

# Rock Island Clean Line

Fall 2012

**CLEAN LINE**  
ENERGY PARTNERS



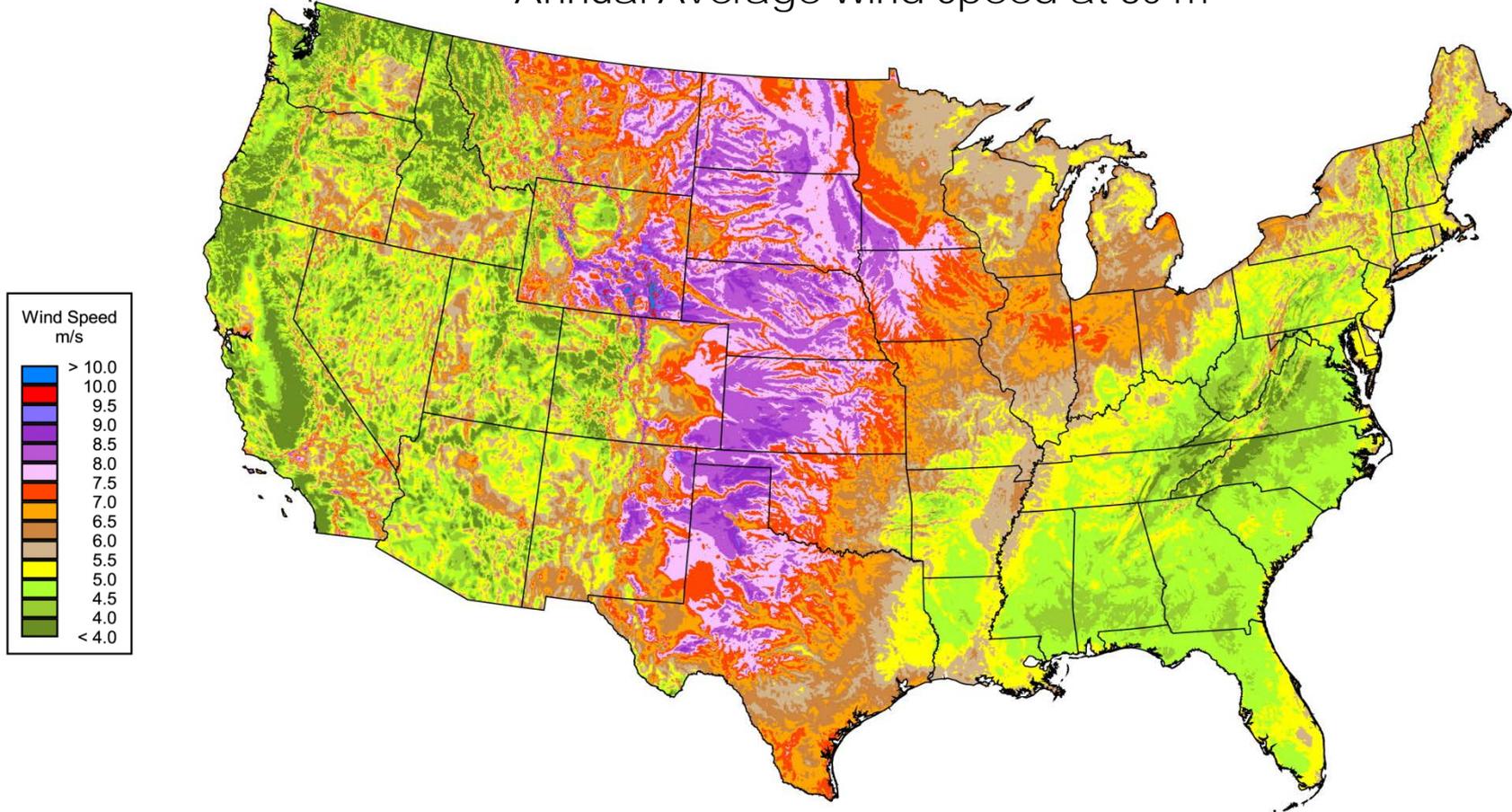
# Clean Line Energy Partners

- Connecting the best renewable resources in the country with consumers
- Developing, owning, and operating long-distance, high voltage direct current (HVDC) transmission lines across the United States
- Experienced management team with a track record of success in energy project development



# Best on-shore wind resources are distant from population centers

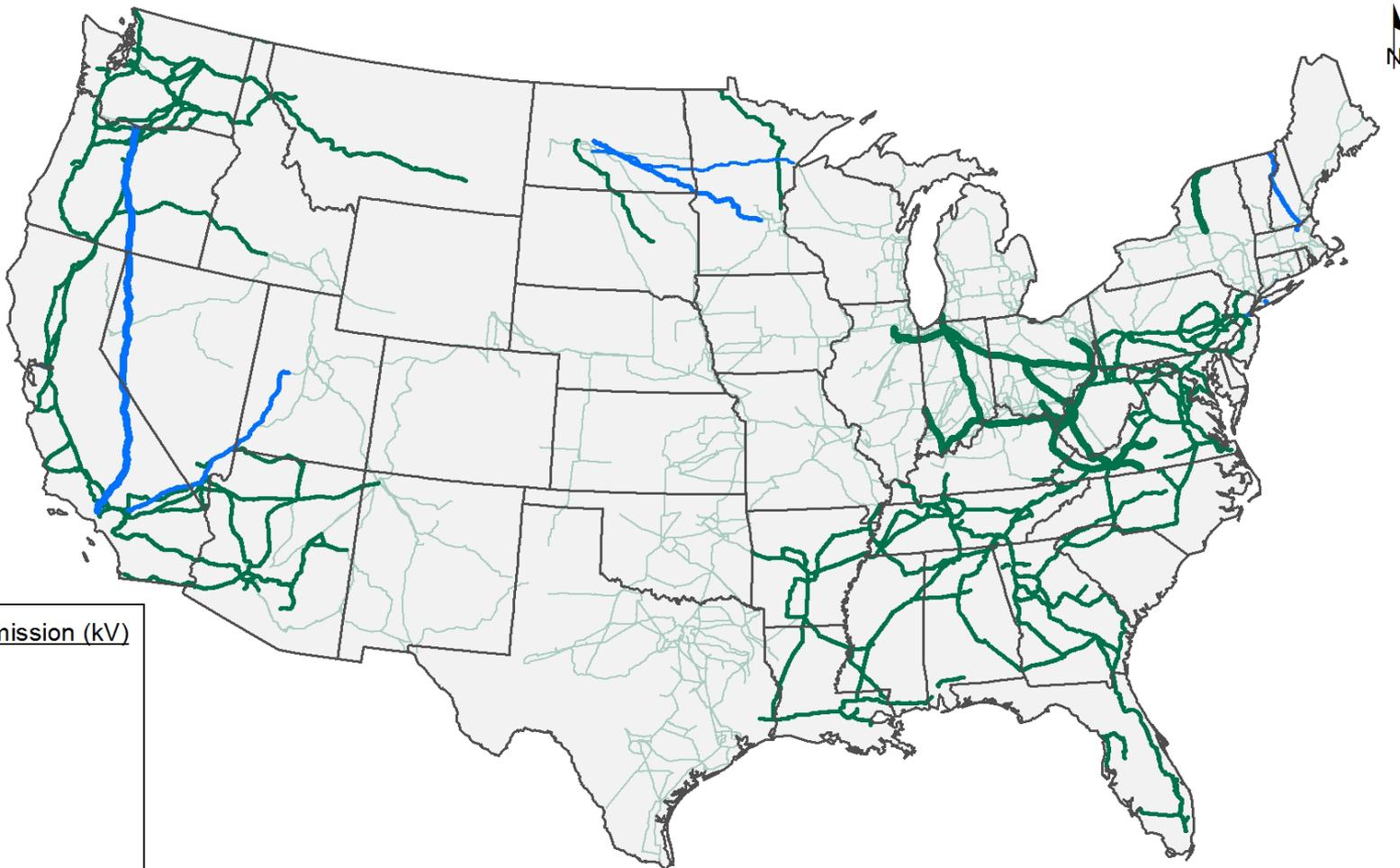
Annual Average Wind Speed at 80 m



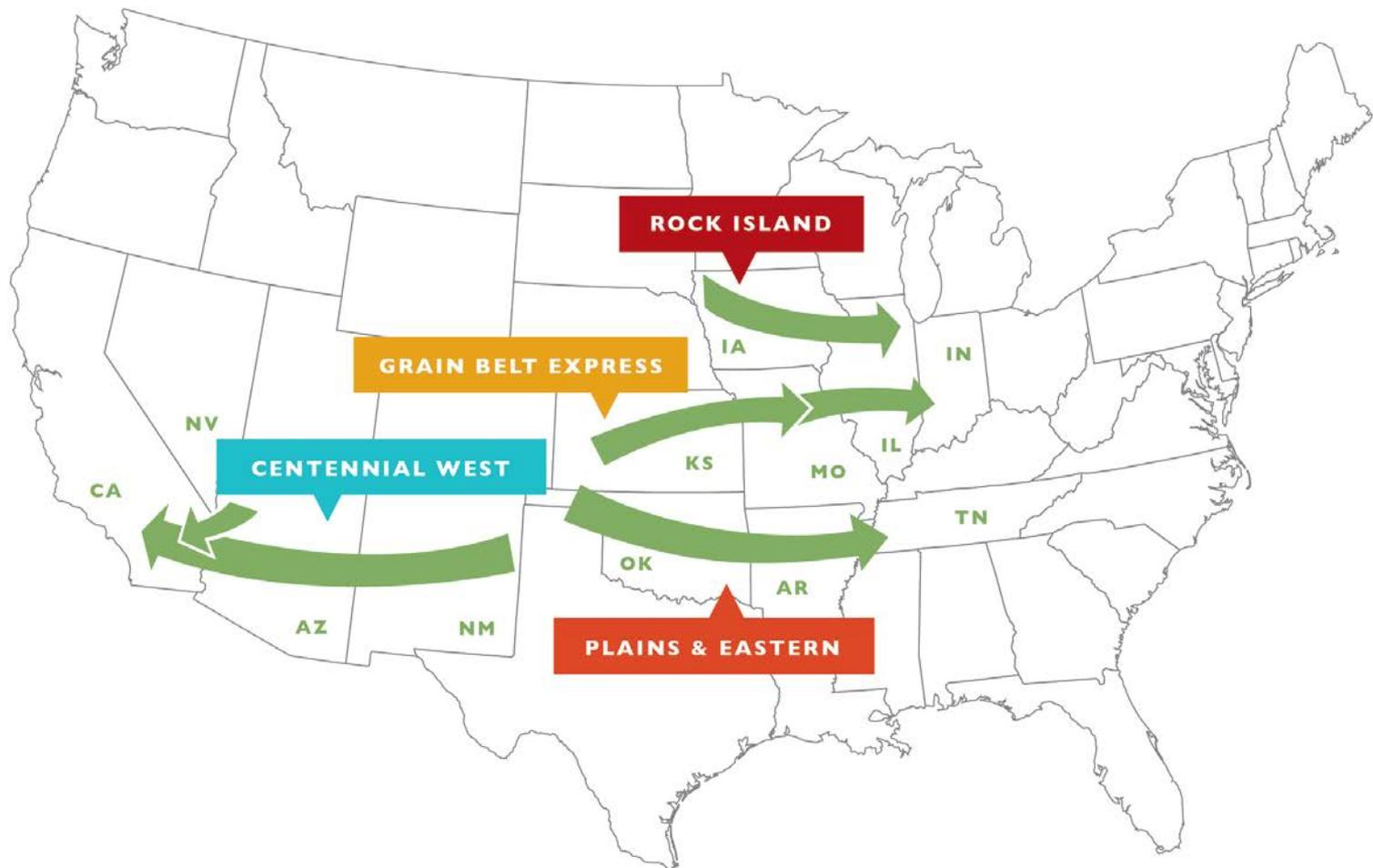
AWS Truewind

**NREL**  
National Renewable  
Energy Laboratory  
*Innovation for Our Energy Future*

# Best wind resources are located in areas with the weakest transmission systems

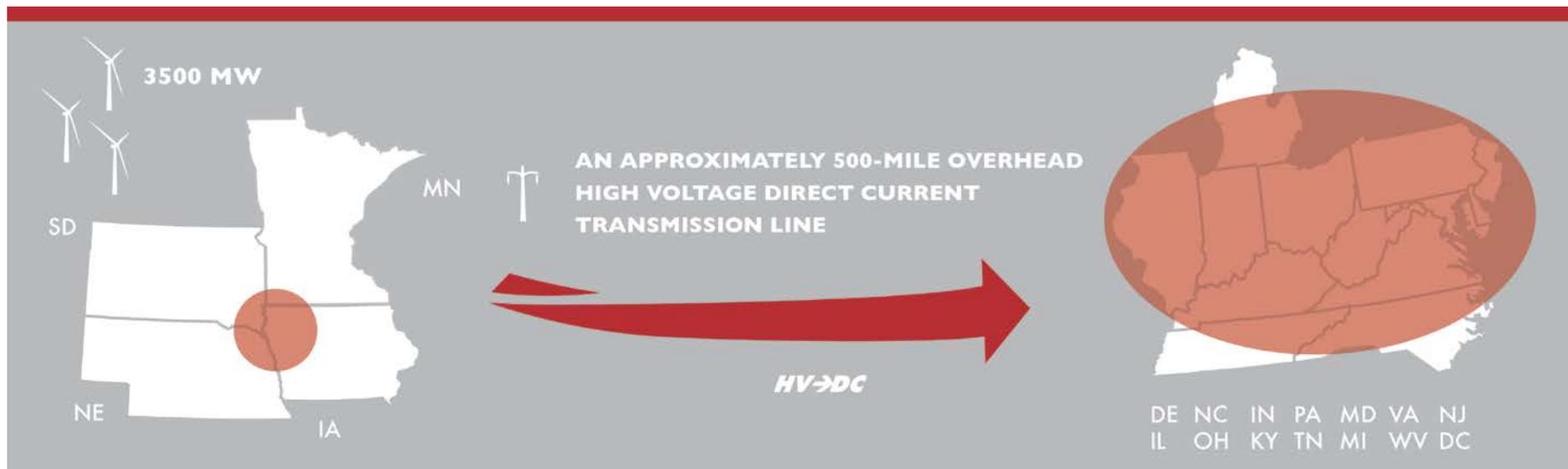


# Clean Line's four projects have similar rationales – to connect the best renewable resources to market centers



# Rock Island Clean Line

Transmission of wind energy from the superior wind resources of Iowa, Minnesota, Nebraska and South Dakota to Illinois and PJM



## Project Specifications

Transmission Capacity	3,500 MW delivered
Technical Configuration	±600kV bipole transmission line
Approximate Length	500 miles
Approximate Capital Cost	\$2 billion

# Rock Island 3500 MW $\pm$ 600 kV = 3x Hoover Dam



# Rock Island Clean Line results in significant benefits

## ECONOMIC BENEFITS



500+

OPERATIONS JOBS



MILLIONS  
PER YEAR

PROPERTY TAX REVENUE



5,000+

CONSTRUCTION JOBS



1.4 MILLION PER  
YEAR

HOMES POWERED



\$7 BILLION

NEW WIND FARM  
INVESTMENTS



INCREASED MARKET  
COMPETITION

CONSUMER BENEFITS

# HVDC transmission lines bring economic, environmental and electric reliability benefits

**More Efficient** – Over long distances, transfer power with less infrastructure and lower line loss than AC lines moving a comparable amount of power

**Lower Cost** – Require less infrastructure and have lower line losses, resulting in lower costs and lower prices for renewable energy

**Improved Reliability** – Give operator complete control over power flow and facilitate the integration of wind energy from different resource areas

**Smaller Footprint** – Use narrower right-of-way than comparable AC lines

AC

3000-4000 MW Capacity

DC



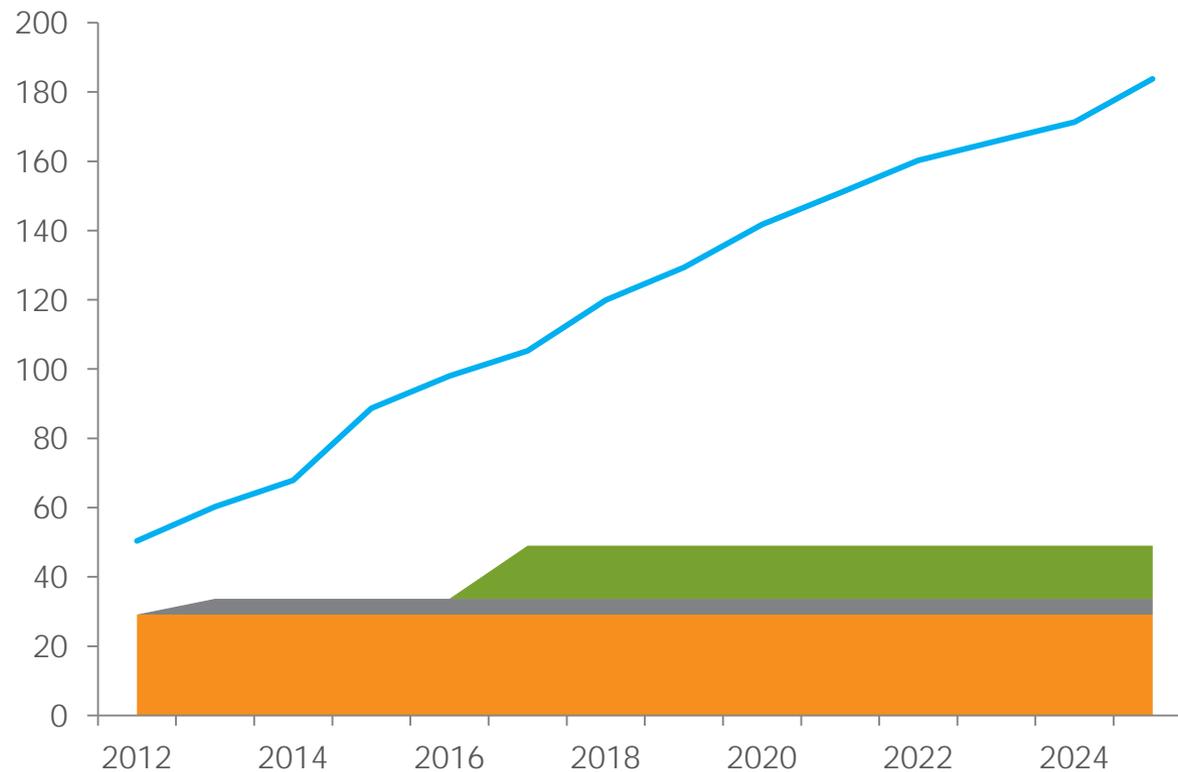
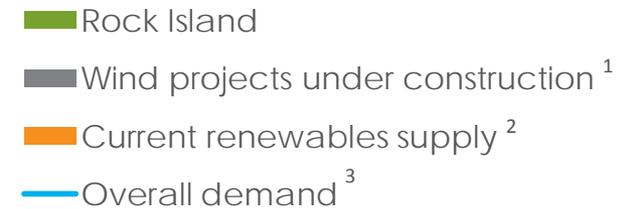
Three 500 kV lines



One  $\pm$  500kV bipole

# Rock Island could help address the projected shortfall in renewable energy supply in the PJM states

Renewable energy supply and demand in PJM states  
Thousand GWh

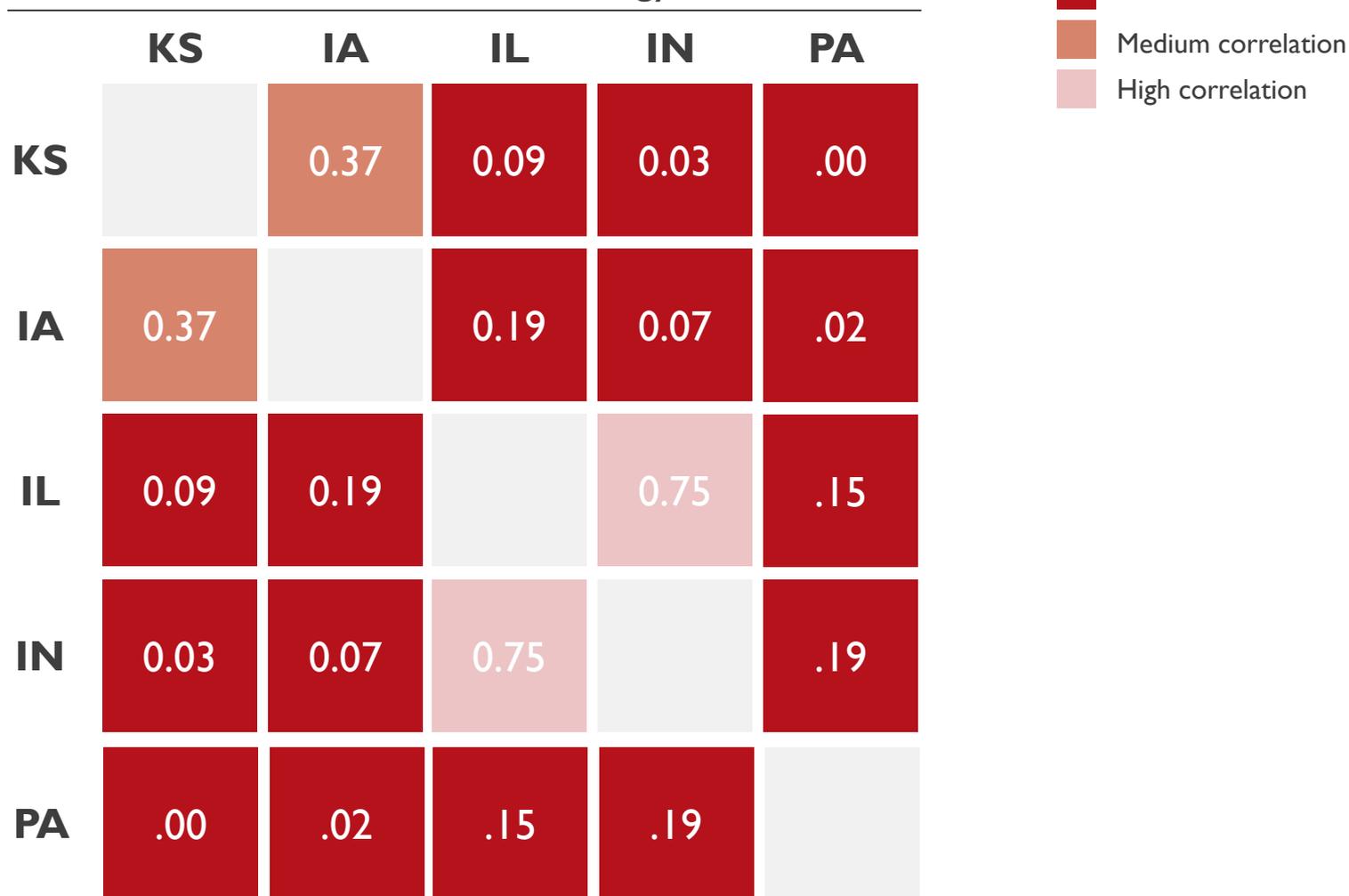


1. Wind projects currently under construction within the PJM states (as of 2Q 2012)
2. Energy from existing wind, biomass, and solar projects within the PJM states (as of 2Q 2012)
3. Demand for renewable energy credits within PJM. States with voluntary goals are not included in the demand calculations.

Source: EIA; DSIRE; AWEA

# Wind Power Curve Correlation of Best Capacity Factor Sites Across Five States

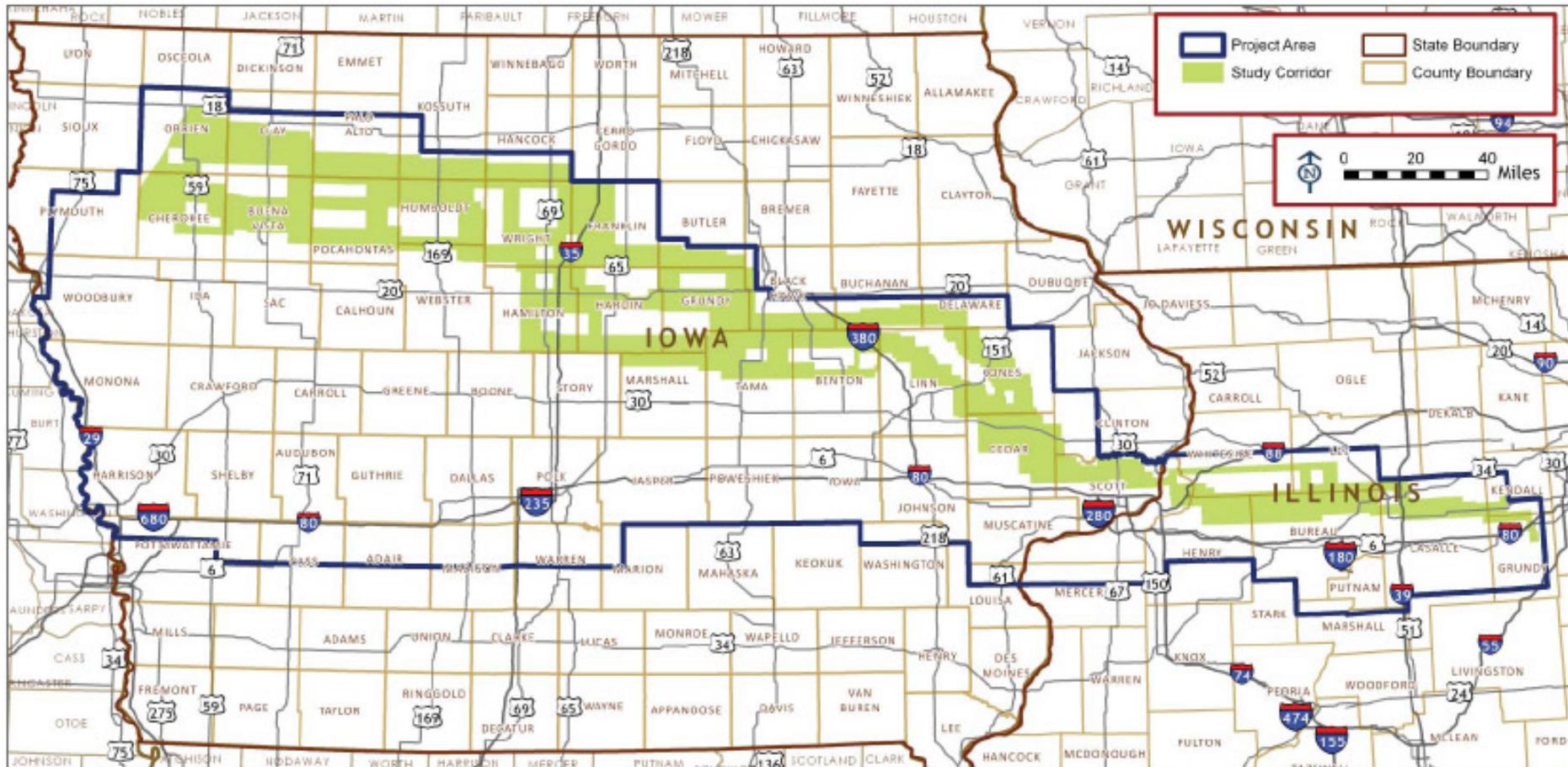
Correlation of 10-Minute Wind Energy Generated



1. "Low correlation": between 0.0 and 0.25; "Medium correlation": between 0.25 and 0.5; "High correlation": between 0.5 and 1.0

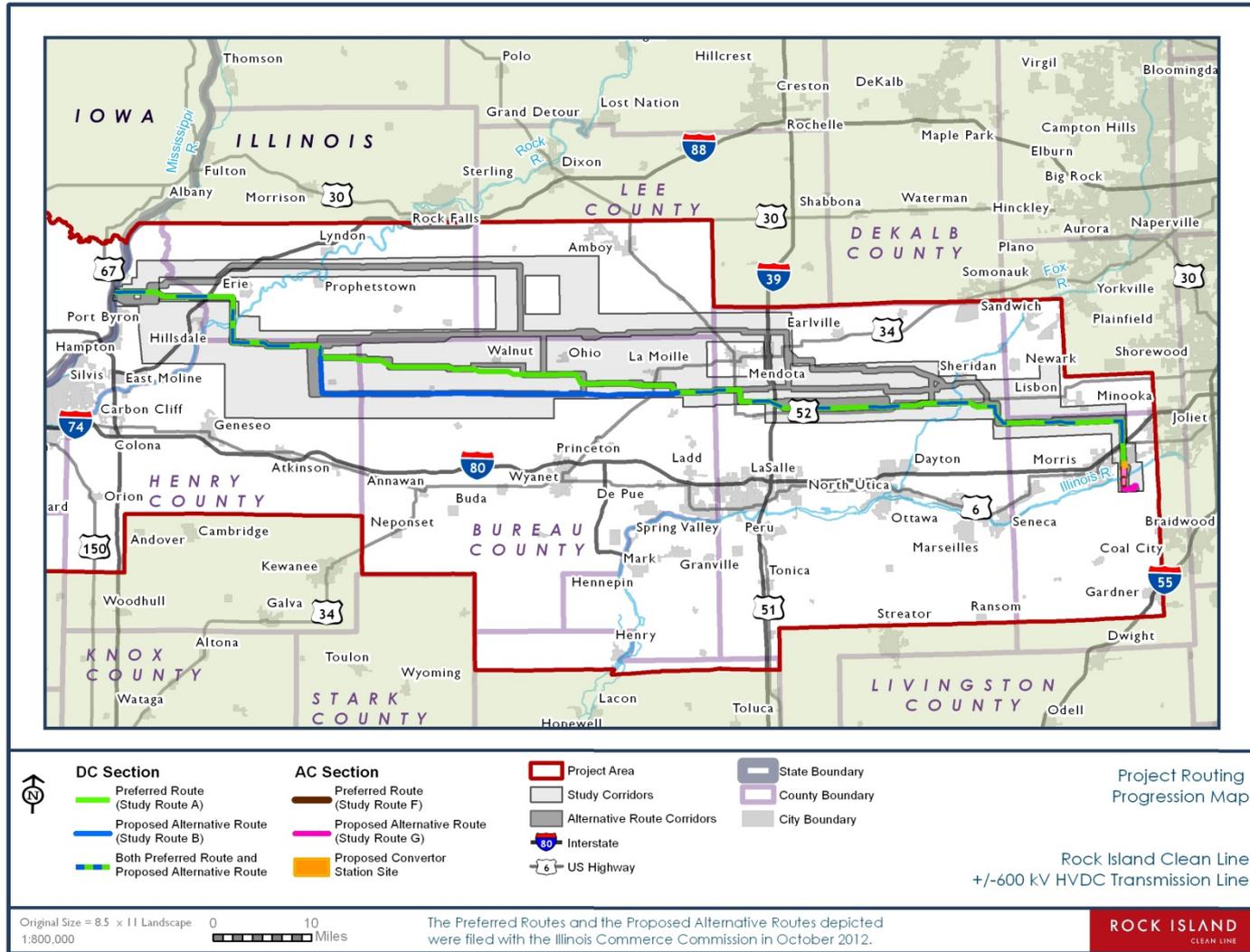
Source: EWITS; Clean Line analysis

# Rock Island Clean Line Study Corridors



3-mile-wide to 10-mile-wide study corridors within which Clean Line has worked with communities and other stakeholders to determine the preferred route for the line

# Rock Island Clean Line Illinois Alternative Route Corridors and Illinois Preferred and Alternative Routes

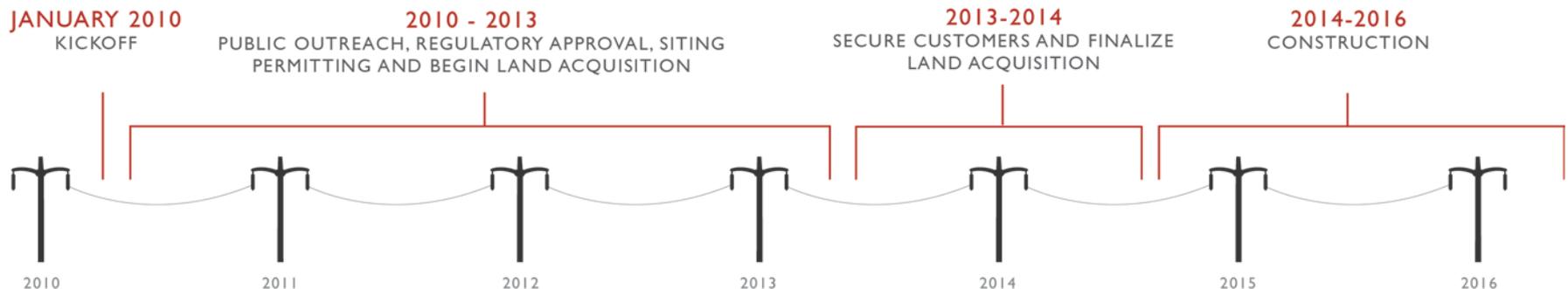


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# Rock Island development progress and schedule

- PJM interconnection request in final stage of study
- Development agreements signed with Siemens to design converter stations and Kiewit Power for transmission line construction
- Identified route alternatives across the project area
- Hosted 33 landowner open house meetings and four local business open houses
- Received approval from Federal Energy Regulatory Commission to negotiate with customers

## ROCK ISLAND CLEAN LINE SCHEDULE



# ROCK ISLAND

CLEAN LINE

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