

# Community Wind Projects with Rural Electric Cooperatives

DWEA Annual Conference  
Washington, DC  
March 28, 2012

by

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*Photo by David Ausberger*

## Distributed Wind Projects for Rural Utilities

- Rural utilities include Rural Electric Cooperatives (“RECs”), small municipal electric utilities (“Munis”), and Public Utility Districts (“PUDs”)
- The service territories of many rural utilities have good wind resources
- The rural utilities have small distribution substations and 12.5 kV 3-phase lines throughout their service territories
- Therefore, there is a great potential for rural utilities to be “involved” with Distributed Wind Generation (“DWG”)

One of the earliest sizeable DWG projects for a rural utility in Iowa is this 65 kW refurbished turbine owned by motel along 1-35 at Williams, Iowa in 1996



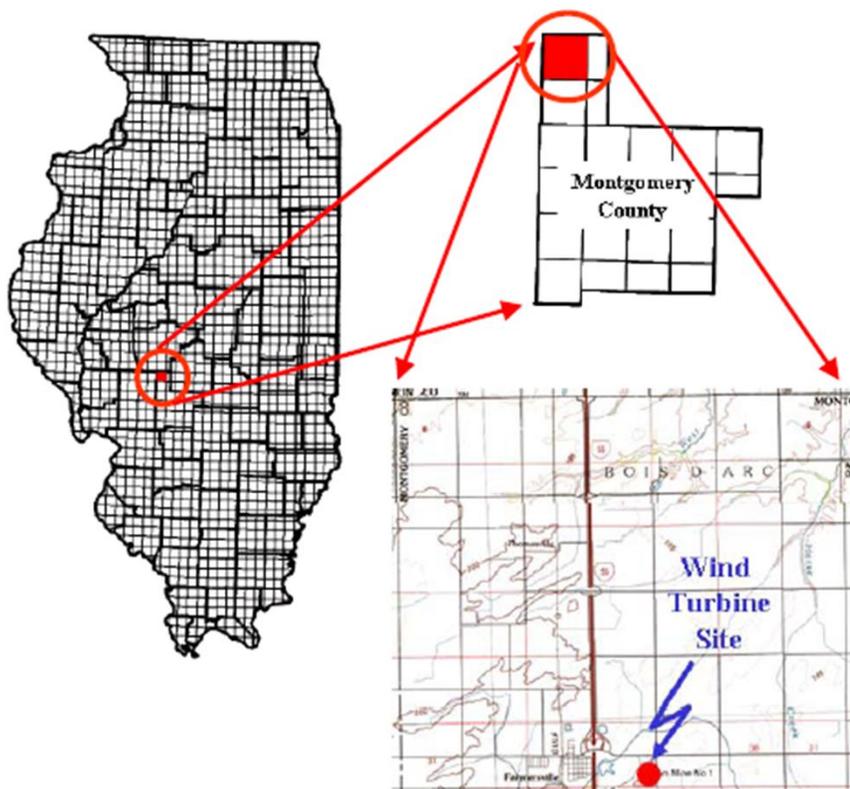
- 1) Wind turbines can be installed by customers to offset their electricity purchases, or;
- 2) Or, rural utilities can own the DWG and use it as one of their generation resources, or;
- 3) Rural utilities can “sponsor” or be “encouraging hosts” of privately owned DWG.

## Ownership of DWG by Rural Electric Cooperatives

- Iowa Lakes Electric Cooperative (“ILEC”) is a large rural electric cooperative in northwestern Iowa. This area of Iowa has the best wind resources.
- ILEC purchases power from their generation and transmission (G&T) supplier under very long term all requirements power supply agreements with terms dictated by the Rural Utilities Services
  - Legally they couldn’t own and use their own DWG
  - They have no incentive to own DWG
  - This is a barrier to ownership of DWG for most RECs
  - (Some RECs were given rights to buy up to 5% of their electricity from their customers or other power providers)
- ILEC saw large wind farms being built nearby by privately owned companies and investor owned utilities. However, it’s G&T was not installing wind generation... “Why not?”
- After much negotiation with its G&T, ILEC installed two 10 MW wind farms at two 10 MW ethanol plants

## Other Examples of DWG Owned by RECs

- Rural Electric Convenience Cooperative in Auburn, Illinois had the rights under its long-term power supply agreement with its G&T to generate or purchase 5% of its electricity
- It saw large wind farms going up in windier areas of Illinois and Iowa and saw another Illinois REC install a large wind turbine and asked the question “Why not?”



- “We will do it ourselves!”
- I developed wind speed maps for the entire service territory and they selected a site.
- Installed a 900 kW direct drive wind turbine in 2009
- This project inspired two more DWG projects by a nearby REC in Illinois.

## Ownership of DWG by Rural Municipal Electric Utilities

- Many small towns in rural states own their electric distribution system. Many of these muni systems also own standby diesel electric emergency generators
- These towns are surrounded by rural areas with few people which can accommodate DWG
- However, there is not much financial incentive to install DWG...
- As a result, nearly all muni DWG projects are inspired by a “champion”. In Iowa these champions were:
  - Glenn Cannon at Waverly Light and Power (two 900 kW turbines)
  - Nick Scholer at Algona Municipal Utilities ( 3 x 750 kW)
  - Dave Ferris at Lenox Municipal Utilities (750 kW)
  - Tom Schrader at Wall Lake Municipal Utilities (660 kW)
  - Dennis Fannin at Osage Municipal Utilities (1500 kW)
  - Others





## Why Was FEC a Willing Sponsor?

- Two large MidAmerican owned wind farms and two municipal electric utility owned DWGs nearby
- FEC's electric customers expressed desire to work with FEC with a collaborative win-win attitude
- FEC's board members were supportive
- FEC's wholesale power supplier (G&T) used a non-coincident billing demand
  - FEC's wholesale demand charge was based on FEC's demand at the time of the collective demand of many other RECs
  - This greatly increased FEC's demand charge savings from purchasing the wind power
- The G&T's wholesale electric rates were projected to increase significantly in the near future
- FEC would win by purchasing fixed priced wind power and the local residents would earn money on their investment in the DWGs
- These are great examples of collaboration and public participation in a wind project – Randy Caviness is my hero!