



UNIVERSITY OF OREGON

College of Arts and Sciences DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

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

Dear Chairman Smith and Ranking Member Johnson,

I am writing this letter in strong support of the “Solar Fuels Innovation Act.” I am a tenured Professor of Chemistry at the University of Oregon and a Senior Editor at the American Chemical Society Journal *Energy Letters*.

Innovation, based on basic-science research, is essential to the continued economic growth of our civilization. “Solar fuels” is a potential game-changing technology that takes as an *input* the largest renewable energy source we have available, the sun, and generates as an *output* the fuels and feedstocks we need for modern civilization. It does so without carbon emissions and in a sustainable, closed cycle. There are no other approaches that can provide this.

There are many routes to a Solar Fuels Technology, but they all need work. Current laboratory demonstrations are too expensive, too low in efficiency, or don’t last long enough, and thus cannot be yet commercialized.

A broad base in basic and applied research is needed to create the science foundation and technology platform that will move solar fuels from laboratory experiments to a commercial technology. There are near-term opportunities that integrate photovoltaic technology with that of water electrolysis to generate renewable hydrogen. There are longer-term opportunities to completely re-imagine energy conversion and storage device architectures.

The United States has been a leader in this area and is poised to continue to lead. This is an important investment for the sustainable economic growth of our country and the coupled preservation of our natural environment and resources.

Sincerely,

Shannon W. Boettcher
Assoc. Prof. of Chemistry and the Materials Science Institute
Senior Editor, *ACS Energy Letters*



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