



Linsmeier Farms Twin Turbine Case Study
Winthrop, MN

Eocycle America Corporation



Our Company

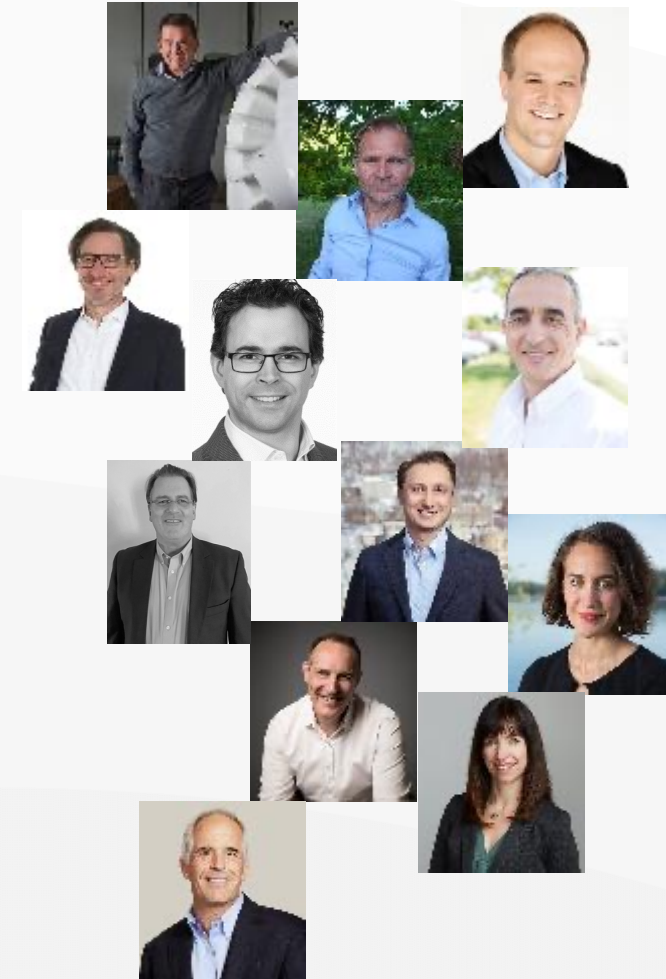


Eocycle – Founded 2001

- International Group
 - USA: Eocycle America Corporation
 - Canada: Eocycle Technologies Incorporated
 - Europe/UK: Eocycle Europe
- 3rd party certified products
- ISO 9001 Quality Management System
- Backed by strong financial partners
- Strategy dedicated to the C&I and Ag. Sector

Products

- **EOX S-16:** 20 - 30W turbine, 80' hydraulic tower, 25' blades
- **EOX M-26:** 90kW turbine, 125' tower, 41' blades



Product Portfolio

The EOX S-16

The S-16's extraordinarily simple design—with very few moving parts—results in high reliability and low maintenance costs.

With **no gearbox**, your turbine will operate simply, reliably and with minimal maintenance for its 30-year life.

The S-16 wind turbine has been recognized by the **Solar Impulse Foundation** as one of the top 1,000 solutions in the world that can protect the environment in a profitable way.



Wind Turbine Specs

30 years

Turbine Life

20 - 30 kW

Rated Power

Class IIIA

16m Rotor Diameter

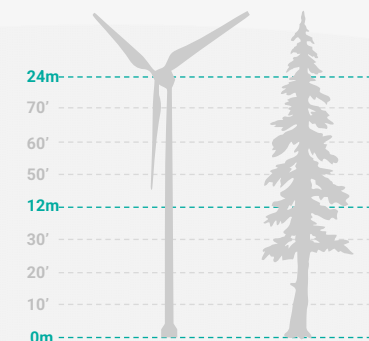
Tilt Up Tower

Fiber concrete Foundation

80' Height (ground to hub)

105' Height (ground to blade tip)

5 years Warranty



Hog & Crop Farm

“Two” Eocycle EOX S - 25kW on the same site.
(each curtailed to 19.9kW)

- Controller setting to stay under the state of Minnesota 39.9kW net metering rules
- Total capacity to match production with consumption.
- These two turbines will reduce this farms electricity bill and greenhouse gas footprint substantially for the next 30 years.



Installation details - Challenges



- No challenges to report
- Put in service November 2022





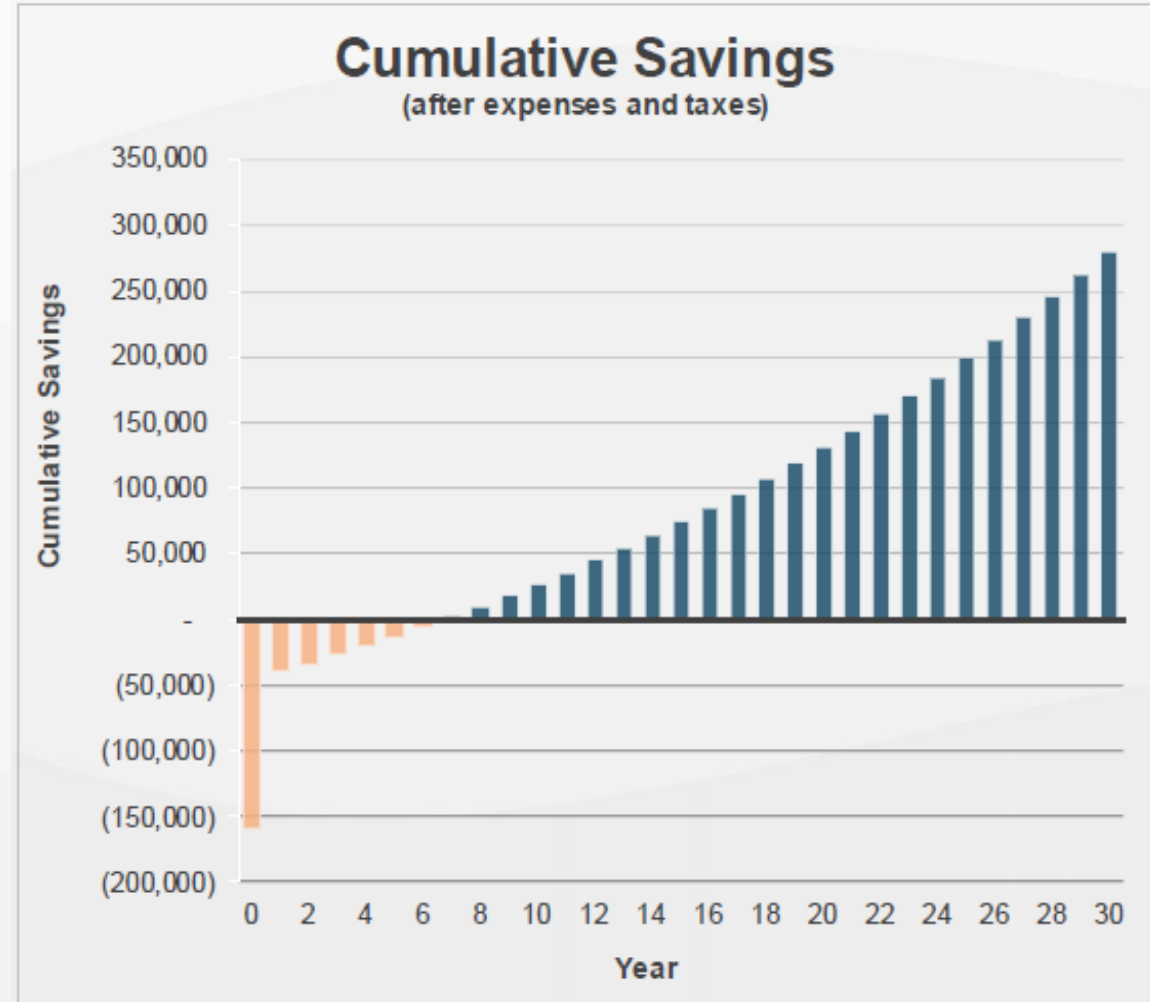


Crane-Less Hydraulic Tower



Performance prediction - Tool(s) & method

- Global Wind Atlas + 3rd party certified power curve = Accurate AEP prediction
- In-house financial model used to calculate financial return (payback, IRR, LCOE, NPV)
- In-house WindQUOTE Tool for automated detailed proposal delivery



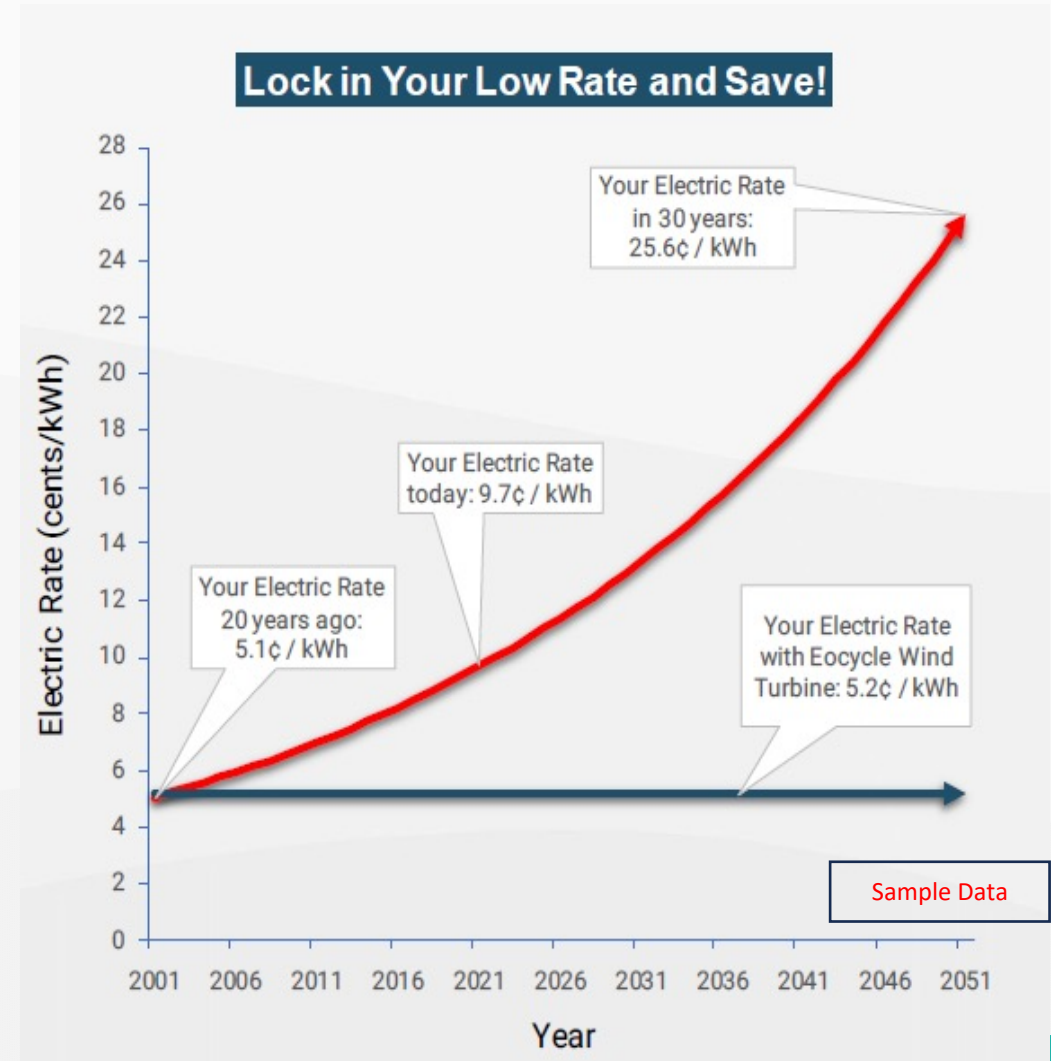
Installed cost breakdown (per unit)

○ Equipment:	\$127,500
○ Shipping & delivery:	\$ 12,000
○ Foundations:	\$ 25,000
○ Electrical, assembly & erection:	\$ 20,500
○ Interconnection, permitting:	\$ 1,400
TOTAL:	\$186,400

Project economics (for 2 x 19.9 kW units)

- CAPEX: \$372,800
- OPEX (annual): \$2,250
- Net curtailed AEP: 120,000 kWh
- REAP Grant (25%): \$82,500
- ITC: 30%

- Financial return:
 - Payback
 - AT Internal rate of return
 - Net Present Value
 - Levelized cost of energy



Operating history

For the period Jan. 1st to Dec. 31, 2023

- Linsmeier 1
 - 99.6% availability
 - 56.3 MWh
 - (curtailed to 19.9kW)
- Linsmeier 2
 - 98.7% availability
 - 58.89 MWh
 - (curtailed to 19.9kW)

Combined turbines (2)

- 99.1% availability
- 97% of predicted Annual Energy Production (AEP)



Project shows new trend for curtailment & multiple units

Curtailed projects

- (running): 2 x 19.9 kW of wind Linsmeier
- (running): 19.9 kW of wind + 19.9 kW of solar

- Some others curtailed to 25 kW to meet grid limitation

Multiple unit projects completed or under construction

- (running): 2 x 25 kW
- (running): 2 x 25 kW
- (running): 2 x 25 kW
- (under construction): 4 x 25 kW
- (under construction): 4 x 25 kW
- (under construction): 2 +1 x 25 kW

- Numerous twin projects in Europe





Change is in the air.

Seize the opportunity now!

eocycle 

Thank You.

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