Why Lava Run?

About Repsol

In March 2024, ConnectGen was acquired by Repsol and is now integrated into Repsol Renewables North America.

Repsol is a global energy company with a strong presence in the United States. Repsol is committed to reaching net zero emissions by 2050, with a stated target of having 7,800 MW of renewable energy projects in operation in the United States by 2030. Lava Run Wind & Solar are a strategic part of this plan.

Today, Repsol has 750+ MW of operational solar projects across New Mexico and Texas, as well as 1,070 MW of operational wind projects globally.

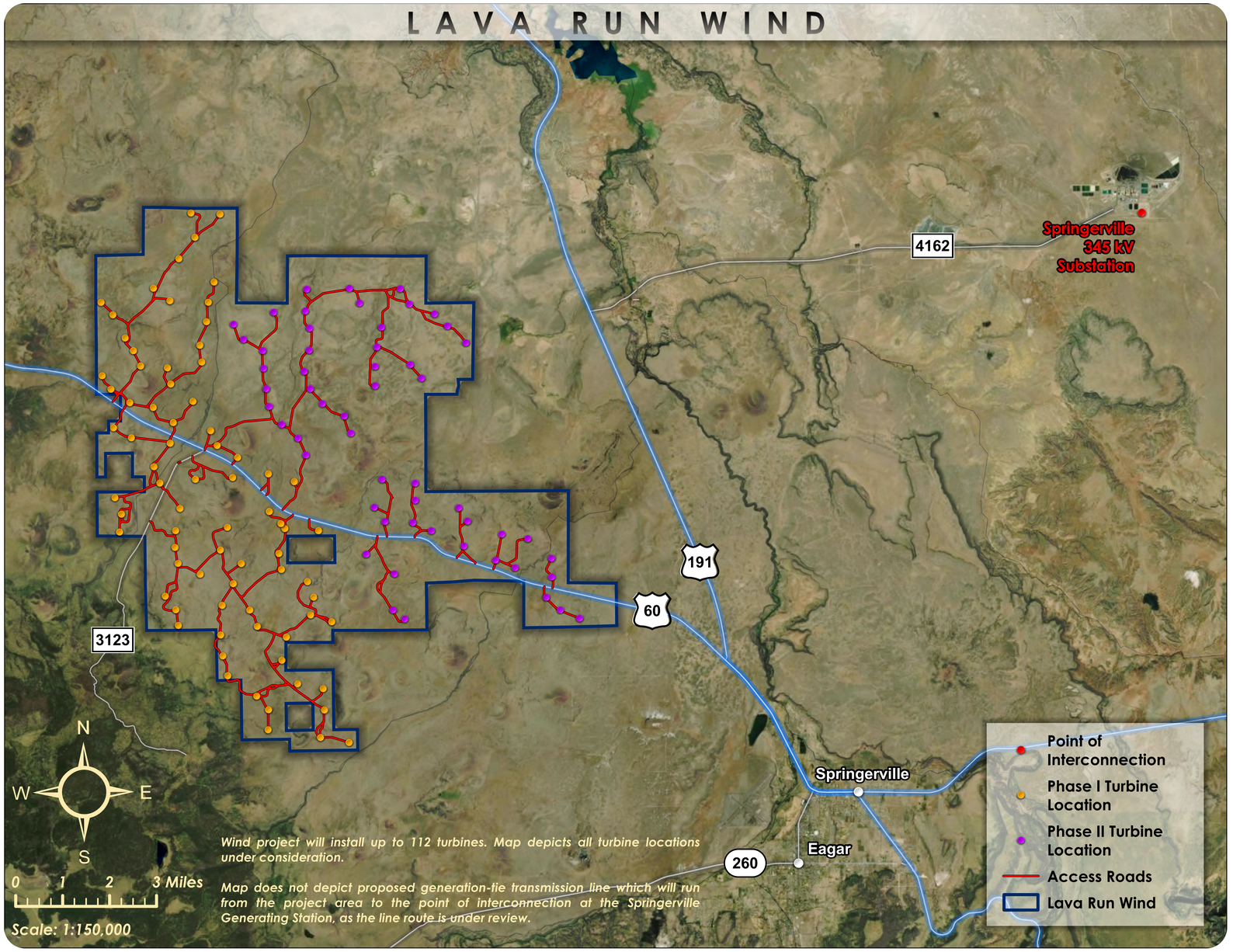
Local Utilities Look to Renewables to Meet Growing Electricity Needs

- The Springerville Generating Station began seasonal operations in 2023 with plans to retire Unit 1 in 2027, Unit 3 in 2031, and Unit 2 in 2032. Further, the Coronado Generating Station will begin seasonal operations in 2025 with plans to retire by 2032.
- Lava Run Wind & Solar are expected to generate enough clean energy to power 190,000+ Arizona homes annually. Local utilities like Tucson Electric Power are looking to renewables projects like Lava Run to meet the state's quickly growing energy demand amid these coal plant closures.

Lava Run Wind & Solar Can Keep Energy Jobs Local

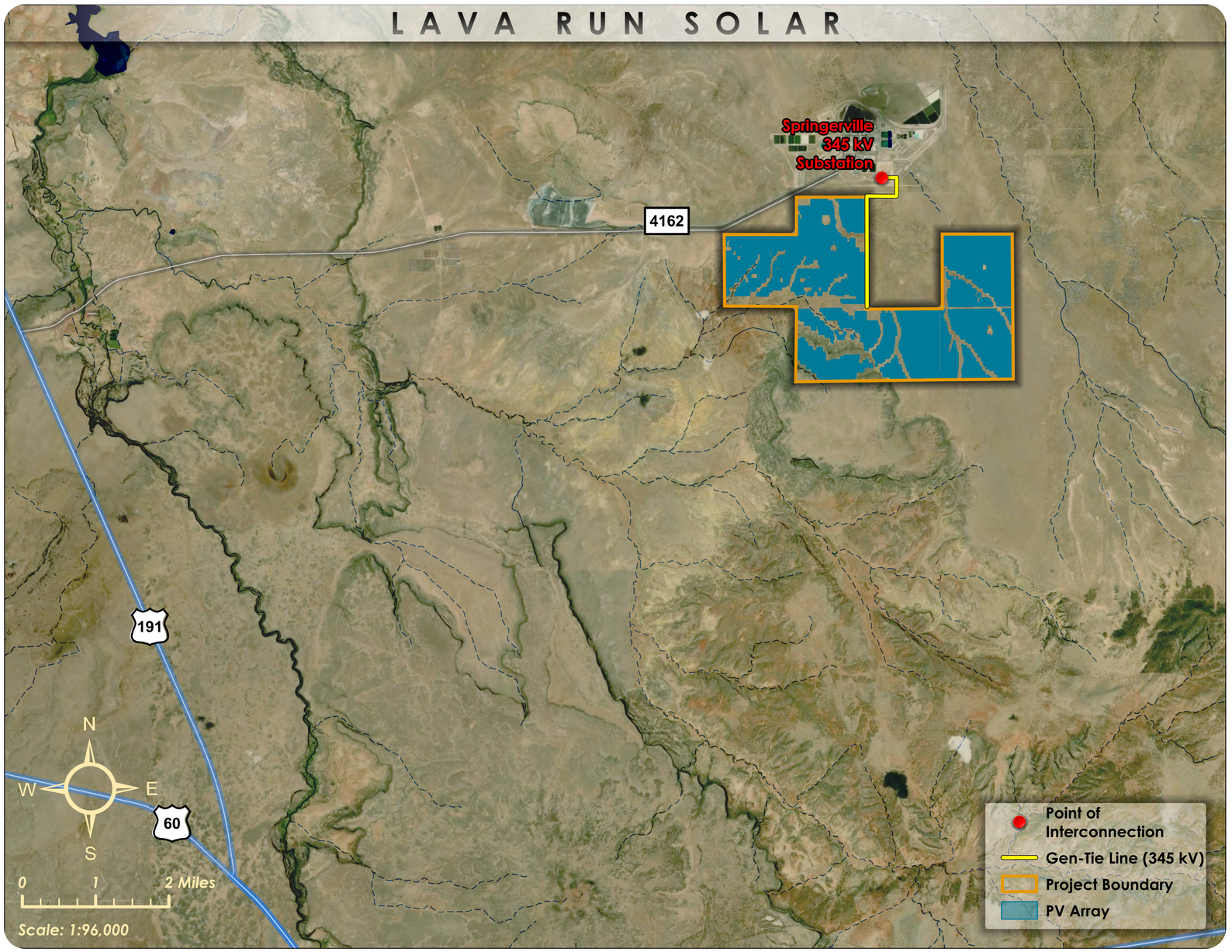
- The coal plant closures are expected to significantly reduce Apache County's job availability and property tax base. The Lava Run Projects can mitigate some of these economic losses by creating up to 32 long-term operations jobs and paying approx. $74.4 million in property tax revenues to Apache County over the first 35 years of operations.
- For decades, Apache County has thrived by powering Arizona with energy from coal. Lava Run Wind & Solar are a chance to continue this legacy for the next generation – this time, with energy from clean and renewable sources.

Lava Run Wind Project Overview



- 500 MW total across two project phases with the potential to power 90,000+ Arizona homes annually
- Sited entirely on Arizona State Trust lands with an infrastructure footprint of approx. 500 acres
- Compatible with the existing land uses; ranching and recreational activities will continue during wind project operations
- Capital investment of approx. $1 billion, resulting in significant contributions to the local property tax base and substantial economic benefits to Apache County
- Wind in this region has a complementary energy generation profile to solar-plus-battery to help deliver around-the-clock electricity

Lava Run Solar & Battery Project Overview



- 450 MW total across two project phases, with the potential to power 100,000+ Arizona homes annually
- Sited on approx. 3,760 acres of Arizona State Trust lands with the potential to include one 440-acre private parcel
- Have been in close coordination with the grazing lessee within the project area
- Capital investment of approx. $1.1 billion, resulting in a significant increase in the local property tax base and substantial economic benefits to Apache County
- 4-hour lithium-ion batteries help meet electricity demand during the evening hours

Conditional Use Permit Process Outline

PRE-FILING MEETING & PUBLIC ENGAGEMENT

- Pre-application meeting with Apache County held in June 2024
- 2 public meetings held in November 2024, per Apache County Ordinance requirements
- Public comment period closes December 23, 2024, for processing

APPLICATION REVIEW

- Applications will include a Community Benefits Program, Citizen Participation Report, Environmental & Cultural Studies, Visual & Sound Studies, Fire Control & Prevention Plan, Decommissioning & Restoration Plan
- Apache County may request additional information
- Application materials will be made public at this time

PUBLIC MEETINGS

- After reviewing applications, Planning & Zoning Commission holds a public hearing and provides recommendation to Board of Supervisors
- Board of Supervisors holds a public hearing and makes determination on applications

General Project Timeline

DEVELOPMENT
6 Years
202-2026

- Coordinate with appropriate agencies around land acquisition, wildlife studies, cultural studies, etc.
- Inform community through town council meetings, open houses, and public meetings
- Secure all permits for project construction and operation
- Undergo technical studies by Tucson Electric Power to secure interconnection rights

CONSTRUCTION
2+ Years
2026-2028

- Arizona State Land Department and Apache County both require a decommissioning bond to be posted prior to the commencement of construction
- Each project will be constructed in two phases

OPERATION
35+ Years
2028 and beyond

- On-site, full-time technicians monitor and perform preventative maintenance to ensure optimal operations and minimize the potential for an issue
- Site management includes keeping access roads, fencing, and other infrastructure in good condition

DECOMMISSIONING & RESTORATION
Up to 2 Years
Project End-of-Life

- Apache County requires project decommissioning, including removal of all infrastructure to a depth of 3 feet below grade, graveled areas, and access roads
- Site restoration includes restoration of surface grade and soil, re-vegetation with native plants suitable to the area, and consideration of potential future use and natural resource protection

Estimated Local Project Benefits

Combined, the projects represent a **capital investment of $2.1 billion**, which will result in significant economic benefits for Apache County to help mitigate some of the tax revenue and job losses expected from planned retirement of Units 1 and 2 at the Springerville Generating Station.

	LAVA RUN WIND	LAVA RUN SOLAR	CUMULATIVE
Long-term, well-paying **operations jobs** to support local families	15	17	32
Full-time equivalent **construction jobs** (average over 2-year period)	100	116	216
Property tax revenues paid directly to Apache County to fund schools, libraries, and other services (over first 35 years of operation)	$31,500,000	$42,900,000	$74,400,000
Sales tax revenues paid directly to Apache County to maintain roads and other government services	$373,000	$416,000	$789,000
Rent paid to Arizona State Land Department to benefit state public schools and universities (over first 35 years of operation)	$75,000,000	$71,000,000	$146,000,000

- **Developing Community Benefits Program of over $1 million** to fund community initiatives and establish long-term partnerships with local organizations
- **Increasing local business activity** among hotels, motels, restaurants, grocery stores, gas stations, and more
- **Sourcing Arizona-based equipment, materials, and labor** when feasible to help keep economic benefits as local as possible

Community Engagement

The Lava Run team has been engaging with local stakeholders since early 2020 and is committed to robust community engagement.

- In-person meetings with county and city officials, community leaders, local non-profits, small business community
- Ongoing communications with grazing lessees within project area
- Conversations with 200+ community members at 2023 and 2024 Apache County Fairs
- Presentations before Springerville/Eagar Town Councils, public Q&A session in June 2024, and Open Houses in July 2024
- $32,000+ in donations and sponsorships to support the Apache County Fair, 4-H group, youth sports teams, and more

Environmental Considerations

Resource Assessment

- Wind: 174+ cumulative months of on-site wind data from 6 devices confirms project viability.
- Solar: 1 year of on-site solar data collected.

Visual & Sound

- Visual simulations in development to support Conditional Use Permit (CUP) application.
- Wind: Collect baseline noise readings within project area and model expected change in noise levels based on specific project layouts and equipment models. Study will support project design and the CUP application.

Cultural Resources

- Surveyors inspect the entire project area. Results reviewed by the Arizona State Land Department's Archaeology Department and the Arizona State Museum.
- Wind: Initiated in November 2024.
- Solar: Completed in 2023; no new archaeological sites identified.

Environmental Considerations

Wildlife

- Wind: Completed 2 years of raptor nest, avian use, and bat acoustic surveys. Incorporated mitigation recommendations from Arizona Game & Fish Department and US Fish & Wildlife Service into project design. Coordination with both agencies is ongoing.
- Solar: Completed 2 years of raptor nest surveys and incorporated results into project design.

Plants & Habitat

- Native plant inventories help inform design and necessary mitigation.
- Wind: Initiated in November 2024.
- Solar: Completed in 2021.

Water

- Wetland and surface water delineations inform design, permit requirements, and necessary mitigation.
- Wind: Initiated in November 2024.
- Solar: Completed in 2021.

General Public Health & Safety - Wind

Wind turbines are safe

- Wind turbines are not linked to adverse health effects
- We incorporate a half-mile setback distance from residences to help reduce potential noise impacts even further

Wind turbines do not pose a significant fire risk

- All turbines at Lava Run will be equipped with fire detection systems and programmed to automatically shut down if an alarm is triggered
- The project will be monitored and controlled via an on-site operations and maintenance building, as well as a Remote Operations Control Center (ROCC). The ROCC will be staffed 24/7 and will be able to shut down the turbines at the request of the local fire department
- Past fires involving wind turbines are incredibly rare and are concentrated in the older generation of wind turbines (i.e., those installed 10+ years ago). Modern turbines are safe and reliable

Wind turbines have multiple safeguards to prevent oil leaks and on-site technicians conduct regular maintenance

- In addition to routine inspections performed by on-site technicians, there are sensors throughout each turbine that detect abnormalities, such as temperature rises or low oil pressure, and will automatically shut down the turbine if necessary

Wind projects are compatible with grazing operations

- Do not harm cattle or present health risks
- Cattle often enjoy the shade offered by wind turbines

General Public Health & Safety - Solar & Battery

Solar panels are safe and do not contain harmful levels of toxic materials

- Solar panels meet strict electrical safety standards
- Panels are designed to ensure no release or leakage of materials into the surrounding environment
- The most common type of panels used for large-scale facilities are made almost entirely of glass, aluminum, silicone, polymers, and copper

Solar panels do not pollute the local environment

- No combustion, emissions, or odors
- No water discharges or use of neighboring water bodies for heating or cooling

Solar panels are quiet

- Solar panels make little or no sound
- Associated electrical equipment creates minimal sound
- Limited required equipment maintenance such as vegetation management or access road upkeep would be conducted during the day

Battery storage system fires are rare and new technologies have reduced this risk

- Battery fires are decreasing as a percentage of deployments thanks to improved technology and rapidly evolving regulatory codes
- Battery storage systems are designed to contain numerous redundant safety measures, including 24/7 remove monitoring, internal heat sensors and electrical monitoring, and built-in exhaust and ventilation
- In the rare case where fires do occur, they may be managed without endangering broader communities
- By way of comparison, the average toxicity level of a battery fire is similar to that of plastics fires involving materials such as sofas, mattresses, or office furniture
- Repsol Renewables will work with local fire officials to develop a Fire Control & Prevention Plan

Solar panels produce minimal glare

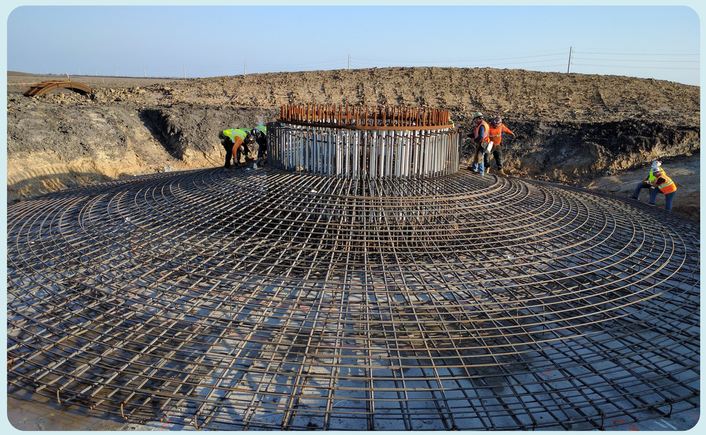
- Solar panels are designed to absorb light, not reflect light, and therefore produce minimal glare

Construction & Operations - Wind

CONSTRUCTION

SITE PREPARATION

- Perform civil work as required
- Construct site entrances and access roads (16-20 feet wide)
- Create temporary laydown yards



FOUNDATION & TURBINES

- Install concrete and rebar foundations (approx. 10 feet deep)
- Turbine towers are erected with a crane
- Nacelle houses generating components and sits atop the tower; three blades are connected to a hub, which is raised and affixed to the nacelle

ELECTRICAL SYSTEM

- Underground lines collect electricity from each turbine, and overhead lines carry multiple underground circuits to project substation
- Generation-tie line transports power from project area to Springerville Substation

OPERATIONS

SITE MANAGEMENT

- Limited upkeep is required during the life of the facility
- Most maintenance activities are associated with keeping access roads, fencing around substations, and other infrastructure in good condition

EQUIPMENT MAINTENANCE

- Project facility is designed for a minimum 35-year life span
- On-site, full-time technicians monitor and perform preventative maintenance to ensure optimal operations and minimize the potential for an issue

OPERATIONS & MAINTENANCE BUILDING

- On-site building houses full-time employees and is staffed during regular business hours

Construction & Operations - Solar

CONSTRUCTION

SITE PREPARATION

- Perform civil work required for access, construction, operations, and maintenance
- Construct site entrances and access roads
- Create temporary laydown yards

PILE/FOUNDATION INSTALLATION

- Install piles to hold panel racking system
- Drive piles for inverter installation and pour concrete pads for high voltage equipment at the project substation

RACK ASSEMBLY AND PV INSTALLATION

- Install panel racks on piles and solar modules on racks
- Install inverters on piles located near panels and connect to high-voltage substation via underground cables

OPERATIONS

SITE MANAGEMENT

- Limited upkeep is required during the life of the facility
- Most maintenance activities are associated with keeping access roads, fencing and other infrastructure in good condition

EQUIPMENT MAINTENANCE

- Project facility is designed for a minimum 35-year life span
- System's modular design allows for simple repair and replacement of project infrastructure, as needed
- On-site full-time technicians are trained on-the-job to troubleshoot, diagnose, and service equipment, as needed

OPERATIONS & MAINTENANCE BUILDING

- On-site building houses full-time employees and is staffed during regular business hours

Decommissioning & Restoration

For the Conditional Use Permit application, we will develop a Decommissioning & Site Restoration Plan that addresses the following:

- Equipment removal to 3 feet below grade
- Removal of graveled areas and access roads
- Restoration of surface grade and soil
- Re-vegetation with native plants suitable to the area
- Potential future uses
- Environmental and natural resources protection
- Schedule

Financial Security

- Decommissioning bond amount will be determined by a third party
- Repsol Renewables will post financial security prior to construction and adjust the amount annually to account for inflation
- The decommissioning bond ensures funds will be available to remove facility components and complete restoration of the site

Recycling

- **Wind turbines:** Up to 94% of a wind turbine is recyclable today, as they are mostly made of steel, copper, aluminum, and iron. The fiberglass blades can be used as an input into thermal electricity generation or cement production
- **Solar panels:** Panels typically consist of glass, polymer, aluminum, copper, and semiconductor materials, which can be safely disposed of in landfills. In recent years, new recycling technologies have emerged, enabling over 90% of the glass and over 95% of the semiconductor materials in panels to be recovered and recycled. In other cases, panel components can be reused to have a “second life” of generating electricity

The industry is confident that these and other recycling and repurposing technologies will continue to advance and increase the percentage of recyclable material in wind turbines and solar panels by the time that our project is fully decommissioned.