Chateaugay Wind repowering project

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Owned and Developed By Valcour
Chateaugay NewCo LLC, a subsidiary
of AES Clean Energy

Chateaugay Wind repowering project overview

Nameplate capacity

Existing 106.5MW Wind Park, Repowered up to 116.5 MW

Location

Town of Chateaugay in Franklin County

Project footprint

Approximately 802.6 Acres

Economic benefits

Chateaugay Wind has and will continue to make a positive economic impact on local tax payers by adding tax dollars to the local economy. Chateaugay Wind repowering will create hundreds of high paying construction jobs and provide local operations jobs in New York State. A full repower of the Facility will result in an extended life of up to 30 years, with increased energy production and continuation of economic benefits.

Environmental benefits

Enough electricity to power 21,009 homes with electricity and reduce carbon dioxide emissions by 123,070 metric tons.

Commercial operation date of new facility (COD):

2028

Proposed project timeline

2009

Noble began operating the Chateaugay Windpark

2021

AES acquires the Chateaugay Windpark from Cogentrix Energy with a plan to complete a partial repower of the facility

2023

The project changes to a full repower, and AES resumes development activities following commercial success in NY

2024

Development begins amending landowner agreements, initial project designs, host community agreements, and permitting surveys

2025

Plan to submit Article VIII permit application in March of 2025

2026

Anticipated permit approval and mobilize for construction/ decommissioning in late 2026 or early 2027.

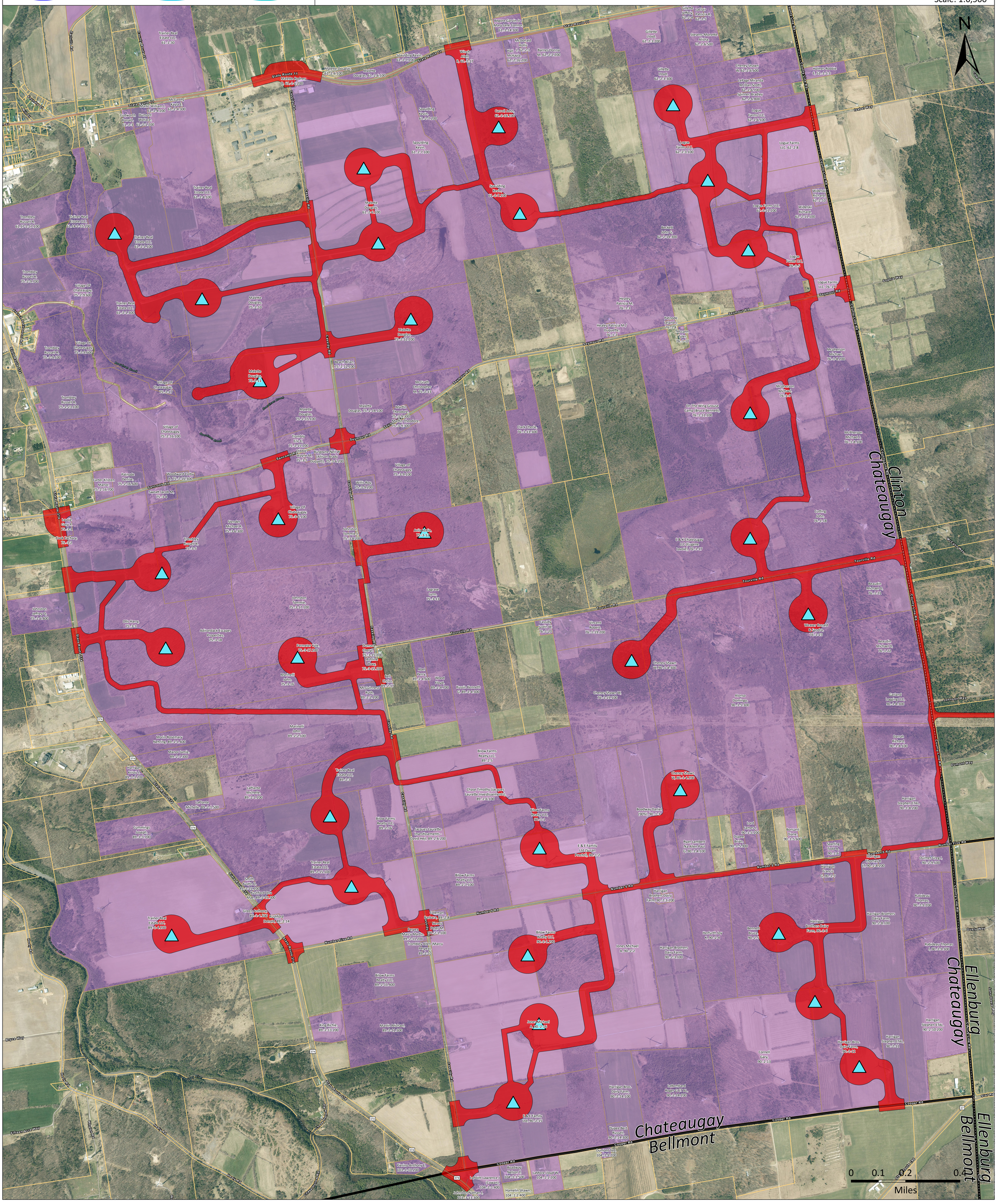
2028

All new turbines fully operational.

Chateaugay Wind Project: Preliminary Layout

- Town Boundaries
- County Parcel Boundaries
- Chateaugay Potential Turbine Locations
- Chateaugay Wind Project Parcels
- Chateaugay Construction Limits of Disturbance (LOD)

Scale: 1:6,500



Decommissioning of the existing facility

Energetic felling

Energetic felling is the process of grounding existing turbines with a controlled explosive, followed by ground crews removing all material and thoroughly cleaning the area. Engineers can control within degrees where on a property the turbine lands

Oils, greases, and electronics are removed from the wind turbine prior to energetic felling to prevent contaminating the property

After the turbine has been grounded, components are disassembled and removed for disposal or recycling. Foundations and underground collection lines will be removed in accordance with the requirements of the Host Community Agreement

Safety and communication

Landowners and the Town will be notified prior to decommissioning of the facility. AES will coordinate with landowners to ensure the site is safe and accessible

An AES representative will solicit landowner feedback and walk the property after decommissioning to ensure that component removal and site cleanup is satisfactory

Decommissioning of repowered facility

Facility decommissioning will be initiated when the facility reaches the end of its operational life (expected up to 30 years after operations begins in 2028). Chateaugay NewCo, LLC will be responsible for the decommissioning of the facility.

The Applicant will provide notice by mail to landowners and the town of Chateaugay prior to commencing decommissioning work.

The Applicant shall consult with NYISO and the local utility to complete the de-energization efforts and ensure there is no disruption to the electrical grid.

The cost of decommissioning will be estimated by a third party engineer and the estimated net cost amount plus 15%, is placed as security which towns have access to in the event it is needed. Towns will be consulted on the cost estimate for decommissioning.

As part of the decommissioning process, the facility will be restored to pre-construction conditions, including disassembly and removal of above ground structures, removal of above ground structures to a minimum depth of minimum depths required by the Host Community Agreement.

Article VIII Timeline

Pre-application consultations, studies & design

Applicant submits application

Anticipated March 2025

Intervenor funding application
Must apply within 30 days of application submission

Anticipated April 2025

ORES has 60 days to determine either that the Application is complete or there are additional deficiencies that need to be addressed

Completeness Determination

Applicant will have 90 days to address any comments by ORES to the application

ORES Issues draft permit conditions

Within 60 days of completeness determination

Public comment period/municipal

Statement of compliance minimum of 60 days

ORES Issues Determination

Hearings (if required)

Recommended decision and hearing report

Final permit decision issued

Within 1 year of completeness determination

Compliance Fillings / Construction

Local agency account funding

Article VIII requires that Applicants submit a fee to be deposited in a local agency account in an amount equal to $1,000 for each MW of capacity for a total of $116,500.

Funds can be requested to complete the project record, and for local agencies this includes using the funds to determine if the proposed facility complies with local laws and requirements. At least seventy-five (75) percent of the local agency account funds for each project are reserved for potential awards to local agencies (host municipalities).

Any local agency or potential community intervenor can submit a request for initial funding within thirty (30) days of the date of application filing and that such request may be made by mail to the: Office of Renewable Energy Siting Attention: Local Agency Account Funding Request, c/o OGS Mailroom Empire State Plaza, 240 State Street P-1 South, J Dock Albany, NY 12242 or by email to hearings@ores.ny.gov Subject line “Local Agency Account Funding Request.

Economic benefits

• Since the Chateaugay Windpark began operating in 2009, the project has contributed over $14 million to the local economy through agreements with the Town of Chateaugay, Franklin County Industrial Development Agency, and other local jurisdictions.

- Over $8.5 million via a Host Community Agreement

- Over $5.7 million via a PILOT agreement*

• Repowering the Chateaugay Windpark will ensure economic contributions to the community continue for up to an additional 30 years. AES is currently in discussions with local municipalities about economic benefit agreements for the repower project.

*Includes payments to towns, counties, and school districts

Environmental studies

Wetlands and streams

Biologists conducted surveys on-site over several years to document the extents and characteristics of wetlands and streams based on soil types, vegetation, and hydrology. The Project will avoid and minimize impacts to wetlands and streams to the maximum extent practicable.

AES is coordinating with the Office of Renewable Energy Siting and Electric Transmission (commonly referred to as ORES) regarding jurisdiction, permitting, and potential mitigation.

Listed species and habitat

Biologists conduct surveys to identify protected plant and wildlife and their habitats. Avian surveys were conducted on-site for winter raptors, grassland breeding birds, and forest raptors.

AES will continue to coordinate with ORES and NYSDEC regarding habitat occupied by listed species. AES is designing the Project to avoid and minimize impacts; if unavoidable, AES will implement mitigation in the form of a Net Conservation Benefit Plan.

Cultural resources

AES is conducting thorough evaluations (both desktop and field studies) to identify the presence of culturally significant resources on-site and will implement avoidance measures as necessary.

AES is coordinating with NYS Historic Preservation Office (SHPO)

Environmental studies

Visual resources

- The Application will include a viewshed analysis showing potential visibility of the Project.
- Photo simulations, including existing and proposed conditions, will be developed for the Application.
- AES is working with the Towns to select viewpoints for the visual simulations to be submitted in the application.
- Methodology and results of the visual analysis will be included as part of a formal Visual Impact Assessment (VIA).

Sound analysis

A Sound Level Assessment will be prepared to compare proposed sound conditions to ORES's requirements at the Facility Site and surrounding properties.

Noise modelling is completed to ensure noise levels comply with ORES's requirements.

Environmental studies

Transportation

- A traffic assessment is being conducted to identify proposed routes for construction traffic and oversize equipment such as turbine blades and nacelles.
- The assessment considers the location and conditions of local and state roads and bridges.

Public Health and Safety

- A Site Security Plan and Safety Response Plan are being prepared with feedback from the first responder community.
- AES will conduct training of Local First Responders prior to installation and annually thereafter.

Engineering studies

Geotechnical investigation

AES will conduct geotechnical surveys in the Q1 of 2025 to fully understand soil and subsurface characteristics. Tree clearing will be completed this winter to complete these surveys.

Turbine Layout and Limits of Disturbance

Preliminary layouts are in the process of being studied by environmental and engineering experts. The layout is not yet final and is subject to review by state and federal agencies.

Civil and electrical infrastructure will be designed based on the proposed locations of turbines.

AES' social impact program in northern New York

Program mission

Our social impact program partners with communities to strengthen positive impact through socioeconomic and environmental partnerships that improve lives today and in the future.

Partnering with communities

AES people live and work in the communities we serve to fulfill our commitments in New York and around the world every day.

Focus pillars

Our 4 focus pillars are our initial framework for providing donations to positively impact our host communities.

- → Partnering for access to safe, efficient, and affordable energy and basic services.
- → Partnering for inclusive economic growth and education. Partnering for the environment.
- → Partnering for the environment.
- → Partnering for community resilience.

Partnerships : Altona Fire Department, Ellenburg Center Fire Department, Ellenburg EMS Response Unit, Ellenburg Swim Program, Churubusco Fire Department, Northern Adirondack Central School District, Franklin Essex Hamilton BOCES, Chateaugay Central School, Chateaugay Revitalization Committee, Chateaugay Rotary, Burke Volunteer Fire Department, Burke Adult Center, Burke EMS Response Unit and Almanzo Wilder Farm.

List of Article VIII application exhibits

1. General requirements
2. Overview and public involvement
3. Locations of facility and surrounding land use
4. Real estate property
5. Design drawings
6. Public health, safety and security
7. Noise and vibration
8. Visual impacts
9. Cultural resources
10. Geology, seismology, and soils
11. Terrestrial ecology
12. NYS Threatened or endangered species
13. Water resources and aquatic ecology
14. Wetlands
15. Agricultural resources
16. Effect on transportation
17. Consistency with energy planning objectives
18. Socioeconomic effects
19. Environmental justice
20. Effect on communications
21. Electrical system effects and interconnection
22. Electric and magnetic fields
23. Site restoration and decommissioning
24. Local laws and ordinances
25. Other permits and approval

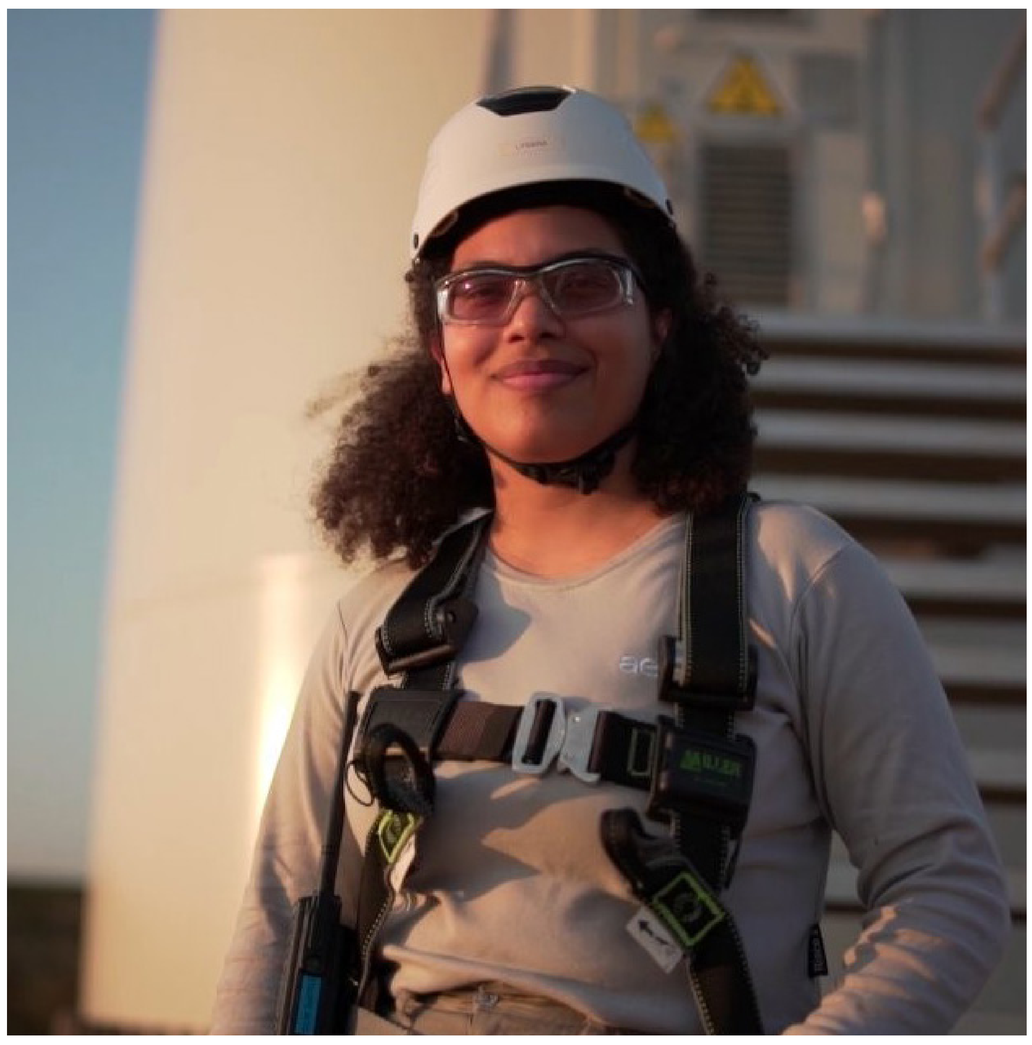
Article VIII permitting highlights

Prior to submitting an Article VIII permit application, Applicants are required to consult with the local agencies and stakeholders of the community(ies) in which the proposed project will be located.

ORES requires that state agencies (e.g. NYSDEC) are consulted on wetland and stream delineations, threatened and endangered species, and archaeological and cultural resources, if appropriate.

Prior to application submittal, applicants must hold at least one meeting for community members and one Agency consultation with impacted agencies.

From the date of its receipt of a permit application, ORES (Office of Renewable Energy Siting and Electric Transmission) has 60 days to make a completeness determination. After a completeness determination, draft permit conditions will be issued by ORES for public comment. Within the comment period, the host municipalities must submit a statement indicating whether the proposed renewable energy facility complies with applicable local laws. ORES must issue a final decision on the siting permit within one year of the date on which the application is deemed complete.



Article VIII (formerly 94-c)

Effective April 20, 2024, the Renewable Action through Project Interconnection and Deployment (RAPID) Act repealed Executive Law § 94-c, repealed the current Public Service Law Article VIII, and enacted a new Public Service Law Article VIII entitled “Siting of Renewable Energy and Electric Transmission” (Article VIII).

The RAPID Act also transferred the Office of Renewable Energy Siting (ORES) from the Department of State to the Department of Public Service, continuing all existing functions, powers, duties, and obligations of ORES under the former Executive Law § 94-c. In addition, ORES’s existing regulations remain in full force and effect.

Projects, that would have previously proceeded under § 94-c will now proceed under Article VIII.

The RAPID Act further builds upon the existing State permitting regulations, consolidating the environmental review, permitting, and siting of both major renewable energy facilities and major electric transmission facilities under the purview of ORES.

Site safety response plan

• The site safety response plan is drafted with input from AES' operations and local emergency responders to identify emergency response protocol of the Wind Park in accordance with Title 16 New York codes, rules, and regulations (16 NYCRR) § 1100 -2.7 (b).

• The site safety response plan discusses safety information, including:

- Roles and responsibilities of contractors and employees

- Training drills for on-site personnel

- Emergency communications and response procedures

- Evacuation procedures

• This plan is preliminary in nature and will be updated prior to construction as part of the compliance phase of the facility.

Site security plan

• The site security plan is drafted with input from AES' operations and local emergency responders to ensure security of the wind park in accordance with title 16 New York codes, rules, and regulations (16 NYCRR) § 1100 -2.7 (b).

• The plan includes information regarding:

- Access controls
- Electronic security and surveillance
- Facility and turbine lighting
- Cyber security
- Backup power and communication

Wind Turbine Disposal and Recycling Strategies

Wind energy plays an important role in creating a cleaner, healthier environment. It's a leading climate change solution that decreases smog-creating air pollution and saves billions of gallons of water annually. Studies show a typical wind turbine repays its carbon footprint within six months.[1]

Wind turbines are made up of many materials that have substantial salvage value at the end of its operational life and are recyclable. In fact, 80-94% of a wind turbine's mass consists of easily recycled materials, such as steel / iron (approximately 88% of a turbine's mass), aluminum (approximately 0.7%), and copper (approximately 2.7%).[2,3,4] Other wind turbine components such as blades, nacelle covers and rotor covers are made of up composite materials, mostly fiberglass and carbon fiber, which, while nontoxic and safe, are more difficult to process for other purposes. However, these components make up roughly only 8% of a wind turbine's total mass.5 In addition, as described more below, the wind energy industry and other partners are expanding options to recycle and reuse even these historically tougher to process materials.

While wind energy projects are expected to operate for 20 to 35 years, individual wind turbine components like rotor blades and covers may need upgrading or replacing sooner because of normal wear from exposure to the elements, or improvements in technology.

Reduce

Reducing the need to replace components by extending the lifetime of existing blades is one of the most economically and environmentally friendly measures wind developers take to limit the number that need to be disposed of through reuse, recycling or landfilling. While the blades are very durable, decades of exposure to the elements can slowly chip away at their efficiency.

Blade repair and monitoring technology is rapidly improving, allowing the industry to use fewer and fewer blades to produce the same amount of clean, zero-carbon electricity. General improvements in turbine technology are also leading to greater electricity generation per turbine, adding to these blade efficiency improvements. Improvements to wind resource assessment and modelling allow manufacturers to better understand the loads on blades, leading to improvements in life and maintenance costs.

Reuse

The U.S. wind power industry, along with multiple stakeholder groups including scientists, researchers, national laboratories, and environmental collaborators, is developing innovative methods to re-purpose turbine blades. Intact blades are being evaluated for reuse at other wind farms to improve performance or reshaped for use as utility poles. For blades that are not suitable for such projects, partial blade reuse may include repurposing as outdoor furniture (e.g., park benches, playground equipment,6 storage enclosures,[7] etc.) and signage. Scientists are also modeling how blades can be used as roofing for homes and buildings.

Companies such as RiverCap Ventures offer sustainable options for end-of-life wind turbine components, including blades.8 The U.S. Department of Energy (DOE) is partnering with businesses to research practical ways to repurpose wind turbine blades. Innovative partnerships like Re-Wind9, a collaboration between the Georgia Institute of Technology and Queen's University Belfast, are deploying design and logistical concepts in the field, such as prototyping methods to reuse the decommissioned blades in buildings, infrastructure, landscape and public art.[10]

Recycle

Today, wind turbine blades are recycled into raw material and fuel for cement production, through a partnership between GE, Veolia North America, and other companies, generating jobs and reducing the emissions of cement production.[11] Although in the past, blades and other composite materials from wind turbines have been landfilled because of limited options in recycling technology and infrastructure to process and separate the reusable materials, many original equipment manufacturers (OEMs), research institutes and universities, and the DOE's national laboratories are solving the technological challenges of turbine blade recycling. The National Renewable Energy Laboratory is advancing recycling technologies by developing new materials (e.g., thermoplastic resin) that can be used to manufacture fully recyclable blades by making it easier to separate the layers and recapture the materials.[12] OEMs are also pledging zero waste by deploying recyclable blades within the next decade, creating a circular economy of use.[13]

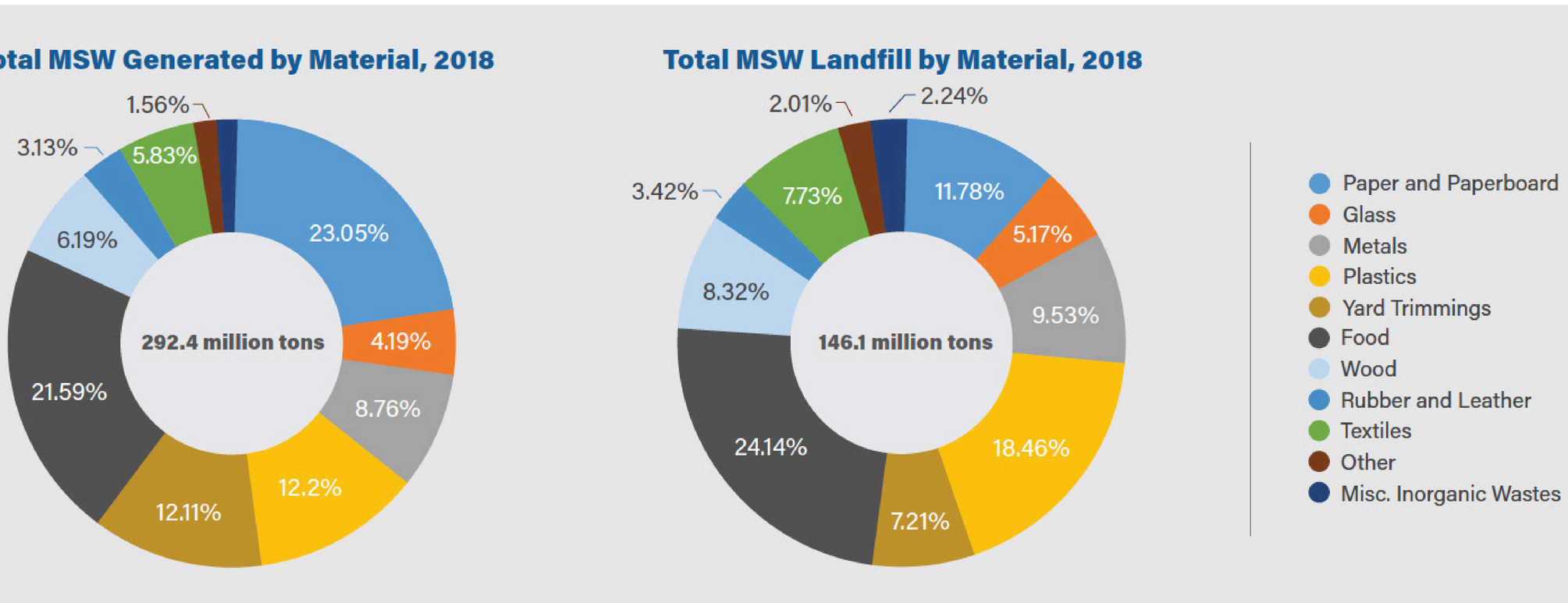
Many OEMs have announced partnerships with companies to recycle blades by turning blade components into raw materials for use in cement manufacturing, other new composite materials, or reclaiming the glass and carbon fibers that can then reused.[14,15] Academic institutions like the University of Tennessee, funded with a grant from the DOE, are developing methods to turn blades into recycled composites for vehicles, other renewable energy system components, agricultural products, and performance sports equipment.[16]

Blade Landfill Disposal

Even if landfilled, wind turbine components are made from safe, non-toxic inert materials that do not represent a threat to the surrounding soil or groundwater. Further, turbine blades represent a vanishingly small portion of the waste going into U.S. landfills and are among the least environmentally harmful materials entering them. Turbine blade waste through 2050 is expected to represent only approximately 0.05 to 1.6% of all the municipal solid waste going to landfills every year.17 The Electric Power Research Institute estimates there will be 2.1 - 4 million tons of cumulative blade waste between 2020 and 2050.18 While landfill disposal has been the most common strategy for turbine blade disposal, there is growing research and technology innovations to recycle and repurpose blade waste. However, if landfill disposal is the only option at the time a turbine is decommissioned, like many other industries, the U.S. wind industry pays a fee to dispose some material in landfills.

Other U.S. Waste Landfill Disposal

The Electric Power Research Institute estimates there will be 2.1 – 4 million tons of cumulative blades put in landfills between 2020 and 2050. In comparison, 292.4 million tons of municipal solid waste is generated every year on average and 146.1 million tons is landfilled.19



Sustainability

The range of turbine end-of-life technologies will continue to expand, given the continued focus on solutions from the industry, along with public and private organizations. The U.S. wind industry remains committed to protecting the environment by delivering carbon-free power through responsible development and sustainable solutions.

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