

GMZ Energy Paves the Way for New Generation of Greener Household Appliances, Power Plants and Cars

Material Breakthrough Delivers Affordable and Adaptable Nanotechnology for Cleaner, More Energy-Efficient Products

BOSTON, Mass. — April 17, 2008 — GMZ Energy today announced the availability of a breakthrough material designed for a new generation of cleaner, more energy-efficient products. The new thermoelectric material, nanotechnology-based and environmentally friendly, effectively turns waste heat into electrical power and paves the way for greener consumer and industrial products that can contribute to a more sustainable future.

The GMZ material has a range of capabilities and applications, which includes the ability to optimize cooling in refrigerators and air conditioners and to generate power from heat sources such as automotive exhaust systems. Commercially viable because it is available, cost-effective and easily adoptable, GMZ material can be used in products today to start reducing energy use and therefore greenhouse gas emissions.

“The use of thermoelectric materials in clean technology has long been overlooked due to high costs and low efficiency, and we’ve overcome those challenges,” says Mike Clary, CEO of GMZ Energy. “We’re very excited about the efficiency gains our technology allows, and GMZ Energy is well-positioned to deliver a commercially available material today and help facilitate its use in everyday products.”

In the near-term, the GMZ material will be used in cooling applications and to create products that consume less energy or capture energy that would otherwise be wasted. Longer term, it can provide more advanced solutions, such as cars partially powered by the exhaust system and solar thermal panels with heightened performance.

The GMZ material, currently in advanced testing stage at select U.S. and Asia-Pacific manufacturers and being sampled by early customers, integrates easily into existing and new product designs for a rapid time-to-market. GMZ Energy is producing the material in pre-production volume at its multi-ton manufacturing facility. Previously, producing such a material was complex work with multiple steps of nanotechnology engineering. GMZ Energy pioneered a simple manufacturing process that makes the thermoelectric material cost-effectively and at high enough volume to be commercially viable.

The GMZ thermoelectric material consists of an environmentally friendly alloy. The alloy, bismuth antimony telluride, is crushed into nanoparticles about one-1,000th the width of a human hair which are then heated and pressed back together in GMZ’s innovative manufacturing process. The process disburses the nanoparticles throughout the bulk material, which has the benefit of scattering incoming heat. As a result, the material has the unique power to slow down heat flow while allowing electrical flow, thereby redirecting heat to drive electrons and energy rather than escape. The GMZ material delivers that ability to manage, direct and optimize energy on a new scale to the products that use it.

“The new material is a cost-effective way of improving energy efficiency and will have a significant affect on many product designs,” says Zhifeng Ren, professor of Physics at Boston College and co-founder of GMZ Energy. “In addition to current applications, which are mostly in cooling, the new material will allow us to expand to new applications, such as solar thermoelectric methods in solar fields to generate power.”

The technology to create the thermoelectric material was developed by researchers at MIT and Boston College, two leading U.S. research universities. GMZ Energy was formed by Gang Chen of MIT, Zhifeng Ren of Boston College and CEO Mike Clary to make the innovation market-ready and commercially available for a broad range of business and consumer applications.

About GMZ Energy

GMZ Energy is a pioneer in nanotechnology-based materials, a building block for a new generation of cleaner and more energy-efficient products. The company was founded in 2007 to make a new thermoelectric material widely available for use in consumer and industrial products, contributing to a more sustainable future. Based on a scientific breakthrough at MIT and Boston College, GMZ Energy materials are manufactured in Newton, Massachusetts, where the company is headquartered. GMZ Energy is funded by Kleiner Perkins Caufield & Byers.

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