

Is our region up to windfarm

The growth of offshore windfarms will present new economic opportunities to East Anglian industry – particularly those in the Lowestoft area – but will the region's firms rise to the challenge?

PAUL HILL spoke to Rob Hastings of the Crown Estate.

THE POWER of the wind has been harnessed through the centuries to send British merchants and adventurers across the globe and to power mills and drainage pumps across the countryside.

But what role will this free resource – this climate-friendly resource – play in powering the homes and industry of 21st century Britain?

Nine years have passed since the first two offshore wind turbines were erected off Blyth Harbour in Northumberland.

Two rounds of bidding for licences to develop windfarms have followed – with the Scroby Sands windfarm one of the first “Round One” projects to be built when it was switched on in 2004.

Round two will see the construction of the world's biggest offshore wind farm, called Greater Gabbard, built in the Thames Estuary and another large array of turbines built off the “Greater Wash”.

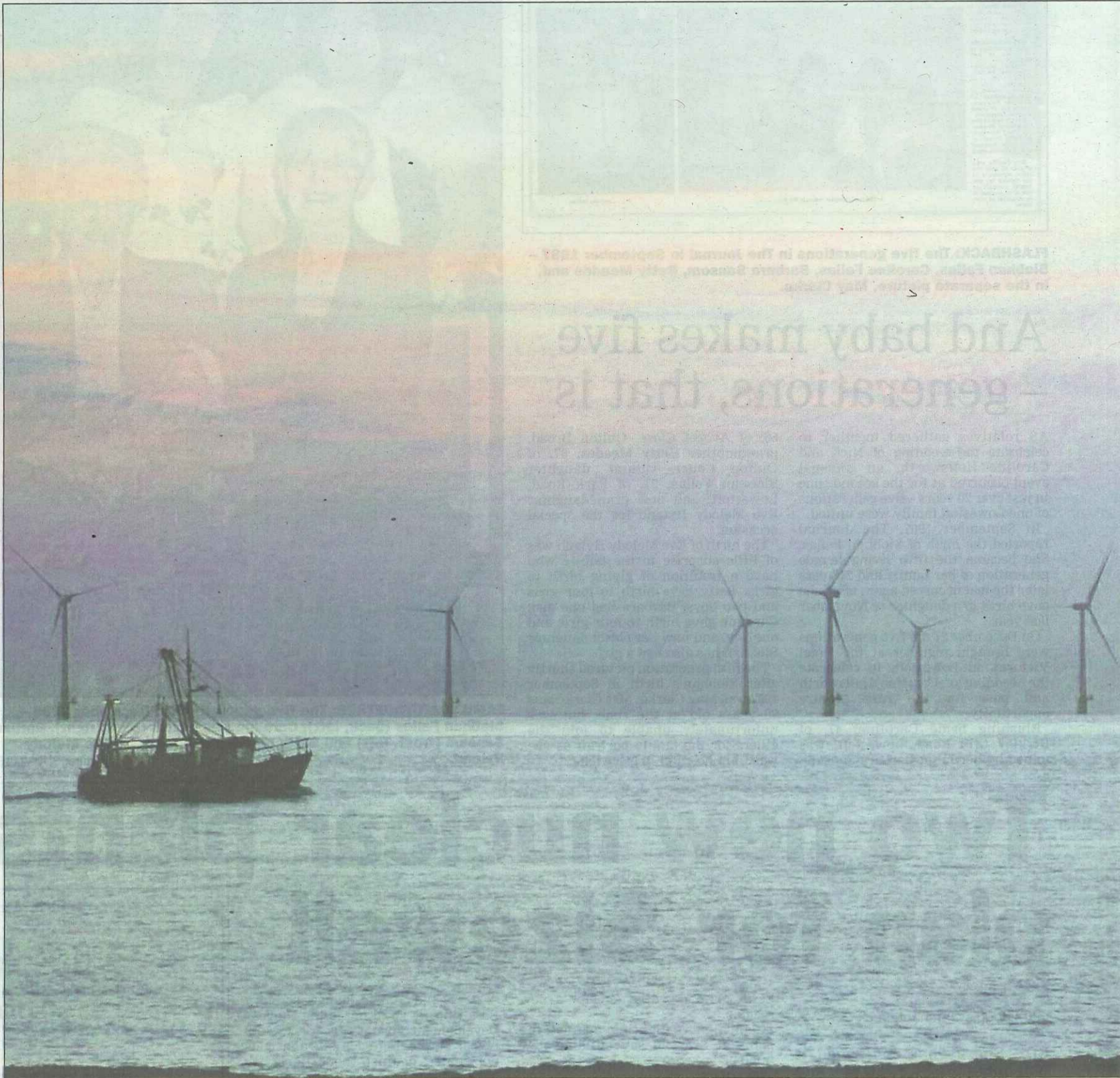
While Scroby generates about 60 megawatts of electricity, Greater Gabbard will have the potential to generate 500 megawatts.

By the time construction of the planned third round of offshore windfarms is complete, the contribution of wind power to the UK's annual power generation will have grown from about 1,000 megawatts today to 25 gigawatts by 2020.

But offshore wind farms, even by 2020 standards, will still only meet a fraction of Britain's energy generation needs – bearing in mind that today the UK generates 80 gigawatts of power from nuclear, coal, gas and green sources.

Still, the growth of the offshore wind energy industry will present East Anglia with a new economic opportunity – at a time when the North Sea and oil and gas industries have passed their peak. Can the oil and gas supply chain that has developed in East Anglia in the last 40 years apply their skills and technology to the construction and maintenance of the thousands of turbines to come?

The scale of those possibilities will come under the spotlight at the Southern North Sea 2009 (SNS09) conference in Norwich on Thursday, with Rob Hastings, director of



marine estates for the Crown Estate, among the keynote speakers.

The Crown Estate owns about 55pc of the British coastline and the seabed from low water to 12 nautical miles out. But the estate also has rights to the seabed in some areas 200 miles from the coast.

Mr Hastings's responsibility is to see the seabed and coastline well managed, and, increasingly, to drive the development of offshore wind and tidal power.

“When you look at East Anglia, the North Sea has a good wind resource,” Mr Hastings said.

“It has locations that are typically fairly shallow so, in terms of building offshore windfarms, the seabed conditions are typically good for building these large structures.

“It's also an area which has fewer

constraints than parts of the west or south coast, which have other activities that potentially might conflict.

“The east coast is reasonably well positioned to get access to the electricity transfer system, the grid.

“These are the sorts of constituent elements that put East Anglia in a better position than most. In addition, around places like Lowestoft and Yarmouth and further north towards Teesside and Humberside – and south to places like Ipswich and Felixstowe – there are a range of port type facilities that are well suited to offshore construction.

“They've done it in the past with the oil and gas industry. They will become good locations for maintaining the assets that are out

there. If you put all that together, anyone looking at this would consider East Anglia a prime location.”

Mr Hastings added: “The challenge is getting people to understand the nature of the opportunity, the challenges that are there, and what are the relevant parts people can play, whether they are part of the supply chain, part of the government community or part of the investor community.

“Between now and 2020, there's a need for £60bn-£80bn to be invested in the relevant assets to make this happen. Compare that to the oil and gas industry, the rate of expenditure which will make this happen is greater than what was spent by the oil and gas industry last year by a factor of two.”

The Crown Estate's role in offshore development is changing.

The first two bidding rounds for offshore windfarms saw the estate involved in the licensing and bidding process.

Round three will be different.

“We're taking a much more proactive role enabling the project to proceed,” Mr Hastings said.

“There's co-investing with developers – which we have yet to select – to enable the accelerated deployment of renewable energy. “We're very active in identifying what needs to be done: identifying potential partners and identifying constraints, whether environmental or with the supply chain and the regulatory process.”

But the appetite of the oil and gas operators, to invest in offshore

challenge that's on horizon?

Exploiting the riches below the sea's surface

By **JOHN BEST**



BE PREPARED: John Best says the energy industry is under scrutiny to see how it embraces the demands of the future.

THE EYES of the world are on the energy industry to see how well prepared it is to meet the demands and expectations of the coming decades.

That is why this year's Southern North Sea 09 conference, staged by the East of England Energy Group, will focus first on a vision for the future.

It will also examine the developing technology and enterprise of the sector today and reflect on what can be gained from the vast experience of the past.

The principal aim of all must be to beneficially harvest from the southern North Sea all the potential energy available for our long-term needs.

The vision must be an all-embracing one so the conference will look at the sector from every aspect and every level - subsea, surface and skyline.

It comes in the shadow of a remarkable year, not only for turbulence in the financial industry but one in which crude oil prices have ridden a tidal wave which makes even the southern North Sea look tranquil.

Within a year, crude oil prices soared from about \$90 a barrel to a peak of \$147 in summer and then back down to \$38 in December, their lowest since 2005.

In the face of such upheaval and uncertainty, the energy industry must remain calm and focused.

SNS '09 will look closely at three particular aspects of the future:

- Round Three of the offshore wind farm proposals;
- The Greater Gabbard project off the Suffolk coast;
- Seajacks launching its pioneering powered jack-ups;

The conference will be brought up to date on the flagship Beatrice Windfarm project for offshore wind energy development in Scotland, the UK and Europe. The project was designed to learn about large capacity windfarms offshore in deep water by installing two demonstrator wind turbines adjacent to Talisman Energy's Beatrice oil field.

Mark McAlister, chief executive of Fairfield Energy - established in

2005, to bring together outstanding subsurface knowledge, commercial creativity and disciplined investment - will show how they are getting more out of fields and discoveries which have either been overlooked or abandoned by other companies or have seen underinvestment in recent times.

ODE will be also on stage to impress on everyone the need to maximise the synergies available through shared infrastructure and look at ways to enhance the value of assets in the SNS through integration.

And there is no way the conference can forget the significance and experience of the past. So much of what the energy world does today depends on the foundations built in the east of England and offshore over the past 40 years and more.

The vision for the future includes some elements which are not physically visible today. Alistair Birnie, the new chief executive of Subsea UK, will take us below the surface of the SNS to discover just what else might be down there and how it can be recovered.

There's gold in the mountains; there remain even greater riches below the sea.

● John Best is chief executive of Eeegr.

● Next month's Southern North Sea conference will include presentations from key players in the offshore renewables and oil and gas industries. The conference, at the Holiday Inn, Norwich International Airport, on Thursday will follow the annual Energy Innovation Awards at the same venue the day before.

For more information contact the East of England Energy Group (Eeegr) on 01493 446535 or visit www.eeegr.com

renewables projects has ebbed and flowed in recent years - with Royal Dutch Shell deciding to pull out of the Greater Gabbard project last spring.

"Generally what we find is that the supply chain of oil and gas industry is very interested in offshore renewables," Mr Hastings said.

"They see it as an opportunity to provide business continuity in areas they know about, offshore construction or operations and maintenance. The oil and gas operators, like Shell and BP, are very focused on getting the last remnants of hydrocarbons they can get from the UK, or focused on developing where they can replace their reserves, which we know is getting difficult on a global scale.

"You can see the manifestation of that in the Shell decision - the notion

of divesting or distracting by looking at renewables is not such a good thing for them to be doing. But if you look at the other elements of the investment community - the utilities that supply electricity as part of their portfolio - the need for them to be involved is critical. It's very clear that there is a very strong interest in that side of the business community to engage. It's non-optional for them.

"There's been a tight relationship between the oil and gas operators and the oil and gas supply chain. There's going to have to be a reconstruction of that relationship between the energy companies, the utilities and electricity suppliers. I don't see many problems with that. The supply chain is mobile once they see the challenges ahead of them. It's about getting clarity about what's needed."



BLOWING IN THE WIND: The number of coastal windfarms is likely to increase, giving more opportunities for businesses which can see the opportunities, says Rob Hastings, of Crown Estate.

Thousands of turbines needed

UP TO 6,000 turbines may be needed off the British coast by 2020 if the government's offshore energy targets are to be reached, Rob Hastings revealed.

But how does the Crown Estate reconcile the drive to increase green energy production with the views of coastal communities and industries, such as fishing?

"The nature of projects is changing and stakeholder communities engaged in the first round are less likely to be concerned about round three projects," Mr Hastings said.

"The locations for offshore windfarms in round three are likely to be in excess of 10km from shore.

"In terms of one of the round three

zones, the minimum distance from the shore will be 60km, whereas, if you look at Scroby Sands, it was 2-3km from the shore.

"So the physical presence is much less likely to be as obvious as in previous rounds. In terms of the fishing industry, and those with an ecological interest, we've spent a huge amount of time, money and effort in building up a process with real data about what the impact is of having an offshore installation like a windfarm in a particular location.

"We think we know a lot about those locations in terms of what the considerations are, whether they are ecological or socio-economic, like fishing."