

University of Oklahoma 'clean energy' technology promises gains in efficiency

February 16 2010

A "clean energy" technology under development at the University of Oklahoma promises transformational advances with products that convert heat directly to useful electrical power.

"OU has one of the few research groups in the world with the expertise to develop the new semi-conductor materials needed for this new class of highly-efficient [thermoelectric devices](#)," according to Patrick J. McCann, lead investigator on the project and George Lynn Cross Research Professor at the OU School of Electrical and Computer Engineering.

Phononic Devices, a pioneer in the field of heat-to-electric energy conversion, is licensing the OU intellectual property and launched its activities with \$2 million in venture capital funds from Venrock and Oak Investment Partners.

"We are in the business of managing heat whether for power generation or removal," says Anthony Atti, president and CEO of Phononic Devices. "We are poised to tap the estimated \$125 billion market for thermoelectric energy harvesting, cooling and refrigeration."

A \$3 million grant from the Department of Energy Advanced Research Projects Agency—Energy (ARPA-E) awarded to Phononic Devices is allowing for further development and [commercialization](#) of this breakthrough technology.

The commercialization of this technology will allow an existing power generation facility to improve efficiency by harvesting [waste heat](#). The technology is like a solar cell, except that it continues to produce clean energy by harvesting heat as opposed to sunlight.

Phononic Devices is collaborating with OU on materials development, the University of California Santa Cruz on modeling and software development and the California Institute of Technology on testing and validation.

Provided by University of Oklahoma

Citation: University of Oklahoma 'clean energy' technology promises gains in efficiency (2010, February 16) retrieved 19 April 2024 from <https://phys.org/news/2010-02-university-oklahoma-energy-technology-gains.html>

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