



Triton Knoll Offshore Wind Farm Project

.....

EV136: Galloper business breakfast



BUSINESS BREAKFAST BRIEFING ON GALLOPER WIND FARM

January 31st 2014

EEEGR Breakfast Club in Association with Galloper Wind Farm, supported by OrbisEnergy



January 31st 2014
Orbis Energy Lowestoft

Safety Brief and Housekeeping

➤ No fire alarm tests planned

➤ Exits

➤ Assembly Point

➤ Facilities

Agenda



- 08:35 Alastair Gill- Offshore Projects & Simon Gray- CEO at EEEGR
- 08:40 Welcome from Peter Aldous- MP for Waveney
- 08:55 Pat Paton- HSE Manager
- 09:10 Bart Oberink- Galloper Project Director
- 09:40 Michael Nolan- Procurement Manager
- 10:10 Registration with RWE Tom Snowdon- Supply Chain Manager
- 10:20 Video from Gwynt y Mor Alastair Gill- Offshore Projects
- 10:30 Ports Alex Woods- Port & Harbour Logistics Manager
- 10:40 Q&A
- 11:00 Meeting close and next steps
- 11:05 Networking

For your diary



- **Meet the Buyer** in partnership with DECC: ConocoPhillips and RWE 5th February 2014 : Top of the Terrace, NCFC
- **Technology and Innovation in Offshore Renewables** : OrbisEnergy, Lowestoft, Suffolk 18th February 2014
- **SNS2014** EEEGR's flagship event of the year. Norfolk Showground arena March 5th & 6th Inc. gala dinner Michael Fallon
- **EEEGR Breakfast** Funding sources for energy businesses. NALEP, Banks, Grants and Angels March 28th
- **Decommissioning Special Interest Group** 29th April, 30th July, 26th November
- **House of Commons Reception** May 13th
- **Innovation Awards & gala Dinner** Top of the Terrace, NCFC 2nd July
- **EEEGR2014 Summer Conference** John Innes Centre. July 3rd
- **EEEGR Christmas ball** Ocean Rooms Gorleston Dec 11th Booze Bros

Thank you



Gallopier Business Breakfast

Welcome and Introductions

Alastair Gill - Senior Manager Offshore Consents,
RWE Innogy UK

Simon Gray - CEO EEEGR

Peter Aldous - Member of Parliament for Waveney

EEEGR Breakfast Club in Association with Galloper Wind Farm, supported by OrbisEnergy



January 31st 2014
Orbis Energy Lowestoft

Safety Brief and Housekeeping

- No fire alarm tests planned
- Exits
- Assembly Point
- Facilities
- Mobiles

Agenda



- 08:35 Alastair Gill- Offshore Projects & Simon Gray- CEO at EEEGR
- 08:40 Welcome from Peter Aldous- MP for Waveney
- 08:55 Pat Paton- HSE Manager
- 09:10 Bart Oberink- Galloper Project Director
- 09:40 Michael Nolan- Procurement Manager
- 10:10 Registration with RWE Tom Snowdon- Supply Chain Manager
- 10:20 Video from Gwynt y Mor Alastair Gill- Offshore Projects
- 10:30 Ports Alex Woods- Port & Harbour Logistics Manager
- 10:40 Q&A
- 11:00 Meeting close and next steps
- 11:05 Networking

For your diary



- **Meet the Buyer** in partnership with DECC: ConocoPhillips and RWE 5th February 2014 : Top of the Terrace, NCFC
- **Technology and Innovation in Offshore Renewables** : OrbisEnergy, Lowestoft, Suffolk 18th February 2014
- **SNS2014** EEEGR's flagship event of the year. Norfolk Showground arena March 5th & 6th Inc. gala dinner Michael Fallon
- **EEEGR Breakfast** Funding sources for energy businesses. NALEP, Banks, Grants and Angels March 28th
- **Decommissioning Special Interest Group** 29th April, 30th July, 26th November
- **House of Commons Reception** May 13th
- **Innovation Awards & gala Dinner** Top of the Terrace, NCFC 2nd July
- **EEEGR2014 Summer Conference** John Innes Centre. July 3rd
- **EEEGR Christmas ball** Ocean Rooms Gorleston Dec 11th Booze Bros

Thank you

Health Safety Environment & Security

Pat Paton HSE Manager
Alan Myers Lead CDM Co-ordinator

Health Safety Environment & Security

(Pat Paton)

Galloper Wind Farm strives for HSE&S excellence on all activities from pre-qualification prior to tendering, to contract closure under due diligence programmes. We adopt and operate a '**SAFETY FIRST**' methodology in line with European and UK HSE Legislation.

Tendering Phase:

- HSE&S Contract Evaluation Pre-Qualification Questionnaire
- HSE&S Contract Evaluation at Tender Assessment Stage
- OHSAS 18001 & ISO 14001 Surveillance Audit covering:
 - Tenderers Corporate and Business Unit Management Systems for Scope of Works, if applicable.
 - Possible manufacturing sites as per above scope
 - Possible actions from audit programmed into the contract strategy

If vessel/marine spread supply is included within contract:

- Further OHSAS 18001, ISO 14001, ISM & Maritime Legislation Audit covering:
 - Vessel Management Systems
 - Interfaces & Compliance to Corporate and Maritime requirements
 - Possible actions from audit programmed into the contract strategy

Health Safety Environment & Security

Post Contract Contractual Obligations :

The scope of key HSE&S objectives and requirements are referenced within the Galloper Employers Requirements Part A – Sections 7 and 8.

Listed documentation to be complied with:

- RWE Policies and Galloper Statement of Intent
- HSE&S Requirements for Contract
- Incident Reporting and Investigation Procedure
- Monthly Reporting Requirements
- H&S General Supplementary Terms & Conditions
- Galloper Safety by Design Procedure (if applicable)

Monitoring & Closure

Monitoring and surveillance is of paramount importance ensuring compliance to client requirements underpinning the 'SAFETY FIRST' methodology.

- On-going surveillance with 'SAFETY STOP' approval
- Inspections
- Process and system audits
- Overall HSE&S Performance assessment

Construction Design and Management Regulations 2007 (CDM)

(Alan Myers)

Tendering Phase

Inclusion of CDM Clauses within the Client Invitation To Tender (ITT)

Inclusion of Pre Construction Information within the ITT

Bidders can attract a number of roles: Designer, Principal Contractor, Contractor
Competence Assessment of bidders in accordance with Appendix 4 of the CDM
Approved Code of Practice (ACoP)

Post Contract Award

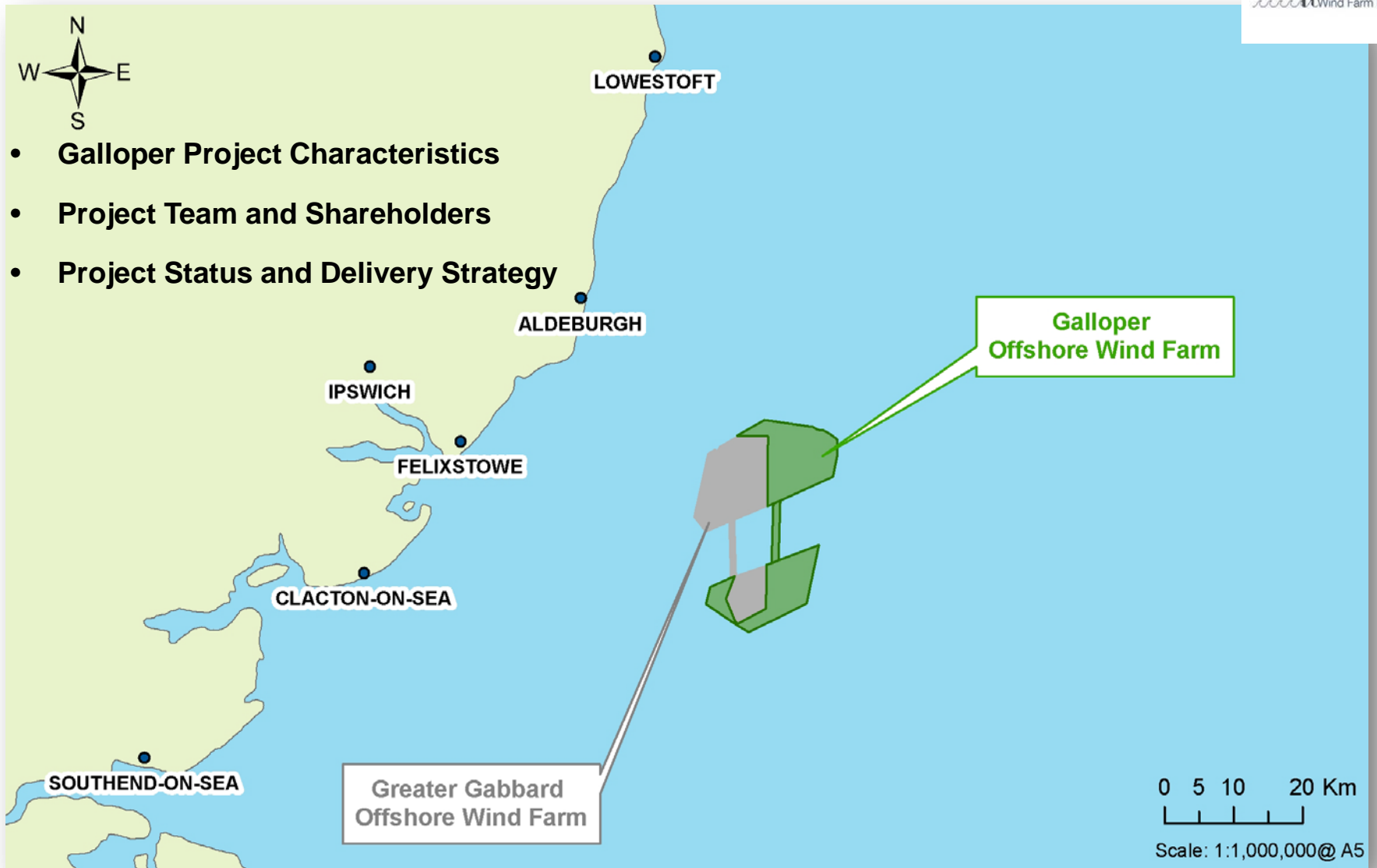
- Demonstration of designer duties via a number of processes (such as Design Decision Log and Design Reviews)
- Review of Principal Contractor Construction Phase Plan prior to commencement of works.
- Gathering and compilation of the Project Health and Safety File

Galloper Offshore Wind Farm – Project Update



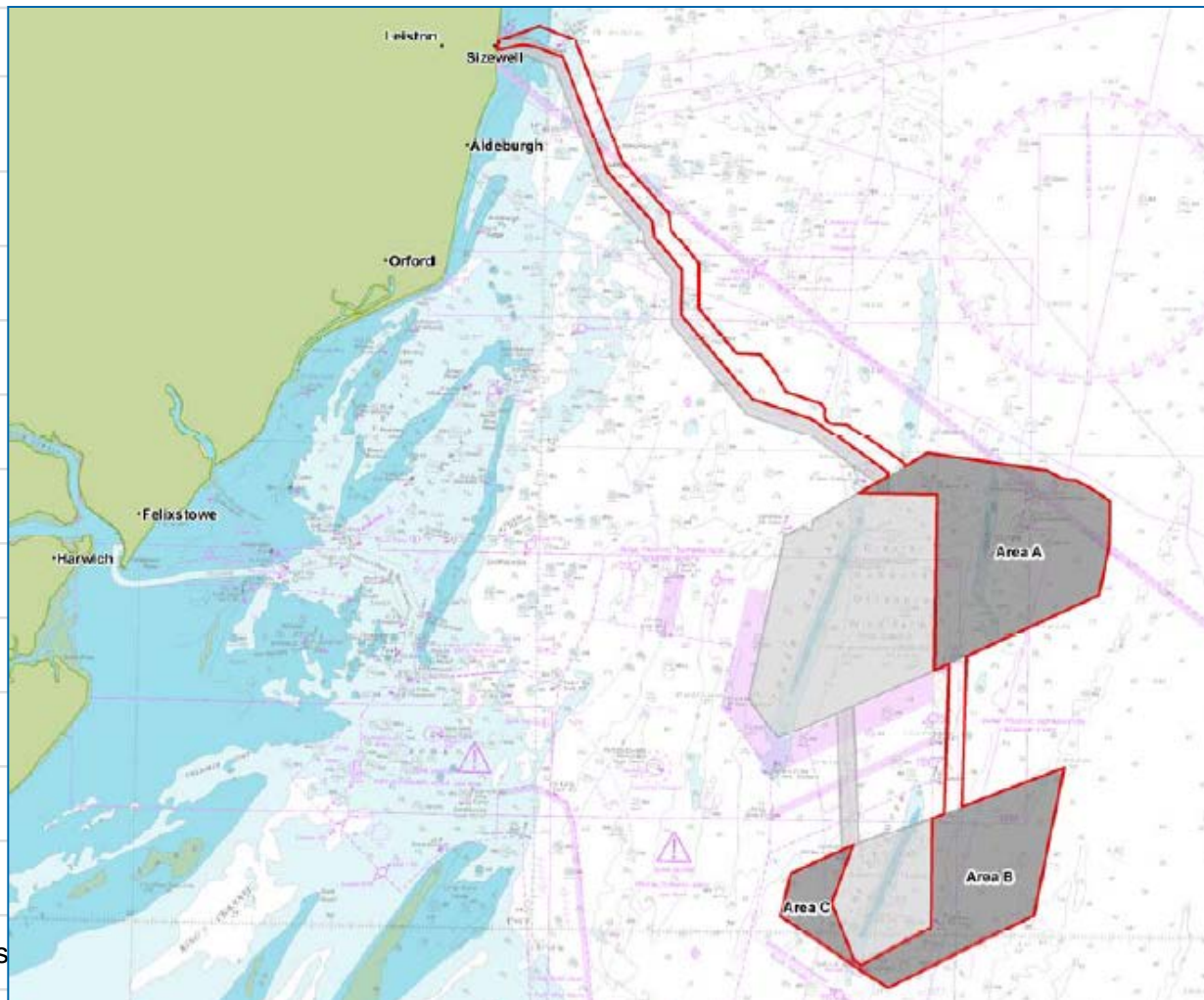
Bart Oberink Galloper Wind Farm Project Director

Galloper Project Introduction

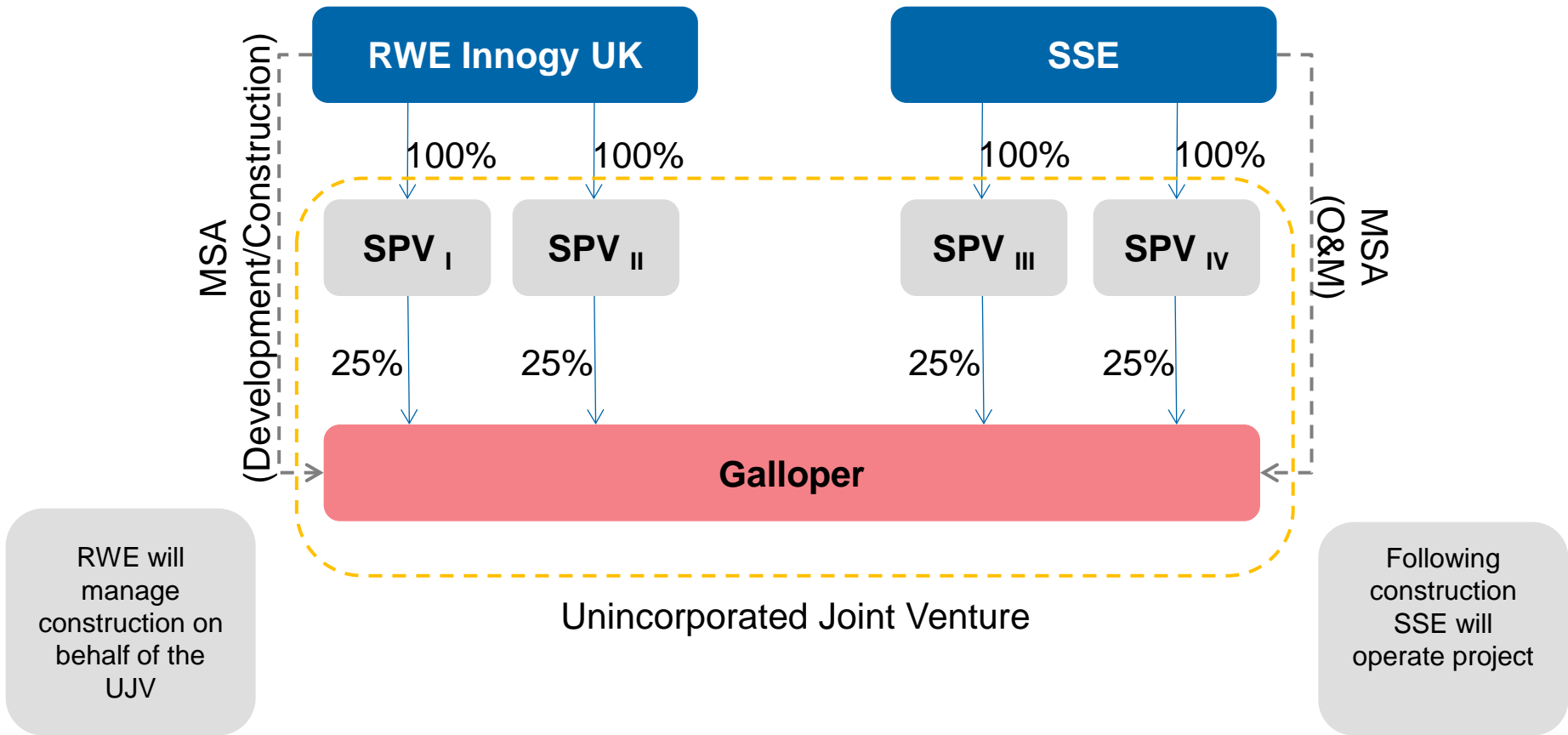


Galloper Wind Farm

Site Characteristics	
Location	■ Offshore Suffolk
Distance to Shore	■ 30 km
Water Depth (LAT)	■ 25-39 m LAT
Tidal Range (HAT)	■ 4.3 m
Wind Speed	■ 9.4 m/s
Project Design	
Capacity	■ 340 MW
Wind Turbine Capacity	■ 4 to 6 MW
Wind Turbines	■ 55 to 85
Export Cables	■ 2 x 132kV
Offshore Substation	■ 1 x AC platform
Substructures	■ Monopiles/Jackets



The Team & Shareholders



Project Delivery Strategy

Programme Key Milestones – first one achieved!

Activity	Target	Realised
Consent Awarded	28/05/2013	24/05/2013
FEED finalised	Q1 2014	
Contracts Ready to Sign	Q2 2014	
Financial Close (FID)	Q4 2014	
Ready for Construction Onshore	Q1 2014	
Ready for Construction Offshore	Q3 2015	
First Generation & Start of RO accreditation	Q1 2017	
Start of Operations & Maintenance Period	Q2 2017	
Full Commissioning	Q1 2018	
Handover to Operations & Maintenance	Q2 2018	

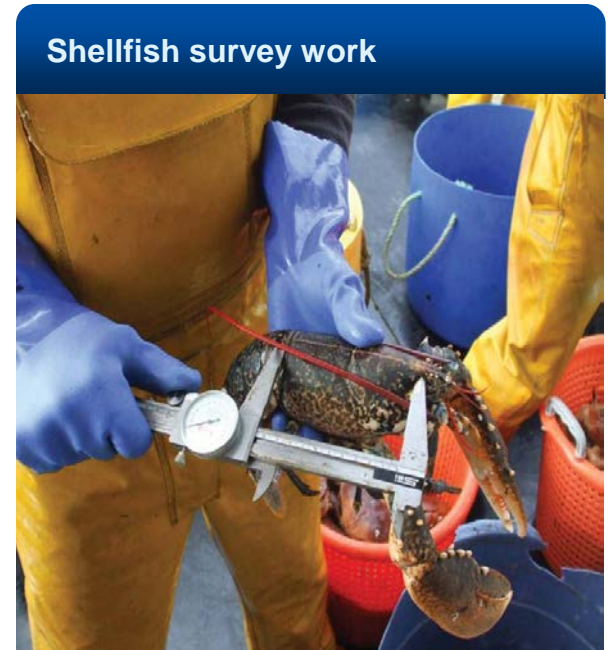
Gallopert Procurement and Business Opportunities

Mike Nolan

Procurement Manager

Opportunities in the Development Phase

- > Majority of the spend in the UK
- > Development work areas include the Environmental Impact Assessment as well as Engineering
 - EIA: specialist consultants, marine ecology, archaeology, marine traffic, radar, bird studies, land purchase, planning, legal, PR, fisheries, e.g. CEFAS, OWL Architects - Lowestoft
 - Project Design: site investigation and survey, civil, mechanical and electrical engineering and studies, e.g. Gardline Geosciences - Great Yarmouth



Galloper OWF: Development Spend

Approx. value spent to date, excluding direct employees and tertiary services (Jan2014): £12.1m

Other England

46.5%

- > (Chichester) SeaRoc Ltd
- > (London) The Crown Estate, Navartis Ltd, National Grid, Halcrow, Reed Recruitment Ltd, CMS Cameron McKenna Ltd, Offshore Wind Consultants, Poyry Managing Consulting, Informa UK, HIS Global Ltd, Independent Print Ltd, Intrafish Media, The Stationary Office, Hobs Reprographics PLC
- > (Bristol) Burges Salmon, Anemoi Renewables Ltd, Woodman Towers Business, Garrad Hassan Ltd, Gardner Power Ltd,
- > (Epsom) Atkins Ltd
- > (Bromborough) Osiris Projects
- > (Bromley) ERSO Environmental Recruitment, Networkers International UK Ltd
- > (Reading) Peter Brett Associates, Regus Management UK Ltd, Fallon Engineering Ltd, TPR Berkshire Ltd, Stephanie Feather, Heathbrook Ltd
- > (Southampton) ABP Marine Environmental Research Ltd, International Offshore Project, Jim Hodder Associates Ltd
- > (Newton Abbot) GoBe Consultants Ltd
- > (Rochester) Wessex Archaeology Ltd
- > (Fareham) P Howson Consultancy Ltd, NATS
- > (Bishops Waltham) Subacoustech
- > (Manchester) Sinclair Knight Merz Europe Ltd
- > (Hull) Danbrit Ship Management Ltd

Wales

1.5%

- > (Ogmore) CPS Group Ltd
- > (Cardiff) Eversheds LLP

Scotland

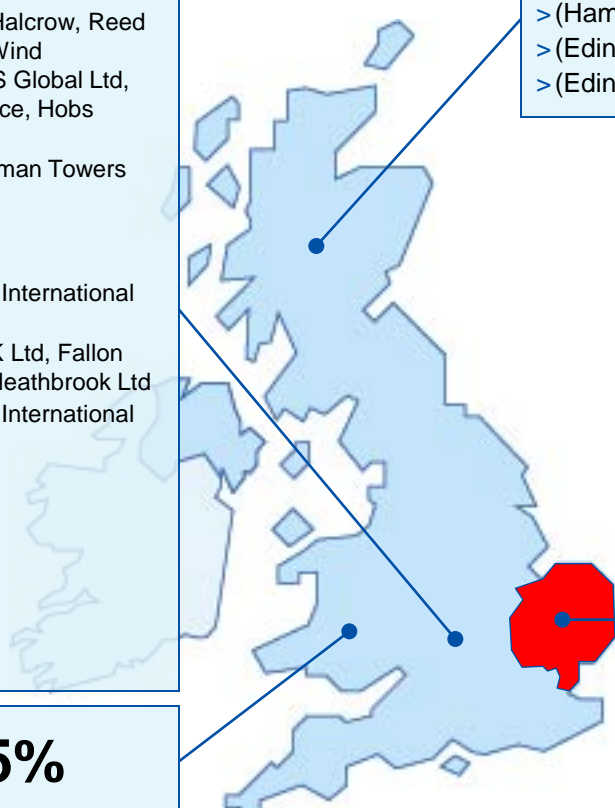
2.6%

- > (Aberdeen) RPS Group PLC
- > (Hamilton) Pafrrak Consultancy UK Ltd
- > (Hamilton) Offshore Digital Engineering Ltd
- > (Edinburgh) Studio LR
- > (Edinburgh) Textlynx

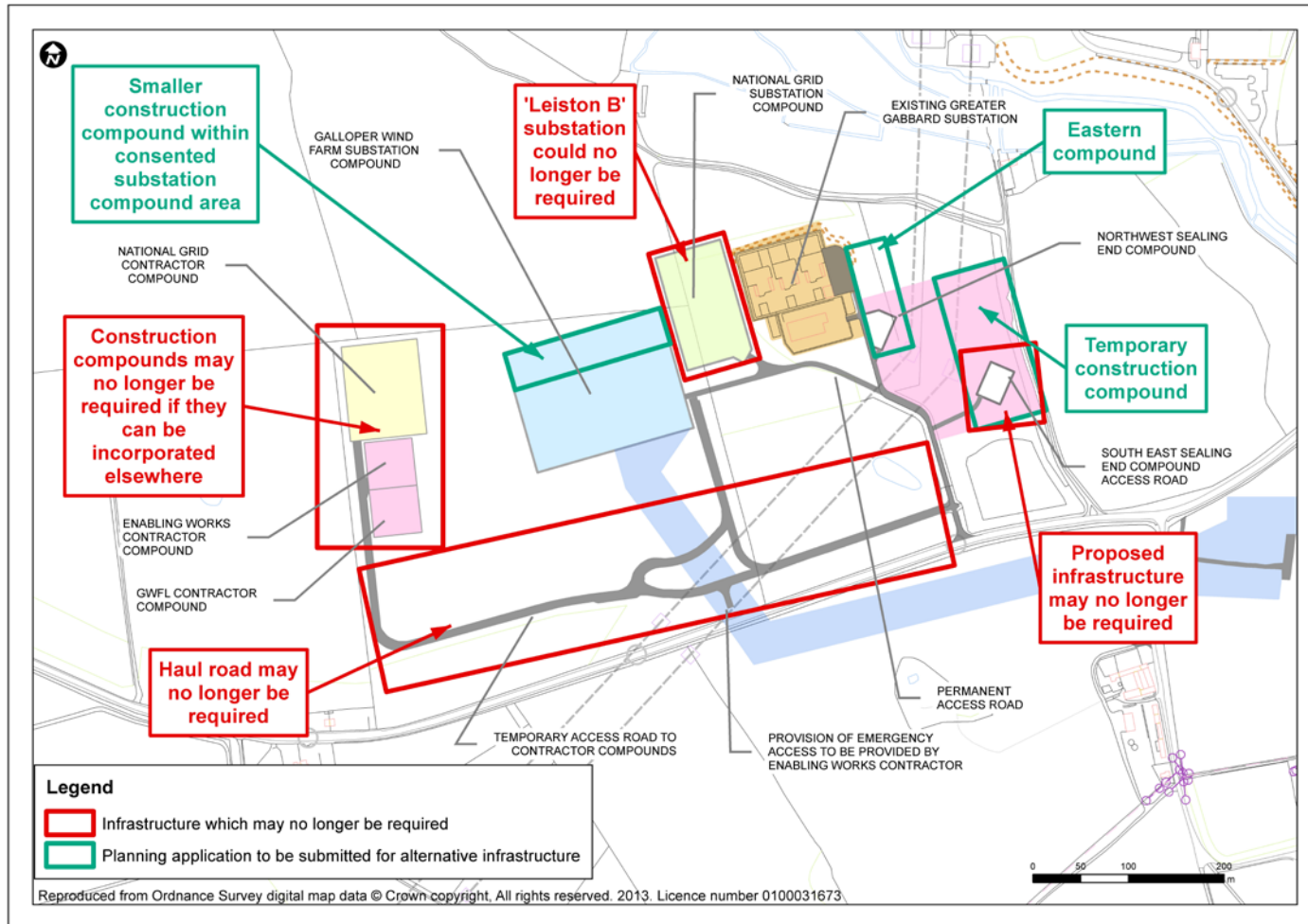
East of England

48.9%

- > (Great Yarmouth) Gardline Geosciences Ltd, Fugro Alluvial Offshore Ltd, Offshore Design Engineering Ltd
- > (Chelmsford) AECOM Ltd
- > (Norwich) The Ecology Consultant, Archant, Bidwells LLP
- > (Eye) Brown and May Marine Ltd
- > (Lowestoft) OWLArchitects, Cefas
- > (Ipswich) EDI Surveys Ltd, Barker Gotelee Solicitors
- > (Bury St Edmunds) Hayden's Arbicultural Consultants
- > (Leiston) Sizewell Cafe
- > (Peterborough) Royal Haskoning Ltd, LDA Design Ltd
- > (Ely) Anatec Ltd
- > (Cambridge) Niras Consulting Ltd, Venue Service Ltd



Onshore Works at Sizewell



Procurement Strategy

Multi-Contract Strategy

Contract Breakdown for the Main Supply and Construction Contacts:

1. Design, Supply & Installation of wind turbine generators (WTG) including service and maintenance period. Includes provision of the installation vessel
2. Design of the WTG Foundations
3. Manufacture and supply of the WTG foundations
4. Transportation and Installation of the WTG foundations
5. Electrical System Works
Includes design and build of onshore substation, supply and installation of onshore cables (substation to termination pit), design manufacture, supply and installation of the offshore substation platform (OSP) and OSP foundation
6. Subsea export cable supply and installation
7. Subsea array cable supply and installation
8. Construction port

Procurement for the above contracts commenced in September 2012 and is currently work in progress.

Galloper project package design, procurement and construction interactions

FID

WTG

Tenders
Received
(Dec 12)

Tower design
& Loading

Preferred
supplier
negotiations

Detailed WTG
design, incl.
interfaces

Manufacture

Install

**WTG
FDN**

Atkins
FEED
studies
underway

Issue
supply &
install ITT's

Basic design,
WTG loading
iteration

FDN
Supply
final price

Detailed
design

Manufacture

Install

**Elec
system
& grid**

Electrical
pre-FEED

Tenders
Received
Aug '13

Commence
FEED work
with 2
suppliers

Supply
final price

Detailed
design

Manufacture

Construct

OSP

Electrical
pre-FEED

Tenders
Received Aug
'13

FEED studies
with 2
suppliers (incl
T&I)

Supply
final price

Detailed
design

Manufacture

Install

Cables

Tenders
expected
(Export, Array,
Supply & install)
Oct '13

Routing &
cable design

Contract award
recommendations
(incl T&I)

Manufacture

Install Export

Install Array

Ports

Port
requirements
developed

Supply chain
ports
requirements
developing

Issue
ITT

Progress to
MOU

Enabling works

Experiences from the Gwynt y Môr & Greater Gabbard projects



Alastair Gill

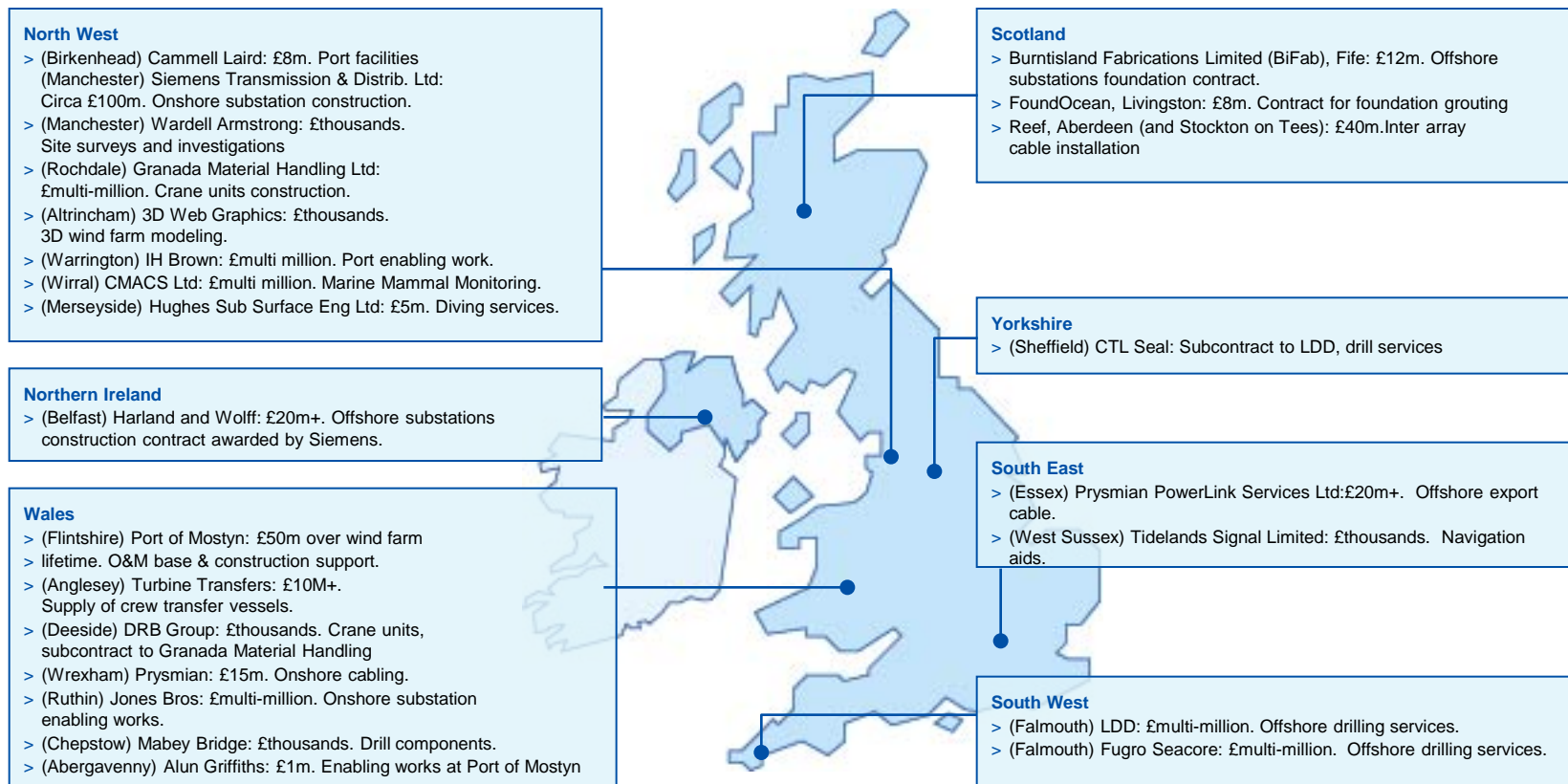
Local Supplier content on Greater Gabbard

The following figures are a summary from the last year :

- 65% of the overall spend on the daily running of Greater Gabbard is with local suppliers (the actual spend with local suppliers is approx £9.5million so far this budget year)
- 72% of the transactions that Greater Gabbard make are with local suppliers
- 55% of the suppliers that Greater Gabbard use are local

UK contracts awarded by Gwynt y Môr

Approx. value of UK contracts awarded to date (Aug 13): circa £350m.



Economic investment in Wales – £90m in contracts

- > Gwynt y Môr Offshore Wind Farm has awarded contracts worth more than £90million to firms in Wales.
 - £50m to Port of Mostyn as the long term O&M base.
 - £10m+ to Holyhead based Turbine Transfers for crew and vessels.
 - £15m to Wrexham based Prysmian Cables and Systems Ltd for onshore cables.
 - £multi-million to Ruthin based Jones Bros for enabling works.
- > Welsh companies are also supporting our supply chain:
 - DRB Group in Deeside subcontracted by Granada Materials to fabricate cranes.
- > Businesses across North Wales are gaining from spin-off economic benefits from the construction of Gwynt y Môr, eg hotels, boat operators, cleaning companies.

Port of Mostyn



Turbine Transfers



Gwynt y Môr Video



Registration and Qualification of suppliers - Supplier Life Cycle (SLC)

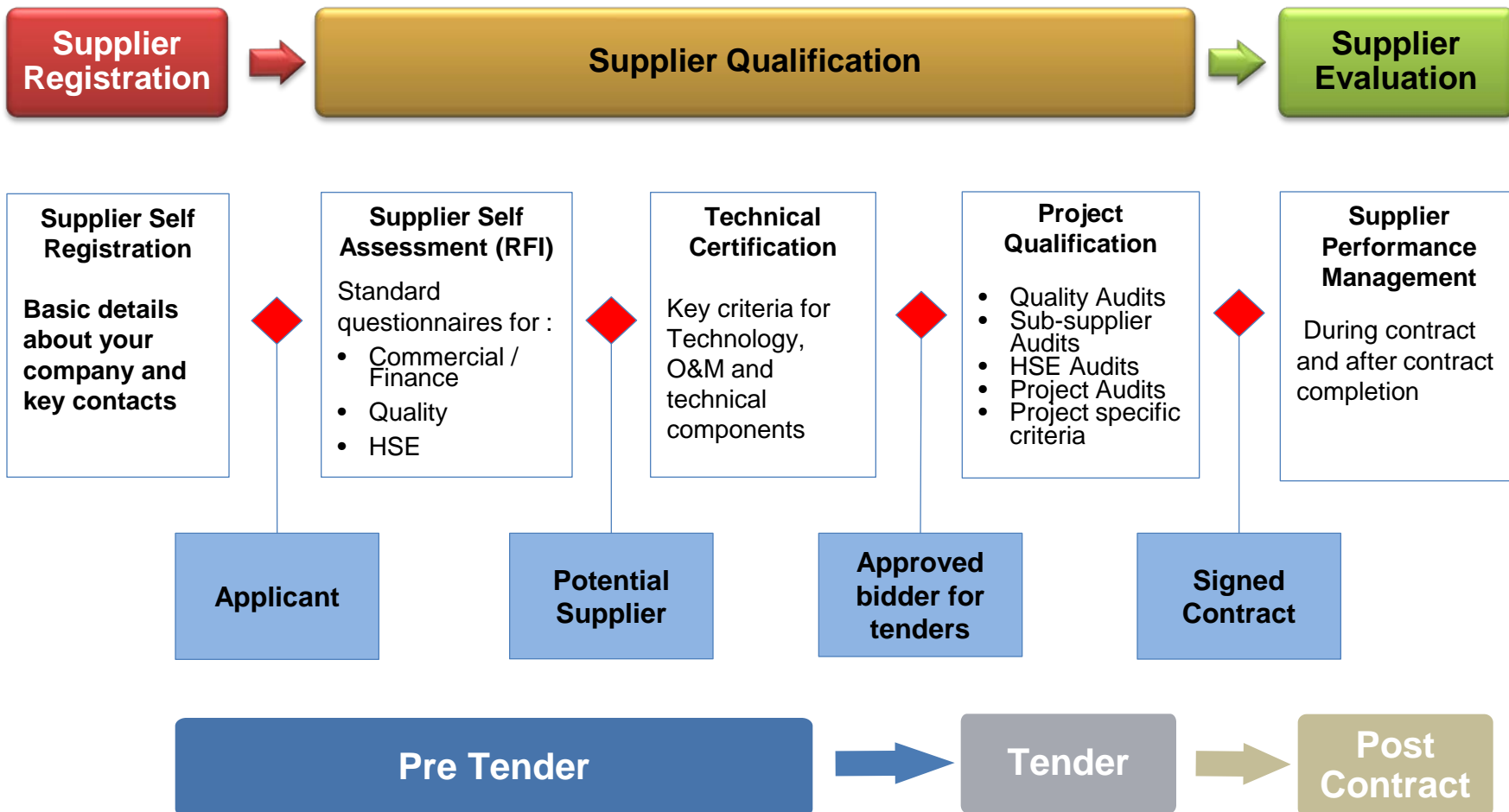
Information at a company level

Standard questionnaires

& Self-assessment

Tom Snowdon - Strategic Supply Chain Management

SLC Steps in the qualification process



SLC - Driven by Categories

Unique RWE Innogy Categories :

Innogy Category:

Renewable Energy

Technology Categories:

Offshore Wind

Onshore Wind

O&M Procurement

Hydro

Sub-Categories for our Technology Groups

Offshore Wind

- Offshore Turbines
- Offshore Foundations
- Offshore Cables
- Offshore Electrical & Substations
- Offshore Vessels and Logistics
- Offshore Services

Onshore Wind

- Onshore Wind Turbines
- Onshore Wind Electrical
- Onshore Wind Civil works
- Onshore Wind Ground investigation
- Onshore Wind Met mast installation
- Onshore Development Services

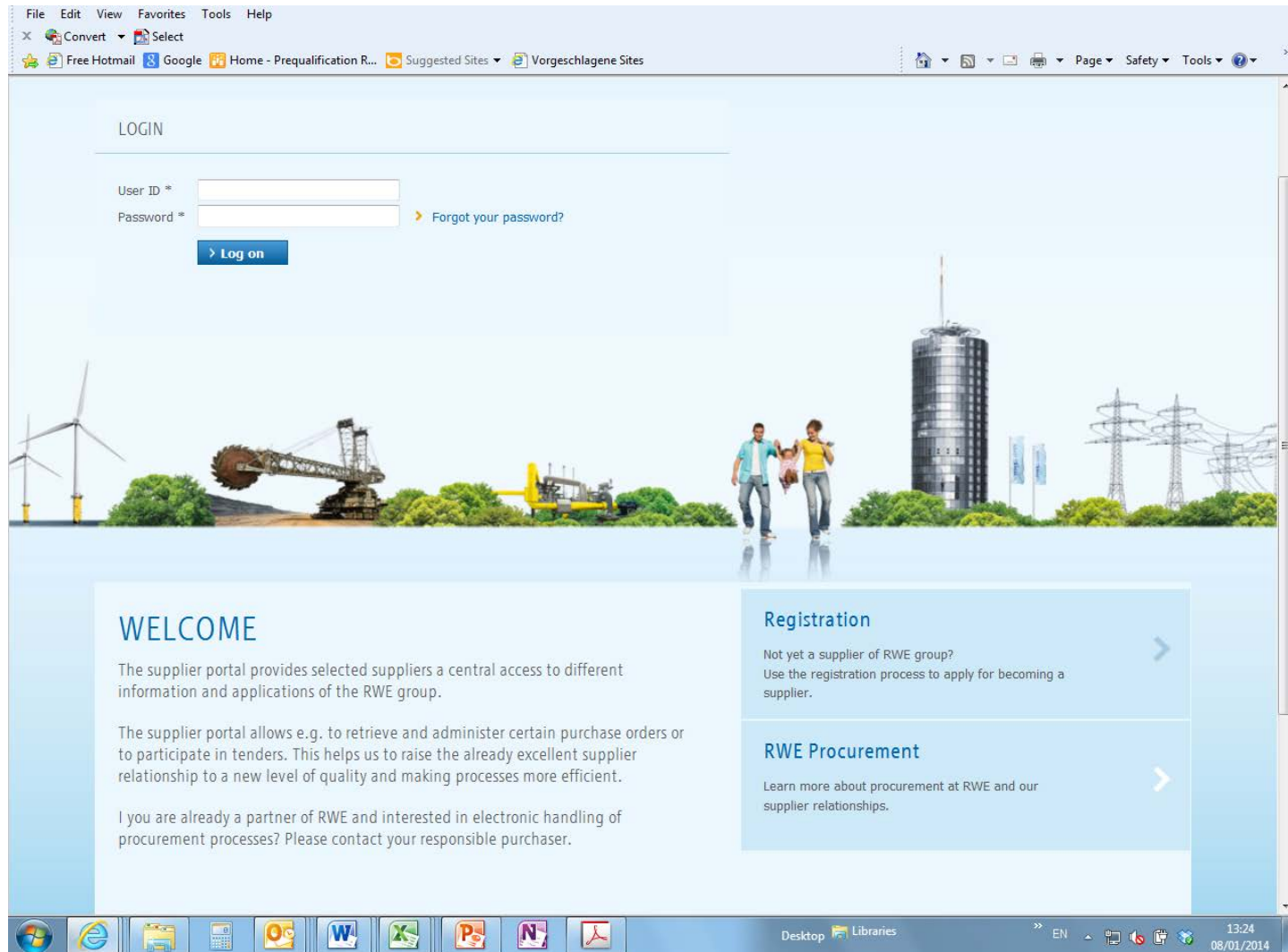
O&M Procurement

- Offshore O&M Services
- Offshore O&M Parts
- Onshore Wind O&M Services
- Onshore Wind O&M Parts

Hydro

- Hydro services
- Hydro electrical
- Hydro mechanical
- Hydro civil works

Supplier Registration



Supplier Registration

File Edit View Favorites Tools Help

X Convert Select

Free Hotmail Google Home - Prequalification R... Suggested Sites Vorgeschlagene Sites

Page Safety Tools

RWE The energy to lead

Welcome to the RWE supplier registration page

If you would like to become a new supplier to RWE and would like to support us in fulfilling our vision of being one of the biggest international energy companies then please register your interest. Why register? By registering your interest to work with us we are able to direct your information to the correct contact within Procurement

* Fields marked with an asterisk are mandatory

General Company Information

Company Name:*	<input type="text"/>	
D-U-N-S Number:	<input type="text"/>	
Language:*	<input type="text" value="English"/>	
Homepage:	<input type="text"/>	
Trade register number:	<input type="text"/>	
Tax jurisdiction code:	<input type="text"/>	
Currency:	<input type="text"/>	

Address

Country:*	<input type="text"/>	
Region:	<input type="text"/>	
City:*/ Postal Code:*	<input type="text"/>	<input type="text"/>
Street: / House number:	<input type="text"/>	<input type="text"/>

PO Box Address

PO Box:

☐ PO Box Without Number

Other City: / Postal Code:

Other Country:

Communication

Phone Number:*/ Extension:

Fax Number: / Extension:

E-Mail:*



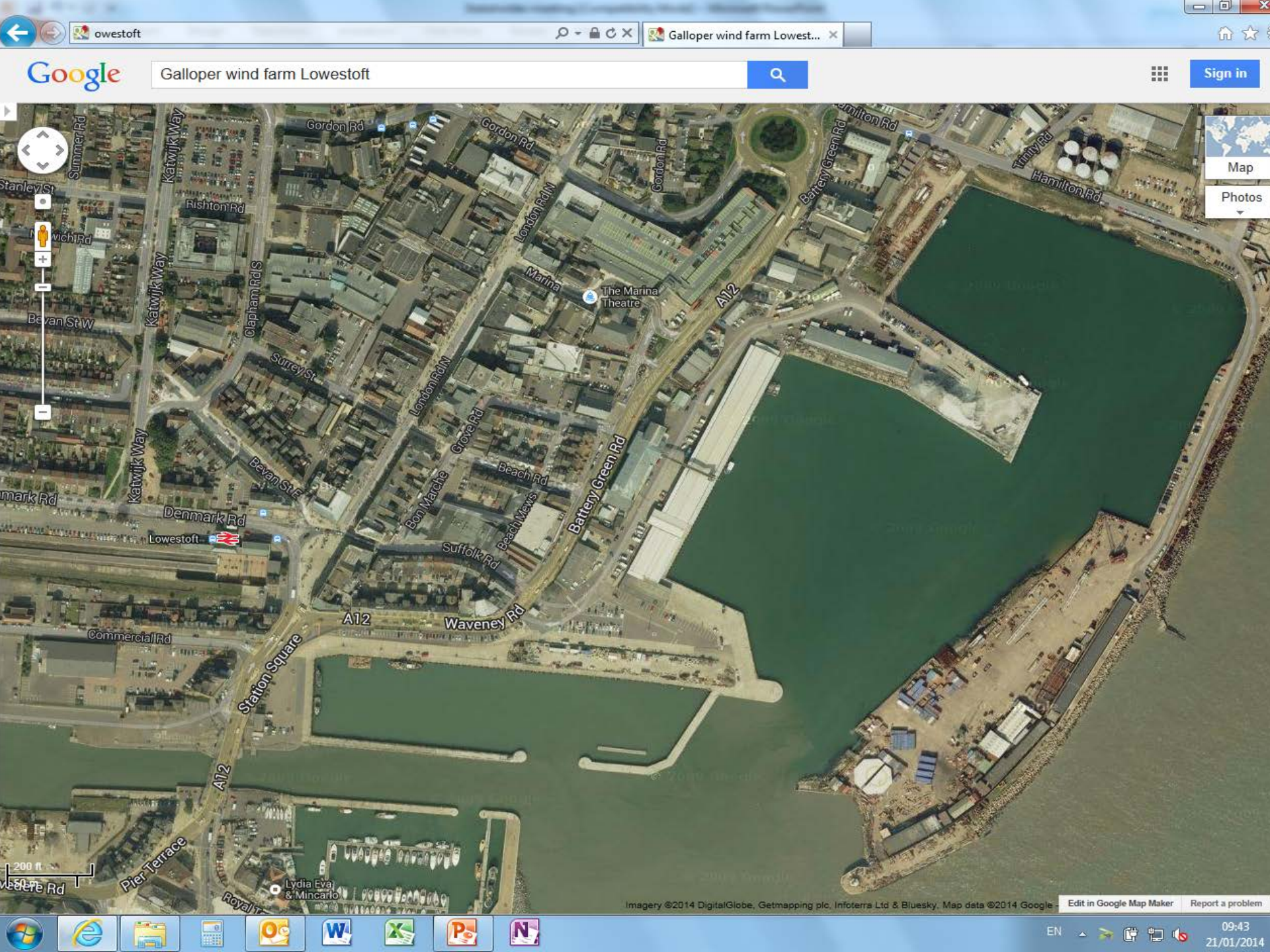
Port Requirements

Alex Woods Port & Harbour Logistics Package Manager



O & M LOWESTOFT







Construction Port

The story so far



- Dec 2012 – Galloper visited a number of potential Construction ports
- Mar 2013 – Shortlisted ports under consideration asked to respond to an RFI/P
- August 2013 – ITT issued
- End Sept 2013 – ITT returns
- Oct 13/Jan 2014 – ITT evaluation
- Q1 2014 Invitation to tender prepared for Offshore Site Services Contractor:
 - Emergency Rescue
 - Maintenance pre-handover
 - Crew Transfer Vessels
 - Set up and management of offshore site, marine coordination etc.

What we are considering



- Health & Safety including CDM
- Environment
- Quality
- Experience
- Location and Supply Chain
- Distance to Offshore Array
- Marine Accessibility
- Current Infrastructure
 - Quayside
 - Pre Assembly Area
 - Storage Area(s)
 - Warehousing/Workshops
 - Roadways and Utilities (power)
 - Offices and Welfare Facilities
 - Security
- Availability
 - Time Frame
 - Capacity for project requirements
- Extent of Enabling Works
 - Time for works
 - Cost of works
- Port Services
 - Bunkering
 - Potable Water
 - Waste Disposal
 - Plant & Equipment
 - Labour
- Costs & Charges
 - Ship/Cargo Dues
 - Quay charges and usage rights
 - Land Charges
 - Warehouse Costs
 - Office Costs
 - Other Charges
- Financial Strength
- General Desire/Added Value

Next Steps



- Select Ports for further discussions
- Carry out Audits for HSE/Quality/CDM/Civil Engineering
- Feb/Mar 2014 - Confirm Scope to ports
- Q1/Q2 2014 – Negotiate with preferred ports
- Q2 2014 - Enter 'provisional' contract with selected port
- Q4 2014 (subject to FiD) – commence enabling works (if applicable)
- Q3 2015 – Port ready for operations
- Q2 2014 – Select Offshore Site Services Contractor

Questions and Answers

THANK YOU.