

An aerial view of an offshore wind farm at sunset. The sky is a mix of orange, pink, and purple, with the sun low on the horizon. The ocean is dark blue with whitecaps. In the foreground, a large white wind turbine stands prominently, its three blades extending outwards. Other turbines are visible in the distance, receding into the sea. A small boat is visible in the lower left corner. The overall scene is serene and emphasizes sustainable energy.

PROFILE

AKZONOBEL

SUSTAINABLE AND INNOVATIVE SOLUTIONS

Coatings manufacturer AkzoNobel's mission is to supply sustainable and innovative coating solutions that protect critical pieces of equipment for longer from harsh environments as well as from everyday use. (Courtesy: AkzoNobel)

AkzoNobel has been making and supplying their renowned International Paint brand of protective coatings to a variety of industries, including wind, for decades — coatings that not only protect equipment, but are durable options that are better economically and reduce the impact on the environment.

By **KENNETH CARTER** ▸ Wind Systems editor

Parts and structures across the globe often have one thing in common: They have a protective coating. Equipment constructed for the wind-energy industry is no exception.

Coatings manufacturer AkzoNobel's mission is to supply sustainable and innovative coating solutions that protect critical pieces of equipment for longer from harsh environments as well as from everyday use, something the international brand has been doing for more than 140 years.

"As AkzoNobel, we serve quite a number of different industries including aerospace, vehicle refinishes and decorative paints," said Matthew O'Keeffe, global segment marketing manager, protective coatings, with AkzoNobel. "Our international paint business specifically provides solutions for just about any asset which requires corrosion protection, aesthetic enhancement or additional functionality such as protection from high temperatures or chemical exposure. As well as the protective coatings industry, we are also one of the world's leading coatings providers for the yacht and marine industry — for example our solutions deliver fuel and emissions savings for owners and operators of some of the world's largest maritime fleets, we also provide the highest quality systems and aesthetics for superyacht construction and retrofit. In the protective segment specifically, we deliver solutions for a wide range of energy and infrastructure end user markets."

SERVING THE WIND SECTOR

Wind-energy is a key sector, which, according to O'Keeffe, has been a part of the company's expertise for a while.

"Wind has always been there since onshore wind towers and wind farms really were taking off in the 1990s," he said. "We've been a part of it quite early on from the start."

In the beginning, that involved supplying the corrosion-resistant coatings for the wind tower and OEM equipment, according to O'Keeffe. As the industry has developed, the company's long-standing reputation for performance and longevity of its Interzone® range has enabled it to be a key partner in the development of the offshore wind sector.

"In the last couple of years as wind has moved offshore, we've been able to provide further support for the industry because offshore corrosion protection is a key strength of this organization," he said. "We've served the oil and gas market very well for a long period of time, and the requirements for offshore wind are not totally different in terms of corrosion performance or in terms of longevity. A lot of the companies that have participated in the upstream market for many years are involved in offshore wind so it's an op-

portunity to jointly leverage."

Before the turn of the decade, AkzoNobel acquired the wind-blade division from BASF in Germany. Coatings for blades need to be able to hold up to the blades' great speeds as well as the flexible materials they're made from, according to O'Keeffe.

"The coatings need to be able to withstand that," he said. "There are also additional factors such as rain-erosion impact, which means coatings need to be quite resilient to the environment and high performance in terms of coatings. Coatings are not the same as general industrial coatings that you might put on a piece of structural steel. They're quite functional in that regard, so the quality needs to be very high so we can get the performance we need in operation."

LONGEVITY ALSO A FACTOR

Along with performance, longevity of the coating is also paramount when considering that most wind turbines — especially offshore assets — are going to be operating in harsh, remote environments, making it difficult and expensive to reapply a critical coating, according to O'Keeffe.

"Getting it right at new construction is critical as it is very difficult from an access point of view to get back onto offshore turbines and actually be able to do any work on them, so longevity is key, and, of course, what comes with that is being sustainable," he said. "We need to make sure that turbines are protected for long periods of time and durable with our coatings systems."

AkzoNobel's coatings are designed to last the life of the asset, having to reapply a coating once the asset is in operation hopefully would be rare, according to O'Keeffe.

"What you see more and more is that a turbine might be designed for 10 years, but they want to operate it for longer," he said. "It's a case of being able to meet that initial expectation and hopefully exceed it as well. You can end up with coatings that might be on a turbine blade that's going to last for 10 years, but it might actually go a bit longer. Being a pioneering supplier in the early offshore oil and gas industry means we have a tremendous track record in longevity and performance. Our Hutton TLP case study is a good example of this, where our Interzone system supplied provided performance for over 40 years on this asset — this is currently the longest documented track record in the whole industry."

REDUCING THE IMPACT ON THE ENVIRONMENT

Supplying coatings to an industry that creates renewable energy is not lost on AkzoNobel and its overall mission, according to O'Keeffe. The company strives to develop and sup-



AkzoNobel's coatings are designed to last the life of the asset. (Courtesy: AkzoNobel)

ply sustainable solutions. It considers sustainable solutions to be those that bring tangible sustainability benefits to its customers, and market demand for them is growing, with the aim of achieving 50 percent of total revenue coming from the company's sustainable solutions by 2030.

"For AkzoNobel particularly, sustainability is really a critical part of everything that we do," he said. "Not only from a coatings point of view where we're trying to use more higher solids coatings and products that emit less VOCs to reduce our carbon footprint, but we're very much a company that has sustainability at its core. We have some of the best sustainability credentials of all the coating manufacturers based on external ESG rating agencies, such as Sustainalytics, MSCI, Ecovadis. AkzoNobel was also the first coatings company to have its carbon reduction targets officially validated by the Science Based Targets initiative (SBTi). In line with being a major player in protecting the renewable energy sector, we have an ambition to ensure that all of our electricity will come from renewable sources either through our own on-site generation or through externally validated renewable sources. Currently 100 percent of our energy use in Europe and USA is sourced renewably with an ambition for full global coverage by 2030."

AkzoNobel is also trying to find renewable sources of raw materials as well, and not just relying on 100 percent oil-based derivatives, according to O'Keeffe. "We are constantly looking at other ways to be sustainable," he said. "Sustain-

ability is really at the heart of what AkzoNobel does, and that flows all the way through to our products."

ALWAYS SEARCHING FOR IMPROVEMENT

To that end, AkzoNobel is always looking for ways to improve its product line in innovative ways, according to O'Keeffe.

"Aside from making sure our products are more sustainable, we are always looking to move the industry forward in terms of coatings that require less energy to apply it," he said. "In cold climates, for example, we have coatings that are going to cure and be very productive even without heating or extra energy costs. We're developing water-based coatings and are moving to very, very low VOC-type products."

Increasing the longevity of these innovative coatings will also be a major challenge for O'Keeffe and the team at AkzoNobel.

"Longevity and really high durability are key parts of reducing the carbon footprint and making our solutions and the equipment of our customers more sustainable," he said. "For example, we have a product that has a 40-year track record in the water. It's a coating that we would recommend to put on assets like foundations and transition pieces. From a durability perspective, once the coating's been installed, there's little maintenance. and so there is little extra energy that needs to go into actually making sure that the product's going to be able to go the distance. There are a couple of different ways I think you can really approach it, and we try



Coatings for blades need to be able to hold up to the blades' great speeds as well as the flexible materials they're made from. (Courtesy: AkzoNobel)

to make sure we're covering the bases there."

The international product and service solutions offered by AkzoNobel are accompanied with the expertise and know-how that created them, according to O'Keeffe.

"We don't just sell the paint and forget about it," he said. "We provide a very high level of technical support. Before application, we make sure we understand our customer's process, and then, right after when the coating's being applied, we make sure that we've got some input and some presence there to make sure that the process is working well. We need to make sure that we work with our customers and make sure their equipment setup is right and that they have a smooth process that everything goes through. We try to reduce the amount of rework as much as possible. The quality assurance is quite critical."

HEALTH AND SAFETY GOALS

In addition to the quality of its products, O'Keeffe pointed out that AkzoNobel is very involved in improving the health and safety aspects of its products.

"We were one of the first companies to remove coal tar epoxy from our products in the protective market," he said. "Health and safety remain a key priority for AkzoNobel globally and the whole company continues to both innovate and improve the paints and coatings sector going forward."

In addition to that, O'Keeffe said a major number of energy facilities, including wind-energy substations around the

world are protected with AkzoNobel's coatings and their fire protection products.

"We've got exceptionally good products when it comes to wind energy," he said. "Aside from the sustainability and other positives, our products have exceptionally good performance. You can go anywhere around the world, and you'll be able to see our products in action — stadiums, commercial infrastructure, oil and gas facilities, and particularly offshore wind farms. We've supplied our coatings on the London Array in the U.K. which is one of the biggest offshore wind farms in the world."

LOOKING TO THE FUTURE

O'Keeffe expects AkzoNobel's support in the wind sector to continue to grow.

"The global drive for more sustainable energy generation and use is a key trend for the wind energy business," he said. "We'll continue to support customers and the industry in being successful; not only by making sure we've got products that perform well, but that they can offer our customers what they need. Whether that's productivity, whether that's cost saving, whether it's being able to meet their sustainability targets, we'll continue to drive down the track of having sustainable products to support a key energy transition industry." ✌

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