

Gunfleet Sands Offshore Wind Farm



 Orsted

Welcome to Gunfleet Sands

Gunfleet Sands Offshore Wind Farm has been fully operational since 2010 and comprises 50 turbines with a combined total capacity of over 173 MW.

Ørsted is the largest offshore wind developer in both the world and the UK. Since 2004 we have been developing, constructing and operating offshore wind farms in the UK – our biggest market. Our 11 operational offshore wind farms are powering over 3.2 million homes and with another two in construction this number will rise to 5.5 million homes by 2022.

In addition to our offshore wind farms, we construct battery-storage projects, innovative waste and recycling technology and provide smart energy products to our commercial and industrial customers. We currently employ 1,000 people in the UK and have already invested over £9.5 billion. We will invest at least a further £3.5 billion by 2021.

We are committed for the long-term, both to leading the change to green energy, and to investing in the communities where we operate.



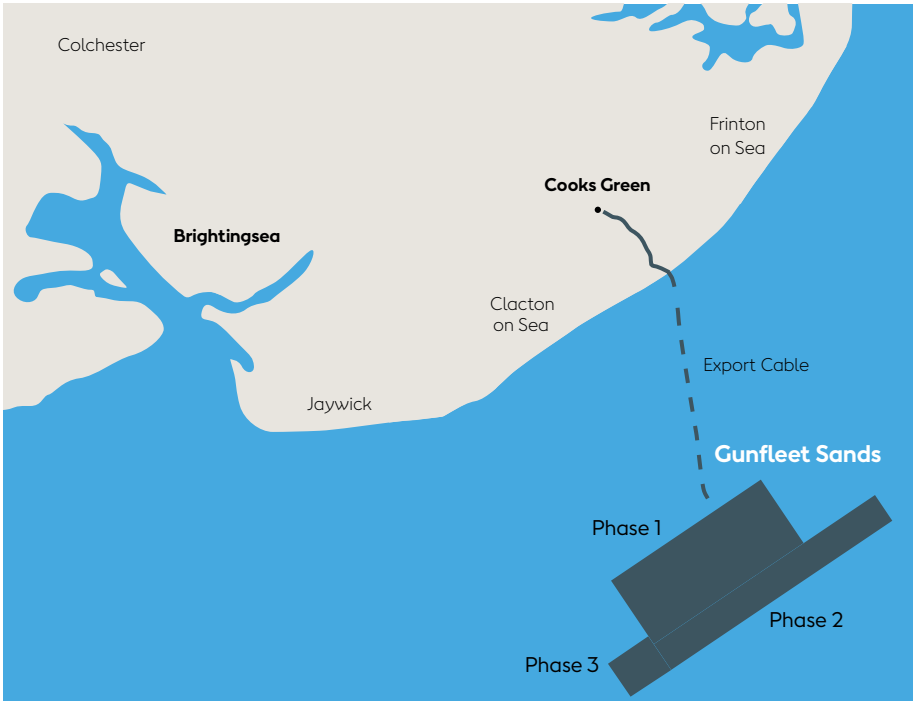
Wind power under construction



Wind power in operation

Where is Gunfleet Sands?

The Gunfleet Sands Offshore Wind Farm is located approximately 7 km (4.3 miles) south-east of Clacton-on-Sea, Essex. The project consists of three phases: Gunfleet Sands 1, with 30 3.6 MW turbines; Gunfleet Sands 2, with 18 3.6 MW turbines; and Gunfleet Sands 3 Demonstration Project which consists of 2 6 MW turbines.



■ Gunfleet Sands Offshore Wind Farm

--- Cable Corridor / Route

● Onshore Substation

● Operations and Maintenance Base

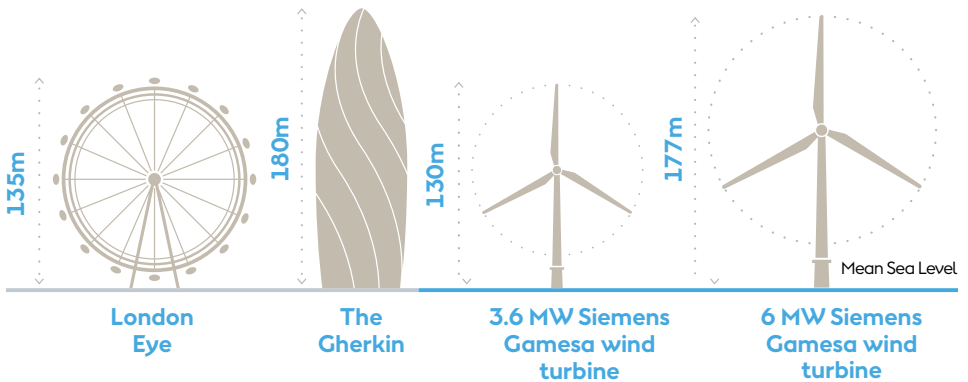
Ownership

The Gunfleet Sands 1 and 2 project is owned Ørsted (50.1%), JERA (24.95%) and DBJ (24.95%). Gunfleet Sands 3 Demonstration Project is owned 100% by Ørsted.

How big is it?

The area covered by Gunfleet Sands 1 and 2 is **17.5 km²**.

This is equal to **2,600** Colchester Community Stadium pitches, home of Colchester United F.C.



How much clean electricity does it produce?



Gunfleet Sands 1 and 2 have a total capacity of over

184 MW



This means the project provides enough power for over

160,000 UK homes¹

How do we maintain the turbines?

Gunfleet Sands Offshore Wind Farm is operated and maintained solely by Ørsted from the town of Brightlingsea, only 35 minutes away by vessel.

What has been the impact on the local economy?

Up to 1,800 people worked on the Project during the construction phase. Ørsted currently employs 21 people to oversee Operations and Maintenance. Ørsted have built up a very good relationship within the local community by recruiting staff locally and supporting local community needs through sponsorship.

What challenges did we encounter?

We have successfully reinforced the seabed at 20 turbine locations and the offshore substation to ensure we maximise the lifespan of the wind farm. When we acquired Gunfleet Sands it had consent to build 30 turbines. We applied for a further 18 in order to construct a larger project, taking it from 108 MW to over 173 MW. This was more efficient, reducing the cost per MWh.

¹ We have based this on the BEIS 5-year average load factor of 38.6% and a household consumption of 3,828 kWh per year. Source: BEIS DUKES (2018), BEIS ECUK (2018)

Project Timeline



April
2001 & 2003

Gunfleet Sands 1 and 2 was awarded a lease by the Crown Estate to develop a wind farm at the Gunfleet Sands site under rounds 1 and 2 of leasing



March
2004 & 2008

Gunfleet Sands 1 and 2 received consents



June
2010

Gunfleet Sands 1 and 2 officially inaugurated



April
2012

Consent awarded for Gunfleet Sands 3 Demonstration Project



May
2012 & 2013

Onshore and offshore construction of Gunfleet Sands 3 Demonstration Project commenced



September
2013

Inauguration of Gunfleet Sands 3 Demonstration Project

What makes this project special?

In 2013, a demonstration project was completed at Gunfleet Sands to test two Siemens Gamesa 6 MW turbines. At the time these were the biggest offshore wind turbines in the world. They were subsequently deployed at Westermost Rough offshore wind farm, inaugurated in July 2015, and numerous other wind farms.

// Gunfleet Sands 3 Demonstration Project was the first time Siemens Gamesa 6 MW turbines were deployed anywhere in the world. Ørsted's commitment to pushing technological innovation paved the way for the next generation of wind turbines to provide cost-competitive clean green electricity for the UK.

Andy Greenleaf, Head of Gunfleet Sands Operations

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Cover image: Brightlingsea Seafront
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