

More than 200 attendees at the AEE Conference on the extension of park life

If an airplane is capable of flying more than 80 years, what can you expect from a wind turbine?

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Yes, we are talking about the extension of life of wind farms, the issue that has led today the technical day of the Wind Business Association (AEE). Over the more than 200 attendees have flown, in an imaginary way, old airplanes that with periodic updates are able to remain active almost a century after its premiere. Airplanes have wings and wind turbines shovels. And aeronautical engineers have ideas to extend the lives of each other.



Galo Gutiérrez, Rocío Sicre y Juan Virgilio Márquez

In Spain, more than 25,000 wind turbines of 45 different models are installed. In 2020 more than half will have exceeded 15 years of operation. But everything suggests that they will continue to produce clean energy for many more years. The sector has assumed that wind farms can extend their useful life. And that it is even possible to lengthen it a lot. But to do so, expect to know what to expect.

It was said at the inauguration by **Rocío Sicre**, president of AEE. "Maintaining wind generation capacity in the best conditions is vital for the health of the energy mix of our country

with a competitive price path and for the fulfillment of the European targets by 2030". Apart from the new power that is being built, the debate in the sector always revolves around the same question: extend the useful life or reponenciarse? "Stability and regulation will facilitate business decision-making due to the extension of life or the repowering, so it is important that the foundations are laid for this market to take off in Spain", said Sicre.

"The objective of the wind sector to respond to a real need in the medium term has encouraged manufacturers of components and industry to advance in the development of innovative

technologies that guarantee the extension of life of existing parks in Spain and the world" AEE president points out.

But regulation is key, and they all point it out. **Joseba Ripa**, head of Business Development in Spain and Latin America of UL Renovables said today in the halls that "beyond the technological solutions that technologists or independent suppliers can prepare to make this extension of life, the key is that the administration put on paper under what conditions park owners can make investments to extend the operation of their assets with guarantees. Those decisions have not yet been made and life extension projects remain paralyzed".

In this sense, **Galo Gutiérrez**, general director of Industry and SMEs of the Ministry of Industry, Commerce and Tourism, who has participated in the opening of the day, said that "the General Directorate of Industry and SMEs, within the strategic framework 20/30 that the Ministry is preparing, is working on a draft of the Sectorial Agenda of the Wind Industry that includes measures and actions in the medium term in order to improve the competitiveness and productive capacity of the wind sector and the industrial sector that is dedicated to manufacture the structures and generators that wind power demands".

Among the technological challenges that have been put on the table today are the increase in production of existing parks and low-cost solutions, improvements in the maintenance and operational improvements of the parks, operation as a differential element between extension and repowering, specific solutions for the improvement of the transmission and the control systems of the passage, as well as the implications in the business management to extend the useful life of the parks.

Airplanes and drones

The reference to the extraordinary life of some aircraft has come from the mouth of Pedro Muñoz, director of Engineering at Aeroblade. "It is possible to extend the life of these machines far beyond what I had initially imagined. Among other things because the fatigue of materials and components has become quite well known", he said. "Now we can know, for example, how the cracks spread before their effect is catastrophic". Muñoz has also talked about a difference between the aeronautical and wind sectors. In the first, "continued navigability is based on agreed requirements between the industry itself and the administrations to guarantee safety at all times and avoid damages that would be catastrophic in aviation, wind power does not have those demands".

Carlos Bernabéu, director of Arborea Interllbird, a company owned by Iberdrola, has also talked about flying machines, but in this case, drones used for the inspection of blades. "There are very important problems in structural parts of the blades that are difficult to see. They are the part of the iceberg that is underwater". Iberdrola has inspected 2,100 shovels in parks in different countries. "15% of those blades are in a worrying situation, we don't believe they reach 20 years of useful life. They are problems in root, in point, problems of gluing... But now at least we can fit what they are, and we can manage them".

The drones take thermal images on which artificial intelligence is applied. "Sometimes they are shovels that have a magnificent appearance, but we know that if they don't act, they will last very little. The work of the drones helps us put the maintenance resources in the shovels that need it, which means a significant saving of money", explains Bernabéu. "The technical management of Vestas has validated this procedure", he adds.

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