

# **Papermill Wind Project**

May 15, 2024





**Public Information Meeting** 



# Our Team

Jamey Fitzgibbon Executive VP, Regulatory, Engineering & Construction







### **Glenn Isaac**

Director, Regulatory & Environment

Manager, Communications



**Jared Necamp** Senior Project Developer



### **Chris Pasterz** RealAZ,

Executive Director



## Agenda

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We look forward to having open, respectful, and productive dialogue with the community.





# Why Are We Here Today?



### **BluEarth Renewables is here today to present** information on the Papermill Wind project, engage with the community, and answer questions.

- input.

**Please hold questions** until the Q&A session after the presentation.

Meeting will conclude at 7pm.

Please fill out the **comment cards** and **survey** as this is a direct way for questions to be addressed and for Navajo County to hear your community

The Papermill Wind Project is still in development and has not begun construction. The project currently under construction off of Hutch Rd is from another developer.









# About Us



**BluEarth Renewables is a leading independent** power producer that acquires, develops, builds, owns and operates wind, hydro, solar and storage facilities across North America

Our portfolio is well diversified across technologies and geographies, and includes over 1 GW<sub>AC</sub> (gross) in operation, under construction and contracted pre-construction, and over 7 GW of high-quality **development projects** that are actively being advanced

Full capability team including development, permitting, regulatory, financing, engineering, construction and self-perform operations and maintenance

Previously funded by the Ontario Teacher's Pension Fund until 2019, when ownership was transferred to **DIF Capital Partners**.

**Privately funded** and not listed on any exchange.





### **Highlights**

3 Offices in Canada 1 Office in Arizona

150 Employees (~45% Operations)

BluEarth 24/7 Remote **Operations Centre** 

Contracted





## **Our Approach to Development**

Our team spans development, permitting, regulatory, financing, engineering, construction and self-perform operations and maintenance.

STTE ID ENTIFICATION Strong resource and market for power sales Feasibility studies	LANDOWNER AGREEMENT Focus on mutually- beneficial agreements	RENEWABLE RESOURCE ANALYSIS Local resource study	REGULATORY AND PERMITTING	
	LANDOWNER CONSULTATION Continued dialogue and focus on transparency	PROJECT EVALUATION AND FUNDING	LAYOUT DESIGN AND EQUIPMENT SELECTION	
COMMUNITY INVESTMENT AND CONSULTATION				

### For BluEarth community engagement is an ongoing activity.

In the planning and design of all our projects, we make decisions based on consultation and collaboration with all our stakeholders. From the early siting of a project, through the regulatory and construction and into operations, we work to forge long-term relationships and help build strong communities.





## **Operations Approach**

**O&M** activities.





### BluEarth operates and maintains its entire fleet of renewable generation facilities. In addition to a strong, hands-on team of operators and technicians, BluEarth leverages an established suite of software technologies to support our

**The BluEarth Remote Operations** Centre ("BEROC") is a 24/7/365 remote operating control center located in Calgary, Alberta that allows BluEarth to internally manage and dispatch a fleet of renewable generation facilities. **BluEarth uses internally developed** data analytics platform to continually optimize performance.



# Why Are We Developing Here?

### BluEarth Renewables is developing the Papermill Wind Project in response to Arizona's need to meet increased energy demand, and complement coal plant retirement with a mix of renewable energy sources

- Arizona peak energy demand is expected to grow by 40% from now until 2031 and there is currently not enough energy generation in State to meet that.
- Arizona utilities have retired and plan to retire a majority of their coal generation by 2032.
- The benefit of projects of this nature is that the utilities are better able to manage power in the local Arizona communities during periods of grid instability (e.g. brown out conditions, peak demand).





### **Arizona Public Service**



# Why Are We Developing Here?

The Papermill Project site is characterized by some of the strongest wind resource in Arizona, which is optimal to meet the electricity need for Arizona's grid.

### **Other key factors include:**

- Mostly flat and unobtrusive topography
- Private land lease with compatible land use (cattle grazing)
- Absence of significant wildlife habitat or avoidance zones
- Close proximity to existing transmission infrastructure with known available capacity





# Papermill Wind Project





## **Papermill Wind Project**

### Papermill Wind Project is a 340 MW wind generation project that has been under development by BluEarth Renewables since 2019.

- The target Project size is **340 MWac** enough to power about 74,000 Arizona homes annually
- The Project will include **75-80 turbines** approximately **650 feet tall**
- The Project development area is made up of **22,000 acres of privately leased land** and 19,000 acres of Arizona State land
- The project is pursuing interconnection to either the existing the SRP 500kV line through project lands or the APS 345kV lines that run to the west of the project.
- Construction is targeted to start as soon as **mid-2026** and will last **18 months**.
- The target Commercial Operation Date (COD) is **December 2027**







# **Project Siting and Constraints**

### The siting of the Project and related infrastructure is a complex, iterative process.

### Several factors are considered when determining the layout and design for a proposed project, such as:

- Wildlife studies and habitat assessments
- Wetlands and geological formations
- Cultural and historic surveys
- Airspace and communication path studies
- Noise and visual impact assessments

Feature	Navajo County Ordinance Setb
Residence, School, Library or Hospital	45dBA or measured background plus 5dBA
Adjacent Privately Owned Residence	<sup>1</sup> / <sub>2</sub> mile (2,640 ft) from outside project bound
Adjacent Parcels (<2.5 acres)	<sup>1</sup> / <sub>4</sub> mile (1,320 ft)
Adjacent Parcels (>2.5 acres)	1/2 mile (2,640 ft)
Public or Publicly-Maintained Roadway	<sup>1</sup> / <sub>4</sub> mile (1,320 ft)
Railways, Utility Lines & Structures	1.5x total tower height (975ft)











## What We've Heard: Birds, Bats, Wildlife

The relationship between birds, bats and wind turbines has been extensively studied in North America and worldwide over the last several decades and is well understood. Wind energy projects, such as Papermill, have a low potential impact on birds and bats when properly sited.

Our Team is committed to ensuring that impacts to the environment and wildlife are avoided or minimized.

- Ongoing coordination with Arizona Game & Fish Dep US Fish and Wildlife Service, and Navajo County sin 2020.
- Local environmental firms have completed two years pre-construction biophysical studies.
- Project will comply with all agency requirements to ol all federal, state and county permits required for the construction and operation of the project.



	CAUSES OF BIRD MORTALITY			
	Cause of Mortality	Number of Birds (thousands)	Referer	
ot.,	Cats	1,400,000 - 3,700,000	Loss et al. 2	
ice	Buildings and Windows	365,000 - 988,000	Loss et al. 20	
	Vehicles/Roads	89,000 - 340,000	Loss et al. 2	
s of	Pesticides	17,000 - 91,000	Mineau 2004, 20	
	Overhead Lines	12,000 - 64,000	Loss et al. 20	
btain	Communication Towers	6,500	Longcore et al. 2	
	Lead ingestion	1,000 - 2,000	Scheuhammer and Norris 19 Kendall et al. 19	
	Mowing, agricultural cultivation	1,000 - 2,000	Tews et al. 2	
	Commercial fishing	750 - 2,000	Marwille 2005, Brothers et al. 2	
	Oil pits	500 - 1,000	Trail 20	
	Forestry	300 - 1,000	Hobson et al. 2	
	Wind Energy	200- 350	Erickson et al. 2	

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## What We've Heard: Auditory and Health Impacts

### No scientific peer-reviewed study shows a direct link between living close to turbines, and the noise they emit (audible and inaudible), and physiological health effects.

- environmental health to monitor ongoing credible research in the area of wind turbines and human health.
- phenomena, or EMF associated with wind turbine projects."
- protect human health.
- air pollution, water pollution, mercury emissions, climate change).



The global wind industry collectively continues to engage with experts in science, medicine and occupational and

In April 2022, the Ohio Department of Health (ODH) found that "there is no significant body of peer-reviewed scientific evidence that clearly demonstrates a direct link between adverse physical health effects and exposures to noise, visual

We understand some individuals have concerns about wind facility construction and operation and we take these concerns seriously. The Papermill Wind Project has been designed to meet or exceed all local regulations and guidelines in place to

Wind projects generate electricity without many of the environmental impacts associated with other energy sources (e.g.,

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# What We've Heard: Property Value

### Multiple studies conducted in the US have shown little to no impacts to property values related to wind turbines.

- no long-term negative impact on property values
- Limited research suggests that there can be an increase in regional values, particularly in rural communities
- but that this recovered 3-5 years post operation
- Studies typically do not account for the presence of an existing wind farm
- Studies do not typically account for benefits provided to communities in the form of property taxes, economic activity, etc.



Numerous studies show that the planning, construction, and operation of utility-scale wind turbine installations have

A very recent study published in 2023 by Berkeley Lab conducted the largest-ever analysis of U.S. home sales around wind farms suggested there could be a small impact (11%) immediately following a project announcement,



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# Community Engagement & Benefits







## Why Is This Project Good For The Community?

The Papermill Wind Project will benefit the local community through investment in the local tax base, employment opportunities, and annual community investments for the life of the Project. Other key benefits include:





### **Increased Grid Stability:**

The Project would produce enough energy to power approximately 74,000 homes annually with the majority of power used in-state.

### **Economic Benefits:**

- This can take several forms including:
- Long term, stable revenue from sales and property tax
- Annual fund for the local community





### Local Employment:

During construction, the project will provide up to 170 jobs.

During operations, the project will provide 10 full-time, local operations and maintenance jobs

### **Scholarships:**

BluEarth offers annual scholarships that specifically target communities where we operate.

## **Employment & Long-term Investment In The Tax Base**

### We are committed to ensuring that the local community sees a direct benefit from the Project, and we welcome your feedback on our updated benefits plan.

- The Project will contribute over \$1.5 million in average annual property and sales tax (**\$57 million total**)
- We intend to establish an **annual project investment fund** to ensure direct support for local causes (More than \$1.5 million total)
- Sourcing goods and services from local vendors during construction and operation - trades, hospitality services, security, vegetation management, etc.



	Papermill Wind Project
Fiscal Benefits & Tax Revenue (estimated	)
Cost of Construction	\$667 million
Lifetime Property Tax	\$57 million
Employment Benefits (estimated)	
Construction Employment	Up to 170
Average Monthly Wage (Construction)	\$4,500 / worker
Operations Employment	Up to 10
Average Monthly Wage (Operations)	\$4,000 / worker





## **Project Schedule**

### The proposed Papermill Wind project is in mid-stage development with a target construction start date in 2026 and full commercial operations achieved by December 2027. A number of key factors that inform this schedule:

- Regulatory and permitting timelines •
- Interconnection studies and interconnection facilities construction

2024		2025					
Jan - March	April - June	July- Sept	Oct- Dec	Jan - March	April - June	July - Sept	
	Regulatory & Permitting						
			Detailed Engineering				

### : We Are Here



- Major equipment procurement schedules •
- Force majeure events and unpredictable weather









https://www.surveymonkey.com/r/papermill-wind

Learn more and find updates at bluearthrenewables.com/papermill



Access our community input survey:



