

EnerG2 Awarded U.S. Patent For Ultrapure Carbon Materials

Company's Carbon Technology Platform Has Created 10x Improvement in Purity Level

SEATTLE – April 4, 2013 – EnerG2 (www.energ2.com), the leading manufacturer of advanced carbons for next-generation energy storage, today announced the issuance of U.S. Patent 8,404,384, which recognizes EnerG2's invention of ultrapure high-surface-area carbon. This invention has allowed EnerG2 to manufacture energy storage carbons with a 10x improvement in purity level over other commercial activated carbons.

This ultra-high purity will significantly improve the stability and cycle life of lithium ion batteries, lead acid batteries, ultracapacitors and a variety of other electrochemical energy storage devices. Carbon is a major component of these electrochemical systems and material purity has a large effect on the vital interaction between the electrolyte and electrodes. Even the smallest traces of impurities can degrade device performance.

Says Rick Luebbe, Co-Founder and CEO, EnerG2: "Not surprisingly, EnerG2's Carbon Technology Platform (CTP) is the first to achieve this result. Our platform was designed from its inception to maintain the purity of our precursors as we create and tune the high-surface-area structure in the carbons derived from it. We recognized very early the critical role that ultrapure materials will play in the rapidly evolving and increasingly important markets for energy storage applications."

The Carbon Technology Platform rapidly advances the speed with which materials are developed and manufactured for these applications. The CTP is both technology- and market-neutral, creating an unprecedented and valuable flexibility across a portfolio of energy storage applications. The CTP enables volume production of high performance materials at low cost.

The Importance of High Purity

"High purity is desired for all energy storage applications where carbon is used," explains Dr. Aaron Feaver, Co-Founder and Chief Technology Officer, EnerG2. "And ultrapure materials will become the gold standard as energy storage continues to advance. EnerG2 will be at the forefront of this and many other energy storage innovations as the market keeps growing."

Ultrapurity is important in all electrochemical applications because:

- Impurities catalyze undesirable side reactions between the solid active material and liquid electrolyte resulting in premature failure and safety concerns
- High surface area materials are desired to maximize the productive interaction between the solid electrode and liquid electrolyte but this also increases the detrimental activity of contaminants

- Higher voltage is limited by material purity but is desired in almost every application to maximize energy and power

Adds Feaver: “At EnerG2, we’re pushing the limit on the voltage stability window of electrolytes.”

A Unique Manufacturing Facility

EnerG2 operates the first and only manufacturing facility in the world dedicated to the commercial-scale production of nano-engineered carbon material for high-performance energy storage applications. The 74,000 square foot plant – located in Albany Oregon – came online in February 2012.

The company’s ISO 9001:2008-certified facility in Albany is already producing advanced carbon materials at a multi-ton scale and is supplying commercial quantities to a growing, global customer base. Based on the CTP, this facility delivers on the promise of rapid innovation translated to large-scale manufacturing – all for the purposes of energy storage.