

Bridging the Gap Between Utilities and Consumers

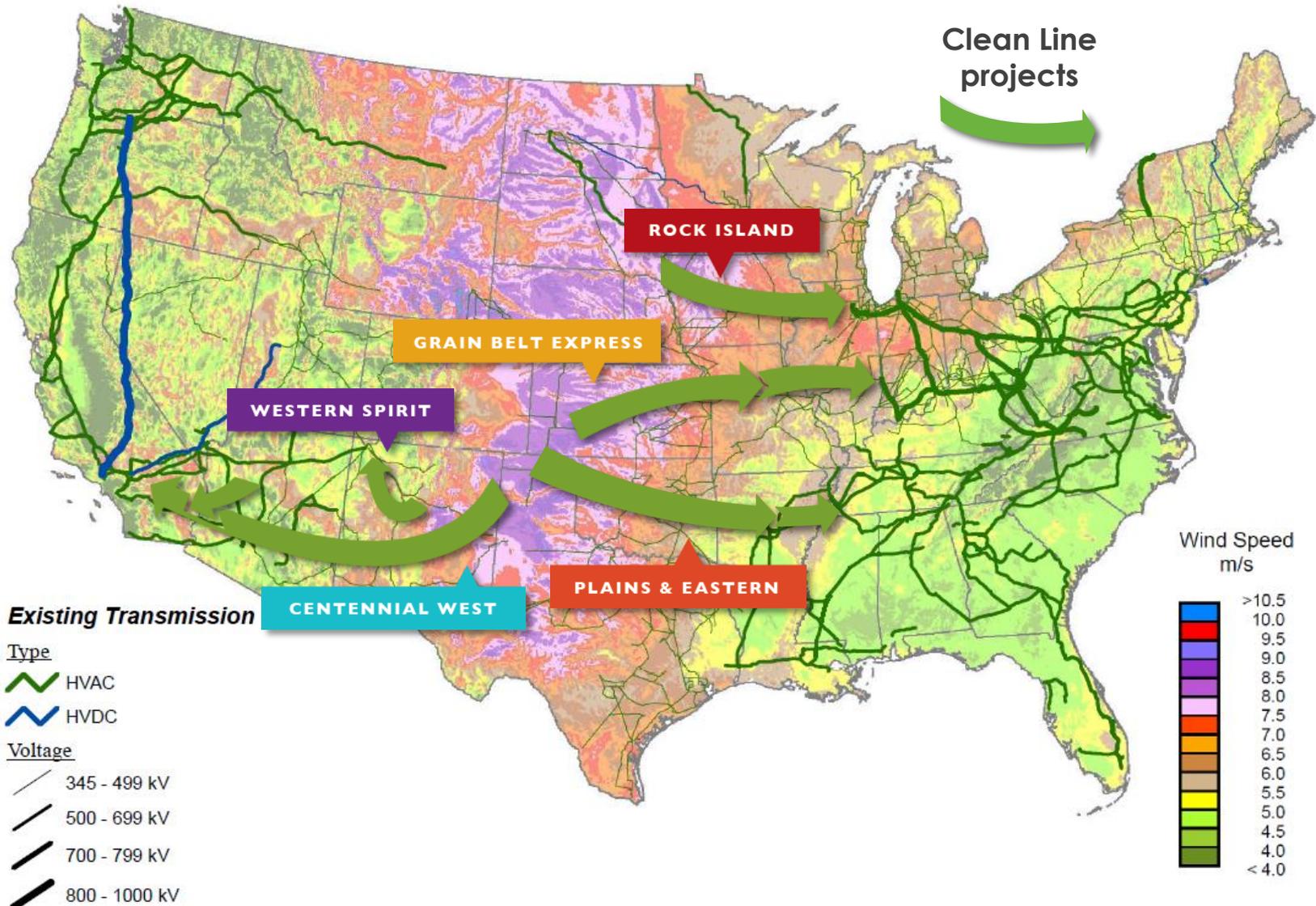
MEPC 2016

Grain Belt Express Clean Line

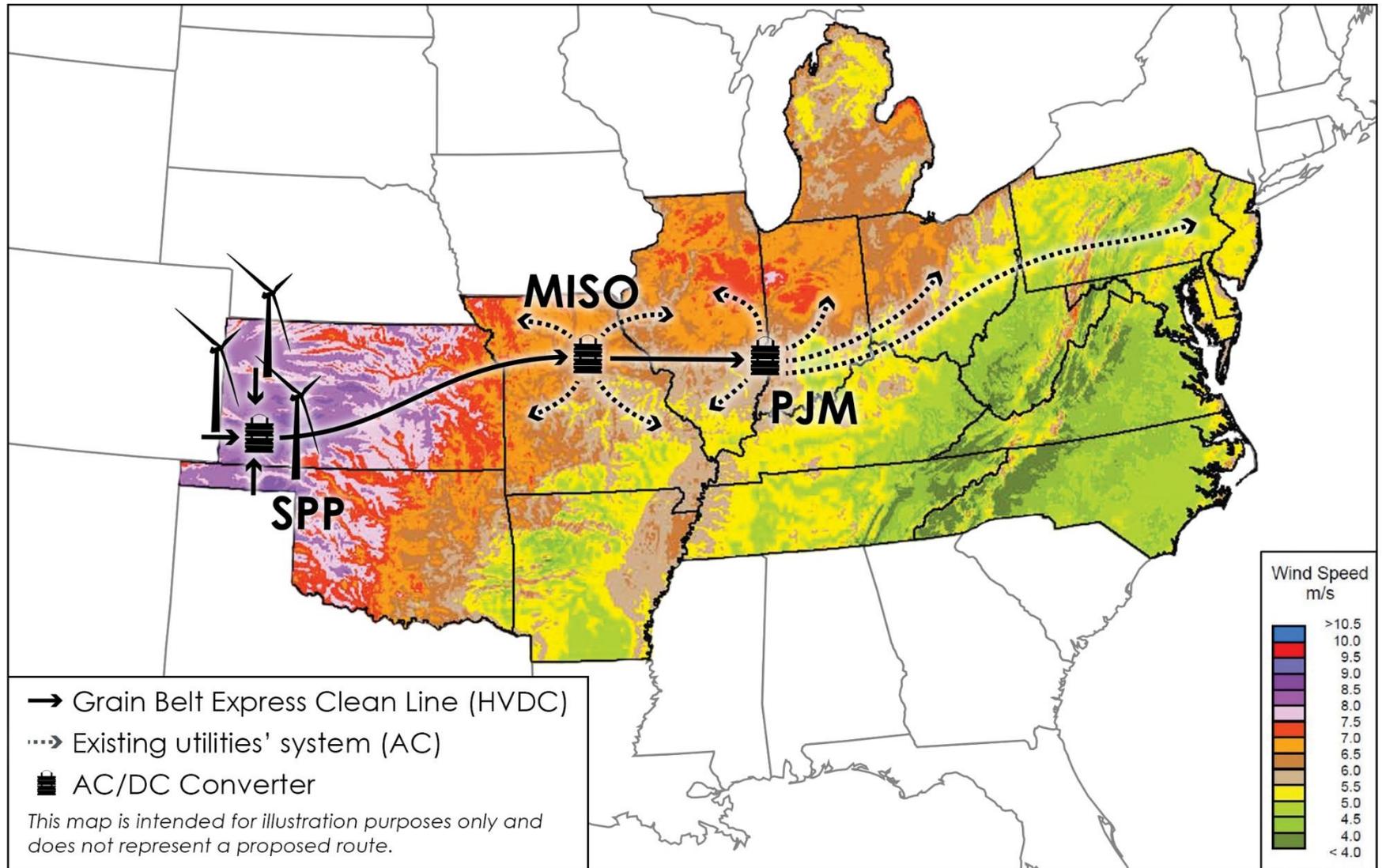


Missouri

Clean Line's projects connect the lowest-cost wind resources to major demand centers



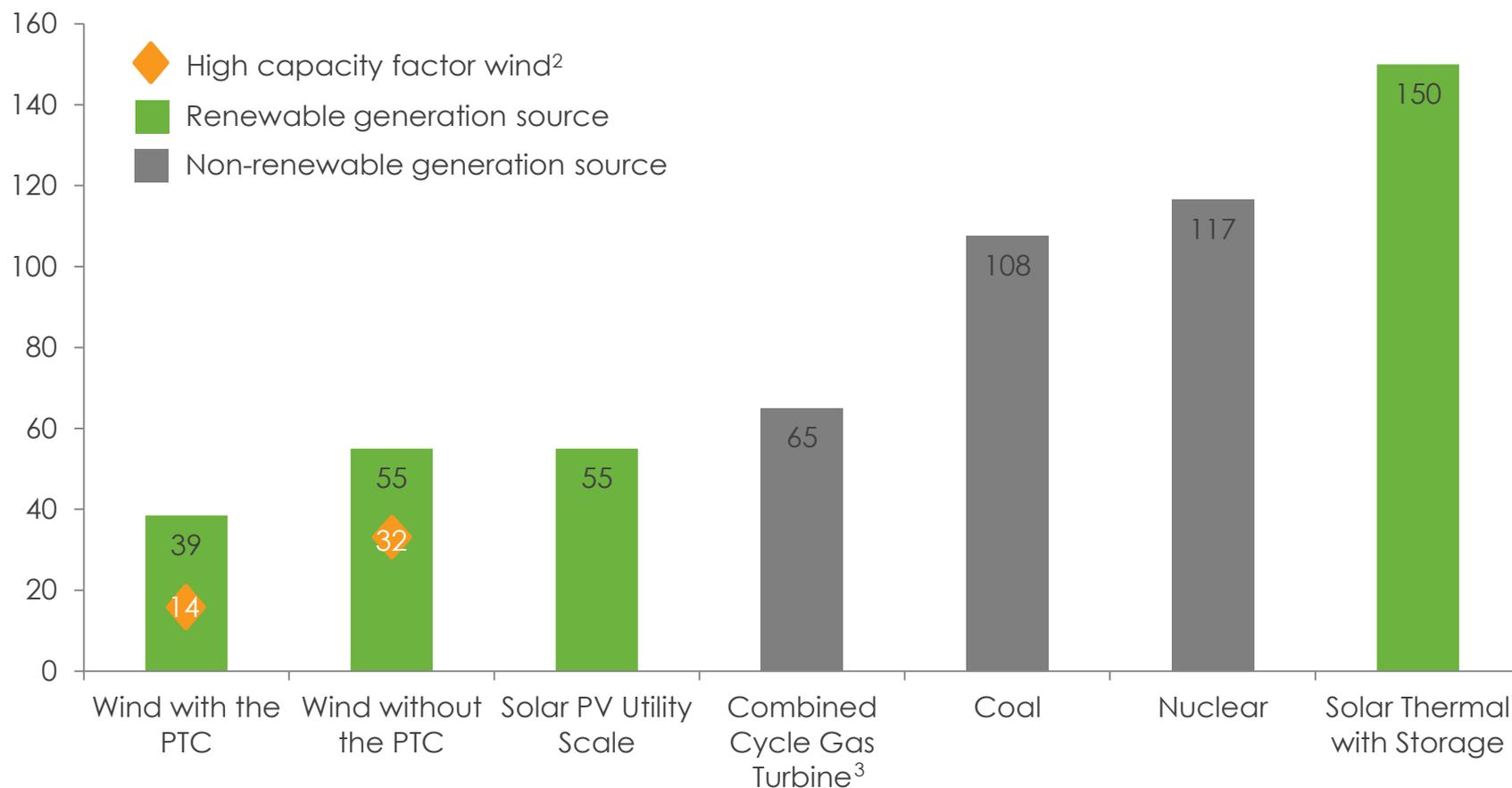
The Grain Belt Express will deliver enough low-cost wind to Missouri to power about 200,000 homes



Wind energy cost is very attractive compared with other sources of new generation

Levelized Cost of Energy¹

\$/ MWh



1. Cost of generation based on mid-point of Lazard's LCOE estimates. Unless noted, costs shown are unsubsidized.

2. High capacity factor wind cost uses low-end Lazard estimates for which the capacity factor is 55% and capital cost is \$1,250/kW.

3. Assumes \$3.45/MMBtu gas price.

Source: Lazard's 2015 Levelized Cost of Energy Analysis

Missouri is the last of four states where approval is needed for the Grain Belt Express Clean Line



Kansas

Certificate of Public Convenience and Necessity

Approved: December 7, 2011



Missouri

Filed for Certificate of Convenience and Necessity



Illinois

Certificate of Public Convenience and Necessity

Approved: November 12, 2015



Indiana

Certificate of Public Convenience and Necessity

Approved: May 23, 2013

Clean Line's \$500 million infrastructure investment in Missouri will stimulate the state's economy

The Grain Belt Express Clean Line will:

- Deliver enough electricity to power ~200,000 Missouri homes
- Save Missouri municipal utility customers ~\$10 million on their electricity bills
- Contribute more than \$7 million in local taxes
- Support ~1,500 Missouri jobs



Centralia

Hubbell manufactures insulators and hardware at a facility that employs 700 Missourians. Clean Line's order will allow Hubbell to invest \$9 million in its Missouri facility.

Sedalia

General Cable manufactures 23 million feet of high voltage conductor at a facility that employs 185 Missourians.

St. Louis

ABB manufactures power transformers at a facility that employs 175 Missourians. Clean Line's order will be worth \$10 million.

Kansas City

PAR Electrical Contractors will manage the construction of the project. Employs 3,000 Missourians.

 **Missouri converter station, Center, Ralls County**
The \$100 million converter station will connect low-cost power from the Grain Belt Express to the Missouri electric grid.



 **Manufacturing facilities**

Grain Belt Express Endorsements

- **Governor Jay Nixon**
- **Missouri Joint Municipal Electric Utility Commission (MJMEUC)**
- **Missouri Chamber of Commerce & Industry**
- **Missouri Industrial Energy Consumers**
- **IBEW & AFL/CIO**
- **Sierra Club & Renew Missouri**
- **Industrial and Retail consumer advocates**



This agreement, along with a PPA for wind energy, will save our member utilities more than \$10 million annually since it is timed to replace more costly power contracts for fossil fuel fired generation that will expire as this project is scheduled to come on line. - MJMEUC President and General Manager Duncan Kincheloe.

Corporate & Industrial Demand Missouri

- Walmart
- General Motors
- Target
- Unilever
- Proctor & Gamble
- Kellogg's
- Nestlé



“Our ability to access power from renewable sources is essential to our corporate energy strategies. Our companies have significant renewable energy goals; some of us have commitments to procure up to 100% of our electricity from renewable sources. Access to **renewable energy is increasingly important to our decisions about where to expand and to site new facilities.**”

Third Party Access to Renewables

American Wind Energy Association reported that 52% of all wind energy PPAs executed in 2015 were with non-utility purchasers

In many areas of the United States, it is now more economical for companies to power its data centers, factories and office buildings under renewable energy PPAs, rather than their local utility rates¹

Options for accessing renewables:

- RECs
- Green Tariffs/Green Riders
- Virtual PPA (hedge)
 - Popular alternative for companies sited in urban areas without ready access to renewable power sources
- Structured PPAs
 - Company pays set \$/MWh, gets RECs and takes the market price for the output
- On-site renewables

¹Corporate Renewable Energy Procurement: Industry Insights, ACORE June 2016.

Limitations on Access

- Not all states are created equal
 - Regulated states prohibit direct PPAs between consumer and generator
 - Even deregulated/restructured states there are limitations
- Incumbent business model
- Capacity requirements

GRAIN BELT EXPRESS

CLEAN LINE

www.grainbeltexpresscleanline.com

www.cleanlineenergy.com

Questions?

1. Is this a zero sum game?
2. What are other regulated states doing? Who's figured this out?
3. Will the IOUs and incumbents be part of this solution? Legislative change or other options?
4. What has to be part of the answer for Missouri? Will tax incentives be enough to lure/keep C&I customers in Missouri?