

# A WindTech case

A Canadian company chooses WindTech to refurbish four Vestas V47 wind turbines from 2004



**WindTech** *as*

Date of the project:  
May 2021

In 2020, a Canadian wind energy company partnered with WindTech to refurbish four Vestas V47 wind turbines, preparing them for installation in a Texas wind park.

Discover the challenges, objectives, and results of this exciting project in our 2021 case study.

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# Project background

As the wind energy industry moves ahead with newer and more efficient models, it's easy to overlook the workhorses of yesterday. Wind turbines built two decades ago still hold untapped potential, waiting to be unlocked through refurbishment and renewal. Refurbishing these wind turbines not only extends their lifespan but also contributes to a more sustainable future.

## Refurbishing Four Italian V47 Wind Turbines

Back in the fall of 2021, a representative from a Canadian wind turbine company acquired four Italian second-hand Vestas V47 wind turbines from 2004. Instead of letting these turbines become obsolete, the company had a grand plan - to give them a new lease on life. The journey began as these turbines embarked on a transformational journey, taking them from Italy to Denmark and finally to a Texas wind turbine park.

## WindTech Steps In

When the Canadian representative reached out to WindTech and entrusted us with this project, we welcomed the four Vestas V47 wind turbines with open arms. The extensive refurbishment project was ambitious, spanning 8-12 weeks in our workshop, and we were eager to take on the challenge.



# The Assignment

## The Objective

- Facilitating transportation from Italy to Denmark.
- Full refurbishment and repairs of all four V47 nacelles.
- Transforming the nacelles to function on the US electrical grid.
- Preparing the nacelles and hub for transportation to Houston, Texas.

## The Challenges

- The extensive refurbishment of all four V47's mechanical components.
- The transformation of the V47's 50Hz electrical components to the required US 60Hz energy grid.
- Thorough tests and measurements of the final nacelles and their components.

## The Results

Four fully refurbished nacelles with a successful transformation from 50Hz to 60Hz ready for shipment to Houston, Texas.

# Who is WindTech?

We are a Danish company with a long history dating back to 2008, specializing in the repair and refurbishment of wind turbines. Our core expertise lies in the renewal of older wind turbines, and we are dedicated to offering trust, reliability, and high-quality to all our customers and business partners.

Our services extend far beyond Denmark's borders, with successful operations in Europe, Asia, and the USA. When you choose to collaborate with us, you're not simply refurbishing or repairing a wind turbine; you're forging a partnership with an experienced business partner who shares your commitment to clean energy, sustainability, and a high turnover.

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## Renewing the V47 Wind Turbines

When we began working on the nacelles in our workshop, it involved the complete disassembly of the nacelles to access their main components. Since the V47 wind turbines were produced in 2004, years of wear and tear had taken their toll on the wind turbine's vital parts, making thorough tests and measurements crucial. After the completion of all the necessary tests, we began processing the transformation from the 50Hz electrical components to the required 60Hz components for the US energy grid. These transformations can be difficult because the electrical components are significantly different from the mechanical ones. In this case, the process included the replacement or renewal of gearboxes, motors, and the control systems. After the transformation we started on the refurbishment of the mechanical parts.

### A Meticulous Process

Every mechanical component underwent meticulous cleaning and washing, preparing them for a thorough and individual inspection to identify potential signs of wear and tear. Some parts were ready for refurbishment, while others were previously replaced with high-quality, brand-new 60Hz components. WindTech's commitment to a high-quality lead us to the use of top-tier bearings and components in every aspect of the refurbishment. This way, we ensure that the wind turbines will have a far greater chance to last the full 15 years of life extensions.





# Who is the Client?

This Canadian company is committed to breathing new life into aging wind turbines, recognizing their enduring value even amidst the rapid evolution of the wind industry.

In 2020, their CEO purchased four second-hand Italian Vestas V47 wind turbines from 2004, setting the stage for a substantial refurbishment project together with WindTech.

By partnering with WindTech, the Canadian company ensured that their turbines, which might have otherwise been discarded or decommissioned, underwent extensive refurbishment and transformation to align to the US 60Hz energy infrastructure.

This project not only signifies a strong partnership between our two companies, but also the commitment to sustainability and international collaboration and innovation in the wind industry.

## Reassembling the V47 Nacelles

As the refurbished components were reassembled and given a fresh coat of paint, the final tests began. The reassembled nacelles underwent rigorous checks and assessments to ensure they were fully prepared for their next chapter in Texas.

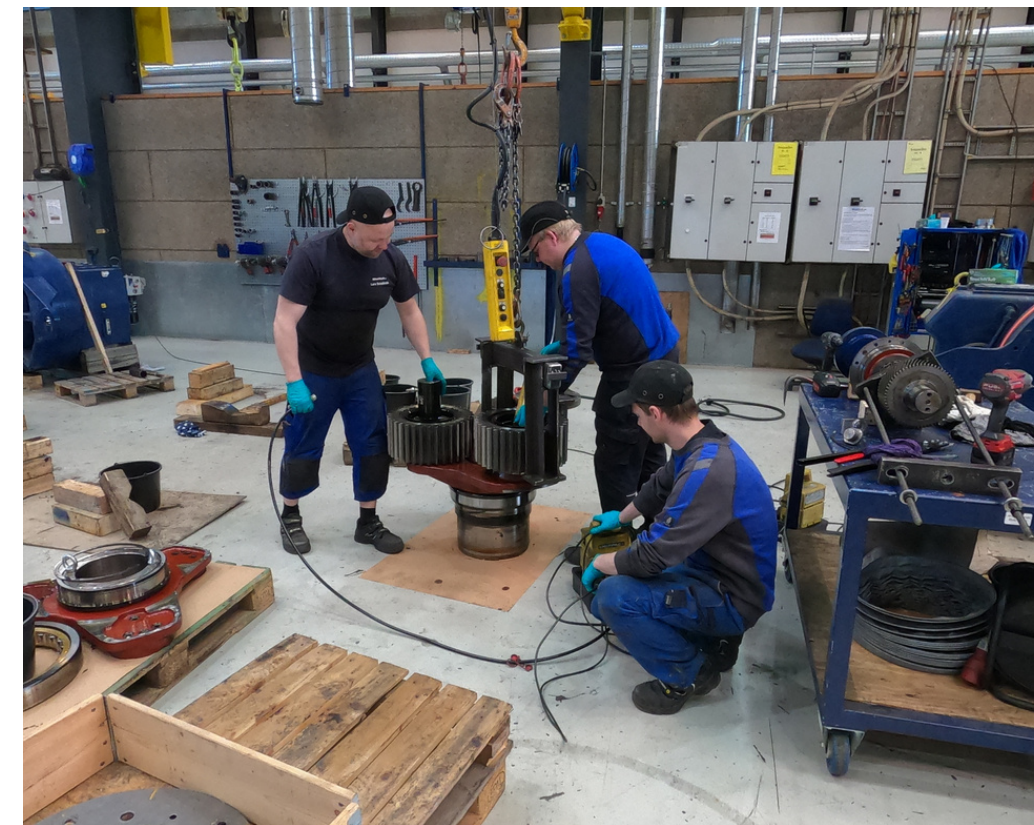
## Journey to a New Home

With the project now completed, the refurbished and revitalized nacelles were destined for Houston, Texas. Their voyage to a Texas wind turbine park underscores the potential of refurbished wind turbines, emphasizing that aging wind turbines continue to play a crucial role in the modern wind energy industry.

## Continued Faith in Global Collaboration

We take great pleasure in collaborating with our business partners, especially when it enables us to contribute to the global green transition. Our partnership with this Canadian company reflects the unwavering trust we place in international teamwork and business relationships.

While the wind industry relies on OEM companies for innovation, WindTech continues in our commitment to refurbishing, repairing, and renewing aging wind turbines, ensuring they continue to fulfill a vital role in our sustainable future.



# WindTech as

If you're interested in learning more about our nacelle refurbishment services or exploring what we can offer your company and projects, please don't hesitate to reach out to us.

We're here to answer your questions and discuss how we can assist you in achieving your wind energy goals.

## Get in touch

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