

Research & Development Capabilities at Strathclyde



People and research interests

- ❑ David Infield (Electronic and Electrical Engineering)
 - ❑ rotor aerodynamics
 - ❑ condition monitoring
 - ❑ responsive load for power system integration
 - ❑ O&M modelling

- ❑ Stephen McArthur (EEE)
 - ❑ condition monitoring and AI techniques

- ❑ Barry Williams, John Fletcher (EEE)
 - ❑ novel machines and drives

- ❑ Olimpo Anaya-Lara (EEE)
 - ❑ stability analysis and novel offshore DC networks

- ❑ Graeme Burt (EEE)
 - ❑ power systems and wind integration

People and Research Interests

- ❑ Jim Thomason (Mech Eng)
 - ❑ composites and blade materials analysis
- ❑ Nigel Barltrop, Atilla Incecik (Naval and Marine)
 - ❑ offshore structures
- ❑ Bill Leithead (EEE)
 - ❑ turbine control
 - ❑ dynamic analysis
 - ❑ performance assessment
 - ❑ fatigue-life estimation
 - ❑ load case evaluation, certification
- ❑ Tom Scanlon (Mech Eng)
 - ❑ offshore wind resource analysis

Collaborating Companies

Utilities/Developers

ScottishPower

SSE

Eon

RES

Sgurr Energy

Consultants

Garrad Hassan

Manufacturers

Howdens

WEG

NEG-Micon

Vestas

RePower

Acciona

Ecotecnia

Nordic

Core Projects at Strathclyde

Supergen Wind
Consortium

ETI
First Call – Wind

Doctoral Training Centre
Wind Energy Systems

Supergen Wind Energy Technologies

- ❑ EPSRC funded – £2.5M 2006-2010
- ❑ Consortium of 9 academic institutions
- ❑ Chair: Bill Leithead, University of Strathclyde
- ❑ Mission statement : To undertake research to improve the cost effective reliability & availability of existing and future large scale wind turbine systems in the UK
- ❑ Context: off-shore development using large-scale turbines
- ❑ Second phase planned – £3.9M 2010-2014

Energy Technology Institute (ETI) Wind Projects

- ❑ ETI funding for three projects related to offshore wind power
- ❑ Purpose: to design, build and deploy a 5 to 10 MW offshore wind turbine
- ❑ University of Strathclyde is partner in two of the three:
 - ❑ Helm Wind
 - ❑ NOVA
- ❑ Support – £40M 2009-2015+
- ❑ Further project on condition monitoring expected

Doctoral Training Centre (DTC) in Wind Energy Systems

- ❑ One of 44 DT and EngD Centres in UK
- ❑ Director: Bill Leithead
- ❑ 34 industrial partners
- ❑ 4 year studentships
- ❑ 5 yearly intakes of 10 PhD students
- ❑ Start date 1st October 2009
- ❑ Support: EPSRC £6M 2009-2018



Scope of Wind Energy Systems DTC

- ❑ All aspects of wind energy
 - ❑ Everything that impacts on wind energy
 - ❑ Everything that wind energy impacts on
- ❑ Wind turbines
- ❑ Power systems
- ❑ Socio-economic



Critical mass now exists at Strathclyde -
this is now being called the
UK Wind Energy Centre

for more information contact Profs Bill Leithead
or David Infield

for DTC go to: <http://www.strath.ac.uk/windenergy/>