

envirowise } UK Wind Power Supply Chain

Roger Wilson, Envirowise Advisor

What is Envirowise?

- Government business support programme
- **FREE & CONFIDENTIAL** help for all businesses
- Promotes better environmental practices that reduce business costs through a focus on
 - *Resource Efficiency*
- Shows that environmental improvements can actually
 - *Save Money*
- *Reduce – Re-use – Recycle*
- *Environmental Legal Advice*



Manufacturing Industry

- UK based engineering industries dying
 - Automotive
 - Power
- Predicted £300+B worldwide market for environmental goods & services
- Which technologies likely to make large impact?
- Are the skills & facilities relevant?



Wind Power

- Promising market
- Potential solution to climate change
- Heavy engineering at top of supply chain
- Variety of skills in supply chain
- Better match than photovoltaics
- Known technology
- Earlier mass market
- Power engineering focus in the region



WindSupply Project

- A project of BCSD-UK established by EBC Ltd
- Supported by DTI (BERR) & RDAs: AWM, EMDA, OneNE, YF & SEEDA
- *A project to encourage, support and promote UK Businesses to enter the supply chain for wind energy components through innovation and product development.*
- World leading OEMs are Danish & German companies



CONVERTEAM Case Study

THE POWER CONVERSION COMPANY

- Previous ownership: EE, GEC, Alstom
- 2005: MBO with Barclays Private Equity
- Plants in Rugby, Kidsgrove & Glasgow
- Major products:
 - Electrical generators & switchgear
 - Naval propulsion systems



CONVERTEAM Case Study

THE POWER CONVERSION COMPANY

- Entered renewables market in 2003 with aid of AWM & WindSupply
- Applied their existing technology of power converter electronics to wind turbine applications
- Thereby providing mutual protection of turbines & grids



CONVERTEAM Case Study

THE POWER CONVERSION COMPANY

- Innovation 1
- Eliminate need for gearboxes
 - Direct drive generator (Permanent Magnet Generator – PMG)
 - Halved drive train components
 - Higher efficiency -> smaller, lighter
 - Ease of transportation
 - Offshore crane capabilities maximised



CONVERTEAM Case Study

THE POWER CONVERSION COMPANY

- Innovation 2
- High temperature super conducting wind generator (HTS)
 - Half weight of best PMG
 - Simple machine & cryogenics
 - Enables giant off shore wind turbines: 8MW
 - Enables large wave power machines
- Significant competitor differentiation



CONVERTEAM Case Study

THE POWER CONVERSION COMPANY

- Results so far
- Largest UK supplier into the global market
- Jobs won/saved:
 - 200 – Converteam operations
 - 100 – supply chain operations
- Major orders imminent
- Recognised 1st tier supplier to OEMs



Wind Power Component Suppliers

- Many potential & some actual in SE
 - Invensys
 - WindPower Renewables
 - Solent Composites
 - BP Hydraulics



Wind Power Component Suppliers

- Components required
 - Large iron castings
 - Large steel fabrications
 - Aluminium castings
 - Copper components
 - Specially wound coils
 - Electrical steel laminations



Wind Power Procurement

- The Olympic Delivery Authority Feb 08
- Contract Notice call for EOIs & PQQs
- North Olympic Park
- 2.5MW wind turbine, 130m high
- *“Key piece of infrastructure & will provide a major part of the ODA’s renewables obligations.”*



envirowise } SUSTAINABLE PROCUREMENT
SUSTAINABLE PRODUCTS

Wind Power & Climate Change



- Climate change is real
- Wind power market is real
- UK companies are investing
- Support is available
 - Market
 - Technical
 - Financial

WindSupply



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SUSTAINABLE PRODUCTS

Envirowise Contact Details

- Action Plans - register interest **TONIGHT**
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SUSTAINABLE PRODUCTS