

Press Release

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ZENERGY POWER

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Zenergy Power plc ('Zenergy' or the 'Group')

Commercial Upgrade and Grid Qualification of World's First HTS Hydro-Generator

Zenergy Power plc (AIM:ZEN.L), the specialist manufacturer and developer of commercial applications for high-temperature superconductive ('HTS') materials, is pleased to announce the following update on its groundbreaking project to build and install the world's first HTS hydro-generator into a commercially operating hydroelectric power station.

On 23 October 2006, Zenergy announced that E.ON Wasserkraft GmbH ('E.ON-WK') would install an HTS hydro-generator powered by Zenergy's proprietary HTS technology. Today, the Group is pleased to announce that E.ON-WK has now informed Zenergy of its desire to upgrade the HTS hydro-generator (which is currently under development for use at its hydro-electric power station in Bavaria, Germany) – on fully commercial terms – from its current electrical capacity of 1.25 MW to that of 1.7 MW. In conjunction with the installation, E.ON-WK will also undertake at their own cost to replace the stations' existing turbines with ones incorporating higher capacity blades specifically to drive the newly installed and upgraded HTS generator.

Accordingly, what began as an R&D project has quickly developed into a significant commercial prospect for the Group.

Further, and following the outcome of an independent third party technical evaluation, E.ON-WK has also informed Zenergy that it wishes to promote the upgraded HTS generator to be the hydropower station's 'pole position' generator. As a result, the generator will now be responsible not just for additional power during peak usage but for the provision of the ongoing 'base load' supply of electrical power to over

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3,000 homes in the local area. As Germany's largest producer of hydro-electric power, E.ON-WK currently produces more than 10 billion kilowatt hours of hydro-electric power per annum.

Hydropower is currently the largest and most mature source of renewable energy and contributes to the production of about 19% of electricity worldwide. On a global basis hydropower is averting the emission of some 808 million tonnes of CO₂ every year. Since generators based on HTS technology can deliver energy at considerably higher efficiencies than existing copper generators, it is estimated that the retrofitting of HTS generators will enable utility companies to generate a further 14 GW of energy 'for free' (and without any further environmental impact) from their existing hydro-damn structures. This is equivalent to the energy produced by approximately 40 conventional power stations, the construction of which could accordingly be deferred through the use of efficient HTS technology; representing a significant contribution to the Kyoto-protocol targets.

The decision by a major utility company of E.ON-WK's standing to use the world's first HTS generator as the 'base load' generator in a commercial power station is considered by the Board to be indicative of two major endorsements for the Group and its technology. The first, which is demonstrated by E.ON WK's confidence in the electrical performance of the HTS generator, is the endorsement of the significant level of engineering progress that has been achieved by the Group within the ongoing project. The second, which is demonstrated by E.ON WK's commitment to fund the upgrade on fully commercial terms, is the endorsement of the real commercial appeal of the HTS generators to major utility companies seeking to benefit from the superior economic efficiencies brought to the production of renewable energy by the generators' underlying HTS technology.

E.ON-WK took the decision to upgrade the generator to the stations 'pole position' following the outcome of extensive electrical stability analysis conducted by Kema Nederland B.V. ('Kema'), which deemed the HTS generator design to be compliant with electricity grid codes and suitably engineered to meet the operational demands of major utility companies. Kema is a specialist organisation that provides high-grade technical consultancy and enjoys a world-wide reputation for its KEMA-KEUR certification for industrial electrical equipment. Kema was commissioned by E.ON-WK to carry out electrical and engineering evaluations of the HTS generator and found there to be a number of technical merits to the design which – further to the efficiency advantages over traditional copper-based generators – make the HTS generator highly suitable for handling the complex demands of retrofit installations.

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The Board considers E.ON-WK's decision and commitment of further funds to the project as indicative of the need and desire of major utilities to improve the economic return on the production of renewable energy. Furthermore, it regards the expansion of the project as a significant validation of the impact that Zenergy's highly energy efficient materials can have on improving the economies of energy production and conversion. The ground breaking generator is being built by Converteam (Formerly ALSTOM Power Conversion) utilizing the Group's superconductive core components.

Ulrich Fuchs, Head of Electrical Engineering, E.ON-WK, commented:

'It is with great pleasure that we are able to extend into the use of superconductive generators in this manner. To date, our ongoing technical evaluations have demonstrated the potential of Zenergy's materials and components to improve the efficiency of our renewable energy operations. Furthermore, we recognise that these improved efficiencies would lead to substantial improvements in the economic return from our continuing production activities.'

The exceptional benefits offered by Zenergy's technology have the potential to pave the way for a new generation of electrical equipment that, whilst being significantly smaller than conventional generators, has proven itself capable of producing increased levels of electrical power, and in a manner that contributes to the overall level of stability of our grid operations. We are very proud to be the first utility in the world to adopt superconductive materials in this way and very much look forward to continuing the evaluation of their capabilities.'

Michael Fitzgerald, Non-Executive Chairman, commented:

'When we conceived the HTS coils for the original 1.2 MW generator for E.ON-WK I was delighted at the acceptance from one of the world's largest energy suppliers that our products could significantly improve the economic return on their ongoing renewable energy production.'

This commercial upgrade displays a genuine determination by E.ON-WK to improve the efficiency of their renewable energy production and is a resounding endorsement of the readiness of our products to deliver the ideal technical solution to achieve that.

I am thrilled that a utility of such significance as E.ON-WK has chosen not merely to commercialise an HTS hydro-generator, but to make it the key generator in the station.

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I am particularly excited that Zenergy is now able to boast the first commercialisation of two major industrial applications for HTS products in two different global markets. Our ability to establish commercial traction for our energy efficient technology in two separate markets in such rapid succession speaks volumes for the economic and environmental benefits we can deliver to our existing and future customers. '

- Ends -

For further information:

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About Zenergy Power plc

Zenergy Power plc is a global specialist manufacturer and developer of commercial applications for superconductive materials. Comprising three operating subsidiaries located in Germany (Trithor), USA (SC Power Systems) and Australia (Australian Superconductors), Zenergy is developing a number of energy efficient applications to be adopted in renewable energy power generation, energy distribution and large scale, energy intensive industrial processes.

About superconductivity

Superconductive materials are capable of conducting electricity without any resistance and were first discovered in 1911 in what was to prove to be one of the most significant scientific breakthroughs of the 20th century.

The global HTS market is substantial and growing, with a number of market studies projecting multi-billion dollar markets for the application of HTS materials and products. The proliferation of the use of superconductor materials is largely being driven by the following key factors:

- HTS materials are highly complementary to energy efficient technologies as a substitute for copper
- HTS wires have power densities of over 100x that of copper
- Current developments are leading to substantially reduced costs in the production of HTS wires and are targeting to be cheaper than copper over the next few years.
- HTS applications deliver exceptional energy efficiencies and thus reduced power consumption and running costs
- HTS technology is set to play a significant role in reducing CO2 emissions in line with international targets
- HTS applications are capable of delivering vastly increased levels of power with increased reliability and reduced material usage

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