



BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Policies, Procedures and Rules for the
California Solar Initiative, the Self-Generation
Incentive Program and Other Distributed
Generation Issues.

Rulemaking 10-05-004
(Filed May 6, 2010)

**REPLY COMMENTS OF THE UTILITY REFORM NETWORK
ON STAFF PROPOSAL REGARDING MODIFICATIONS
TO THE SGIP**



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REPLY COMMENTS OF THE UTILITY REFORM NETWORK ON STAFF PROPOSAL REGARDING MODIFICATIONS TO THE SGIP

1 INTRODUCTION AND SUMMARY

Pursuant to the Administrative Law Judge's Ruling Requesting Comments on the Staff Proposal Regarding Modification to the Self-Generation Incentive Program, issued on September 30, 2010, the Utility Reform Network ("TURN") files these reply comments.

TURN filed opening comments on the Staff Proposal on November 15, 2010, in which TURN made the following main recommendations:

- TURN strongly supported the use of the GHG reduction screen for eligibility;
- TURN strongly supported the shift to a performance-based incentive mechanism, including the use of an overall system efficiency condition for annual payments;
- TURN recommended that only 20% of the incentive payment be paid up front;
- TURN recommended that excess sales be limited to 25% in any year but at most 10% for the five-year payment period.

Many parties, representing various technology interests, filed comments. TURN does not believe the comments provided persuasive evidence or rationale to fundamentally change the Staff Proposal. However, parties made several valid arguments that might warrant the following modifications:

- The incentive structure, as well as the tiered rate, might be modified for renewable projects. A higher up-front payment may be warranted based on the higher capital costs of renewable projects which do not incur fuel costs. Such a change should *not apply* to any of the cost of a directed biogas project which reflects the higher fuel price.
- Banking of over- and under-production is reasonable, so long as the total payment at the end of the five years is limited to a 5% bonus.
- The incentives for “directed biogas” should be immediately reduced or eliminated altogether.
- The Commission should expedite the adoption of a Renewable Auction Mechanism in R.08-08-009 that promotes the development of renewable biogas generation at California dairies.

2 The Adjusted Avoided Emissions Factor Is a Reasonable and Practical Method to Ensure GHG Reductions from High Capacity Factor Distributed Resources

SB 412 requires as a condition of eligibility for incentives that the particular resource *will achieve reductions* in greenhouse gas emissions. To implement this requirement, staff compared estimated technology emissions to an avoided emissions factor (“AEF”) for grid power. All parties agreed that this was the proper methodology for ensuring compliance with this primary statutory goal of SB 412.

The ARB adopted an average emissions factor of 0.437 tonnesCO₂/MWh based on the weighted average emissions rates from gas-fired generators in California online from 2002 to 2004. Staff reduced this number to 0.349 tonnesCO₂/MWh based on the

assumption that 20% of electricity would be supplied by clean renewable power under the RPS mandate.

Several parties¹ argued that the reduction in the avoided emissions factor due to the RPS mandate is not appropriate because *renewable resources* will not be displaced by DG.² TURN agrees that *intermittent* renewable resources are non-dispatchable and operate on a must-take basis. *However*, this fact in itself does not mean that distributed resources with high capacity factors will never displace generation that has lower emissions than gas-fired generators that operate on the margin.

TURN believes that the proposed adjustment is a reasonable practical method to account for the fact that most DG technologies eligible for SGIP (now or in future) are *not peaking technologies*. The data show that these technologies have operated at capacity factors of about 0.4 (microturbine), 0.6 (fuel cell) and 0.8 (gas turbine).³ Most of the CHP technologies seeking re-entry into the SGIP program operate to match on-site electricity and/or thermal demand. Clearly, these technologies may operate at times when the marginal resource may be cleaner than a CCGT – hydro or nuclear. There may thus be periods where hydro resources are not dispatched due to the operation of DG resources.

Moreover, there is now discussion of potential wind curtailments during periods of negative pricing. It is conceivable that baseload DG could contribute to such wind curtailment.

¹ See, for example, Clean DG Coalition, p. 10-11; Bloom Energy, p. 3-6; UTC Power, p. 4-5.

² See, for example, Bloom Energy Comments, p. 4.

³ Itron Report, January 2010, Table 5-1.

The primary objective of SB 412 is to ensure “reductions of greenhouse gas emissions.” Using the average gas-fired emissions factor does not *ensure* that all DG projects *will* result in GHG emissions reductions. The Staff Proposal accomplishes this by lowering the emissions from marginal gas resources by about 20%. This is an easy and practical solution. It is not tenable to assume that DG systems operating at an 80% capacity factor will only displace gas-fired resources. The only other avenue to ensure compliance with the statute would be to require a project-specific analysis of GHG reductions.

3 The Hybrid Incentive Payment Should Be Maintained with Small Modifications

3.1 The Up-Front Incentive Payment Could be Increased for Some Technologies *Only* if There Are Valid Policy Reasons, Including Environmental Performance, but Should Not be Increased Above 50%

Several parties argue for a greater up-front capacity payment than the proposed 25%. There is little persuasive “evidence” that such a payment is necessary for most systems. For example, Bloom Energy argues that fuel cells are “emerging technologies” that have received support since only 2001 and need to become “mature” before switching to a PBI model. UTC notes, however, that “California is without question the most important market for large stationary fuel cells today in the United States, and is also one of the most important on a worldwide basis.”⁴

TURN strongly objects to a blanket increase in up-front capacity payments to all technologies. Any differential in SGIP incentives must be based on justifiable public policy rationales relevant for California. The SGIP statute allows the Commission to

⁴ UTC Power Comments, p. 2.

consider factors such as ratepayer interests, energy efficiency, peak load reduction, load management, and environmental interests in determining the rebate amounts and structure.⁵ Bloom Energy already gets credit as a California manufacturer due to the 20% premium in incentive payments required by §379.6(g).

Being an “emerging technology” does not justify differential payment. The SGIP program was first and foremost an incentive program designed to rapidly promote commercially-available technologies in order to improve reliability and lower peak demand. It has, over time and with legislative amendments, morphed into a program designed to promote clean distributed energy resources installed to meet on-site loads. However, it has never been an R&D program to promote “emerging technologies.” Indeed, the entire rationale for SB 412 was in the opposite direction – to expand SGIP eligibility to non-renewable projects that still reduce GHG emissions. If anything, paying more for “emerging technologies” runs counter to ratepayer interests, one of the factors enunciated in the statute.

The statute allows for differential incentives based on environmental performance, and TURN fully supports the tiered incentive mechanism that provides higher payments for renewable projects.

There may be a valid reason to provide a higher portion of the payment as an up-front capacity payment for renewable projects. These projects have significant environmental benefits; and generally renewable projects have higher up-front capital costs but minimal ongoing variable (fuel) costs. However, any differential for renewable biogas projects should apply *only to on-site biogas projects*. As explained by UTC Power

⁵ § 379.6(e).

and Bloom, any additional project cost for directed biogas due to the “renewable premium” is borne as an annual variable fuel cost, not an up-front capital cost. On-site biogas projects, on the other hand, must make the up-front investment in digester technology.

3.2 Banking of Annual Output Variation is a Reasonable Modification

UTC Power argues that the 5% limit on annual ‘overperformance’ is inequitable and suggests that deviations in annual performance as compared to the expected capacity factor be “banked,” subject to a minimum floor of 50% of the technology-specific capacity factor. In other words, overperformance in one year could balance out underperformance in another year. TURN agrees with UTC that a “banking” system may be an equitable means of compensating for annual variations in output that may result from factors other than system efficiency (economic downturn, etc.). We strongly agree, moreover, that the final true-up payment should be limited by the 5% bonus amount.

3.3 CHP System Efficiency Requirement and Capacity Factors for Annual Payments

TURN emphasized in our opening comments the need to condition each annual payment on system efficiency performance in order to ensure that non-renewable CHP systems really reduce GHG emissions. Several parties commented on this requirement. Tecogen cogently explained that overall system efficiency, not capacity factor, is the driver of GHG reduction. Tecogen expressed strong concerns about reduced payments if a particular CHP project operates at capacity factors lower than the adopted *technology specific* capacity factor. TURN had commented on the problem occurring if a project operates at a much higher capacity factor than the adopted technology-specific capacity factor.

Tecogen argues that it may be undesirable to operate certain projects at a higher electrical capacity factor if overall system efficiency is thereby reduced due to variable thermal demand. On the other hand, TURN emphasizes that ratepayer subsidies from the SGIP program should only pay for actual electrical energy production. The problem is that any incentive that is calculated *based on installed capacity* will result in over payment by ratepayers if capacity factors are low for a particular project because there is no thermal demand. Ratepayer value is maximized by supporting projects that maximize capacity factors, as long as overall system efficiencies are maintained above a threshold level. TURN also notes that systems that are eligible for excess sales under the AB 1613 program are supposed to be designed to meet the host's thermal load.⁶

TURN appreciates Tecogen's point that from an environmental perspective the goal is to maximize system efficiency. Nevertheless, it is not equitable for ratepayers to subsidize systems that cannot operate to produce electricity due to thermal load variability. In that situation, the customer may need to either reduce their system size, or expect lower incentives for electricity production.

4 The Incentives for Directed Biogas Should be Reduced or Eliminated, and On-Site Biogas Projects Should be Promoted Via the Renewable Auction Mechanism

Sustainable Conservation and FuelCell Energy, Inc. offered detailed comments regarding the economics of biogas projects, and the distinction between on-site versus directed biogas. Bloom Energy notes that the adder for directed biogas – which makes a fuel cell eligible for the renewable incentive rate - has contributed to the economics of fuel cell installation in California.

⁶ § 2840.2(a)(2).

Since reading the comments of various parties, TURN has additionally reviewed the data on current SGIP applications. We were shocked to discover that much of the available funding for renewable projects for 2010 has already been reserved. It appears that a vast majority of the reservations – over \$100,000,000 in 2010! - are for renewable fuel cells. We surmise that most of these projects are fuel cells powered by “directed biogas.”

TURN is especially concerned that fuel cells using biogas injected somewhere in the western United States (likely from states such as Texas and Louisiana) are proliferating, while at the same time the methane generated by California dairies is contributing to global warming. Sustainable Conservation explained the difficulty of developing on-site biogas projects at California dairies. Most importantly, Sustainable Conservation explains that the inherent economics of a dairy digester project necessitates sizing the project to meet the *on-site fuel supply* rather than to serve on-site load. In that sense, a dairy biogas project is inherently more akin to a renewable generator trying to maximize the renewable resource, rather than a self-generator trying to meet on-site load. FuelCell Energy discussed the economics of on-site biogas fuel cell projects (presumably at landfills or wastewater treatment facilities) and similarly recommended allowing the generation to serve the load of other facilities or a public agency. Indeed, TURN presumes that public agencies with on-site biogas fuel cells would already qualify as eligible renewable generators for the local government renewable self-generation program (§§2830 et seq.).

Having reviewed these comments TURN agrees that there are valid policy reasons to support *on-site* biogas projects. The present rules governing SGIP incentives

and export sales do not, however, provide a clear legal path for promoting projects sized to meet fuel source rather than electric demand. Presumably, the present feed-in tariff is insufficient to motivate development of biogas generation. However, the optimal solution is for the Commission to develop expeditiously rules for a “Renewable Auction Mechanism” for in-state distributed generation. As TURN has argued in R.08-08-009, such a mechanism should authorize the utilities to focus procurement for resources – such as wind and biomass/biogas – that represent unmet renewable procurement needs. Procurement of solar distributed generation has already begun pursuant to the large solar programs authorized for all three electric utilities. TURN can envision that a flexibly RAM would promote a separate solicitation for baseload and firm resources, such as biomass and dairy biogas.

The present SGIP rules, however, strongly favor directed biogas projects. In this proceeding the Commission should take immediate steps to eliminate the eligibility of “directed biogas” as a renewable fuel, or at minimum to reduce the premium for directed biogas. From a public policy perspective, California on-site biogas projects involve the reduction of local methane emissions and the additional job creation benefits from the installation of digester technologies. In the long run, the beneficial use of methane generated by California’s numerous dairies offers carbon offset benefits that should allow those projects to compete in a streamlined solicitation for small renewable projects. There is no rational basis for promoting directed biogas that simply results in higher fuel payments to fuel cells to promote digesters in other states.

December 10, 2010

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Larry Wong, certify under penalty of perjury under the laws of the State of California that the following is true and correct:

On December 10, 2010, I served the attached:

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on all eligible parties on the attached list **R.10-05-004** by sending said document by electronic mail to each of the parties via electronic mail, as reflected on the attached Service List.

Executed this December 10, 2010, at San Francisco, California.

 /S/
Larry Wong

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