

technology specific feed-in tariff. Moreover, many of these biomass sources are found in areas where air quality concerns are of the highest priority. A feed-in tariff enabling fuel cell participation would result in the conversion of many of these methane sources into clean power in areas where the need for emissions mitigation is the most acute. Ultimately, the size of the renewable fuel source should be the fundamental factor in determining the project size, and Policy Path 6 exhibits the most appropriate means of accommodating this variability.

FCE believes that relevant examples from the cited European feed-in tariff programs support the choice of Policy Path 6 as the preferred option. The availability of a technology specific feed-in tariff has enabled FCE to deploy fuel cells in Germany, and we believe this experience enables a better understanding of how similar tariffs could yield benefits for California.

In addition to the successful elements of the German tariff model, FCE further encourages the commission to give consideration to the concept of providing an additional premium for voltage support as currently offered in Spain. Through discussions with several local utility representatives, FCE is aware of a significant need for voltage (or VAR) support throughout critical areas of California's electric grid. Due to the unique operational characteristics of fuel cells, voltage support can easily be provided in key areas of the grid while simultaneously contributing renewable power via the feed-in tariff program. Incorporating VAR support in the tariff model will provide an incentive to customers to site projects where voltage support is needed.

GHG Reductions Supporting AB32

FCE would like to reinforce the fundamental theme cited in the consultant's report regarding expansion of feed-in tariffs as a means of augmenting compliance with California's AB32 objectives. Moreover, FCE would like to emphasize the significance of fuel cells' GHG reduction efficiency as noted in the annual SGIP Impact Evaluations. Based on FCE's success with renewable projects at host customer facilities under the aegis of the SGIP, evaluators have noted that energy from fuel cells has contributed more GHG reductions in tons per MWh than wind and solar technologies combined.¹ Nevertheless, the contributions of fuel cells via the SGIP are limited to smaller host customer sites possessing biogas sources, and energy production must remain on the customers' side of the meter. A technology specific feed-in tariff would enable the proliferation of a greater number of larger fuel cell projects using a wider range of biomass sources that currently are not eligible under the SGIP guidelines.

In considering feed-in tariff design, the Commission should acknowledge the importance of emissions benefits available from fuel cells, especially in areas with severe air quality problems. The conversion of biomass emissions to clean energy via fuel cells simultaneously delivers air quality improvements in affected areas while contributing additional renewable energy toward California's RPS goals.

¹ CPUC Self-Gen Incentive Program Sixth Year Impact Evaluation, Itron, August 30, 2007.

Overcoming Barriers to More Renewable Energy

The consultant's report accurately identifies several common barriers currently inhibiting the broader deployment of renewable energy projects within the state. FCE's fuel cells offer a readily available means of overcoming most of these barriers if the state encouraged installation of these systems by offering a feed-in tariff.

- Siting concerns are easily overcome with the use of fuel cells as they are extremely quiet and can be installed in areas not currently accessible to larger forms of renewable generation technologies.
- Permitting concerns are readily mitigated by FCE's products which are currently certified to CARB 07 standards and are exempt from air permits. Furthermore, FCE products are certified to comply with California's Rule 21 interconnection standards. The inverter-based output of fuel cells facilitates their interconnection without creating phase synchronization concerns for the utility.
- Financing of projects is facilitated by a feed-in tariff as it offers a more attractive option to energy finance entities. FCE has found in financing customer-owned projects participating in the SGIP that the creditworthiness of the host customer frequently functions as a barrier in financing smaller installations. The larger size of projects operating under the aegis of a feed-in tariff and the long-term nature of these contracts will result in greater access to capital.
- Based on their size and unobtrusive operational characteristics, fuel cells are less likely to suffer from the constrained or limited access to requisite transmission infrastructure affecting larger, more conventional renewable projects such as wind farms or concentrated solar plants. Renewable fuel cells can be sited in areas with existing transmission capacity and can immediately begin contributing renewable energy to California's grid while remote transmission issues are being deliberated.
- The constraint of converting limited quantities of sustainable biomass sources is best overcome with the use of fuel cells as they are significantly more efficient than existing combustion-based technologies. For every unit of biogas used in a combustion-based generation system, a fuel cell can deliver 15 to 20 percent more energy with substantially lower emissions.

In closing, FCE wishes to express its thanks to the commission for directing much needed attention toward the issue of expanding the use of feed-in tariffs for smaller renewable energy sources. FCE's sincere hope is that these proceedings will result in the creation of new technology specific feed-in tariffs that will yield substantial contributions of renewable energy through the use of fuel cells in a manner that emulates the successes noted in the European markets.

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Respectfully submitted,

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