



Hydrogen Europe: European Hydrogen & Fuel cell Project Database

Project TOWERPOWER

Demonstration of FC-Based integrated generator systems to power off-grid cell phone towers, using ammonia fuel

The Cell Phone industry is a recent major business success story, with the EU significantly contributing and gaining from this opportunity. (Three of 4 cell phone network equipment manufacturers are European (Ericsson; Nokia-Siemens; and Alcatel-Lucent) and many global cell phone companies are based in the EU (e.g. Vodafone, Orange, Telefonica etc). The developed markets are saturated, and growth is focussed in developing countries (Africa, Asia, Eastern Europe), where the operators' success has out-paced the electrical grid, and power for cell phone towers is provided by inefficient, high maintenance, polluting and expensive diesel generators. This consortium has developed a low-cost, FC-based integrated generator system (the PowerCube™), together with the relevant fuelling capability (using ammonia as the fuel), to cost-effectively replace diesel generators in this market and with an 80% reduction in greenhouse gases. The market is worth €8.5Bn per annum. This project will deploy a field demonstration project comprising 40-60 PowerCubes to demonstrate: • Integrated FC based systems with sufficient power generation capacity and redundancy to power 40-60 off-grid cell phone sites. • Proof of suitable supply chain (maintenance, spare parts, and fuel) and field support capabilities • Capability of systems to integrate with the existing power systems requirements • Advantages over incumbent technologies (twin diesel generators) and advantages over wind/solar battery prototypes • Compliance with all relevant Regulatory Codes and Standards Feedback from the demonstration project will be fed into additional RD&D activities to mitigate any potential barriers or risks preventing subsequent full implementation An environmental sustainability assessment will be completed by means of Life Cycle Assessments studies. The results and benefits will be widely disseminated to a wider audience including potential customers and industrial stakeholders.

Project Information

Type of project : Demonstration

Timing : 01/11/2011 > 31/10/2014

Project Budget : 9.403.106 €

Funding

European Union through FCH JU: [Grant agreement 279190 - CORDIS link](#)

Project partners

Coordinator :

DIVERSEENERGY Ltd

Partners :

[Linde](#)

[WaterstofNet vzw](#)

Balton CPLtd

RENEWTECH SOLUTIONS LIMITED

[Sub project\(s\)](#)

Sub project 1

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Sub project categories

Demonstration

Project Id: 1105

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