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Comment on the Draft 2016-2017 Investment Plan Update: Emerging Opportunities

Additional submitted attachment is included below.

November 13, 2015

Commissioner Jenea A. Scott California Energy Commission 1516 Ninth Street Sacramento, CA 95814-5512

Subject: Comment on Draft 2016/2017 ARFVTP Investment Plan, Docket # 15-ALT-01

Dear Commissioner Scott:

We would like to thank you for the opportunity to provide our feedback and comments on the draft 2016/2017 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program.

Our State is one of the world leaders in the effort to reduce GHG emissions. Although low-carbon and renewable energy fuel use has been growing, fossil fuels still remain the predominant component of the state's transportation sector and economy. As the Nation's Energy Innovation Hub based in California, our objective is to build the scientific and technological foundation for a solar-driven and efficient energy/fuel generation technology that can provide sustainable alternatives to fossil fuels.

Our recommendation is to continue support of the Emerging Opportunities (p. 67) with emphasis on using the funds to make a 100% renewable technology a viable option for the State in the mid- and long-term. The rationale for our recommendation is as follows. There are many technological gaps that still need to be bridged in order to establish a successful renewable energy sector that can initially augment the petroleum-based economy and in the long-term begin to replace the fossil fuels. There is a specific need for research and development that will take "proof-of-concept" laboratory demonstrations to higher Technology Readiness Levels (TRL). The work would focus on the prototypes that can be integrated into the existing infrastructure to operate under realistic conditions. As an example, by leveraging Federal investments the State can significantly advance solar-to-fuels technologies that have the potential to be highly efficient and 100% renewable. Solar hydrogen is one such technology. In addition to favorable sustainability metrics, it can be made to be self-contained, enabling operation in remote areas where access to the energy grid maybe limited.



The draft 2016/2017 Investment Plan provides a unique opportunity for progress in reducing GHG emissions, and we look forward to the continuing our work with CEC on building a new solar-driven fuel technology.

Sincerely Xenia Amashukeli, PhD Deputy Director (Caltech) Joint Center for Artificial Photosynthesis California Institute of Technology 1200 E. California Blvd. Pasadena, CA 91125

