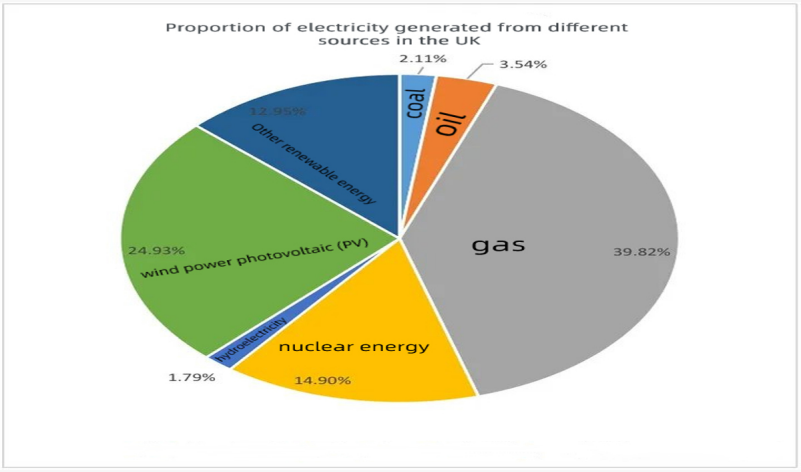
UK to import renewable power from Egypt via Haitian cable

Pressure on the power supply remains high UK encourages people to continue to use electricity on a staggered basis this winter

Cold winter power restrictions in the UK Energy generation in desert areas



The UK's total electricity over the last decade has come from a variety of sources

SAN FRANCISCO, USA, October 24, 2023 /EINPresswire.com/ -- Sunlight hitting the Egyptian desert could help power British homes under plans being developed to help strengthen energy security in a net-zero world, the Daily Telegraph reported Sept. 22 on its website.

Plans to lay undersea cables across the Mediterranean Sea, linking Egypt and Europe, would allow electricity generated by solar farms and wind turbines in North Africa to be exported to Britain and other European countries, the report said.

The report quoted: https://www.energyconnects.com/news/renewables/2023/september/the-banker-trying-to-fix-the-uk-s-electricity-grid/

North African electricity exports will increase when a lack of wind or sunshine leads to a reduction in the amount of power generated by North Sea wind farms and onshore solar farms.

Details of the project will be announced at an energy conference in London next week.

Carlos Diaz, director of renewable energy and power at Norway's Lustad Energy, which is organizing the conference, said North Africa is becoming an increasingly important source of electricity for Europe as a whole.

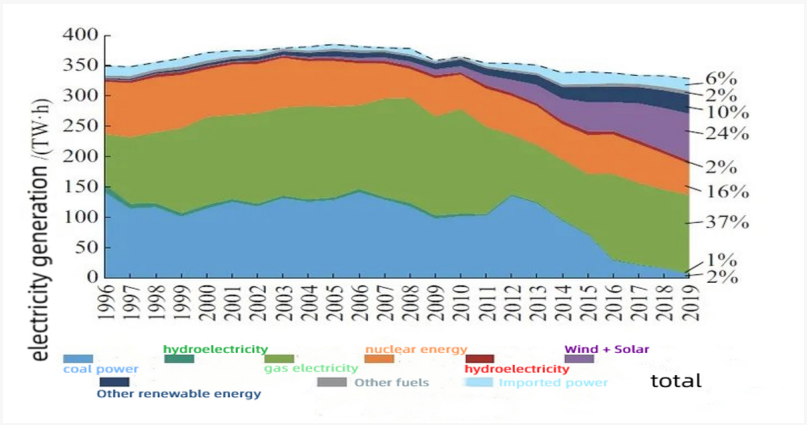
Carlos Diaz added: "Europe's demand for low-carbon electricity is expected to grow significantly over the next three years.

Building infrastructure in Europe may never be enough, so we need to look at other sources."

These sources include a series of giant solar farms built or under construction in the Egyptian desert, as well as wind farms being built near the Suez Canal. The area is known for its strong and consistent winds.

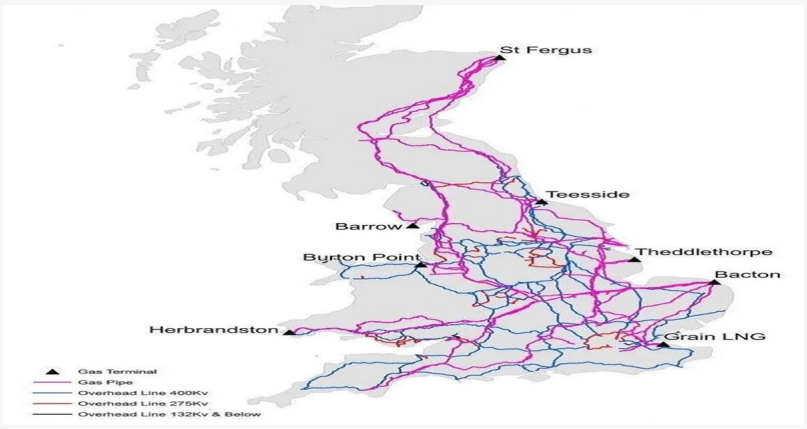
The farms are expected to generate a total of about 10 gigawatts of electricity - roughly the equivalent of 10 British power stations.

The electricity they generate will be transmitted through a 600-mile cable at the bottom of the Mediterranean Sea, terminating at the Attica Peninsula in Greece.



Sources of total distribution of electricity generation in the UK over the last few years


The United Kingdom is also gradually beginning to adopt solar photovoltaic power generation systems



UK electric supply map

Greece will use about a third of the electricity, and the rest will be exported to the rest of Europe," Diaz said. Europe already has a good power grid, so it should be possible to send electricity to northern Europe and the UK."

The 3.7 billion pound ($4.5 billion) project is being developed jointly by Greek firm Kouprozos Group and Egyptian firm Infiniti.

The Egyptian project will go ahead in tandem with another plan to lay four cables directly between Morocco and Britain, which are about 2,400 miles apart.

Such cables already connect the British power grid to France, Belgium, Norway, and the Netherlands, the report said.

From January to June this year, Britain used these cables to import power worth about 2 billion pounds, while the value of exported power was 322 million pounds.

Pressure on the power supply remains high UK encourages people to continue to use electricity on a staggered basis this winter

To prevent power outages due to power shortages this winter, the British national power company intends to encourage people to use electricity in a staggered manner using electricity rebates, such as avoiding the use of high-power household appliances such as washing machines and ovens during peak hours.

According to the British "Times" reported on September 1, the British national power company has confirmed to the media, that this winter will be like last year to return electricity to encourage people to use electricity staggered.

Specific programs need to be submitted to the British Gas and Electricity Market Office for approval and are expected to be successfully approved.

The report quoted from:https://www.energyconnects.com/news/renewables/2023/september/the-banker-trying-to-fix-the-uk-s-electricity-grid/

Jack Rigg, manager of National Power's power system operations branch, said the company is "keen for more customers, both large and small, to take part in this incentive program."

Last year, about 1.6 million customers in the U.K. received rebates on their electricity bills for peaking, with an average of less than 10 pounds per household being rebated.

NEC is scheduled to release a report later in September that is expected to point to continued pressure on the UK's power supply this winter.

If sufficient gas and electricity cannot be imported from other European countries, blackouts are likely to occur.

Russia-Ukraine conflict, Britain faces the risk of a national blackout

Russia-Ukraine conflict, the UK at risk of national blackout, reveals problems within the UK power

grid.

The UK has always been at the forefront of the world's zero-carbon transition process. It used to be the richest country in the EU in terms of energy resources, with offshore wind resources being particularly rich. Wind energy resources with commercial development value are as high as 48 GW, accounting for about 1/3 of the total offshore wind power in the whole of Europe, which is about three times the current electricity consumption of the UK.

In terms of electricity generation, the share of wind and solar power has increased significantly over the last 10 years. Data suggests that coal power will account for less than 2% of each energy technology's share of electricity generation by 2019.

Data quoted:https://www.iea.org/reports/world-energy-balances-overview/world

The UK is claiming to have "wind power for all". Data shows that the share of wind power in the UK peaked at 60% as early as 2020 and that the UK had more than 5,147 hours of coal-free electricity generation in 2020.

Data quoted from:https://en.wikipedia.org/wiki/Wind_power_in_the_United_Kingdom

Therefore, the British power grid is not afraid of "heavy wind and rain", the most worried about is "wind and sunshine", wind power generation accounted for a high proportion of really have to face multiple tests.

The high proportion of wind power does face several tests, as wind power generation can drop dramatically when the weather is calm. However, the industry is generally worried that with a large number of wind power grids, the UK power grid will face an unprecedented test.

On November 3, 2020, UK wind generation plummeted from 8 GW to 5.2 GW.

To add insult to injury, during this period, several gas power plants and nuclear power equipment in the UK were undergoing maintenance, and coal power equipment had been decommissioned and ceased to work, making the power supply to the UK grid momentarily tight.

From the point of view of the current operation of the UK power grid, if you can not quickly increase the proportion of renewable energy storage, energy transition will be difficult to effectively promote.

In addition to renewable energy generation, the big head of power generation in the United Kingdom is natural gas power generation, and about 40% of the electricity in the United Kingdom comes from gas power generation.

With more links, the price is naturally jacked up, thus leading to high gas and electricity prices all the way, factories being shut down because of rising electricity prices, and ordinary people not being able to afford the use of gas and electricity, and they can only hold on to their homes for warmth.

The Russia-Ukraine conflict, which has led to many European countries facing gas shortages, ultimately has a knock-on effect on the UK's electricity supply.

If generators do not have enough natural gas to generate electricity, with the arrival of cold weather, coupled with this year's European offshore wind, the UK's power supply will be under enormous pressure, and a national blackout is inevitable.

The UK's current energy crisis is more than just a warning. In addition to the properties of the energy source itself, the crisis has also exposed the complexity of the transition to green energy.

It cannot be achieved overnight, nor can it be successful by previous methods.

Everyone knows that the energy transition is costly. During the transition phase, the flexible allocation of all types of energy is critical to any successful energy system.

Lack of wind power creates power supply concerns

In its announcement, National Grid said that additional reserve capacity is expected to be significantly reduced in the UK's National Grid electricity supply system due to lower-than-expected offshore wind generation shortly as a result of the weather.

The announcement also warned that if any demand-side response is not taken into account, it is likely that the grid's maximum generator regime will be triggered, putting the generating systems into a state of emergency. The UK's National Grid has issued a notice to all major externally interconnected system operators asking them to inform the grid side if they have any additional generation capacity that needs to be notified.

The report is quoted in:https://www.theguardian.com/environment/2023/jan/03/uk-sets-new-record-for-turbine-power-generation-after-period-of-low-wind

Hartree Solutions, a UK-based power trader, noted that weather forecasts do not suggest much change in the wind in UK waters shortly, so offshore wind generation is likely to be relatively low and the grid's power reserve constraints will continue.

However, the UK National Grid also said that the notice is just a normal communication between the grid company and power users, and does not mean that there will be intermittent blackouts.

The call for energy storage is getting stronger

The British power supply crisis due to weather changes has triggered extensive discussion in the industry.

In the past two years, "green power" has been prevalent in Europe, and the United Kingdom is no exception. 2019, the United Kingdom took the lead in announcing that it would realize "zero carbon emissions" in 2050, becoming one of the earliest major economies in Europe to commit to net-zero emissions. In early October this year, the UK also announced the "2030 wind power for all" target, saying that the UK will continue to make efforts in the field of offshore wind power, to ensure that by 2030, every household in the UK will be able to use clean and low-carbon wind power.

However, it is not easy to ensure a stable supply of electricity in the case of a large number of renewable energy power to the grid.

In response, Forbes magazine writes that energy storage facilities are essential to ensure the stability of the power supply.

"In the current technological context, heavy reliance on renewable power is likely to increase the risk of widespread blackouts. As a result, battery technology needs to be significantly improved to store more power for emergencies. Looking at the current state of operation of the UK grid, it is clear that without rapid improvements in renewable energy and storage technologies, the energy transition will be very difficult to advance effectively."

The report is quoted:https://www.forbes.com/sites/rrapier/2022/08/23/renewable-energy-grew-at-a-blistering-pace-in-2021/

In fact, in mid-October this year, the UK's National Grid issued a warning over power supply constraints.

At that time, the reason announced by UK Power Grid was that several gas, coal, and biomass power plants in the UK were shut down for maintenance, while on the wind power side, it was difficult to generate more power to make up for the power shortfall due to lower wind speeds.

Market research organization Wood Mackenzie has also pointed out in the industry report, that compared with North America and the Asia-Pacific region, the current European region of the energy storage industry development is relatively slow. Among them, the United Kingdom and Germany's energy storage demand is relatively greater.

Wood Mackenzie senior analyst Le Xu pointed out that energy storage for the rapid growth of renewable power is very important, but the current problem still lies in the ability to find long-

term profitability mechanisms.

Industry calls for accelerated grid transformation

At the same time, in recent years, frequent accidents in the UK power grid have also repeatedly attracted criticism from the industry.

The UK Daily Telegraph recently wrote that the UK offshore wind power and onshore grid connection infrastructure is generally built before the realization of large-scale development of renewable energy, with the rapid changes in the power industry, the grid also needs to be updated.

In January of this year, the UK's offshore cables failed, resulting in offshore wind farms being unable to send out electricity, and some areas experiencing power supply constraints. National Grid UK paid out 30 million pounds for this.

The British power grid company said that the company is studying the solution to the above problem, to ensure access to enough power generators to increase the amount of electricity supply, and will be completed as soon as possible to update the power grid infrastructure.

It is understood that in the United Kingdom, as one of the world's first countries to develop offshore wind power, the proportion of offshore wind power has reached about 10%, and it is expected that by 2030, this proportion will have a greater increase.

ZMS Cable
ZMS Cable
+86 371 6782 9333
email us here