



DRA

*Division of Ratepayer Advocates
California Public Utilities Commission*

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March 18, 2011

Mr. Damon Franz
Energy Division
California Public Utilities Commission
505 Van Ness Avenue, Fourth Floor
San Francisco, California 94102

Subject: The Division of Ratepayer Advocates' Response to Request for California Solar Initiative-Thermal Program Non-Water Heating, Solar Thermal Technologies Post-Workshop Comments

Dear Mr. Franz:

The Division of Ratepayer Advocates (DRA) submits the following response to one of the questions posed after the February 25, 2011, workshop in this proceeding:

“How should we calculate energy displacement for purposes of paying incentives? Payments can go to any parties involved. Options discussed at the workshop include:”

Up Front: Program Administrators create a simulation tool to predict system performance, and incentives are paid in one lump sum based on that estimate.

Performance-Based Incentive: Pay incentive based on actual metered energy displacement over a number of years. The nominal value of the incentive would be increased to compensate the customer for time-value of money. Metering cost would be born by the applicant.

70/30 true-up: Seventy percent of the incentive would be paid up front, the remaining thirty percent paid would be paid after one year of metering.

DRA favors the use of a Performance-Based Incentive (PBI) that would pay incentives for non-water heating solar thermal technologies based on actual metered energy production at regular intervals over a defined time span. The CSI general market program makes monthly interval payments over five years. DRA recommends using this approach for non-water heating solar thermal technologies.

DRA supports the use of performance-based incentives over up front incentives, because the costs and risks of accurately modeling the energy displacement of non-water heating solar

thermal technologies currently outweigh the administrative burdens that would be reduced by allowing an up front payment. As noted in the February 17, 2011 Staff Paper,¹ one challenge of calculating incentives for non-water heating solar technologies is that “measuring and verifying thermal load, may be even more difficult with non-water heating applications than with SWH [solar water heating].”² If thermal loads cannot be accurately estimated, then it is difficult to model the energy displacement accurately.

Moreover, creating custom models for individual system types may create significant costs to the program. DRA agrees that creating a PBI-type system could avoid expensive custom modeling. Also, relying on metered energy to make incentive payments would reduce the need for highly accurate estimates of expected energy displacement.

DRA is concerned that the difficulties of verifying an applicant’s estimates of building hot water load can greatly affect incentive payments and provide gaming opportunities. By exploiting the difficulty of verifying load, inaccurate inputs can be submitted to the incentive calculator. A PBI incentive structure avoids potential inaccuracies and gaming by paying incentives for actual measured performance.

The 70/30 split incentive solution does not remove the concerns mentioned above regarding issues of gaming, inaccurate modeling, and costly custom modeling solutions for non-water heating technologies. Under this incentive model, 70% of the expected first-year energy savings is calculated using a CSI thermal model called TRNSYS. Whether the thermal program estimates all or part of the expected load does not solve the concerns mentioned. A hybrid up front and performance-based incentive for non-water heating solar technologies only compounds the issues by requiring custom models for each technology, costs of metering, and incentive administration. A PBI incentive will require an output estimate for budgeting purposes; however, the cost of administering this incentive will be less burdensome.

DRA therefore favors the use of a Performance-Based Incentive structure for non-water heating solar thermal technologies. A PBI structure would not exclude different non-water heating solar thermal technologies because of difficulties modeling their energy displacement. Moreover, from the perspective of the ratepayer, incentives would be paid in response to actual performance, while maintaining an incentive for systems to remain installed and operating at their highest performance level even after the initial installation period.

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¹ Staff Paper on Incentives for Non-Water Heating Solar Thermal Technologies, February 17, 2011, prepared by Damon Franz, Analyst, CPUC Energy Division, CSI/DG Section (Staff Paper).

² Staff Paper, p. 6.

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Please contact Junaid Rahman at (415) 703-2256, if you have questions about DRA's comments.

Very truly yours,

/s/ WILLIAM DIETRICH

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cc: Service list for R.10-05-004

WD:JR:jr