

NEWS >>>

First Tellurium's New Thermoelectric Device Demonstrated at Recent Presentation

With robust applications for solar power, combustion engines, greenhouses and more, the device is described as a “game changer” by industry insider.

Vancouver, BC, Canada, March 13, 2024 – First Tellurium Corp. (CSE: **FTEL**, OTC: **FSTTF**), reports that investors can [view a video](#) of the Company's recent presentation in Vancouver, which included a demonstration of the new tellurium-based thermoelectric generator developed by First Tellurium's 51%-owned thermoelectric-focused research and development company PyroDelta Energy (“PyroDelta”). Patents for the device have been applied for in Canada and the United States.

The generator was presented to the gathering by PyroDelta co-founder Michael Abdelmaseh, who demonstrated how the device generated power from simple changes in temperature, producing energy from the heat of human skin as well as from ice. However, the generator's primary and unique advantages come from its robust construction, low manufacturing costs, light weight and ability to withstand temperature extremes.

“Thermoelectric devices have been around for a very long time,” said Abdelmaseh. “However, none of them are suited for long-term, commercial applications that can tolerate high heat. This device can withstand temperatures of six hundred degrees Celsius.”

“This is a Game Changer”

Don Freschi, President and CEO of Fenix Advanced Materials, an industry expert who supplies metals for other thermoelectric devices, commented to the audience, “This is a game changer. I've never seen anything like this.”

Freschi noted that by using ultra high-purity tellurium, the device could achieve exceptional efficiencies. “Using lower purity metals, we could charge an iPhone with a tiny device,” said Freschi. “But going to high purity (99.99999 percent) tellurium, this device could power a few households.”

“The generator uses mainly tellurium,” said First Tellurium President and CEO Tyrone Docherty. “This is why Michael contacted us. He was previously in talks with a large, European luxury car manufacturer. However, believing that reliable supplies of high-purity tellurium would be key, Abdelmaseh approached First Tellurium to partner for device manufacturing.”

Production-Ready

Abdelmaseh reported that the device is ready to enter production mode. “We are done with the research and development,” said Abdelmaseh. “We have the data that shows the efficiency, and we are ready to produce it.”

As Abdelmaseh explained, PyroDelta has applied for patents on two configurations. One increases the efficiency of solar panels. The other can replace radiators and alternators in internal combustion engines, making them far more efficient and saving fuel.

Solar Panels Far More Efficient and Deployable

For solar applications, the thermoelectric device can expand the range of locations for solar power deployment, especially for sites with low sunlight and long nights. “When solar is combined with thermoelectric, you can cut down drastically the amount of battery storage required,” said Abdelmaseh.

Automobile Alternators Could Become Obsolete

In automotive applications, the device in a pipe form requires a simple retrofit to internal combustion engines without retooling assembly lines. “If you introduce anything disruptive to an existing production line that costs, say, two hundred million dollars,” said Abdelmaseh, “it’s doomed to failure. Existing vehicles can use new thermoelectric radiators, and they will generate electricity just from the heat differential of the hot liquid going through the (thermoelectric pipe) radiator and the air cooling it from the outside.” PyroDelta is presently building a thermoelectric radiator with a 1-kilowatt capacity for vehicle retrofit.

Added Abdelmaseh, “This can make your alternator obsolete. You can use the energy that’s coming out of your radiator to power all your onboard accessories—your AC, your radio, everything. This will raise the efficiency of your vehicle.”

Making Combustion Engines Significantly More Efficient

Abdelmaseh noted that today’s combustion engines generate peak efficiency of about 30-35 percent from a gallon of gas. Replacing the radiator with the thermoelectric pipe device could theoretically add an additional 12 percent in efficiency. Conservatively, Abdelmaseh estimated the added energy would total at least six-to-eight percent.

According to the U.S. Energy Administration (EIA), Americans used about 134 billion gallons of gas in 2022. An eight-percent savings would amount to over 10 billion gallons per year.

Greenhouse, Commercial Properties and Industrial Waste

Abdelmaseh also identified greenhouses, commercial properties, industrial waste and manufacturing plants as potential markets for the thermoelectric device. “Any facility with waste heat can generate electricity and lower power costs,” he said, adding that the robust construction of the device makes it ideal for harsh environments with high extremes of heat and/or cold. “The more it can withstand extremes, the more efficient it becomes,” said Abdelmaseh.

PyroDelta estimates that deploying the device in greenhouses could provide energy savings of 30 percent.

Extending Drone Battery Life

Due to the device’s small size and low weight, another large potential market would be powering drones. According to Abdelmaseh, the device as drone range extender, weighing only 70 grams (2.5 ounces), could extend a drone’s range from 15 minutes to an hour. The increased battery life could open up vast new markets, including defense and a wide range of [commercial uses](#).

Docherty noted, “The small size of this device, which in this case is only about 50 millimeters by 100 millimeters (approximately two inches by four inches), combined with its light weight, makes it ideal for the drone market. However, any market that could benefit from these advantages of size, weight and power generation becomes accessible to us.”

First Tellurium will provide additional information about the device and potential markets in upcoming news releases.

About First Tellurium Corp.

First Tellurium’s unique business model is to generate revenue and value through mineral discovery, project development, project generation and cooperative access to untapped mineral regions in Indigenous territory with sustainable exploration.

Our Klondike tellurium-gold property in Colorado and polymetallic Deer Horn Project in British Columbia anchor a diversified search for metals, working in alliance with Indigenous peoples, NGOs, governments and leading metals buyers. This is the future of mineral exploration—generating revenue by exploring responsibly and leveraging diverse partnerships.

First Tellurium proudly adheres to, and supports, the principles and rights set out in the United Nations Declaration on the Rights of Indigenous Peoples and in particular the fundamental proposition of free, prior and informed consent. First Tellurium is listed on the Canadian Stock Exchange under the symbol “FTEL” and on the OTC under the symbol “FSTTF”. Further information about FTEL and its projects can be found on www.firsttellurium.com.

On behalf of the board of directors of
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