

Inventions & Innovation Project Abstract

Production Scale-up of Activated Carbons for Ultracapacitors

Ultracapacitors are prime candidates for use as the load-leveling power source in electric and hybrid vehicles, premium power systems and battery-powered electronics because they can be charged and discharged far faster than batteries, and can be cycled many thousands of times without degradation.

TDA Research, Inc. (TDA) has developed methods to prepare porous carbons with the correct pore size distribution needed to make most of their surface available to the liquid and this makes their performance better than the best commercial carbons. Even more importantly, the process is considerably simpler than previous methods and uses much lower cost feedstocks and processing steps, which greatly lowers the production cost. This combination of improvements should allow us to attain the cost/performance targets that will make ultracapacitors commercially viable power storage devices.

The objective of this project is to develop the process to produce pre-production quantities (0.5 ton/year) of TDA Researches activated carbon. They plan to show that their carbon can be made economically and with high quality. The process they develop can then be readily scaled up to the multiple tons per year of carbon required by ultracapacitor manufacturers.



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