

# Press Release

14 April 2010



ZENERGY POWER

Zenergy Power plc

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

## 2G Development Milestone Ink Jet Processing and Continuous Wire Processing

Zenergy Power (AIM:ZEN.L), the superconductor energy technology company, is pleased to announce that it has successfully completed the development of the high-speed ink jet printing processes necessary for the low-cost production of its Second Generation ('2G') superconducting wire. Combined with the recent qualification of Honeywell Speciality Materials as an industrial supplier to the Group, this achievement brings Zenergy Power to the end of the research and development of its 2G wire processes and enables it to commence industrial scaling of production once the qualification of industrial supply of metal tapes from ThyssenKrupp VDM GmbH ('ThyssenKrupp') has been completed. The Group's work with ThyssenKrupp was recently boosted by support of the German government through a funded project and it is anticipated that qualification will occur in the second half of this year.

The successful development of the Group's high-speed ink jet printing processes for 2G wire production was achieved with the support of the European Union through a funded project named EFECTS involving the cooperation of the University of Cambridge, the University of Ghent and ICMAB Barcelona. Following the completion of this project Zenergy Power is able to capture significant cost savings in the production of 2G wire through three key advances:

- First, the speed with which active chemical layers can be applied to metal substrates is significantly increased, reducing processing times and increasing output;
- Secondly, the application of chemical layers becomes far more consistent, improving overall wire quality, reducing scrap rates and leading to substantially increased production yields and lowered costs; and
- Thirdly, it becomes possible to apply consistent chemical layers onto wider metal tapes, leading to a significant increase in production volumes.

Zenergy Power is committed to reducing the cost of superconductor applications through the development of its own wire manufacturing processes which, unlike industry alternatives, allow continuous production from base chemicals and metal tapes in a roll-to-roll process. This process, when scaled, will enable the production of the industry's lowest-cost superconductor wire, which in turn will be cheaper than traditional copper wire and play a key role in promoting the adoption of superconductor-based generators by the renewable energy industry. Generators employing Zenergy Power's superconductor components are significantly smaller, lighter and

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more efficient than traditional 'copper-based' machines – reducing the overall cost of electricity produced from offshore wind turbines and run-of-river hydropower stations. The first of these generators built using the Group's superconductor components is due to be installed by E.ON AG later this year.

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## **About Zenergy Power plc**

Zenergy Power is a superconductor energy technology company, quoted on the AIM market of the London Stock Exchange and comprising three operating subsidiaries located in Germany, USA and Australia. The Group's commercial focus is the innovation and manufacture of clean energy superconductor solutions that are capable of delivering huge efficiency and cost improvements to the generation, distribution and consumption of electrical energy.

Today, the Group's groundbreaking superconductive solutions are already delivering energy savings to industrial users of electrical energy and providing cutting-edge protection from electrical power surges to the United States electricity grid. Looking to the near future, the Group is currently developing a range of highly energy efficient superconductor components for a new class of electricity generator capable of delivering significant cost savings to the renewable energy industry. These cost savings will enable renewable energy to more effectively compete with traditional thermal power generation; leading to a greater reduction in carbon emissions and a more sustainable economic future.

In 2007, Zenergy Power became the first company in the world to complete a commercial sale of an industrial scale superconductor application and has subsequently developed products capable of addressing several multi-billion dollar global markets. Following this in the first quarter of 2009, the Group's FCL device which reduces the damaging effects of large-scale power surges on electrical grids became the first such superconductor smart grid device to be installed and operated into the United States electricity grid. In line with this leading industry position, Zenergy Power is also manufacturing core components for what is due to be the world's first superconductor electricity generator which is due for installation into E.ON AG's commercial hydro dam in 2010. It is anticipated that the installation of the superconductor generator will increase the electricity output of this generator by 36%.

## **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 increase energy efficiency and electrical power output

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