

# Press Release

8th December 2008



ZENERGY POWER

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

## Successful Testing and Validation of the World's First Full-Scale HTS Coil for Renewable Power Generation

Zenergy Power plc (AIM:ZEN.L), the specialist manufacturer and developer of commercial applications for high-temperature superconductive ('HTS') materials, is pleased to announce that its collaborative partner for wind and hydro power, Converteam SAS, has successfully completed testing and validation of the Group's first full-scale HTS coil for renewable power generation. The full-scale coil in question was constructed by the Group at its purpose built facilities in Rheinbach, Germany and will be used in the construction of the world's first HTS based hydro-electric power generator that has been ordered for commercial use by E.ON Wasserkraft GmbH ('E.ON-WK'). The HTS hydro generator will be manufactured in the United Kingdom at Converteam's facilities based in Rugby and will deliver significant improvements in electrical energy efficiency to E.ON-WK's commercial hydro-dam and consequently increase its overall power output by 36%. 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.

Following this significant endorsement of the Group's engineering capabilities, Zenergy will now begin construction and delivery of the further 32 full-scale coils required for the construction of E.ON-WK's 1.7MW hydro generator which is due to be installed into their commercial dam next year. Once installed, the groundbreaking HTS generator will be the hydro-dam's 'pole' generator and responsible for the constant delivery of base-load power to over 3,000 homes in the local area.

Derek Grieve, Director of Technology Converteam Ltd., commented:

"It gives me great pleasure to commend Zenergy on the significant engineering success that it has achieved during the course of this ground-breaking project. As a consequence of its efforts we are on schedule to build and install what will be the world's first HTS hydro-generator at our customer's commercial facilities and accordingly, we will deliver to market the first of our highly energy efficient renewable generators at what is a particularly exciting time for the industry.

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On an international basis renewable power generation is garnering growing support from governments, corporations and the general public alike and to be able to participate in this particularly robust global market is a significant commercial prospect for both ourselves and Zenergy.”

Zenergy, along with its collaborative partner, Converteam, is in the process of bringing to market a new generation of highly energy efficient, compact and lightweight renewable power generators that are set to substantially improve the financial return of renewable energy production. Owing to the commercial and environmental potential of Zenergy’s HTS technology, its work in renewable energy generation has already received significant financial support from The European Commission, The German Environmental Fund and the UK Government. All these government bodies have expressed their recognition of potential impact that the Group’s highly-energy efficient HTS generators can have on the way in which renewable energy is produced. The HTS generator that will be delivered to E.ON-WK next year will be capable of delivering efficiency levels of 98% to its commercial operations which is a significant improvement on the current efficiency levels achievable with standard hydro-generator technologies.

Hydropower is currently the most widely used and mature source of renewable energy and contributes to the production of about 19% of total electricity worldwide. On a global basis, hydropower is averting the emission of some 800 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 believed that 15.4 GW could be produced ‘for free’ as a result of their retrofitting using variable speed technology; thus offsetting any further environmental impact. From an investment and infrastructure perspective this is equivalent to deferring the deployment of approximately 40 conventional power stations demonstrating the significant contribution to Kyoto-protocol targets that HTS materials can have. The current addressable market for the Group’s HTS materials and components within the renewable energy production markets is estimated to be in excess of €4 billion per annum.

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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, USA and Australia, Zenergy is highly focussed on the commercialisation of a number of energy efficient applications to be adopted in energy intensive industrial processes, power distribution and renewable power generation. Zenergy achieved the world's first sale of an industrial scale HTS induction heater which is now in operation.

### 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.

Superconductors enable:

- (a) Induction Heaters to be twice as efficient for the metals industry
- (b) Fault Current Limiters to protect power grids from blackouts
- (c) Direct-drive wind generators to be significantly reduced in size and weight allowing the operation of wind generators in excess of 8 MW
- (d) Existing hydro-power sites to upgrade to energy efficient Hydro-generators

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