

Excess heat turns into electricity thanks to Alphabet Energy

With technology that can convert wasted heat into energy on the cheap, Alphabet Energy is poised to bring enormous savings to the masses.

While the basic concept of generating electricity from heat isn't new, making it affordable is. Still in the prototyping phase, Alphabet aims to make its technology applicable to a wide range of products by turning "any temperature gradient into electricity," said Alphabet founder and CEO Matthew Scullin.

The high cost of materials and manufacturing for other technologies has made waste heat recovery impossible to use on a large commercial scale. Alphabet instead uses silicon-based thermoelectric materials that can be used with already established silicon infrastructures. Because of this, the company's technology is the only one on the market that could "lend itself to massive scale," Scullin said.

While initially intended for big clients, Alphabet's technology could one day improve the fuel efficiency of a car by using heat from its tailpipe to power the vehicle.

"Eventually it might even be able to

ALPHABET ENERGY

HQ: Hayward.

Employees: 20.

What it does: Makes inexpensive, waste heat recovery technology.

CEO: Matthew Scullin.

Founded: 2009.

Funding: \$13.5 million in venture capital.

Growth: Grew to 20 employees from six last year.



Scullin

charge an iPod using body heat," Scullin said. In the near term, Alphabet's technology will be used for exhaust gas waste heat recovery for engines, turbines and industrial processes — a potential \$80 billion market worldwide.

Not alone in its mission, Alphabet is backed by some of the area's leading cleantech investors, including Claremont Creek Ventures and TPG Biotech. The company also has \$1.8 million in contracts with the US Army, the US Air Force and the Department of Energy to build specific products.

—Renee Frojo ■