Turning wind full circle

In conversation with CEO Alexandre Bousquet and Managing Director Nicolas Vrecourt, we uncover how Renvo is transforming wind turbine end-of-life strategies, merging environmental responsibility with commercial sense to drive a more circular wind industry.

PES: Welcome to PES Wind. We're excited to feature Renvo in this edition. For those unfamiliar with your full story, take us back to the beginning: what shaped the brand into the company it is today?

Alexandre Bousquet: It's a story we love to tell! It all started on the summit of Pic Saint-Loup, a mountain near Montpellier, France. Nicolas and I were out on one of our regular cycling rides, and I was telling him about the difficult and chaotic dismantling operations I was managing.

The wind industry needed a structured approach to handle the growing number of decommissioning projects. At the same time, the turbines on these particular sites were perfectly suited to the specifications of my clients' permits that allowed for turbines with smaller dimensions no longer found in OEM portfolios.

Nicolas Vrecourt: Due to a lack of planning by wind farm owners at the time, most of the dismantled equipment wasn't reused; it was simply recycled. For us, that's a dead end, a waste of value-added assets. We saw a need to bridge the gap between the large volume of available turbines and the developers still seeking this now-rare resource: small-scale turbines.

While OEMs are racing toward ever-larger machines, there remains strong demand for turbines with tip heights under 150 meters, especially in France, but also in the UK, Belgium, the Netherlands, Poland and beyond. After a year of preparation and reflection, we officially launched Renvo in August 2024.

PES: Circularity in wind energy is often discussed, but rarely applied in practice. Renvo seems to be changing that. You're more than just a dismantling service. What sets you apart when you arrive onsite?

AB: To implement our solution effectively, a thorough site assessment is essential. Timing is critical. One of the biggest challenges in reusing second-hand wind turbines is aligning the schedules of sellers and buyers. On one side, owners are under pressure from tariff terminations and repowering permits. On the other hand, buyers are dealing with grid connection windows, building permits and construction deadlines.

Ideally, we find project developers who are ready to acquire entire turbines for reuse. This process takes time and resources, which is why we advise clients to start searching for potential buyers 12 to 18 months before dismantling is due.

NV: The second major focus of our assessment is the condition of the wind park. We begin by reviewing the available documentation, which is often incomplete due to the age of the turbines and asset sales over the years. We then advise sellers to organize additional inspections to provide potential buyers with as much information as possible. Gathering all this valuable data allows us to produce a comprehensive summary that helps buyers clearly understand what they're investing in.

PES: Assessing the viability of an aging turbine isn't easy. How do you decide between re-use, refurbishment, or retirement?

NV: It's definitely not simple! This is still a new area for the industry, and many owners aren't prepared for large-scale, organized decommissioning. That said, the first factor we consider is the turbine's age. Then we look at the wind park's performance history and the frequency of component replacements, which helps us better assess the resale potential.

AB: Depending on the outcome of our paper-based assessment, we may decide to carry out further inspections. These are intended to provide buyers with more confidence, especially if they plan to use the turbine for many more years. The refurbishment requirements depend on the context and location of the destination project. For example, a turbine in good condition being reinstalled in a country with flexible regulations and tariffs might not need refurbishment.

But in France, where auction-based tariffs apply, the turbine must be almost like new. We tailor our approach to each client's needs. While our goal is to avoid retirement, it sometimes happens that certain components can't be reused and must be recycled.

PES: Refurbishment can add value or waste money. When does it make sense, and when doesn't it?

AB: It's a complex issue, and identifying refurbishment needs is one of our key strengths. The nacelle typically requires the most attention, and the level of work depends on the site history and turbine technology.

Some clients, particularly in regions focused on reducing capital expenditure, are happy to reinstall turbines 'as is' if they still perform well. In one of our first projects, for example, the nacelles will be refurbished, but the towers are in good enough condition to go straight to the new site. The blades were thoroughly inspected and will likely be repaired and maintained on-site. This level of optimization leads to cost savings and improves project economics.

NV: One of our near-term goals is to build a coordinated network of refurbishment companies across Europe. This will help optimize refurbishment costs and timelines for the various turbine types we work with. Refurbishing every component by default isn't the most cost-effective strategy compared to purchasing new turbines.

PES: The second-hand turbine market is maturing. Beyond price, what are the key indicators of a healthy resale environment?

AB: The market must move beyond price alone. In the past, older turbines were sold with little or no information on their residual quality, often without documentation. Traceability was poor. For our model to work, the seller needs to provide sufficient documentation to demonstrate the asset's history and quality. Without this, buyers are taking unnecessary risks.

NV: Another crucial factor is timing. Both sellers and buyers must plan ahead. Last minute transactions almost always fail and can derail entire projects. Renvo also focuses on operating in countries where second-hand turbines are legally and practically viable. Our legal and technical teams monitor regulations closely to support our clients in these markets.

PES: ESG pressures are reshaping asset strategies. Renvo seems uniquely positioned to align commercial and environmental goals.

AB: At Renvo, ESG isn't a constraint; it's our foundation. We recognized early on that dismantling without a reuse strategy wastes resources and generates unnecessary emissions. That's why we developed our own carbon calculator, which quantifies both emissions generated and emissions avoided in various scenarios: full turbine reuse, partial component reuse, or recycling. This brings data-driven insights into the decision-making process and helps our clients shift from reactive to strategic, sustainability-aligned asset management.

NV: These calculations have already sparked meaningful discussions with clients. For example, relocating a turbine can save several hundred tonnes of CO_2 compared to manufacturing a new one. Our role is to turn ESG ambitions into actionable plans, supported by data and operational expertise. That's how we help build a more circular and resilient industry.

PES: Your work touches on broader issues of responsibility in the sector. How do you view stewardship?

AB: True stewardship means viewing turbines not just as equipment, but as long-term responsibilities. Too often, decommissioning is seen as a technical box to tick. We believe it's a strategic moment to rethink the value chain. A project's financial success shouldn't be evaluated in isolation. We advocate for applying the principle of double materiality in renewables, considering both financial and environmental outcomes at every stage.

NV: Just working in renewables doesn't automatically make a company sustainable. That's no longer enough. At Renvo, we're setting a new standard built on anticipation, transparency, and collaboration. By working closely with developers, refurbishers, service providers, regulators, and buyers, we create end-of-life pathways that are both responsible and economically viable. Change takes time, but showing what's possible is the first step toward shifting industry culture.

PES: End-of-life doesn't have to mean end-of-use. Can you share an example where Renvo helped give turbines a second life?

AB: We launched Renvo just as clients were beginning to seriously consider their turbines' end-of-first-life. We were fortunate to secure our first contract quickly. It involves the sale of five Nordex N80 turbines in France, scheduled for spring 2026. This transaction, currently in its final stages, perfectly reflects our reuse philosophy.

NV: Three of the turbines will be reinstalled on a windier French site, thanks to their excellent condition. The fourth will be used for spare parts (excluding the tower), and we're still evaluating the fifth; it may be reinstalled at another site or sold as spares to an ISP or operator. This project shows how we strive to develop a complete reuse scenario for every component.

Nicolas Vrecourt & Alexandre Bousquet

PES: Data plays a vital role in all this. How does it inform your decisions?

NV: Frankly, the lack of data on older assets is one of our biggest challenges. Agreements made 15 to –20 years ago were poorly structured, and the focus then was on performance, not data capture or control. We frequently see major gaps in the documentation, especially with assets that have changed hands.

AB: For us, data is essential to accurately assess turbine condition before dismantling. We're fortunate to work with third-party experts who are increasingly interested in second-hand turbines and our knowledge of them. If a client wants to finance a project using second-hand turbines but lacks solid data, their chances are slim. That's why we're also developing a digital pricing index for the second-hand wind market, based on real-time data. This tool will bring much-needed clarity to a historically opaque sector.

PES: International collaboration presents both challenges and opportunities. What have you learned from working across borders?

NV: Cross-border collaboration isn't just beneficial, it's essential. No single partner has access to every turbine type or required expertise. To bridge sellers and buyers and manage the entire value chain, including reinstallation, we rely on our European network. We focus on Europe because adapting turbines to 60Hz systems in the Americas is prohibitively expensive, making reuse unfeasible.

AB: As Nicolas said, no one is an expert in everything. Refurbishment companies, for example, often specialize in specific OEMs, such as Nordex, Vestas, Enercon, Senvion, etc. We identify each partner's area of expertise and coordinate accordingly. The same goes for installation, commissioning, and maintenance. Transport companies are usually well-versed in this work, but other segments require close coordination.

We also manage legal and regulatory complexities. Each country has different requirements for documentation and certification to allow grid connection and trigger tariff mechanisms. We work closely with local partners to anticipate and address every potential bottleneck.

In summary, two things matter most in cross-border projects: understanding the regulations in both the origin and destination countries, and identifying the right suppliers to complete the work successfully.

PES: Finally, what does a truly circular wind industry look like to Renvo—and what still needs to change to get there?

AB: For us, success will be when developers routinely assess second-hand turbines for their projects, initially those with height constraints, and eventually even projects where new turbines are an option.

We also see gaps in the spare parts supply chain. Right now, brokers work with limited networks, and traceability is poor. Some clients who want to perform their own maintenance push us to grow our expertise and improve stock visibility.

NV: In other sectors such as cars, phones and even aviation, the second-hand market is highly structured. Spare parts come with barcodes, traceability, and accessible records. That's what we need in wind too. The industry must evolve to become more competent and efficient in reusing turbines and parts.

Finally, asset owners need to take data management more seriously. Good records aren't just helpful, they're essential for future resale and long-term sustainability.

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