 1,056,000	\$ 1,056,000	
Internal Combustion		\$ 11,426,250	\$ 11,426,250	
Microturbine		\$ 523,000	\$ 523,000	
Wind Turbine	\$ 88,500	\$ 9,384,000	\$ 9,472,500	
Total	\$ 2,601,000	\$ 33,770,484	\$ 199,521,989	\$ 235,893,473

* Data as of 2/20/2013. Excluding cancelled applications. Source: https://www.selfgenca.com/public_downloads/SGIP_EnergyDivisionBudgetReport_Feb2013.

Table B-2

SGIP Applications by Technology

Technology	Applications	Capacity (kW)	Total Incentives (\$)
2012	590	103,757	\$ 158,414,273
A.E.S.	491	27,839	\$ 53,038,763
Fuel Cell CHP	9	2,515	\$ 5,847,750
Fuel Cell Electric	39	17,077	\$ 45,840,150
Gas Turbine	3	15,230	\$ 5,062,000
Internal Combustion	16	18,971	\$ 24,242,760
Microturbine	12	6,465	\$ 5,869,000
Pressure Reduction Turbine	7	2,273	\$ 2,964,950
Waste Heat to Power	3	687	\$ 670,900
Wind Turbine	10	12,700	\$ 14,878,000
2011	180	43,950	\$ 77,479,200
A.E.S.	139	5,277	\$ 9,913,600
Fuel Cell CHP	1	400	\$ 900,000
Fuel Cell Electric	27	17,190	\$ 44,187,850
Gas Turbine	1	4,300	\$ 1,056,000
Internal Combustion	5	5,491	\$ 11,426,250
Microturbine	2	1,033	\$ 523,000
Wind Turbine	5	10,259	\$ 9,472,500
Total	770	147,706	235,893,473

* Data as of 2/20/2013. Excluding cancelled applications.

Source: https://www.selfgenca.com/public_downloads/SGIP_EnergyDivisionBudgetReport_Feb2013.xlsx

Table B-3

Admin. Carryover by Utility (Million)

Utility	Carryover Funds
CCSE	\$ 3.9
PG&E	\$ 18.8
SCE	\$ 22.1
SoCalGas	\$ 8.8
Total	\$ 53.6

** Data as of 2/20/2013. Excluding 2013 authorized collections.
Source: SGIP Online Database*

Attachment C

SGIP Historic Spending Patterns

Table C-1

SGIP Historic Spending Patterns by Technology

Technology	Applications	Capacity (kW)	Incentives
2012	590	103,757	\$ 158,414,273
A.E.S.	491	27,839	\$ 53,038,763
Fuel Cell CHP	9	2,515	\$ 5,847,750
Fuel Cell Electric	39	17,077	\$ 45,840,150
Gas Turbine	3	15,230	\$ 5,062,000
Internal Combustion	16	18,971	\$ 24,242,760
Microturbine	12	6,465	\$ 5,869,000
Pressure Reduction Turbine	7	2,273	\$ 2,964,950
Waste Heat to Power	3	687	\$ 670,900
Wind Turbine	10	12,700	\$ 14,878,000
2011	180	43,950	\$ 77,479,200
A.E.S.	139	5,277	\$ 9,913,600
Fuel Cell CHP	1	400	\$ 900,000
Fuel Cell Electric	27	17,190	\$ 44,187,850
Gas Turbine	1	4,300	\$ 1,056,000
Internal Combustion	5	5,491	\$ 11,426,250
Microturbine	2	1,033	\$ 523,000
Wind Turbine	5	10,259	\$ 9,472,500
2010	156	60,881	\$ 212,908,376
A.E.S.	1	600	\$ 1,200,000
Fuel Cell CHP	41	2,495	\$ 8,137,500
Fuel Cell Electric	106	48,230	\$ 189,987,500
Wind Turbine	8	9,556	\$ 13,583,376
2009	30	12,559	\$ 38,767,000
A.E.S.	1	1,000	\$ 2,000,000
Fuel Cell CHP	11	55	\$ 137,500
Fuel Cell Electric	15	9,900	\$ 34,223,200
Wind Turbine	3	1,604	\$ 2,406,300
2008	7	874	\$ 3,033,000
Fuel Cell CHP	1	5	\$ 12,500
Fuel Cell Electric	5	625	\$ 2,762,500
Wind Turbine	1	244	\$ 258,000
2007	37	18,444	\$ 13,958,500
Fuel Cell Electric	3	1,200	\$ 3,000,000
Gas Turbine	1	4,394	\$ 600,000
Internal Combustion	24	9,564	\$ 6,498,800
Microturbine	7	2,061	\$ 2,022,200
Wind Turbine	2	1,225	\$ 1,837,500
2006	309	86,585	\$ 179,935,223
Fuel Cell Electric	7	5,100	\$ 19,012,500
Gas Turbine	4	13,165	\$ 2,600,000
Internal Combustion	17	10,883	\$ 6,955,750
Microturbine	12	2,933	\$ 2,480,000
Photovoltaic	269	54,504	\$ 148,886,973

* Data as of 2/20/2013. Includes paid, pending, and reserved applications

Source: https://www.selfgenca.com/public_downloads/SGIP_EnergyDivisionBudgetReport_Feb2013.xlsx

Technology	Applications	Capacity (kW)	Incentives
2005	109	50,536	\$ 66,244,503
Fuel Cell Electric	6	3,700	\$ 7,892,500
Gas Turbine	3	9,270	\$ 1,154,129
Internal Combustion	29	21,910	\$ 11,858,000
Microturbine	15	3,388	\$ 3,019,400
Photovoltaic	56	12,268	\$ 42,320,474
2004	379	73,785	\$ 187,367,392
Fuel Cell Electric	3	2,250	\$ 5,577,173
Gas Turbine	1	1,423	\$ 1,000,000
Internal Combustion	49	24,152	\$ 16,859,057
Microturbine	30	5,637	\$ 5,068,986
Photovoltaic	296	40,323	\$ 158,862,176
2003	259	64,080	\$ 103,661,045
Fuel Cell Electric	2	750	\$ 3,375,000
Gas Turbine	1	1,210	\$ 1,000,000
Internal Combustion	53	37,194	\$ 21,335,009
Microturbine	41	5,205	\$ 4,984,540
Photovoltaic	161	18,846	\$ 71,973,325
Wind Turbine	1	875	\$ 993,171
2002	190	56,384	\$ 69,355,735
Fuel Cell Electric	1	600	\$ 1,500,000
Gas Turbine	1	1,383	\$ 810,156
Internal Combustion	54	36,530	\$ 20,628,187
Microturbine	17	2,988	\$ 2,328,423
Photovoltaic	117	14,883	\$ 44,088,969
2001	70	21,159	\$ 23,718,827
Fuel Cell Electric	1	200	\$ 500,000
Internal Combustion	27	14,656	\$ 9,084,608
Microturbine	21	2,816	\$ 2,213,477
Photovoltaic	21	3,487	\$ 11,920,742
Total	2,316	592,993	\$ 1,134,843,073

* Data as of 2/20/2013. Includes paid, pending, and reserved applications

Source: https://www.selfgenca.com/public_downloads/SGIP_EnergyDivisionBudgetReport_Feb2013.xlsx