



Hillcrest Accelerates ZVS Inverter Technology Development for Use in Numerous Grid-Tied Applications

- Hillcrest remains focused on deploying its inverter technology into a wide range of grid-tied applications
- A grid-compatible ZVS inverter is expected to bring numerous benefits to V2X charging, renewable energy generation, energy storage and more
- The company continues development of its Enhanced Powertrain Solution, the missing link between EVs and universal, bidirectional charging systems

VANCOUVER, British Columbia, Dec. 08, 2022 -- Hillcrest Energy Technologies (CSE: HEAT) (OTCQB: HLRTF), a clean technology company developing transformative power conversion technologies and control system solutions for next-generation electrical systems, is pleased to announce that with the completion of Hillcrest's first [Zero Voltage Switching \(ZVS\) inverter commercial prototype](#), the company is accelerating its development activities around grid-tied power conversion technologies.

The company is developing the firmware and hardware necessary to deploy its ZVS inverter technology into grid-tied applications, including renewable energy generation, storage, vehicle-to-everything (V2X) and EV charging infrastructure. This opens the door to accelerating progress on the company's grid-tied inverter, multi-level inverter and enhanced powertrain solution, all part of Hillcrest's building block approach to technology deployment. Completion and eventual commercialization of these Hillcrest grid-tied products is anticipated to create multiple future revenue streams for the company.

"Our ZVS inverter technology is intentionally designed to be decoupled from the power control system, making our firmware agnostic to specific applications, allowing us to move quickly to adapt our technology to any motor or grid application," said Chief Technology Officer Ari Berger. "With the completion of our 800-volt, 250-kilowatt traction inverter commercial prototype, we've set the foundation to facilitate our entry into grid-tied applications such as renewable energy generation and storage, as well as e-mobility charging."

The next generation of grid-tied energy systems will require high-frequency power electronics to better enable the smart, grid-forming capabilities of a more distributed, bidirectional system containing a variety of intermittent sources. Hillcrest's ZVS inverter technology is designed to provide new benefits to grid-connected energy systems by offering a more efficient and reliable means of deploying higher switching frequencies. The company's technology will also offer improved output power quality and control benefits not currently available in most electric power systems.

The new firmware and hardware being developed for Hillcrest's grid-focused inverters will also expedite advancements in the development of its patent pending Enhanced Powertrain Solution. This technology is a universal, bidirectional charging architecture that leverages the efficiency and high switching frequency capabilities of the company's ZVS inverter technology to simplify the overall powertrain and charging system. Hillcrest expects this technology to enhance an EVs efficiency, performance and capabilities beyond what is currently available through truly universal, bidirectional V2X charging.

The Enhanced Powertrain Solution is designed so that EVs would no longer require an onboard charger, which is expected to reduce the cost, complexity and weight of an EV powertrain. Onboard chargers are also responsible for charging losses of up to 14% and their removal from the system could result in immediate gains in charging efficiency, offering reduced charging times and costs to the end user.

Additionally, the Enhanced Powertrain Solution is intended to enable DC fast charging of 800V traction systems on existing 400V chargers without the need for an additional onboard DC/DC booster unit. Booster units are typically of a similar size and cost to the EVs traction inverter so eliminating the need for this unit as well as the onboard charger goes a long way in simplifying an EV and providing meaningful reductions in weight and cost.

As the future becomes increasingly electrified, Hillcrest Energy Technologies is reimagining how to manage energy on the grid, use it to charge vehicles and redeploy stored energy to stabilize systems through cutting-edge inverter and EV powertrain technology.

About Hillcrest Energy Technologies

Hillcrest Energy Technologies is a clean technology company developing high-value, high-performance power conversion technologies and digital control systems for next-generation powertrains and grid-connected renewable energy systems. From concept to commercialization, Hillcrest is investing in the development of energy solutions that will power a more sustainable and electrified future. Hillcrest is publicly traded on the CSE under the symbol "HEAT," on the OTCQB Venture Market as "HLRTF". For more information, please visit: <https://hillcrestenergy.tech/>.

CONTACT INFORMATION

Investor Relations

Don Currie

info@hillcrestenergy.tech

O: +1 604-609-0006

Toll-free: 1-855-609-0006

Public Relations

Scott Worden

sworden@lambert.com

O: +1 313-309-9500

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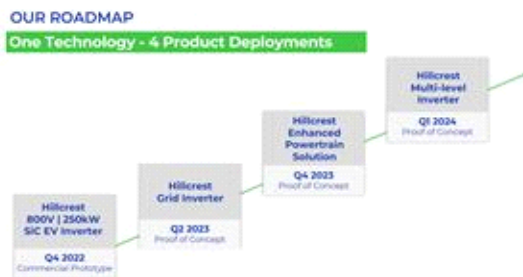
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A photo accompanying this announcement is available at

<https://www.globenewswire.com/NewsRoom/AttachmentNg/2df1a699-44b6-4a63-96b7-1348d6ecc48c>

Hillcrest product development roadmap



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