

DW 2025 Case Study

2- 250 kW Siva turbines at Brightly Farms



SIVA

POWERS AMERICA INC



BUFFALO
RENEWABLES INC.

PADMA KASTHURIRANGAN, MSEE

Turbine – Siva 250/50

- Type Certified
- Rated Power: 250/50 kW
- Rotor – 3 blades, upwind, 30 - 35m diameter
- Tower Heights – 37m(120') – 50m (164')
- Tower Type - Tubular
- Operational temperature : - 20° C to +40° C
- Brakes – Hydraulic, failsafe, tip brakes and disc brakes
- Generator – Asynchronous 6 pole, dual output
- Gearbox – Helical 3 stage
- Warranty – 2 years (Optional Extended warranty available)



Estimates

Brightly 1

- ▶ Annual Average Wind Speed -5.54 m/s
- ▶ AEP – 240000 kWh
- ▶ Interconnection – Behind the Meter
- ▶ Service Type – SC2D
- ▶ Compensation – On Site Net Metering

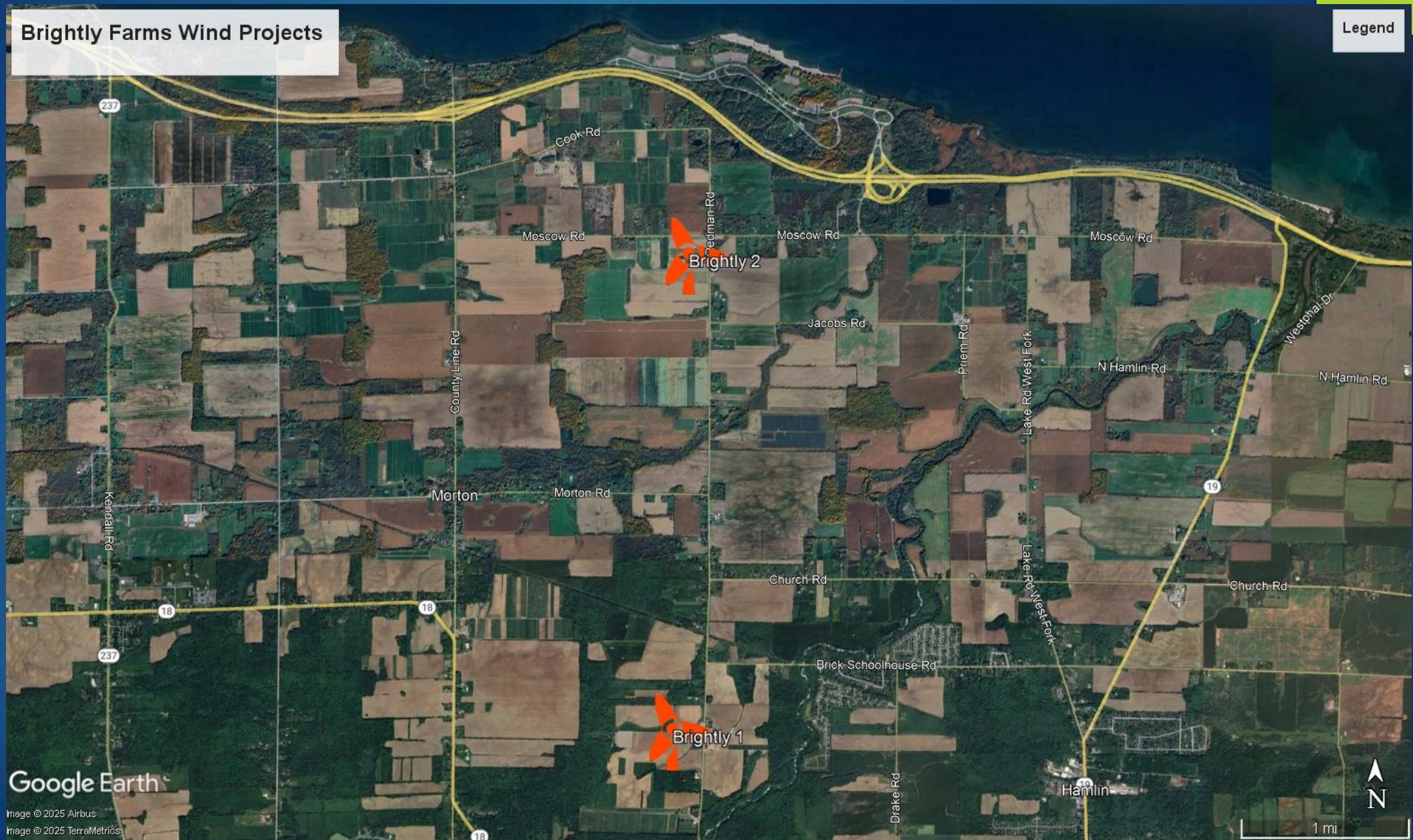
Brightly 2

- ▶ Annual Average Wind Speed – 6.29 m/s
- ▶ AEP – 320000 kWh
- ▶ Interconnection – Behind the Meter
- ▶ Service Type - SCD
- ▶ Compensation – Remote Net metering Volumetric

Installation



Brightly farms wind projects



Permitting

Brightly 1

- ▶ 132' Area Variance
- ▶ Special use Permit
- ▶ ZBA
- ▶ Public hearing
 - ▶ Neighbor support & opposition
 - ▶ Decision Tabled for 1 month
- ▶ Approved

Brightly 2

- ▶ 132' Area Variance
- ▶ Special use Permit
- ▶ ZBA
- ▶ Public Hearing
 - ▶ Delayed by one month
 - ▶ Neighbor support & Opposition
 - ▶ Approved
- ▶ Article 78 Lawsuit by neighbors
- ▶ NYS Ag & Markets Review
- ▶ State Supreme Court Hearing
- ▶ Repeat ZBA Public Hearing
- ▶ Approved

Interconnection

Brightly 1

- ▶ Application - 750
- ▶ Full CESIR - 5400
 - ▶ No capacity constraints
 - ▶ SEL 547 relay
 - ▶ Line Side Interconnection
- ▶ Witness Test
- ▶ Interconnected

Brightly 2

- ▶ New Service Application - 750
- ▶ Net Meter Application - 6200
- ▶ Full CESIR
 - ▶ Unintentional Islanding Concern
 - ▶ Recloser Upgrade and Direct Transfer Trip-Requirement - \$98000 +1 year delay
 - ▶ NYS Ag & Markets + Congressional Rep Intervention
 - ▶ SEL 751 + SEL 3031
- ▶ Interconnected

Incentives/Performance/ Lessons Learned

Brightly 1 (2021)

- ▶ Installed Cost – \$550,000.00
- ▶ NYSERDA Grant – 41%
- ▶ USDA REAP Grant – 20%
- ▶ Federal ITC – 18%
- ▶ Bonus Depreciation – 100%
- ▶ Payback – 2 years
- ▶ Generation – 190000 kWh
- ▶ Compensation rate - ~ 6-7 cents per kWh
- ▶ Demand Savings – not quantifiable
- ▶ Payback – 4.5 years

Brightly 2 (2022)

- ▶ Installed Cost - \$550,000.00
- ▶ NYSERDA GRANT – 41%
- ▶ Federal ITC – 30%
- ▶ Bonus Depreciation – 100%
- ▶ Annual Generation – 299577 kWh
- ▶ Annual Savings – 28,755.56
- ▶ Offsets usage at 18 meters
- ▶ Compensation Rate – 9.5 cents per kWh
- ▶ Payback – 2 years



Questions?

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