

## Construction powers ahead

**The first wind turbines and all 90 foundations for the 317MW Sheringham Shoal Offshore Wind Farm are now in position on the 35 km<sup>2</sup> site.**

Electricity generation began in early August when the first turbine was commissioned while the foundation installation was completed later in the month. From the North Norfolk coastline, the yellow transition pieces can be seen above the waves, awaiting the arrival of the remainder of the wind farm's 88 turbines.

At the time of publishing, there were five turbines installed. 'GMS Endeavour', a brand new 76m self-propelled jack-up vessel will continue to position the remaining turbines, bringing them two at a time from Great Yarmouth. For four months the 91m 'SEA JACK', a specially constructed self-elevating platform vessel, will also assist with the turbine installation.

The team onboard the 76m 'Smit Constructor' is due to complete preparations for the infield cable installation by the end of September when cable installation vessel, 86m 'Team Oman' will return to the site from another job to finalise the installation of the cables that run between the turbines and the offshore substations.

### Foundation powerhouse

The 183m crane vessel 'Oleg Strashnov' has now left for her next job having powered through the installation of the final foundation in late August, three weeks ahead of schedule.

General Manager of wind farm operator Scira Offshore Energy, Mr Einar Strømsvåg said the vessel completed the work before anticipated which was extremely satisfying for everyone involved.

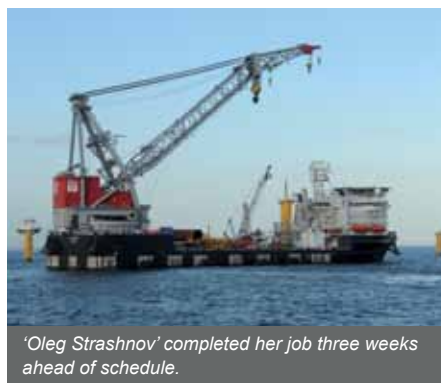


*With all the foundations in place, substations positioned and wind turbines being progressively installed, the wind farm is taking shape.*

Photo: Jeff Gilbert

"It's a huge credit to both the on-board and onshore teams that the work has been carried out both safely and with such efficiency," he said.

The 'Oleg Strashnov', with its crew of 150 people, started work installing foundations in April, then in May the vessel lifted the two 1000 tonne offshore substations into place. The vessel has continued with foundation installation work since



*'Oleg Strashnov' completed her job three weeks ahead of schedule.*

then, completing the placement of 71 foundations in just four months.

Operated by marine construction firm Seaway Heavy Lifting, the state-of-the-art vessel has made continuous round trips between the wind farm site in the Greater Wash and the Netherlands port of Vlissingen, collecting four foundations per cycle.

Each foundation, comprising a tubular steel monopile topped with a bright yellow-painted transition piece, was designed and fabricated specifically for its location on the site.

The Sheringham Shoal site now boasts 88 foundations for the wind turbines and two for the offshore substations, the two offshore substations and an initial five turbines plus almost 30 kilometres of inter-array cabling connecting strings of turbines to the substations.

# How many people does it take to build an offshore wind farm?



Experts from around the world have been called in to undertake the huge task of building the wind farm.

**Each of the three phases of the Sheringham Shoal Offshore Wind Farm – development, construction and operation – have distinct requirements in terms of tasks and people with the skills to carry them out.**

It is in its current construction phase – the most intensive period of work – that the highest numbers of people are employed directly by the project and its main contractors to fulfil their specific duties.

This article looks at all those performing the physical installation of the parts – foundations, cables, turbines and so on – that together make up the wind farm. To also include all those who produced and fabricated the components, such as the more than 1000 people employed in Hartlepool by offshore substation manufacturer Heerema, would add some thousands to the total. To date more than 3.5 million man-hours – or around 2000 man-years – have been completed overall.

## Experts from around the world

Being a project of such magnitude, Sheringham Shoal has brought together experts from around the world creating an offshore global village to carry out the highly specialised and technical job of actually building the wind farm.

Starting with the onshore cable installation, which was completed by UK company Carillion last year, around 20

people were employed trenching and laying the 21.6 kilometre cable, with another 15 people employed by electrical specialists AREVA T&D (now Alstom), who built the onshore substation at Salle.

The offshore work began with rock placement for scour protection followed closely by the foundation installation, recently completed by Seaway Heavy Lifting using their vessel 'Oleg Strashnov'. Around 160 people lived on-board the vessel working round the clock to install the monopiles and transition pieces.

The infield cables, buried on the seabed and linking together strings of turbines, are being laid by maritime contractor Visser & Smit. The company also laid the export cable from the wind farm to the landfall at Weybourne. Up to 56 people work on board dynamic positioning vessel the 'Team Oman' laying the cable while their new vessel 'Smit Constructor' has 61 people carrying out secondary works including divers and remote-operated vehicle (ROV) operators.

A2SEA and Siemens together are responsible for the on-going installation of the 3.6MW wind turbines and will use the newly built 'GMS Endeavour', which carries 60 people on board to work on the task. From September she will be joined by the purpose-built 'SEA JACK', with 50 workers and crew, to also undertake turbine installations on the Sheringham Shoal site.

Alstom carried out the substation transfer and is working on the on-going electrical

systems integration and commissioning with offshore and onshore teams.

Up to 178 workers and crew live aboard the 153m floating hotel called 'Wind Ambition' which is almost a permanent fixture on the site and can be easily seen from the shoreline. Eighteen workers are also on the 'Atlantic Guardian', another offshore accommodation vessel.

A further 35 people are those operating the tugs, which carry out auxiliary works such as fuel transfer and heavy equipment lifts and the 15 personnel transfer vessels, which ferry people to and from the wind farm site.

## 650 specialists doing their bit

Each of the major offshore contractors also has onshore support staff, many working either in Wells-next-the-Sea or elsewhere around the UK, of up to 10 people. That is in addition to those almost 90 people employed by the owner companies, Statoil and Statkraft, and the operator, Scira Offshore Energy which are overseeing the whole project and preparing for the next phase – operation.

The numbers of people fluctuate at any one time with crew changes and depending on the task requirements but in total, the answer to the question in the heading is more than 650 specialists are working offshore and onshore at any one time, doing their bit in piecing together the giant jigsaw that is the Sheringham Shoal Offshore Wind Farm.

# Operating Sheringham Shoal

**With all the focus on the offshore construction action, it is easy to forget that in the long term, the Sheringham Shoal Offshore Wind Farm will be operated and maintained by a core team of 50 people working from Wells-next-the-Sea.**

When the turbines have all appeared on the horizon, Scira Offshore Energy, based for now in the old school house in Polka Road, with help from maintenance contractor Siemens, will take control of the day-to-day management of the wind farm.

Once all the huge vessels and the 650 plus people involved in the wind farm construction, have moved elsewhere in the world for their next job, the team will be responsible for the safe and efficient running of the 317MW wind farm.

## Energised people

Scira Offshore Energy with its vision of "energised people transforming wind energy" comprises a small management team and a total of 13 people – three on secondment from Norway and the rest recruited locally from the UK, primarily Norfolk.

General Manager Einar Strømsvåg says the role of the team will be to oversee the running of the wind farm with staff working in finance; health, safety and environment (HSE); human resources and communications; operations and maintenance, and production and technology.

Finance Manager Tim Hardy from King's Lynn will ensure all the financial, commercial and governance systems meet the needs of Scira and its stakeholders. As offshore wind is a budding industry, Tim believes that Scira has a unique opportunity to establish best practice standards, which will underpin the company's future success.

## Safety crucial

Recent recruit Adam Blake, responsible for HSE, is new to the wind industry but appreciates it is an area with a huge potential for Norfolk. A Norwich resident, he sees the health and safety of everyone involved with the wind farm as the number one priority and getting procedures for its operation right will be his main focus. Protection of the environment will also be crucial.

The bulk of the locally based employees will be wind turbine technicians working for Siemens under contract to Scira. To date 24 technicians have been hired, all from the Norfolk area and, having completed the intensive training required to work at height in rough offshore conditions, are preparing to start at Sheringham Shoal.

The marine operations, managed by Trygve Ågotnes, who has temporarily moved to Wells-next-the-Sea from Norway, will be staffed by three full time marine coordinators, Mark Williamson from Wells-next-the-Sea; James Fuller from Norwich and Lucia Firman from Lowestoft, who will handle all the work relating to crew transfer vessels and marine operations. This function will also work directly with the Siemens team.

## Own culture and values

HR and communications manager Elizabeth Hancock, from Downham Market will be the main public interface, ensuring Scira is part of the local community while helping the fledgling organisation establish its identity as it embeds its own culture and values. The team will continue to be supported by Kay Reeve, from Fakenham, in administration. One additional staff member is to be finalised.

Looking after the production and technology is Roger Fredheim, also relocated to Norfolk from Norway, who will work with two mechanical engineers, Colin Galer from Lowestoft and Douglas Hope from Lincolnshire, and one electrical engineer, James Cooke from Norwich. Together the team will be responsible for the management of the electrical system.

Post-construction, the Scira organisation, to be based at a new site in Egmere (see story this page), will be charged with focusing on its mission to become a reliable provider of green energy to the UK market.



Tim Hardy (left) with Mark Williamson and Elizabeth Hancock in the marine coordination centre.

## New home for the new organisation

**By the time the lease on Scira's temporary home at the former Wells Field Study Centre expires in February 2013, the organisation will have a brand new home to move into.**

Planning consent was recently granted by the North Norfolk District Council for the administrative base and

associated storage facility located on the Walsingham Estate in Egmere.

A contractor for the construction of the base is now being sought by Norwich-based architects LSI, with work due to start on site this October. The expected completion date is mid 2012.



Map of the new operations base at Egmere.

# Helping to green Norfolk



The fund will help the Museum of the Broads install solar panels.

**A how-to-go-green web guide and the installation of photovoltaic solar panels are just two of the projects to get the go ahead following the most recent award of funds by the Sheringham Shoal Community Fund.**

Wells Area Partnership received funding for its "Green-next-the-Sea" website which will encourage local residents and businesses to make positive environmental changes while providing examples of others who have already done so.

The Fund also contributed to the cost of solar panels for the Museum of The Broads in Stalham and to the architects design fees for the redevelopment of the Sackhouse building by the Wells Maltings Trust to provide a youth and small business space.

Applications have been closed for the next funding round and the grant award meeting will be held in late November. For more information visit: [www.norfolkfoundation.com](http://www.norfolkfoundation.com) or email [grants@norfolkfoundation.com](mailto:grants@norfolkfoundation.com).

## Scira gets connected

**Norwich-based computing specialist, Computer Service Centre has been awarded the contract to take on the role of an internal IT department for Scira Offshore Energy.**

The company has taken on an additional two employees, and is recruiting a third, to deal with the increased workload as the organisation establishes its own business technology systems.

Statoil's Anita Holgersen, who is managing the contract, said that



Director Chris Cooper with Anita Holgersen.

to date Scira has utilised its own companies' IT systems, but once the wind farm is operational, all IT related issues will be dealt with locally so having the competence nearby will make a significant difference.

## Contact details and more information

Scira Offshore Energy Limited  
Polka Road, Wells-next-the-Sea  
Norfolk NR23 1EE

T: 01328 710341  
E: [info@scira.co.uk](mailto:info@scira.co.uk)  
W: [www.scira.co.uk](http://www.scira.co.uk)

The Sheringham Shoal Offshore Wind Farm is owned equally by Statoil and Statkraft through the joint venture company, Scira Offshore Energy Limited. Statoil is the operator for the project during the development phase and Scira will be the operator of the wind farm when completed.

## Questions from the community

**Is the 'Frank-T' vessel in Wells Harbour something to do with the wind farm?**

The 'Frank-T' is a feeder vessel owned by Wells Harbour. She was commissioned to provide services to crew transfer and other vessels operating between the outer harbour and the wind farm, as well as to carry out general port duties in and around the harbour. During the wind farm construction phase, she has been taking goods and equipment to the outer harbour every day.

She was named in memory of Frank Taylor, who was Harbour Master for 18 years, Harbour Commissioner for an additional 23 years and was devoted to the harbour throughout his life.



The Frank-T is employed daily to transport items to the outer harbour.

**What order will the turbines be installed in?**

The turbines will be installed from the two central sub-stations outwards. The final turbines to be put in place will be those on the edge of the wind farm. Once each turbine is positioned, erected and commissioned, it will then be energised so it can start to produce electricity direct to the national grid.

If you would like a question answered in the next newsletter, please email [info@scira.co.uk](mailto:info@scira.co.uk)