



Narec is a national centre for the UK dedicated to advancing the deployment and grid integration of renewable energy and low carbon generation technologies, through R&D, testing and specialist consultancy

Andrew Mill, CEO
March 9th 2010

Narec UK Operational Locations



Head Office
Wind, Marine, Sub-Sea & PV Campus
Blyth, Northumberland



London Office
Victoria, London



Electrical Networks Division
High Voltage Laboratory
Newcastle

Key Divisions



Advancing Renewable Energy

Core Services

RESEARCH

DEVELOPMENT

DEMONSTRATION

Module & System Development

Systems Integration

Performance Testing

Accreditation

Applied Research

Specialist Consultancy

Economic Regeneration

A Highly Skilled Workforce



- Electrical
- Mechanical
- Instrumentation



- Project Management
- Asset Management
- Health & Safety



- Materials
- Forensics

Operational Best Practice



DET NORSKE VERITAS MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 60100-2009-AHSO-GBR-UKAS

This is to certify that

NaREC Ltd

Eddie Ferguson House
Ridley Street
Blyth
Northumberland
NE24 3AG

has been found to conform to the Management System Standard:

BS-OHSAS 18001: 2007

This Certificate is valid for the following product or service ranges:

The provision of consultancy, engineering and testing services to the new and renewable energy sectors

Calibration Services (Electrical)

Manufacture of Photovoltaic (PV) Cells

Funded and Contract PV Research & Development

Initial Certification date:
18 August 2009

This Certificate is valid until:
18 August 2012

The audit has been performed under the supervision of:

Peter Potter
Lead Auditor



Place and date:
London, 24 August 2009
for the Accredited Unit:
DET NORSKE VERITAS CERTIFICATION B.V.,
THE NETHERLANDS

K.S. Cheung
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

Det Norske Veritas Certificatie B.V., Zuikweg 1, 2004 LB Barendrecht, The Netherlands, TEL: +31 10 2022 800 - www.dnv.com / www.dnv.nl



DET NORSKE VERITAS MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 27514-2008-AQ-NLD-UKAS

This is to certify that

NaREC Ltd

Eddie Ferguson House
Ridley Street
Blyth
Northumberland
NE24 3AG
United Kingdom

has been found to conform to the Management System Standard:

BS-EN-ISO 9001:2000

This Certificate is valid for the following product or service ranges:

The provision of consultancy, engineering and testing services to the new and renewable energy sectors

Initial Certification date:
19 February 2008

This Certificate is valid until:
19 February 2011

The audit has been performed under the supervision of:

Alastair MacKenzie
Lead Auditor



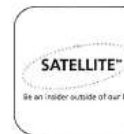
Place and date:
Barendrecht, 19 May 2008
for the Accredited Unit:
DET NORSKE VERITAS CERTIFICATIE B.V.,
THE NETHERLANDS

Ron J. Meijer
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

Det Norske Veritas Certificatie B.V., Zuikweg 1, 2004 LB Barendrecht, The Netherlands, TEL: +31 10 2022 800 - www.dnv.com / www.dnv.nl

Intertek



Intertek Satellite Program:
Our data acceptance testing program allows a qualified client to perform product testing at their site, with the same validity as if it were conducted in an Intertek laboratory. By combining their existing testing resources with Intertek's global recognition, our clients can reduce their costs and time-to-market while verifying the accuracy of their test results.



Testing Laboratory Acceptance

The following organization has been accepted by Intertek as a

Recognized SATELLITE™ Laboratory

under the ASTA Recognized Laboratory Scheme, and is authorized to perform test work for the product types identified on the endorsement to this Testing Site Acceptance.

Organization:

NaREC Clothier Laboratory

South Drive, Hebburn, Tyne & Wear, NE31 1US, United Kingdom

Acceptance Number	AST-UK-08004
Issue Number	1
Issue Date	23 January 2009
Expiry Date	30 April 2012

This Testing Laboratory Acceptance is valid until the expiry date shown above, subject to continuing compliance with the conditions specified in the endorsement of this laboratory acceptance certificate.

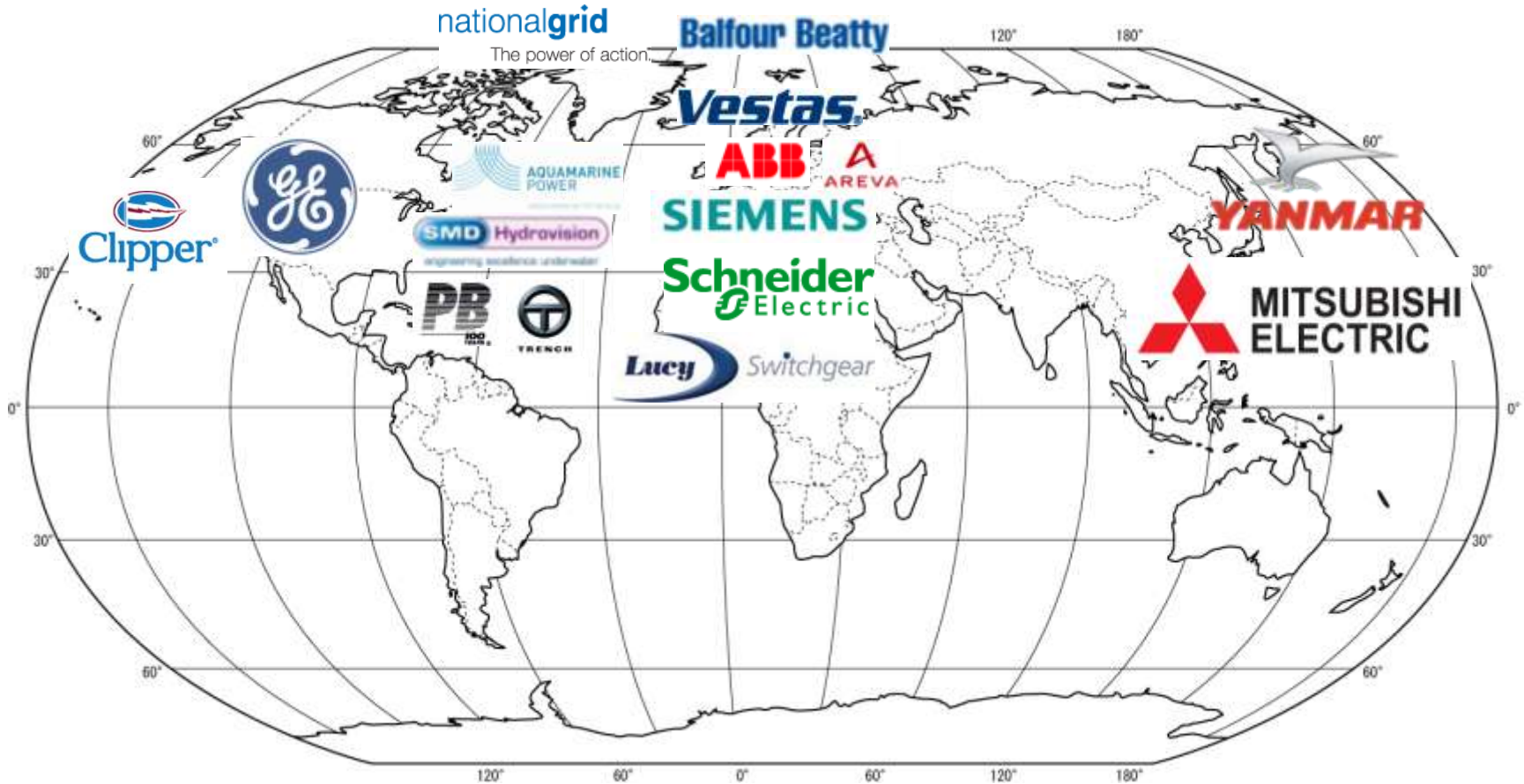
The Testing Laboratory Acceptance is comprised of this Front Sheet and 1 Endorsement.

Signature:
Name: Rob Hayward
Title: Engineering Manager
Date: 23 January 2009

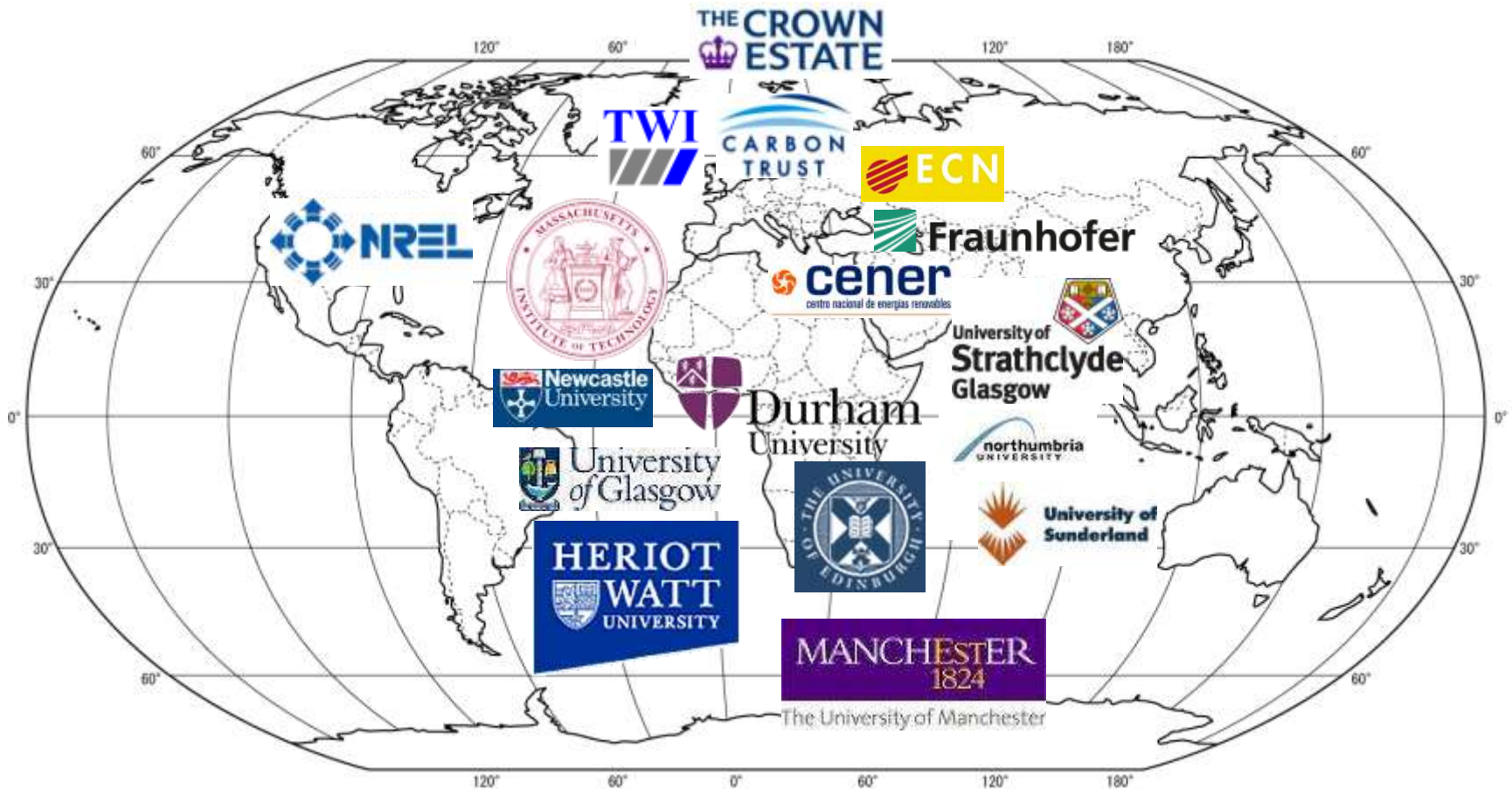
The acceptance is for the exclusive use of the testing site and is provided pursuant to the agreement between Intertek and the testing site. Intertek assumes no liability to any party for any loss, expense or damage occasioned by the use of this endorsement. Only the testing site is authorized to copy or distribute this acceptance. Any use of the Intertek name or one of its marks for the sale or advertisement of any material, product or service must first be approved in writing by Intertek.

Intertek Testing and Certification Ltd., Hilton House, Corporation Street, Warwickshire, Rugby, CV21 2DN, UK

An International Client Base



International R&D Collaborators/Advisories



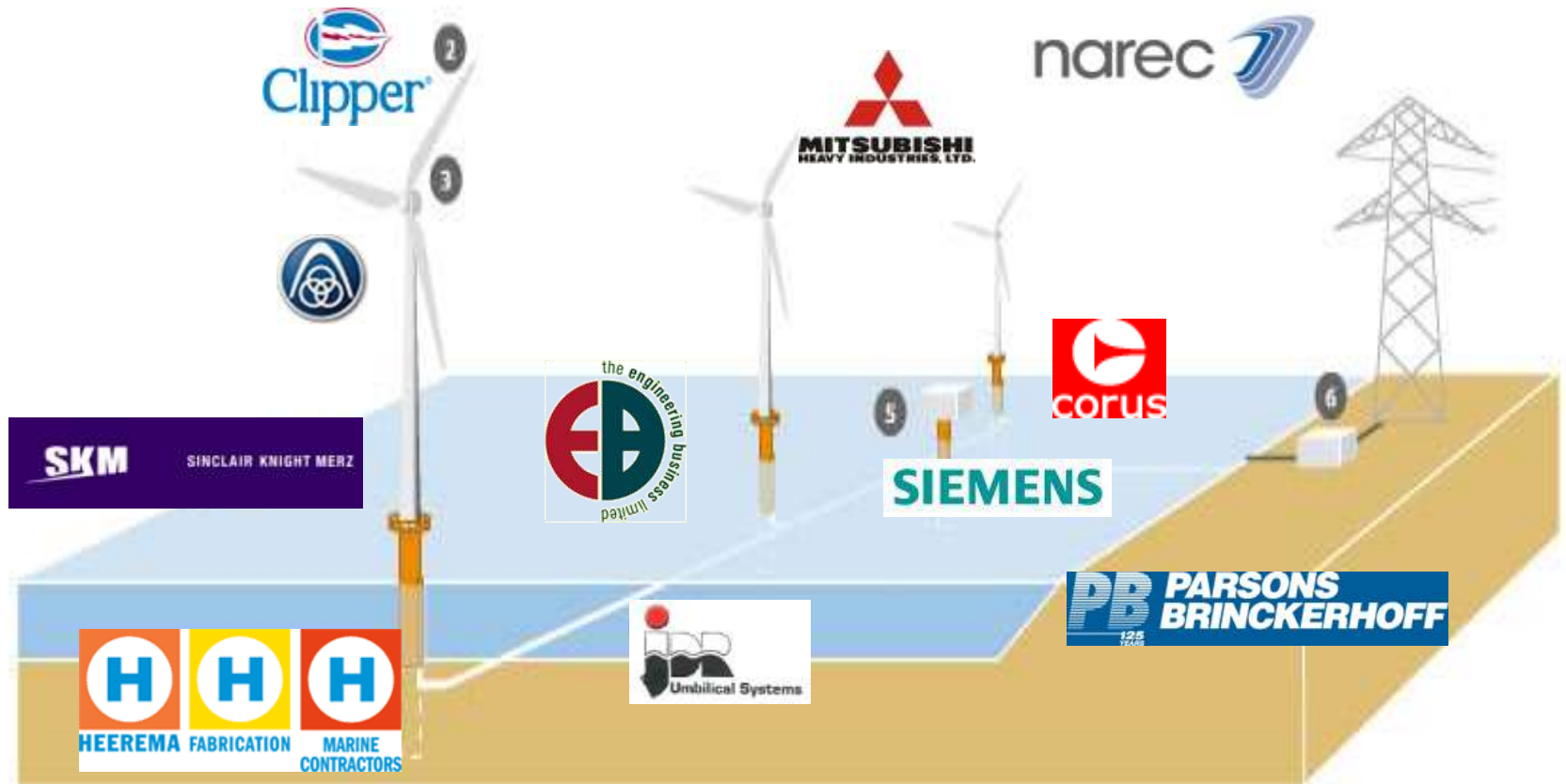
Corporate Highlights

- Narec has major clients in Europe, Asia Pacific and the US and international R&D collaborations in 10 countries
- Narec will generate £3m of commercial revenue in financial 2009/10 against a cost base of £8m for people and facilities
- Narec is recognised in the renewable energy industry as one of the lead centres of excellence worldwide for offshore wind technology development
- In 2010, Narec was appointed technology advisor to The Crown Estate in relation to the Offshore Wind Round 3 programme
- By the end of 2011, Narec will have the largest onshore physical test asset base in the world constructed at a cost of £100m

Economic Impact Highlights

- £30m has been invested into Narec over the past five years from One North East
- Narec has leveraged an additional £200m of private sector investment for the economy of the North East
- In excess of 300 jobs have been created as a direct result of Narec's activity in the supply chain
- Two major offshore wind technology manufacturers have established collaborative R&D development programmes in the North East against a combined budget of £100m
- Narec employs 115 people, many who have graduated from the region's leading universities

North East Wind Energy Supply Chain Capability



Inward Investment Projects Executed

Seawell

- Norwegian O&G
- State of the art
- International search
- NE best location
- 80 full time employees
- Expanding to 110 2011



Mitsubishi Power Systems Europe



- \$100m offshore wind turbine development project
- Narec named as technology partner
- Engineering office in Blyth
- MOU signed with UK Government for manufacturing

Yanmar



- Japanese industrial
- Supplier of micro-CHP
- R&D base for Europe
- Narec collaborating with University of Newcastle



Clipper Wind

- \$65m offshore wind turbine development project
- Located at Narec
- Production blade facility established
- Manufacturing potential for North East/UK



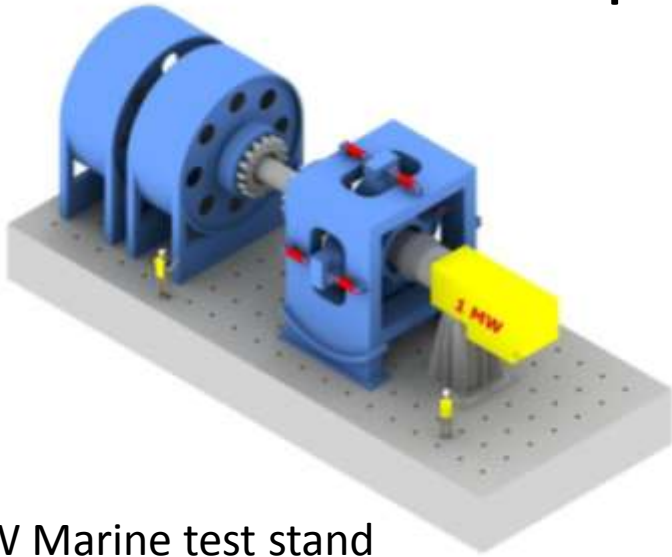
World Leading Facilities



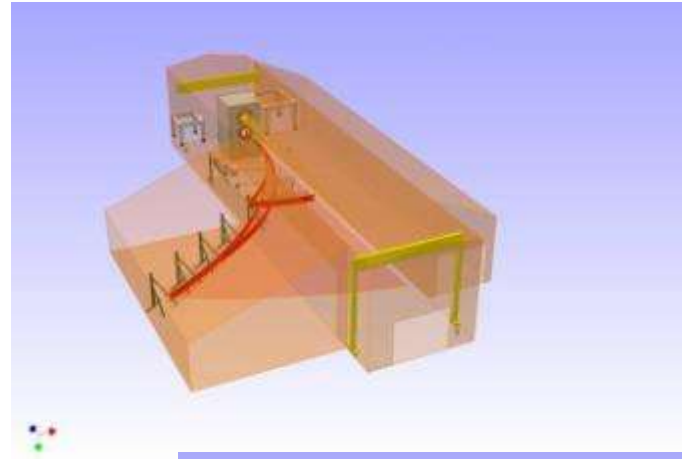
Future Asset Development



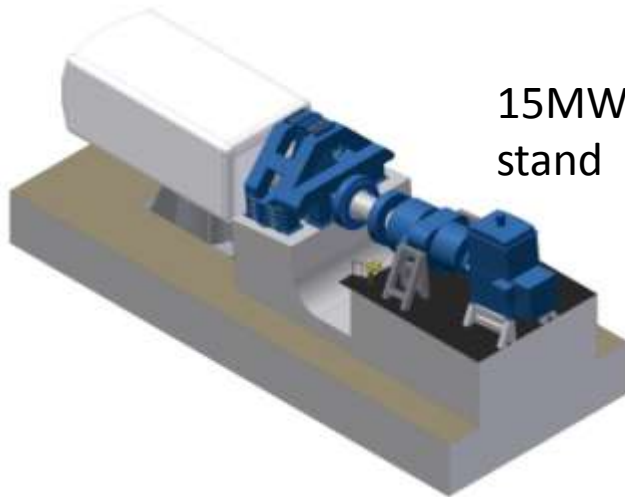
New Capital Assets for 2011



3MW Marine test stand



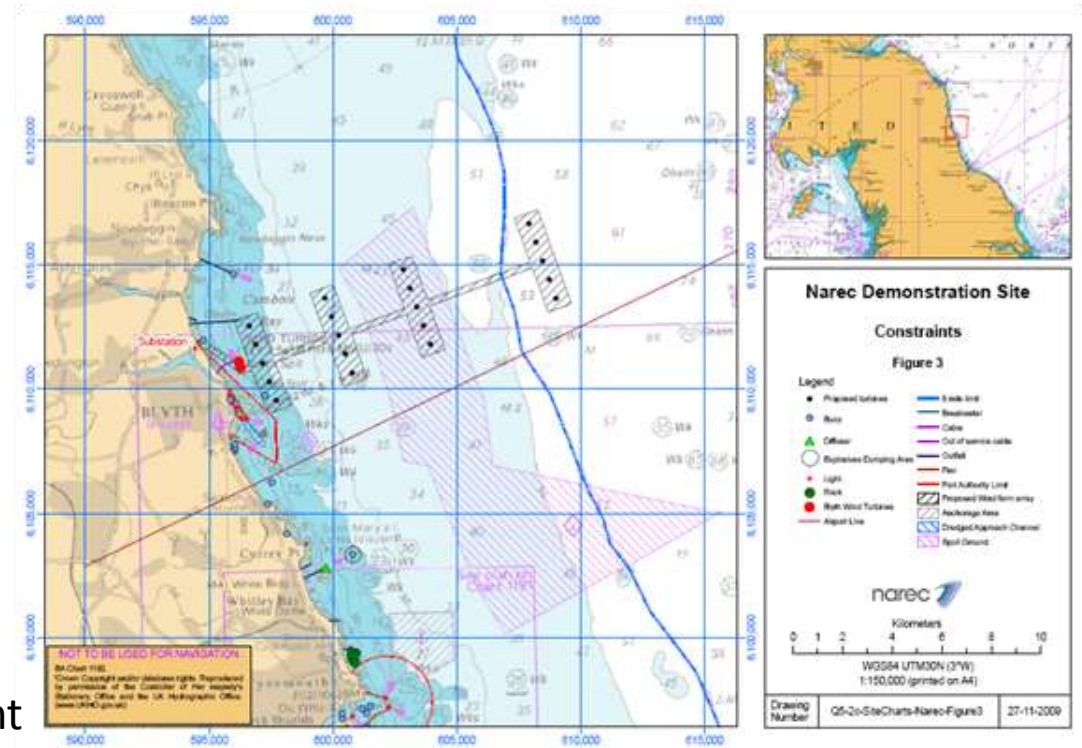
15MW Offshore wind test stand



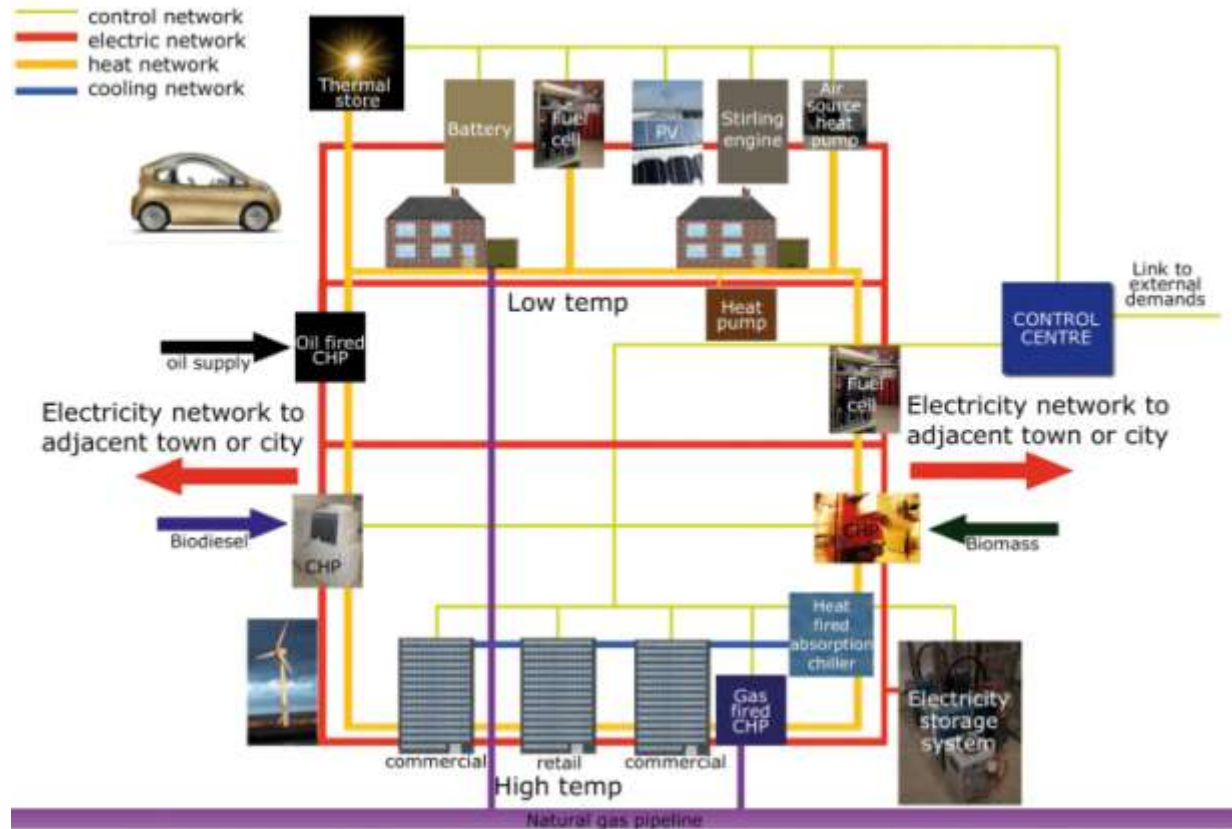
100m Blade test facility

100MW Offshore Wind Research & Demonstration Site (in partnership with Natural England)

- 30 – 60m water depths
- 20 turbine positions
 - 5-10MW class turbines
 - Novel foundations
 - Electrical networks
- Operated under lease from TCE
- Permitting by end 2011
- Construction to commence 2012
- Research, Development, Deployment
- ‘Best practice’ planning approach



Is a 'Low Carbon' North East Possible?



Narec certainly has some of the answers.....!

Thank you

www.narec.co.uk



Advancing Renewable Energy