

Dogger Bank Economic Benefits

May 2014

Background

In mid 2013, Forewind commissioned management consultancies GENECON and Parsons Brinckerhoff to undertake a study to identify the potential economic benefits from the development of offshore wind farm projects in the Dogger Bank Zone in the North Sea. The study looked at the opportunities both for the UK as a whole and for the two most relevant regions, the North East and Yorkshire & the Humber.

The study assessed the potential high and low investment levels, and identified the potential employment and Gross Value Added (GVA)¹ gains based on three development options, namely the delivery of two, four or six 1.2 gigawatt (GW) wind farm projects in the Dogger Bank Zone. The study covered the potential benefits accrued from the project management and development of the wind farms through to the manufacturing, installation, and operation and maintenance phases.

Figures from detailed assumptions were combined with the results of a high-level review of the existing supply chain to develop model-based scenarios for each build out option. Metrics and weightings from national accounts and industry sources were applied to derive the likely economic benefits. Two approaches were used to determine a range of benefits and the actual benefits could fall anywhere within that range.

Scenarios and supply chain

The scenarios developed for the study represent an achievable but optimistic view of supply chain activity in the UK as well as in the North East and Yorkshire & the Humber regions (NE&YH). Each development alternative – two, four or six 1.2 GW projects – was considered in terms of high or low supply chain content.

The difference in supply chain content between the high and low scenarios is largely dependent on the ability of the UK to secure more original equipment manufacturing (OEM)² capacity, nationally or in the NE&YH. The establishment of a turbine fabrication plant in the Humber, as was recently announced by Siemens, falls into this category.

The levels of investment and benefits for a total of six scenarios were included in the study, comprising high and low supply chain considerations for each of the three build out options. The potential new jobs and the add-on boost to the economy were derived for all the scenarios. This fact sheet will focus on those figures for the mid-range scenario – four projects – in line with the number of projects Forewind currently has in the planning process.

Forewind has two development consent order applications for four projects totalling 4.8 GW in the planning system. Dogger Bank Creyke Beck, comprising two 1.2 GW projects, is now in the examination phase

while Dogger Bank Teesside A&B, a further two 1.2 GW projects, was accepted for examination by the Planning Inspectorate at the end of April 2014.

UK economic benefits

With its current industrial base, the UK could provide up to 38 per cent of the total content of the Dogger Bank projects, and for the mid-scenario of four wind farms, this equates to an investment of close to £7 billion.

However, if new relevant manufacturing facilities are established here, UK based companies could secure up to 72 per cent of the content, which equates to an investment of around £13 billion in the four-project scenario.

Delivering the four Dogger Bank projects currently in the planning process could create more than 4500 new direct and indirect jobs and generate an additional £1.6 billion for the UK economy (GVA). With the successful establishment of new manufacturing facilities, however, the UK could see around 9000 new jobs created giving a £3.4 billion boost to the national economy (GVA).

Together the projects currently with the Planning Inspectorate could generate enough green electricity each year to power the equivalent of around 3.5 million British homes.

¹ GVA measures the contribution to the economy of each individual producer, industry or sector. It is the primary measure of productivity in the UK.

² Defined in this study as facilities for the main components required for a Wind Turbine Supply Agreement – i.e. nacelles, blade sets and towers. Other OEMs that could develop in this definition include the potential for additional cable manufacturing (onshore and offshore).

North East and Yorkshire & the Humber economic benefits

With its current industrial base, the North East and Yorkshire & the Humber (NE&YH) could provide up to 36 per cent of the total content of the Dogger Bank projects, equal to an investment of up to £5.5 billion in the four-project scenario. This figure could increase to up to 61 per cent (worth £9.3 billion) with additional relevant manufacturing facilities established in the area.

The four Dogger Bank projects currently in the planning process could create more than 4000 new regional jobs generating an additional £1.3 billion for the North East and Yorkshire & the Humber economies. With the successful establishment of new manufacturing facilities, around 7000 new regional jobs could be created generating an additional £2.2 billion for the regional economy.

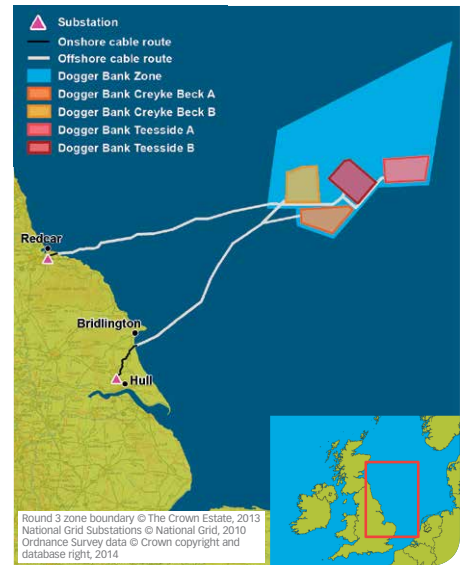
While the highest number of new jobs will be in the manufacturing, construction and installation phases of the Dogger Bank projects, the jobs in the operation maintenance phase will be longer term and individually generate a higher return to the UK economy. In effect these represent jobs for generations.

The NE&YH regions are well placed to secure a high proportion of the work

associated with the Dogger Bank Zone. The regions are geographically close to the Zone but also have existing strengths in terms of large-scale production, port and port-side facilities and offshore industry support. This gives businesses located in the NE&YH regions a competitive advantage over the rest of the UK, increasing their chances of winning a high proportion of the work.

This competitive advantage is linked to:

- The region's proximity to the Dogger Bank offshore wind farm, proposed cable corridors and construction ports, which could result in cost efficiencies.
- The existing skilled workforce has a higher than UK average competence in large-scale manufacturing, offshore oil and gas, engineering and logistics. A fifth of all national manufacturing and a seventh of all national energy production jobs are located in NE&YH.
- Identified port-side availability around the Humber, Tees, Sunderland, Tyne and Blyth.
- Significant historic and continued ports and renewables sector-led promotion activities within the Humber, Tees Valley, Sunderland, Tyne and Blyth areas.



Combined results table

Potential Dogger Bank Economic Benefits – UK, NE&YH Regional Scenarios									
		UK Content	NE&YH Content	UK Spend	NE&YH Spend	UK FTE Jobs	NE&YH FTE Jobs	UK GVA	NE&YH GVA
Scenario 1: 2.4 GW by 2025	Without OEM	38%	36%	£3.5bn	£2.8bn	2,250 – 2,400	2,050 – 2,200	£650m – £900m	£550m – £750m
	With OEM	72%	61%	£6.7bn	£4.7bn	4,250 – 4,750	3,450 – 3,750	£1.2bn – £1.7bn	£900m – £1.2bn
Scenario 2: 4.8 GW by 2029	Without OEM	38%	36%	£7.0bn	£5.5bn	4,450 – 4,750	4,100 – 4,350	£1.1bn – £1.6bn	£1.0bn – £1.3bn
	With OEM	72%	61%	£13.4bn	£9.3bn	8,500 – 9,050	6,900 – 7,350	£2.7bn – £3.4bn	£1.7bn – £2.2bn
Scenario 3: 7.2 GW by 2030	Without OEM	38%	36%	£10.6bn	£8.3bn	6,700 – 7,150	6,150 – 6,550	£1.7bn – £2.4bn	£1.5bn – £2.0bn
	With OEM	72%	61%	£20.0bn	£14.0bn	12,750 – 13,550	10,350 – 11,000	£3.3bn – £4.5bn	£2.5bn – £3.3bn

Summary

The Dogger Bank projects present a real opportunity to help support the UK and regional economies and drive forward the Government's economic growth agendas.

Both the location of Dogger Bank and the technical requirements for delivery present a particularly substantial opportunity for the North East and Yorkshire & the Humber. Their historic strengths, existing skills in large-scale production and marine support facilities add weight to the locational advantages.

The highest number of new jobs will be in the manufacturing, construction and installation phases of the Dogger Bank projects. However the jobs in the operation

& maintenance phases will be longer term and will individually generate a higher return to the UK economy.

Operation and maintenance jobs in particular provide long-term sustainable employment gains and in effect create jobs for generations.

To maximise the economic benefits from the Dogger Bank development, the UK needs additional manufacturing companies to establish operations here. This would provide a facilities focal point and foster the development of a supply chain cluster. To achieve this will need a coordinated effort at all levels from public agencies and the private sector.

Headline and technical reports

Both the full technical study, including a detailed description of the methodology, and the non-technical headline report "Dogger Bank Offshore Wind Farm Economic Benefit Study" can be found at www.forewind.co.uk

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