



U.S. Department of Energy

Categorical Exclusion Determination Form

Program or Field Office: Advanced Research Projects Agency - Energy (ARPA-E)

Project Title: 25A1381 - Affordable Energy from Water and Sunlight

Location: Massachusetts

Proposed Action or Project Description:

American Recovery and Reinvestment Act:

Sun Catalytix intends to commercialize a unique technology which permits the splitting of water, the most abundant liquid on Earth, into hydrogen and oxygen under benign conditions. This discovery, made in the MIT lab of Prof. Daniel Nocera, enables renewable solar and wind energy to be stored for around-the-clock use. Using sunlight and water to store energy is a transformational concept with extraordinary implications for our planet and its inhabitants. This concept holds the potential to significantly impact the ARPA-E mission areas by substantially reducing foreign oil imports and greenhouse gas emissions, while becoming a new platform for U.S. economic and technological leadership and growth. Today's primary sources of energy, fossil fuels, are defined by the global challenges of cost, availability, distribution and national politics, and are encumbered by the need to reduce CO2 emissions. Clean energy from sun and wind is abundant, however such energy is intermittent. The absence of efficient methods for storage have relegated renewable sources to a secondary role in our nation's and the world's energy portfolio. Using readily-available water to create storage for solar and wind energy can overcome this critical challenge and help create a safe, secure, and sustainable energy economy. Anticipated near term applications include reliable off-grid energy systems for remote camps, ~~military operations and the developing world and longer term applications, which include sustainable energy independent homes and solar based~~

Categorical Exclusion(s) Applied:

X - B3.6 Siting/construction/operation/decommissioning of facilities for bench-scale research, conventional laboratory operations, small-scale research and development and pilot projects

*-For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, see Subpart D of 10 CFR 10 21 [Click Here](#)

This action would not: threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders; require siting, construction, or major expansion of waste storage, disposal, recovery, or treatment facilities, but may include such categorically excluded facilities; disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; or adversely affect environmentally sensitive resources (including but not limited to those listed in paragraph B.(4)) of Appendix B to Subpart D of 10 CFR 1021). Furthermore, there are no extraordinary circumstances related to this action that may affect the significance of the environmental effects of the action; this action is not "connected" to other actions with potentially significant impacts, is not related to other proposed actions with cumulatively significant impacts, and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211.

Based on my review of information conveyed to me and in my possession (or attached) concerning the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the proposed action fits within the specified class(es) of action, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer: /s/ William J. Bierbower

Digitally signed by William J. Bierbower
 DN: cn=William J. Bierbower, o, ou,
 email=william.bierbower@hq.doe.gov, c=US
 Date: 2009.12.18 12:16:22 -05'00'

Date Determined: 12/18/2009

Comments:

Webmaster:

