



COCKRELL SCHOOL OF ENGINEERING and COLLEGE OF NATURAL SCIENCES

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July 6, 2016

Honorable Lamar Smith
Chairman
House Committee on Science, Space & Technology
2409 Rayburn House Office Building
Washington, D.C. 20515

Honorable Eddie Bernice Johnson
Ranking Member
House Committee on Science, Space & Technology
2468 Rayburn House Office Building
Washington, D.C. 20515

Re: Support of "Solar Fuels Innovation Act"

Dear Chairman Smith and Ranking Member Johnson:

I write to earnestly recommend that you support the *Solar Fuels Innovation Act*, a bill that is tentatively scheduled to be introduced by the House Subcommittee on Space, Science and Technology on July 7, 2016. This bill will provide some of the vital funding needed to promote basic scientific research and the development of technology involving artificial photosynthesis (i.e., solar fuels) here in our country.

I am a university scientist/engineer who has worked in solar energy research for the past decade and my work has been supported by the US Department of Energy, Office of Basic Energy Sciences. I believe that the next several years offer an opportunity for our country to take a leadership position in the solar fuels arena and that such an investment could provide additional energy security to our nation.

Substantial difficulties remain regarding the commercial implementation of solar fuels technology in the form of cost-effective materials, efficient catalysts, separations, and pilot plant development and the resolution of these problems through further research would be an important achievement. Approximately three-quarters of the energy used in the U.S. involves a fuel of some sort and the demand for fuels continues to grow steadily in the US as well as the rest of the world. Currently, there is no cost-effective way to convert electrical energy to high energy density fuels. However,

there are recent discoveries that show great promise for solar cells to “directly” produce clean fuels (in addition to making electricity). Major scientific and engineering efforts regarding the development of solar fuels technology already exist in Europe and Asia. I believe that it is important for our country to *lead* in the development of solar fuels technology and this will require initiatives such as the Solar Fuels Innovation Act.

I sincerely appreciate your leadership and sponsorship of this important and vital legislation.

Yours truly,

A handwritten signature in black ink, reading "C. Buddie Mullins". The signature is written in a cursive style with a large, stylized "C" at the beginning and a long, sweeping underline.

C. Buddie Mullins

Z. D. Bonner Professorship & Matthew Van Winkle Regents University Professorship
Professor of Chemical Engineering & Chemistry