



Wind Power
Key challenges
on the path to
net zero



Policy makers across the world are currently facing the challenge. Offshore wind farms generate low-carbon electricity both at scale and a competitive price. Despite how widespread the technology has become, there are still several risks and challenges associated with wind power adoption.

Why wind matters

Wind power is on a huge growth trajectory around the world - with a larger focus on offshore than onshore. Turbines are getting bigger and more efficient, and there's many more of them which reflects the growing prominence of wind within the energy mix of most developed nations.

Wind energy offers many advantages, which is why it is one of the world's fastest-growing energy sources. The importance of wind power means that there is ongoing research effort aimed at addressing the challenges that stand in the way of widespread wind power adoption. Wind power is a quick way to put large power-producing assets into play and provide energy security for countries. It's also a huge employer, with even the largest oil and gas giants recognising the relevance that it will have in the future.

In fact, wind power represents a bigger part of the total energy mix in the journey to net-zero than most people think. Recently, there has also been a sizeable increase in investment in using wind to produce green hydrogen energy, too.

“ Wind power is on a huge growth trajectory around the world at the moment, with a larger focus on offshore than onshore ”

Key risks and challenges

Although the benefits of wind power are clear, there are many challenges across the wider value chain. These are multi-layered and cover everything from regulatory compliance to operational, financial and social performance, and assurance activities.

At a higher level, regulatory challenges present a significant barrier to investment. The legislative priorities of national governments can change quite dramatically and suddenly. As we have seen on many occasions in different countries, governments are not afraid to cut back or entirely abolish measures implemented to encourage wind investments such as subsidies. In some cases, countries are being forced to rethink their strategies and only build their infrastructure in places where there is a stable government and regulatory environment. This is slowing down wind's progress. It is for this reason, among others, that the European Union is pushing to create a European Energy Union that will set the agenda at an EU-level, which is one of the European Commission's top priorities under the leadership of Ursula von der Leyen.

Another major challenge is the difficulty in scaling operations; in order to drive down prices as much as possible, operators must scale up the size of each individual turbine. Over the last ten-or-so years, the standard has increased from 3.6 MW to 12 MW, with some offshore wind farms being planned for turbine technologies of 15+ MW.

“Scaling up so extensively in a short period of time introduces several technical issues. Developers will be required to accept a certain degree of risk in relation to the turbines they take on and the equipment they purchase. They'll also need to consider the robustness of the technology involved and whether it remains in line with their initial modelling.”

The important role of assurance

It's important for organisations to have an effective assurance programme in place, that helps them mitigate risks and overcome challenges.

When it comes to wind power infrastructure, many different components are brought together in each installation, and these are often built by various supply chain partners. There's also the question of whether the materials used are of an acceptable standard and quality across multiple wind turbines.

Assurance gives organisations confidence that their activities - and that of their wider supply chain - are completed in line with best practice. This helps prevent unnecessary delays, while ensuring quality and safety remain at the forefront through robust systems and processes.

“ LRQA provides expertise and support to many organisations in the renewable energy sector. We help business build comprehensive assurance programmes that help them manage their risk profile, and maintain best practice at every level of the supply chain.”

Why LRQA?

LRQA's experts work with you to integrate changes that support your transition to cleaner energy, operations and asset life cycles. We cover many areas including renewable energy production and distribution, wind power and hydrogen, and have the knowledge and expertise to help you meet your sustainability ambitions. We'll help you comply with tightening regulations, improve your carbon footprint, and drive efficiency.

We operate in 90 countries, cover almost every sector, and are recognised by over 30 accreditation bodies worldwide. Our highly trained surveyors are leading experts in their sectors and technologies, and they're authorised to undertake reviews in accordance with global and regional industry standards, deploying knowledge of certification, inspection, assurance and training.



顧客の未来。それが、LRQAのフォーカス。

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