

Operations & Maintenance, Decommissioning and Recycling

Hub City Wind is committed to providing project and wind industry facts to educate and share the benefits of wind energy to our Marathon County community. In this edition of the Hub City Wind Farm Newsletter, we are excited to provide information on the Operations and Maintenance (O&M) of wind turbines, decommissioning requirements, and recycling efforts after decommissioning.

OPERATIONS & MAINTENANCE (O&M) of a Wind Farm

Once a wind farm has completed construction, typically a one-to-two-year timeframe, the facility will enter the “operation” phase of the project, providing clean, renewable energy to the local transmission grid for the next 30-40 years. During this time, Operations & Maintenance (O&M) workers, such as Wind Turbine Technicians, regularly inspect, maintain, and repair wind turbines. These annual inspections consist of assessing the foundation, conducting wildlife surveys, visually inspecting the blades, gearbox and bearings maintenance, and electrical wiring and cables.

O&M crew members might be your neighbors! The wind industry provides over 300,000 American jobs, which includes wind turbine technicians, site managers, manufacturers, and more.¹



WHAT IS DECOMMISSIONING?

Decommissioning is the process of deconstructing, removing project materials, and returning the land to its original state.² A decommissioning plan is created during the permitting process for all utility-scale renewable energy projects, including wind. Decommissioning serves as the blueprint for WHO is responsible for decommissioning and HOW deconstructing, removing of project materials, and remediation will be performed. Furthermore, language for the decommissioning of the project site is included in the lease agreement with those participating in the wind project, holding the owner/operator of the facility liable for the reclamation of the site on behalf of the lease holder.

In addition, Wisconsin State Law requires the following items to be included in the state application³ regarding decommissioning:

- Describe how the facility will be decommissioned at the end of the project's life. Describe expected decommissioning actions and timelines.
- Provide an estimate of the cost and source of funding for decommissioning. State whether financial security would be provided to cover decommissioning costs, including the amount and time it would be provided.
- State how the start of decommissioning would be decided, including a description of what constitutes site abandonment.
- Discuss any recycling or repurposing options that can be employed to eliminate waste streams for electric generating site components, including any BESS systems.



WHAT IS DECOMMISSIONING? (Continued)

According to Wisconsin Public Service Commission 128.19⁴, a wind facility must be decommissioned when the system is at the end of its useful life. It's presumed to be at the end of its useful life when "the wind energy system generates no electricity for a continuous 360-day period". Wind owners can apply for an extension to return the wind turbine to full service and repower the wind farm. When decommissioning is required, "the owner shall begin decommissioning within 360 days after the wind energy system has reached the end of its useful life. The owner shall complete decommissioning and removal of the wind energy system within 540 days after the wind energy system has reached the end of its useful life." Throughout the life of the facility, the owner must retain proof of financial surety to cover the costs of decommissioning the facility. A political subdivision may require the owner to provide assurance of their ability to pay any necessary decommissioning costs prior to commencing construction.



RECYCLING

As the wind energy industry continues to grow, some may be curious about what happens with wind turbines once a project has reached its end-of-life and has been decommissioned. Nearly 90% of all turbine components (blades, towers, gear boxes, steel parts, etc.) can be recycled with the current recycling facilities we have here in the United States. In fact, REGEN Fiber⁵, owned by a subsidiary of Alliant Energy, has developed a solution for recycling wind turbine blades, helping to keep them out of landfills. REGEN Fiber's innovative process shreds the blades, extracts usable components, and transforms them into products that can be used in common construction materials, such as concrete. This helpful recycling process is one of many ways the wind industry is repurposing materials for future use.

Other recycling facilities include:

- Critical Materials Recycling - uses an acid-free dissolution recycling process to recover magnets from wind turbines.⁶
- Carbon Rivers - Uses fiberglass recycling technology to upcycle and recycle wind turbine blades.⁷

¹ <https://cleanpower.org/facts/wind-power/>

² <https://windexchange.energy.gov/end-of-service-guide>

³ <https://psc.wi.gov/SiteAssets/WindPowerAFR.pdf>

⁴ https://docs.legis.wisconsin.gov/code/admin_code/psc/128/ii/19

⁵ <https://regenfiber.com/>

⁶ <https://criticalmaterialsrecycling.com/>

⁷ <https://www.carbonrivers.com/>

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INFORMATION ON
HUB CITY WIND FARM**

We hope you find this newsletter informative.
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wind energy or the project.

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