



U.S. Department of Energy

Categorical Exclusion Determination Form

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

Project Title: 25A1318 - Low Cost, High Energy and Power Density, Nanotube-Enhanced Ultracapacitors

Location: *- Multiple States - Massachusetts, Michigan, California, Connecticut, New Hampshire, Maine

Proposed Action or Project Description:

American Recovery and Reinvestment Act:

After a six-year collaborative research at MIT, a paradigm-shifting energy storage technology was developed. It is an ultracapacitor that could offer energy densities approaching those of batteries (33-45 Wh/kg), 20 times higher power densities than batteries (60 kW/kg), millions of full charge-discharge cycles, and projected costs lower than batteries by using only domestically abundant and eco-friendly raw materials. FastCAP SYSTEMS is the company we created to commercialize this breakthrough technology, which within the US grid could enable lower renewable energy prices leading to 140M Tons/yr CO2 emission reductions, and \$11B/yr in fuel savings. FastCAP ultracapacitors, used in automotive, could dramatically reduce the costs of hybrid cars supporting their wide-spreading in the US and leading to fuel consumption reductions of 80M barrels oil/yr (\$4B/yr of fuel savings and 24M Tons/yr CO2 emission reductions) in the US. Within the next ten years, the unprecedented performance, cost effectiveness, and domestically abundant raw materials used for producing FastCAP's storage systems, could transform the automotive and power grid industries in the United States. This is estimated to create 950k new jobs in automotive, and in the electric grid while empowering our Country to achieve energy independence and significantly lower emissions of green house gases while creating industries revolving around green

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 CFR10 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: 2010.01.15 12:57:13 -05'00' Date Determined: 01/15/2010

Comments:

Webmaster:



25A1318 - Proposed Action or Project Description (Continued)

technologies.