Renewable Energy – Industry Sector Guide
COVID-19 Important Information

The Coronavirus (COVID-19) pandemic continues to grow and we are all making significant adjustments to our working and home lives in response to government guidance. Our primary priority is to ensure we protect the well-being and safety of our staff, and you, our Service leavers. We have been closely monitoring the situation and working with the MOD and they have now confirmed a policy to suspend face to face activity until 30th April 2020, in order to follow advice on social distancing. This policy will be reviewed regularly and will be adjusted in line with advice from the Government.

Please be assured that despite this, CTP staff remain fully operational to work remotely, are contactable, and very much still here to support you. Please email your usual point of contact if you require any help with your resettlement. CTP are continuing to provide virtual events where possible please follow this link for a full list of our events - CTP Events

We have created some FAQs to address questions you may have – please click the green button below.

READ FAQs

Points expressed in this guide may be altered with no notice due to conditions associated with the COVID-19 pandemic.
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Renewable energy in the United Kingdom can be divided into production for electricity, heat, and transport. From the mid-1990s renewable energy began to contribute to the electricity generated in the United Kingdom, building on a small hydroelectric generating capacity. This has been surpassed by wind power, for which the UK has large potential resources. Interest has increased in recent years due to new UK and EU targets for reductions in carbon emissions and commercial incentives for renewable electricity such as the Renewable Obligation Certificate scheme (ROCs) and Feed in tariffs (FITs), as well as for renewable heat such as the Renewable Heat Incentive. The 2009 EU Renewable Directive established a target of 15% reduction in total energy consumption in the UK by 2020.

In 2017 renewable production generated:
- 27.9% of total electricity
- 7.7% of total heat energy
- 4.6% of total transport energy

Wind power delivers a growing fraction of the energy in the United Kingdom and at the beginning of January 2015, wind power in the United Kingdom consisted of 6,546 wind turbines with a total installed capacity of just under 12 gigawatts: 7,950 megawatts of onshore capacity and 4,049 megawatts of offshore capacity. The United Kingdom is ranked as the world's sixth largest producer of wind power, having overtaken France and Italy in 2012. Polling of public opinion consistently shows strong support for wind power in the UK, with nearly three quarters of the population agreeing with its use, even for people living near onshore wind turbines. Wind power is expected to continue growing in the UK for the foreseeable future, RenewableUK estimates that more than 2 GW of capacity will be deployed per year for the next five years. Within the UK, wind power is the second largest source of renewable energy after biomass.
Who are the major employers?

- Siemens
- E.ON
- Ørsted
- Vattenfall
- CWIND
- EDF
- Vestas
- GE Renewable Energy
- Gamesa
- 3sun Group
- CTP
Who are the major employers?

**SIEMENS**

Siemens is the global leader in the production of wind turbines as well as power transmission and distribution. Siemens frequently have positions for wind turbine technicians across the UK. An intensive 7 week training induction is provided at the Siemens training facility in the North East. Other roles include project management, supply chain and various engineering positions. Siemens advertise their vacancies on CTP RightJob.

**Eon**

Eon currently has 18 operational onshore windfarms and 3 offshore windfarms, and is also a partner company in the London Array, the World’s largest offshore windfarm to date. Eon is also in the early stages of planning and gaining consent for a number of other windfarms. [http://www.eon-uk-careers.com/en/careers.html](http://www.eon-uk-careers.com/en/careers.html)

**Ørsted**

The Ørsted vision is a world that runs entirely on green energy. Ørsted develops, constructs and operates offshore wind farms, bioenergy plants and innovative waste-to-energy solutions and provides smart energy products to its customers. Headquartered in Denmark, Ørsted employs 5,600 people, including over 900 in the UK. [https://orsted.co.uk/en/Careers](https://orsted.co.uk/en/Careers)

**Vattenfall**

Vattenfall is one of Europe's largest generators of electricity and the largest producer of heat. With Headquarters in Sweden, Vattenfall also have a presence in the Netherlands, Germany, France and the UK, employing 32,000 staff. Vattenfall offer a trainee programme for wind technician roles which is advertised on their website. [https://corporate.vattenfall.com/careers/jobs/](https://corporate.vattenfall.com/careers/jobs/)
The Vattenfall website for Careers; [https://careers.vattenfall.com/about-us/](https://careers.vattenfall.com/about-us/)
(and expertises section is very useful ref categories of expertise; [https://careers.vattenfall.com/expertises/](https://careers.vattenfall.com/expertises/))

**ScottishPower Renewables**

ScottishPower Renewables is part of the Iberdrola Group, a world leader in clean energy with an installed capacity of over 28,000 MW, and the leading wind energy producer worldwide. ScottishPower Renewables is helping to drive the Iberdrola Group’s ambition of being the Utility of the Future and is at the forefront of the development of the renewables industry through pioneering ideas, forward thinking and outstanding innovation which, in turn, drives economic success. [https://www.scottishpower.com/pages/careers.aspx](https://www.scottishpower.com/pages/careers.aspx)
CWind work solely within offshore wind, providing generator management, corrosion protection, foundation works, cable pulling and many other services to the industry. CWind provide turbine technicians for onshore pre-assembly, offshore construction, installation and operations and maintenance, and similar to 3Sun, also provide training to the requirements of their customers. http://www.cwind247.com/vacancies

EDF are involved in both on and offshore windfarm projects around the UK. EDF as an integrated operator are involved in all stages of a windfarm from development and consenting to construction and maintenance. EDF work on a number of joint venture projects. https://www.edfenergy.com/careers/current-opportunities/engineering/renewables

Vestas is a leading producer of wind turbines and currently 19% of global installed turbines are supplied by Vestas. Vestas recruit wind turbine technicians, service engineers, blade technicians, as well as project management, commissioning managers etc. https://www.vestas.com/en/career

GE Renewable Energy is a 10 billion dollar start-up that brings together one of the broadest product and service portfolios of the renewable energy industry. With more than 22,000 employees present in more than 55 countries, GE Renewable Energy is backed by the resources of the world’s first digital industrial company. https://www.ge.com/careers/

3sun Group is a leading provider of skilled technicians for installation, inspection and operations and maintenance services of onshore and offshore wind turbines throughout the world, specialising in the UK, German and Danish markets. http://www.3sungroup.com/careers
Skills, Qualifications & Training

The majority of positions within the renewables sector are for Wind Turbine Technicians and Maintenance Engineers. Those working on windfarms will often be working in harsh conditions and there are a number of skills required:

- Desirable – experience of heavy industrial equipment including hydraulics, rotating parts and control systems. Lifting / Slinging / Rigging (LEEA qualified)
- High voltage experience is currently a major skills shortage and in demand from Employers
- Thorough knowledge of Health & Safety requirements
- Good teamwork skills – roles often involve working in a team of 2 or 3 on site
- Able to work at heights and in confined spaces
- Problem solving skills
- Offshore roles require marine safety training.
- Ability to work away from home for extended periods (up to 6 weeks).
- Driving licence – sites are often in remote locations
- New entrants without an engineering background frequently ask about suitable training to enter the industry. Employers have suggested gaining some basic technical skills by completing introductory electrical courses, as any specific wind turbine training is normally provided by the Employer.

RenewableUK, Britain’s largest renewable energy trade association, created the Renewables Training Network (RTN) to address critical skills shortages within the renewable energy industry. The organisation is funded by Employers keen to see Industry standard training, and the UK Commission for Employment and Skills (funded by the Department for Business, Innovation and Skills). In November 14 the RTN launched a Blade Repair and Inspection course and are currently looking to provide electrical, hydraulic and mechanical introduction courses specific to the renewables sector during 2016. http://www.renewableuk.com/en/our-work/health-and-safety/training/

The Global Wind Organisation (GWO) is made up of leading players in the wind energy market worldwide bringing together turbine manufacturers, owners and utilities organisations. The aim of the GWO is to develop international safety standards for the wind energy sector. http://www.globalwindsafety.org/gwo/training_standards/basic_safety_training_standard.html
Skills, Qualifications & Training

Training
Below is a selection of some related courses that CTP has to offer for this industry, please contact your Career Consultant or the Central Booking and Information Centre for more information.

Civ: 02894 456200 or Mil: 9491 56200
Email: coursebookings@ctp.org.uk

Engineering Based Courses
For a full list please follow the link [https://www.ctp.org.uk/resettlement-training/](https://www.ctp.org.uk/resettlement-training/)

- Domestic Electrical Installation Full Scope
- IEE 18th Edition Wiring Regulations
- Level 3 Award in Inspection and Testing – 8 days
- L3 Diploma in Gas Utilisation and ACS Assessments – 35 Days + 6-8 weeks work attachment
- Air Conditioning & Refrigeration Technology – 13 days

CTP also offer a range of related training courses relevant to certain positions within the renewables sector:

- Prince 2 – 5 days
- APM Project Management Qualification (PMQ) – 10 days
- NEBOSH General Certificate – 15 days
- NEBOSH Environmental Management – 6 days

There are several CTP Preferred Suppliers who also offer relevant training for this sector. For a full list please follow the link [https://www.ctp.org.uk/preferred-suppliers](https://www.ctp.org.uk/preferred-suppliers) to the list on the CTP website.

The majority of positions within the renewables sector are for Wind Turbine Technicians and Maintenance Engineers.
Onshore Wind to make “comeback” in UK The cheapest form of power in the UK - onshore wind is set to make a comeback thanks to a government decision. Ministers previously blocked projects after complaints from local campaigners that they were a blot on the landscape. The government responded by denying onshore wind the chance to bid for a price guarantee for the electricity they produce. They also gave local protestors a definitive say in the planning process. This meant it was virtually impossible for wind farms to gain permission. Environmentalists said the decision was irrational, and today the government has opened the way for onshore wind farm developers to bid for price support. In the long term, it should lead to cheaper electricity for consumers. Solar farms will be able to bid for price guarantees too. But the government still wants local people to have a strong say in the decision where they are built. That means relatively few are expected in congested England. In Scotland, though, Scottish Power is delighted. It has 1,000MW in the pipeline for wind and solar. The small pressure group known as Possible has been pushing for a resurgence of onshore wind. It says: "After years of campaigning we can finally celebrate the UK's cheapest new energy source being brought in from the cold." Onshore wind fell out of favour after Conservative activists complained about the visual impact and hum of wind farms in the countryside. In sections of the media, the word "hated" became attached to the term wind farm - and most MPs believed they were deeply unpopular with the public. In fact, the government's own surveys show overwhelming public support for onshore wind - albeit not always in the areas where it's been built. Scottish Power said in future they would build solar, wind farms and batteries on the same site to maximise the output and minimise the disturbance.

Hydrogen energy industry looks to grow in Wales Wales has the potential to lead in generating clean energy through hydrogen technology, according to experts. A new trade association to represent and advance the Welsh hydrogen economy launched in Cardiff on Wednesday. Assembly members also debated how the sector can be helped to grow here. Hydrogen is seen as a promising, clean alternative to using fossil fuels for heating and transport in particular. Industry representatives say Wales has the necessary natural resources plus a range of companies and universities already involved in research and development. Dr Jenifer Baxter, chief engineer at the Institution of Mechanical Engineers, says there are opportunities across the country. "For south Wales, the production and use of hydrogen provides us with an opportunity to evolve and transform our industry while leading on decarbonisation. "There are potential connections between everything from production using by-products of industry, anaerobic digestion and gas using CCS - perhaps with storage offered in Haverfordwest - to end uses in our heating systems, Transport for Wales, and even a chance to work with our engine expertise to look into how we could create a fuel cell centre of excellence." She said for north Wales there were other options particularly for production, co-generation from offshore wind and nuclear, which could mean that Wales takes a lead in moving towards a low carbon hydrogen economy.
News and Trends

Reactors turn greenhouse gas into pure liquid fuel
An electrocatalysis reactor built at Rice University recycles carbon dioxide to produce pure liquid fuel solutions using electricity. The scientists behind the invention hope it will become an efficient and profitable way to reuse the greenhouse gas and keep it out of the atmosphere.

Consider marine life when implementing offshore renewable power
With countries adopting green energy practices, renewable energy now accounts for a third of the world's power. As this trend continues, more countries are looking to offshore energy sources to produce this renewable energy. Researchers identify situations where green technology such as wind turbines, wave energy converters, and other marine renewable energy devices (MREDs) have had negative consequences on marine life.

How have offshore wind farms grown?
Offshore wind farms have been the key driver in the UK’s push for renewables. Prices for electricity generated by offshore wind are now so low that the Government says they no longer need to be subsidised. The world’s largest windfarm will start operating in 2023 in the North Sea. Located on Dogger Bank, the farm will feature turbines that reach 220m in height and have blades 100m long. Collectively, these will generate enough electricity to power 4.5 million homes. This will surpass the current largest offshore wind farm, off Walney Island in Cumbria, which covers an area of 145km2, has 189 turbines and powers 600,000 homes.

What subsides are there for renewables?
The Renewables Obligation was introduced in 2002 and typically added 8%–9% to household energy bills. The intention was to force energy companies to source a larger proportion of their energy from green sources; companies passed on this cost to the consumer and usually made this clear on energy bills and statements. In recent years, this has been superseded by feed-in tariffs. Offshore wind and solar power no longer receive public subsidies. While the Renewable Heat Incentive supports domestic ground- and air-source heat pumps, this is due to close in 2021. “It’s still hard for individuals and community groups to make money from renewables,” says Anthony Kyriakides, Energy Saving Trust’s head of renewables. “While you save on heating costs, the installation costs can take 20 years to recover. The numbers are still quite tight.” A 2019 European Commission report found the UK effectively provided £10.5bn in subsidies to oil and gas through mechanisms such as lower VAT rates.
### Useful Links

- [https://www.energyvoice.com/](https://www.energyvoice.com/)
- [http://www.windenergynetwork.co.uk/](http://www.windenergynetwork.co.uk/)
- [http://www.theengineer.co.uk/energy/](http://www.theengineer.co.uk/energy/)
- [http://www.therenewableenergycentre.co.uk/](http://www.therenewableenergycentre.co.uk/)
- [http://www.decc.gov.uk/](http://www.decc.gov.uk/)
- [http://www.guardian.co.uk/environment/renewableenergy](http://www.guardian.co.uk/environment/renewableenergy)