

# Monarch I: Opportunities for Green Power Partners

Dr. Robert Gay, President and CEO  
Monarch Wind Power

EPA Green Power Partnership Webinar

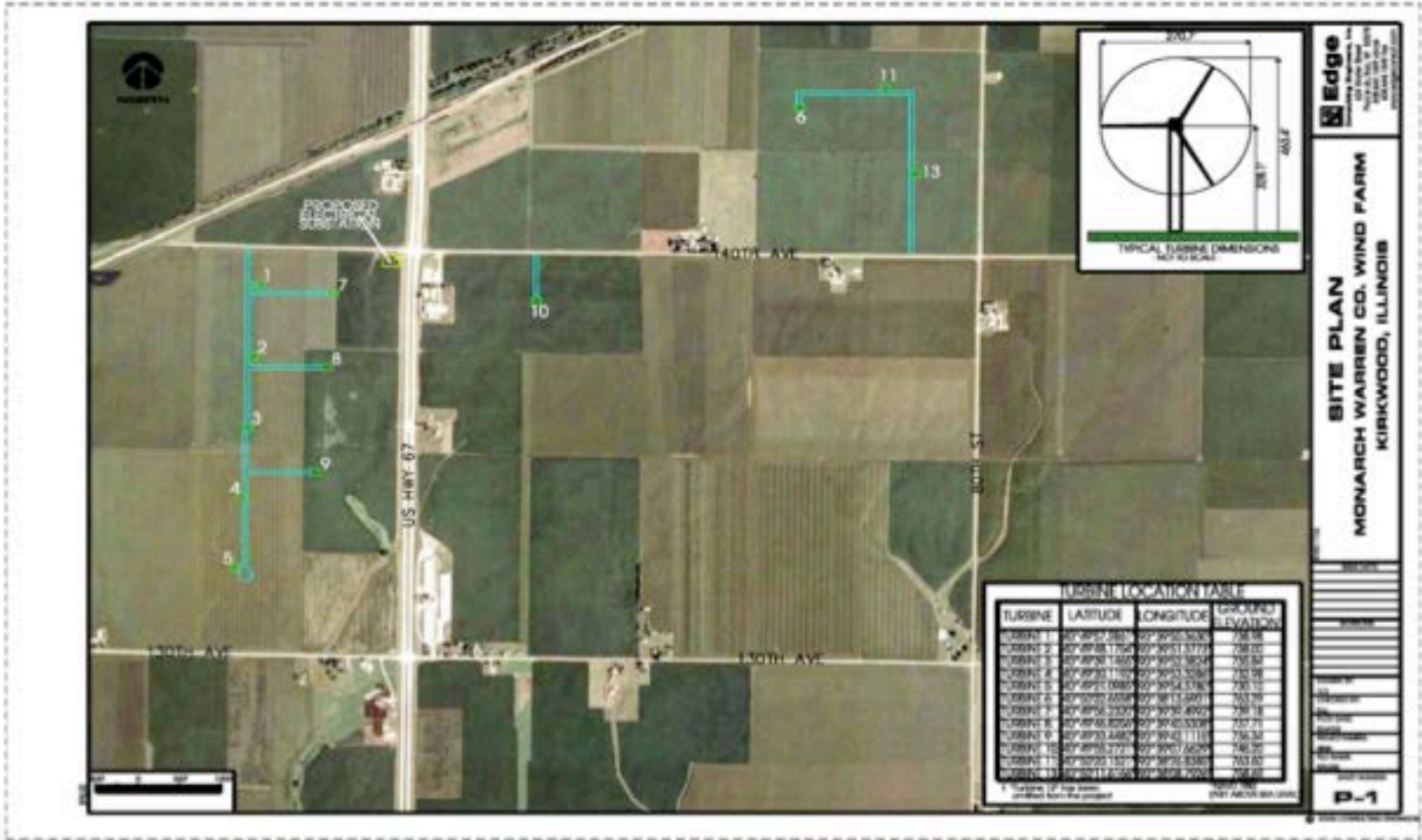
November 11, 2011

# Monarch I: Project Description



- 19.2MW wind power generation facility in western Illinois (Warren County)
- Part of MISO. Ameren CIPS is the local distribution company
- Flat farmland with 100% tilled corn and soybean fields
- One-third of the land is leased from Warren County which will receive about \$225,000 per year in tax revenues and lease payments from the project
- Identical 40-year leases with adjacent landowners

# Monarch I: Local Power for Local Use



# Monarch I: Fully Permitted

- Special Use/Building Permits approved by the Zoning and Warren County Boards
- 1500-foot setbacks from any residences
- Road Agreement signed by the Township Road Commissioner
- Decommissioning Plan accepted
- US Fisheries and Wildlife approved Incidental Take Permit for the Indiana Bat for the life of the project on June 27, 2011 as part of Section 7 consultation



# Monarch I: Full NEPA Review (FONSI)



## Department of Energy

Golden Field Office  
1617 Cole Boulevard  
Golden, Colorado 80401-3393

DOE/EA-1800

### FINDING OF NO SIGNIFICANT IMPACT

#### MONARCH WARREN COUNTY WIND TURBINE PROJECT LENOX TOWNSHIP, WARREN COUNTY, IL

AGENCY: U.S. Department of Energy (DOE), Golden Field Office

ACTION: Finding of No Significant Impact (FONSI)

**SUMMARY:** The U.S. Department of Energy (DOE) provided Federal funding appropriated under the American Reinvestment and Recovery Act of 2009 to the Illinois Department of Commerce and Economic Opportunity (DCEO) under the State Energy Program (SEP). DCEO proposes to provide approximately \$5 million of its SEP funds to Monarch Wind Power (MWP) for the Monarch Warren County Wind Turbine Project (MWTP). DOE's Proposed Action is to authorize the expenditure of Federal funding under State Energy Program to design, permit, and construct a 12-turbine, 19.2 megawatt wind energy facility south of Monmouth, Illinois. Each wind turbine would have a hub height of approximately 328 feet and a rotor diameter of roughly 271 feet, with a total overall wind turbine height of 464 feet. The project would include approximately 2.3 miles of access roads, an electrical substation, and 2.5 miles of underground electrical transmission cables to connect the project to an existing distribution line that intersects the site. The proposed project would be located on approximately 600 acres of land leased in Lenox Township, Warren County, Illinois.

Before DOE decides whether to authorize the expenditure of Federal funds for the MWTP, DOE must first examine the potential environmental impacts of DOE's Proposed Action in compliance with the *National Environmental Policy Act* (42 U.S.C. 4321 et seq.; NEPA). DOE has authorized DCEO to use a percentage of the Federal funding for preliminary activities related to the project, which include preparation of this EA, conducting analysis, and agency consultation. Such activities are associated with the proposed project and would not significantly impact the environment nor represent an irreversible or irretrievable commitment by DOE in advance of completing the EA. In addition to the design, permitting, and construction of the MWTP, the EA also examined the potential environmental impacts associated with the operation and decommissioning of the turbine as connected actions to the Proposed Action.

Based on the information and analysis contained in the Final EA, DOE has determined that its Proposed Action does not constitute a major Federal action that would significantly affect the quality of the human or natural environment within the meaning of NEPA. Therefore, an environmental impact statement is not required and DOE is issuing this FONSI. All discussion, analysis, and findings related to the potential impacts of construction, operation, and eventual decommissioning of the MWTP, including the applicant-committed measures, are contained in the *Final Environmental Assessment for Monarch Warren County Wind Turbine Project, Lenox Township, Warren County, Illinois*; Final EA). The Final EA is hereby incorporated by reference.

DOE prepared this FONSI in accordance with NEPA, the Council on Environmental Quality regulations for implementing NEPA as amended (40 CFR Parts 1500 to 1508), and DOE NEPA regulations (10 CFR Part 1021).

**ENVIRONMENTAL IMPACTS:** The Final EA examined the potential environmental impacts of the Proposed Action and a No-Action Alternative. Under the No-Action Alternative, DOE would not authorize the use SEP funds for the MWTP, which DOE assumes, for purposes of the EA, would not proceed without SEP funding. This approach provides a basis of comparison for the potential impacts of the proposed project.

MWP proposes to construct and operate the MWTP on previously disturbed agricultural land in Warren County. The project would include approximately 2.3 miles of access roads, an electrical substation, and 2.5 miles of underground

DOE/EA-1800  
Finding of No Significant Impact

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- The US Department of Energy completed a full environmental review of Monarch I and issued a **Finding of No Significant Impact (FONSI)** on 8/11/11
- Site contains no wetlands or flood plains; no endangered species in the area
- 100% tilled farmland; no habitat for bats or migratory birds near the site
- Monarch and USFWS set a model protocol for monitoring migratory birds/ bats and for mitigating possible impacts
- FAA Opinion Letter – does not interfere with air traffic or radio signals.
- Sound and Shadow Flicker studies were completed.

# Monarch I: Strong Local & Regional Support

- Warren County Board encouraged Monarch to develop a wind facility on the County Farm
- Project is recipient of \$5MM grant from US Department of Energy (DOE) administered through the State of Illinois DCEO
- Letters of support for the grant written by Illinois Power Agency and GE Energy
- Close working relationship with US Fisheries and Wildlife



# Monarch I: Wind Regime & Turbine Choice



- Monarch I now has 4 years of wind data from an onsite MET mast
- Estimated average wind speed at 100 meters is 7.4 m/s
- Steady laminar wind regime with low turbulence
- GE 1.6 MW xle turbine is the clear choice based on efficiency and cost effectiveness
- Extra hub height shifts Weibel curve into the 'sweet' spot of the GE 1.6 MW xle.

# Monarch I: Simple Interconnection

- Monarch I will be a Qualified Facility (QF) registered with the Federal Energy Regulatory Commission (FERC).
- Utilities in the Illinois are required to purchase renewable energy from wind projects < 20MW at wholesale prices.
- The interconnection point is located on Warren County property along Route 67 at 140<sup>th</sup> Ave with a substation alongside Ameren's existing 69kv distribution line.
- All phases of the interconnection study have been completed and a formal interconnection agreement has been offered by Ameren.
- No upgrades to the existing power line are required. Interconnection costs are minimal.
- Ameren's modeling determined that none of the power generated by Monarch I would flow into transmission even during periods of low demand. Peak demand from grain elevators coincide with favorable fall winds, so Monarch I would greatly help to mitigate current peak load problems in the area.



# Monarch I: Participation Opportunities

## Option 1: Long-term Purchase Agreement (PPA)

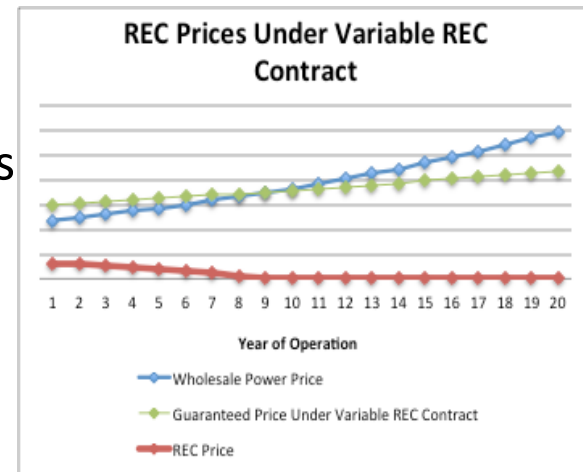
- ✓ Bundled power & renewable energy credits (REC) or power only
- ✓ Lock in clean energy costs at current low prices

## Option 2: Variable REC Contract

- ✓ Innovative financing for REC-only buyers
- ✓ Cost of REC falls to zero as electricity prices rise

## Option 3: Financial Participation

- ✓ Buyers of depreciation
- ✓ Equity investors

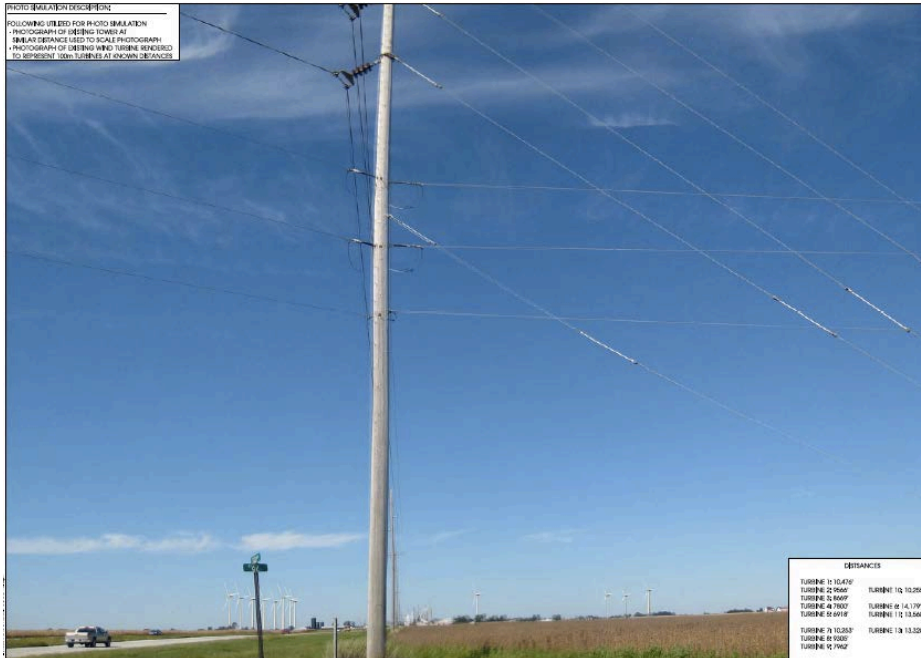


# Monarch Wind Power

## Mission Statement

- Monarch Wind Power is committed to developing commercial-scale community-based energy generation facilities primarily in the United States.
- We believe renewable energy facilities that are interconnected to local distribution lines can achieve the cost efficiencies of utility-scale projects. Community-scale clean energy projects bring additional benefits by attracting new industries and in retaining jobs and income within the community.
- Our ultimate goal is to create an economic engine for rejuvenating rural economies based on a strategy that emphasizes the community's comparative advantage in producing sustainable and affordable sources of energy, preferably for local use.

# Contact Information



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