

Community Wind Workshop

MAY 11, 2021

**Session 1 - Wind 101 &
What's Next?**



Dorothy Barnett

The Climate + Energy
Project

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As the Executive Director of the Climate + Energy Project, Dorothy Barnett is leading the effort to address the Heartland's energy future. Grounded in an approach based common ground solutions, Barnett has been successful in convening diverse voices in a conservative region of the country. Barnett has coordinated winning campaigns to protect the Kansas Renewable Portfolio Standard from special interest groups attacks during four legislative sessions, allowing the wind industry to grow to 40% of the state's power generation in just a decade.

Prior to her position as Executive Director, Barnett served for 4 years as CEP's Director of Energy and Transmission. This work put Dorothy on the ground in energy policy work at the local, state and regional level. Under Barnett's leadership, CEP continues to innovate and reach new audiences with projects like WEALTH: Water, Energy, Air, Land, Transportation and HEALTH, Climate + Energy Voters Take Action, the Kansas Environmental Leadership project and the Clean Energy Business Council, a multi sector business group focused on the advanced energy economy.



Community Agreements

- **Platinum Rule** - *treat others the way you want to be treated.*
- **Notice the Room** - *build awareness together.*
- **Be Curious, Open, and Respectful** - *call in, not out. Throw sunshine, not shade.*
- **Be Conscious of Your Intent vs. Impact** - *Your intentions may be good, but the impact on another may be hurtful. You are responsible for the impact of your words.*





Mission

The Climate + Energy Project (CEP) builds resilience in Kansas through equitable clean energy solutions and climate action.

Purpose

The Climate & Energy Project:

- connects people, organizations, and ideas;
- presents science-based facts;
- facilitates critical thinking and community engagement; and
- co-creates equitable and productive solutions.

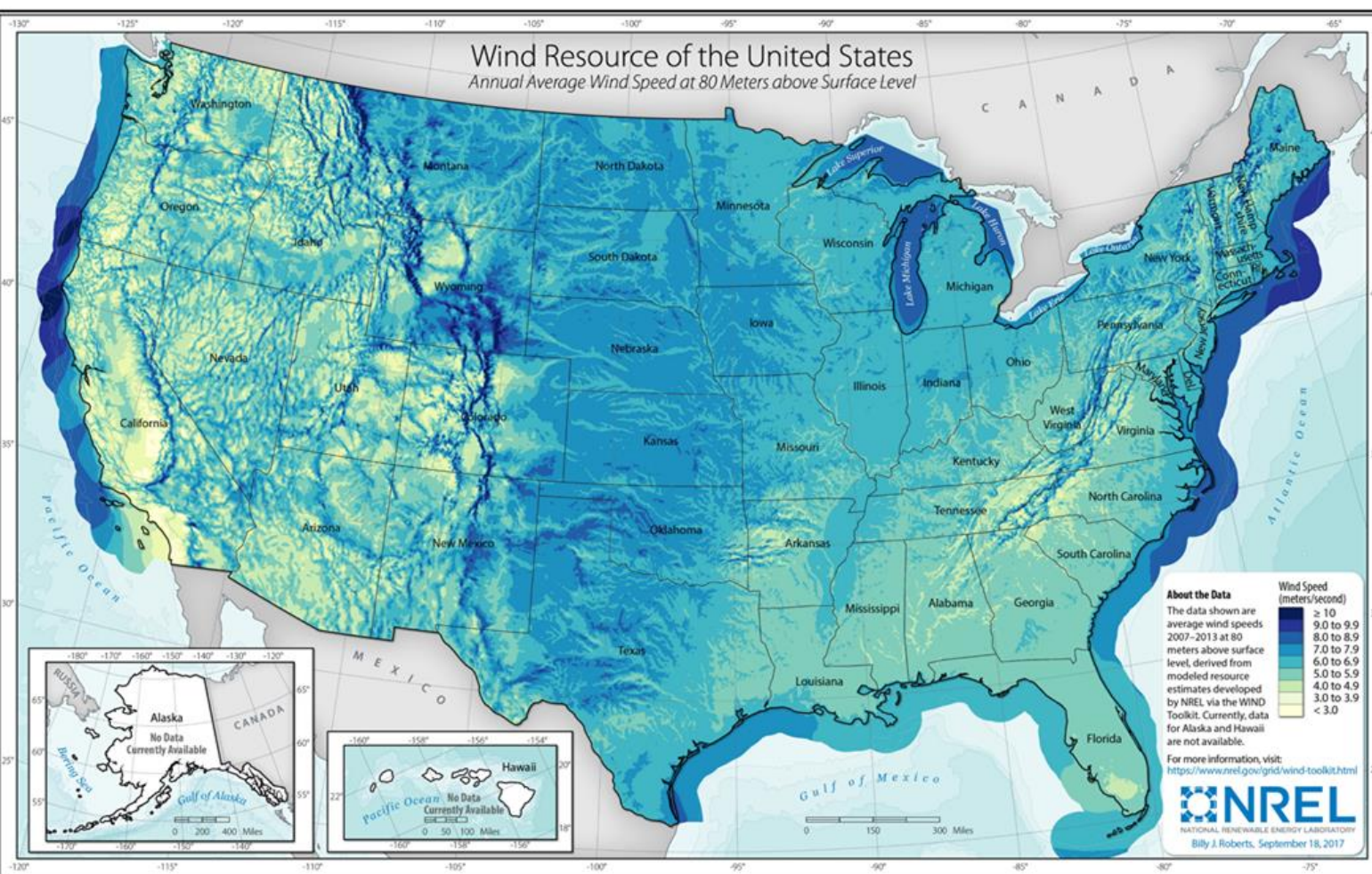


U.S. WIND CORRIDOR

- Central Location
- Strong wind resource

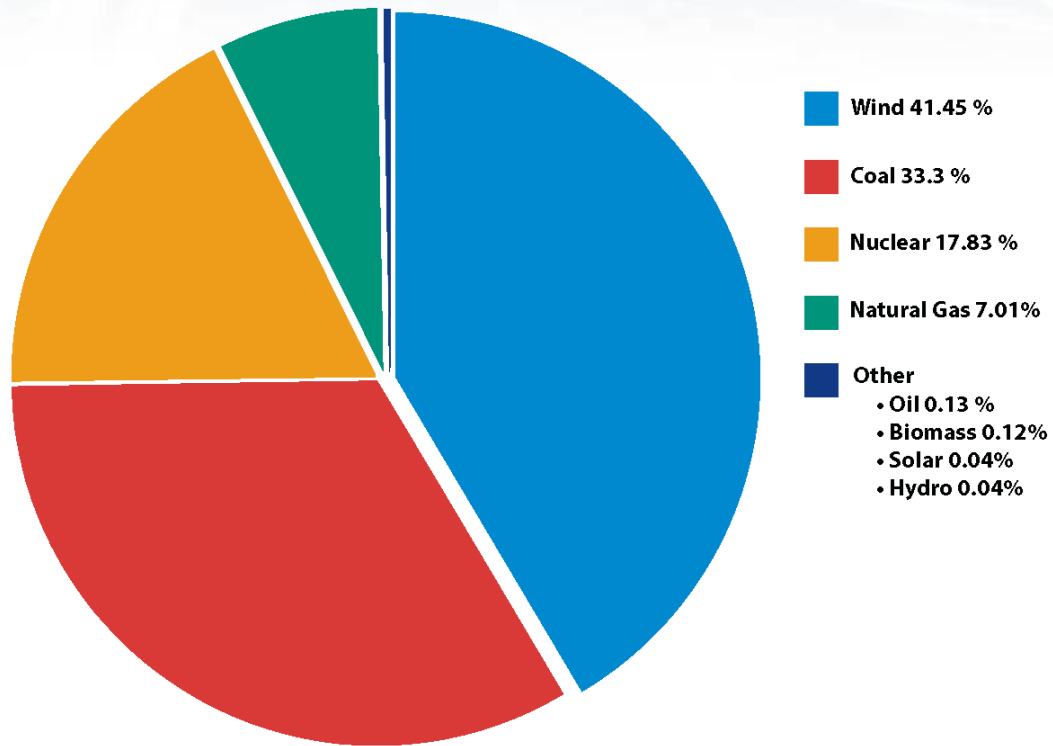
Kansas Rankings (AWEA Market Report)

- #2** – Wind as % of total generation
 - #3** – Corporate wind purchases
 - #4** – Wind power installed capacity
 - #4** – Wind power generation
 - #5** – Wind turbines installed
- \$11.4+ billion** – Total investment
- 1.97 million** – Equivalent homes powered

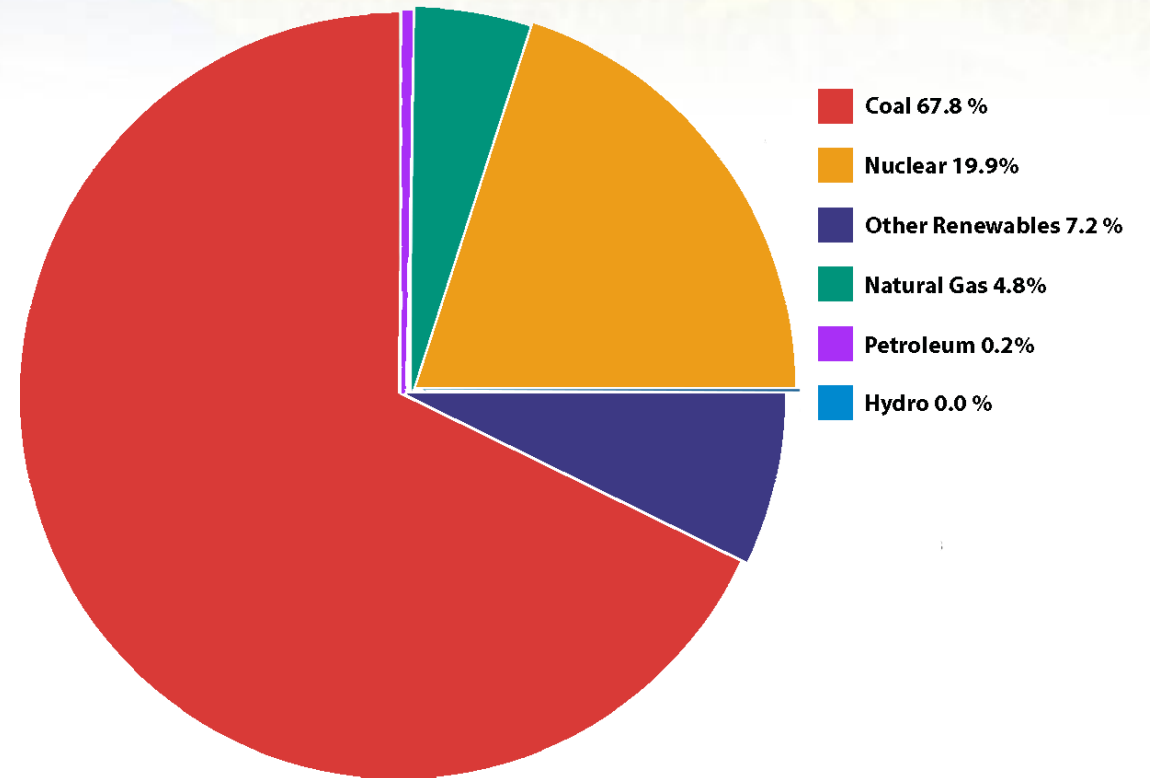


Kansas Electricity Generation

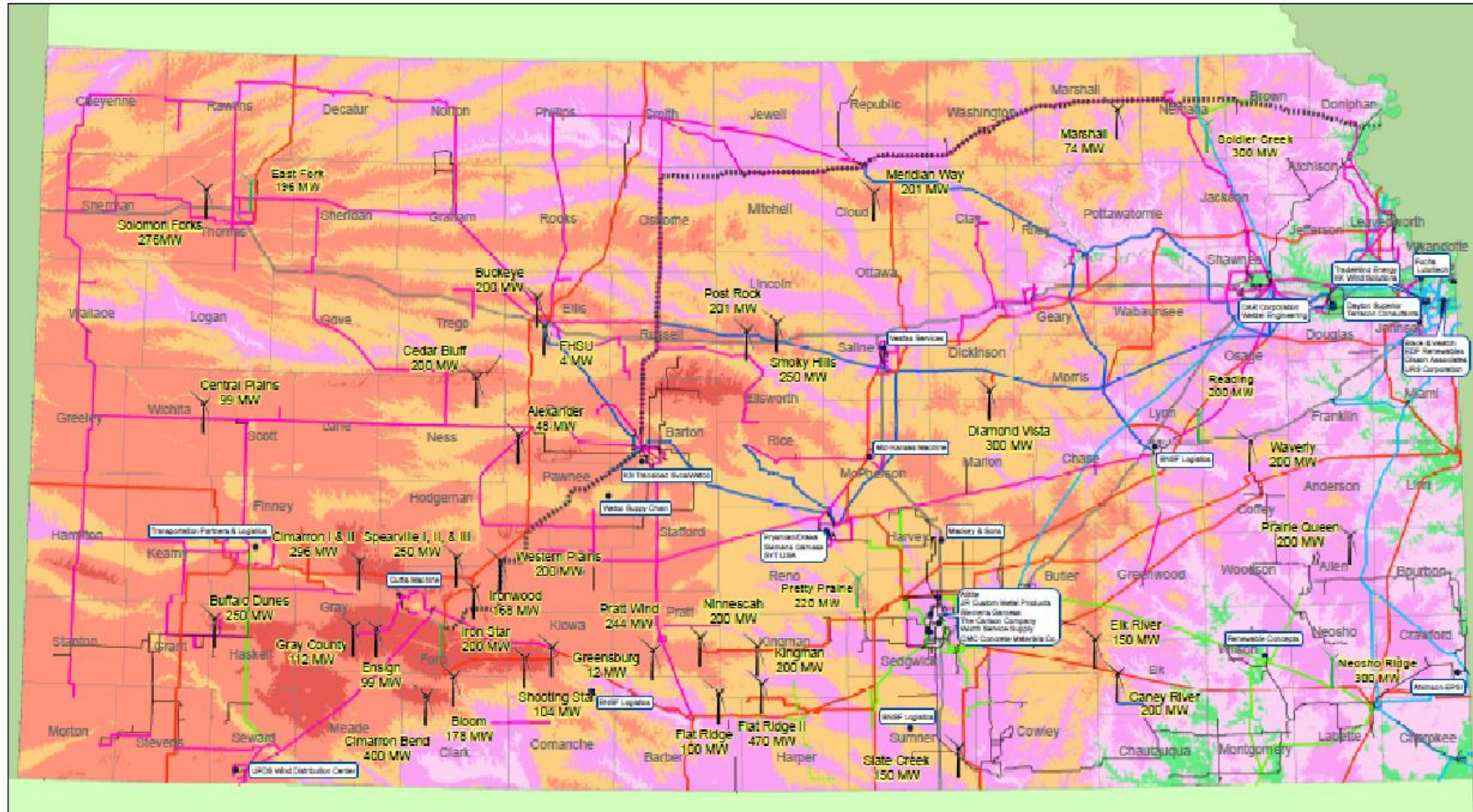
2019



2010



KANSAS WIND MAP WITH OPERATING AND UNDER CONSTRUCTION WIND FARMS AND RELATED BUSINESSES



Wind Speed at 100m (m/s)

4.0 - 5.5	7.5 - 8
5.5 - 6	8.0 - 8.5
6.0 - 6.5	8.5 - 9
6.5 - 7	9.0 - 9.5
7.0 - 7.5	9.5 - 12

Generation Sites

- Operating
- Under Construction
- Wind Related Businesses
- Interstate Hwy

Transmission Lines

- Operational: 345 kV, 230 kV, 161 kV, 138 kV, 115 kV, 69 kV
- Approved/Under Construction: 115 kV Approved, 138 kV Approved, 161 kV Approved, 230 kV Approved, 345 kV Approved, 690 kV Approved
- *Routes of Approved lines are subject to change

Wind Resources of Kansas

Mean Annual Wind Speed at 100 Meters



Wind speed at 100 meters data layer was created by AWS TrueWind using the NeoMap system and historical weather data. July 2008

For additional information, please contact:
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Joshua Svaty

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Joshua Svaty In his role as Senior Advisor for Intergovernmental Affairs at the Kansas Power Alliance, Joshua Svaty helps educate renewable energy developers about the counties and regions of Kansas, and also helps local elected officials understand what a renewable infrastructure project might mean in their area. He was a member of the Kansas House of Representatives, served as a Senior Adviser in the Environmental Protection Agency during the Obama Administration, and was the Kansas Secretary of Agriculture. A lifelong fifth-generation Kansan, Svaty owns and operates Free State Farms in Ellsworth County along with his wife, Kimberly. He co-authored 'Petroglyphs of the Kansas Smoky Hills', a Kansas Notable Book of 2020





So you want (or don't want) a wind farm...

Lessons from 15 years of experience from one of the earliest counties to develop wind

Joshua Svaty

Public Webinars

Spring/Summer 2021

Core elements of Project Development

- Is there a good resource? (Wind or solar)
- Is there support for it to be developed?
- Does it meet all local, state, and federal guidelines and clearances?
- Do we know what the County needs from the developer in order to make the project happen?
- What will our long-term relationship with local government look like?

Is there a quality resource?
(Photo courtesy of Enel)



Support required for development

Are there local landowners interested in leasing for the project?

Is there sufficient load demand in the area (unlikely) or is there transmission capacity to ship that power to a load center?

Do we have permission to access that transmission? For the stated size of the project?

Remember: These aren't academic questions. We need them answered to obtain financing from investors. Therefore, we need:

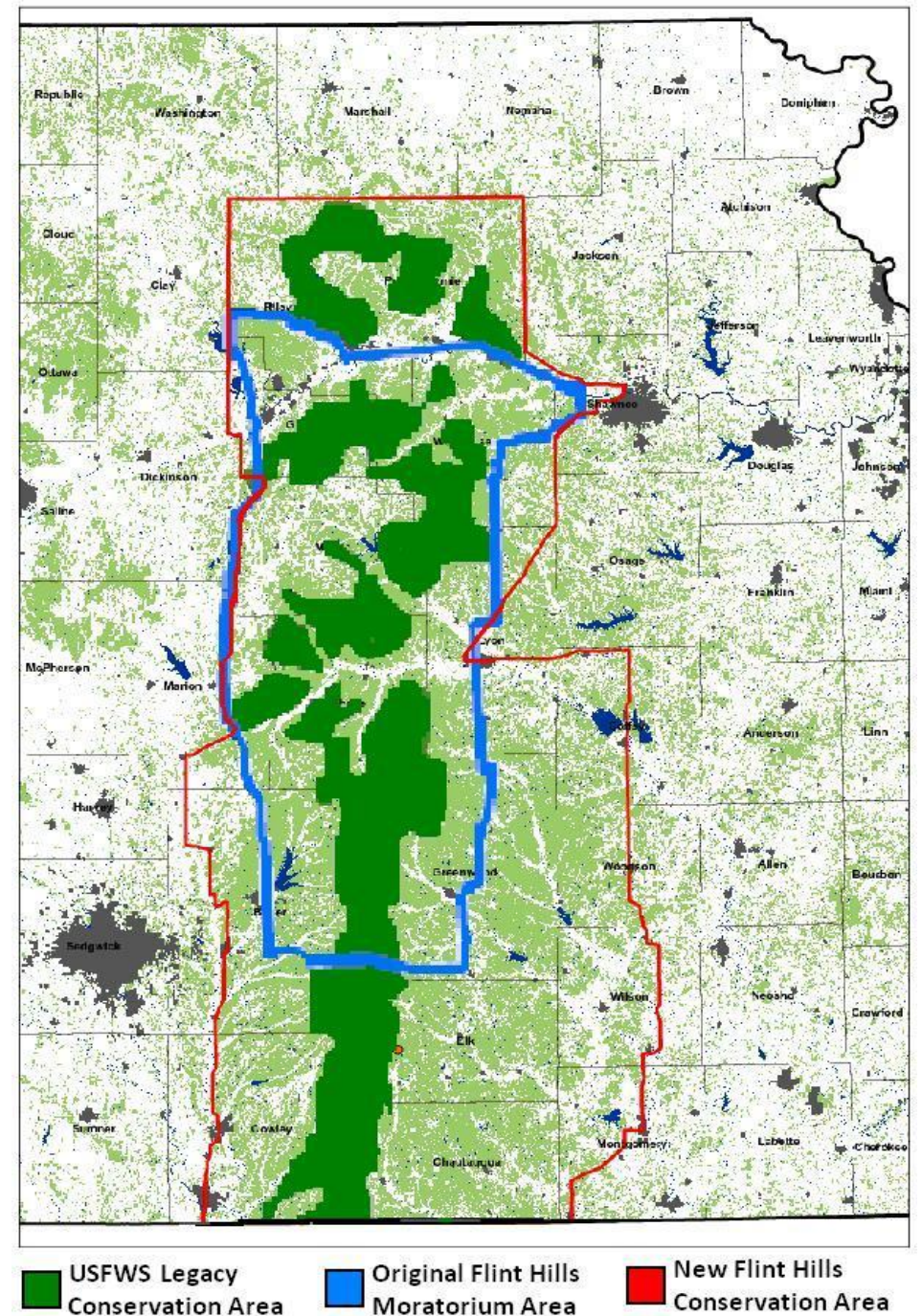
- Verifiable multi-year anemometer and meteorological data to indicate wind speeds in the area
- Verifiable contractual “control” of the land necessary for the size of the project – meaning actual signed leases with landowners
- An actual position in the “queue”, the Southwest Power Pool’s generator transmission interconnect request list. The Southwest Power Pool then studies the request, (the request period right now is 5-7 years out), to determine whether the transmission at that particular site can handle a new generation source of that size, also balancing that new load with the literally thousands of other requests being made throughout the region.

Does it meet the local, state, and federal guidelines?

- Endangered Species Act
- NEPA Review
- Archaeological/Historically Sensitive Sites
- Locally sensitive sites that may not show up on national reviews
- FAA flight clearances
- State guidelines in place for over a decade:
 - Avoid intact prairie
 - Work with Kansas Department of Wildlife, Parks, and Tourism to discover potential issues early in the process, as well as other relevant state agencies
 - Mitigate, move, or both

Tallgrass Heartland

- May 2011 expansion
- 2005 "Flint Hills Box"
- Grew from 10 to 18 Kansas counties

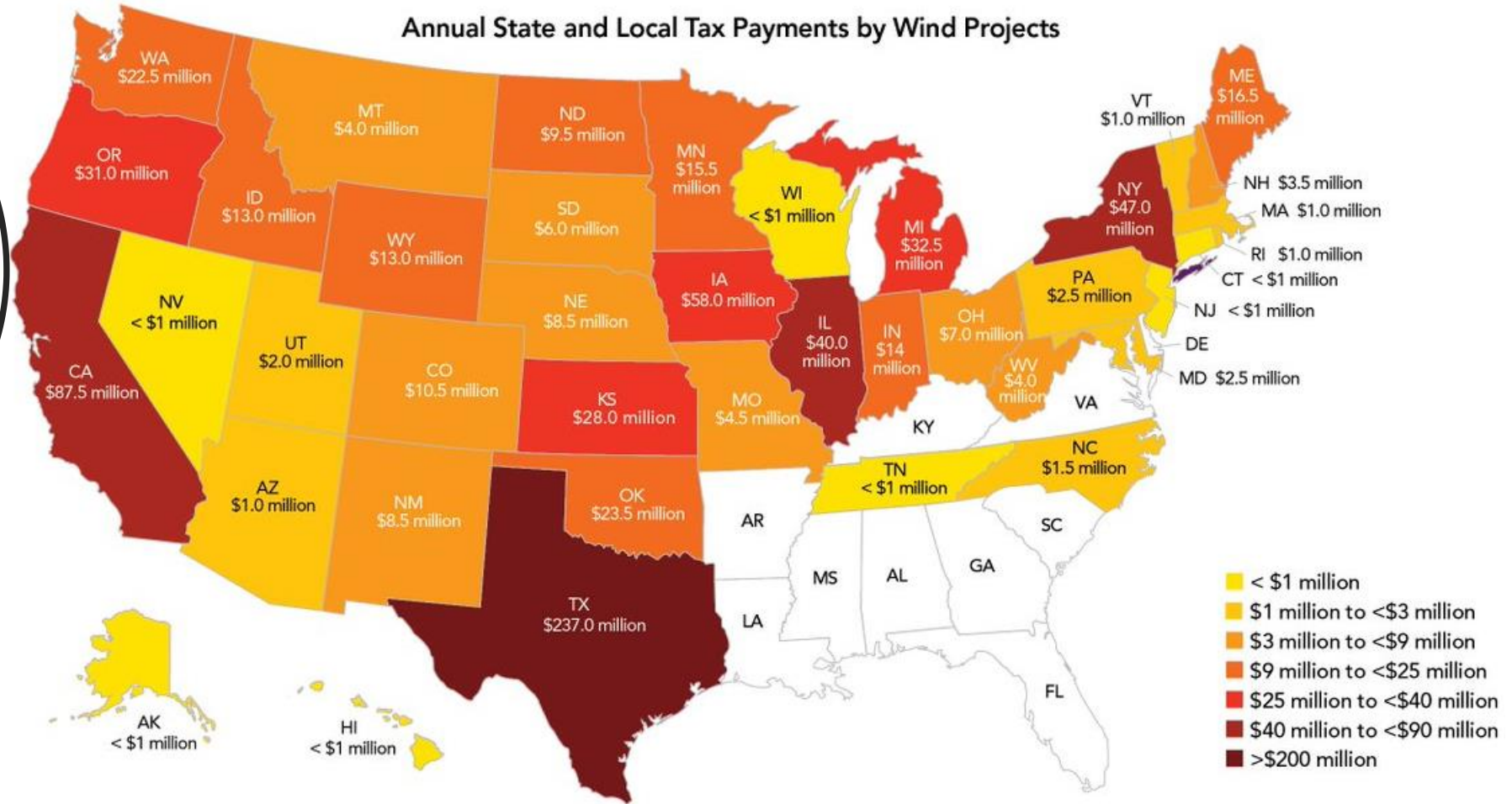


The relationship with the County

- Is the county zoned? Do we need to obtain a Conditional Use Permit or a Special Use Permit?
- Do we have a Road Maintenance Agreement in place?
- Have we negotiated a PILOT (Payment in Lieu of Taxes) for the period of the project when it is property tax exempt?
- Do we need to have any particular agreements with individual townships or other jurisdictions?

Kansas vs Oklahoma comparison

Annual State and Local Tax Payments by Wind Projects



The long-term relationship

- PILOT payments and then taxable property
- Repowering – major construction upgrades to the project, that will include an influx of construction employees for a construction season
- Decommissioning – Tower removal is usually spelled out in the individual leases, and money is set aside in escrow. Typical leases have the tower being removed down to between 2-4 feet below the surface of the ground, and the soil restored. The concrete base is normally not removed.

Decommissioning

- Agreements must be negotiated and approved with counties
- Detailed information included in the leases
- Escrow accounts
- Repowering

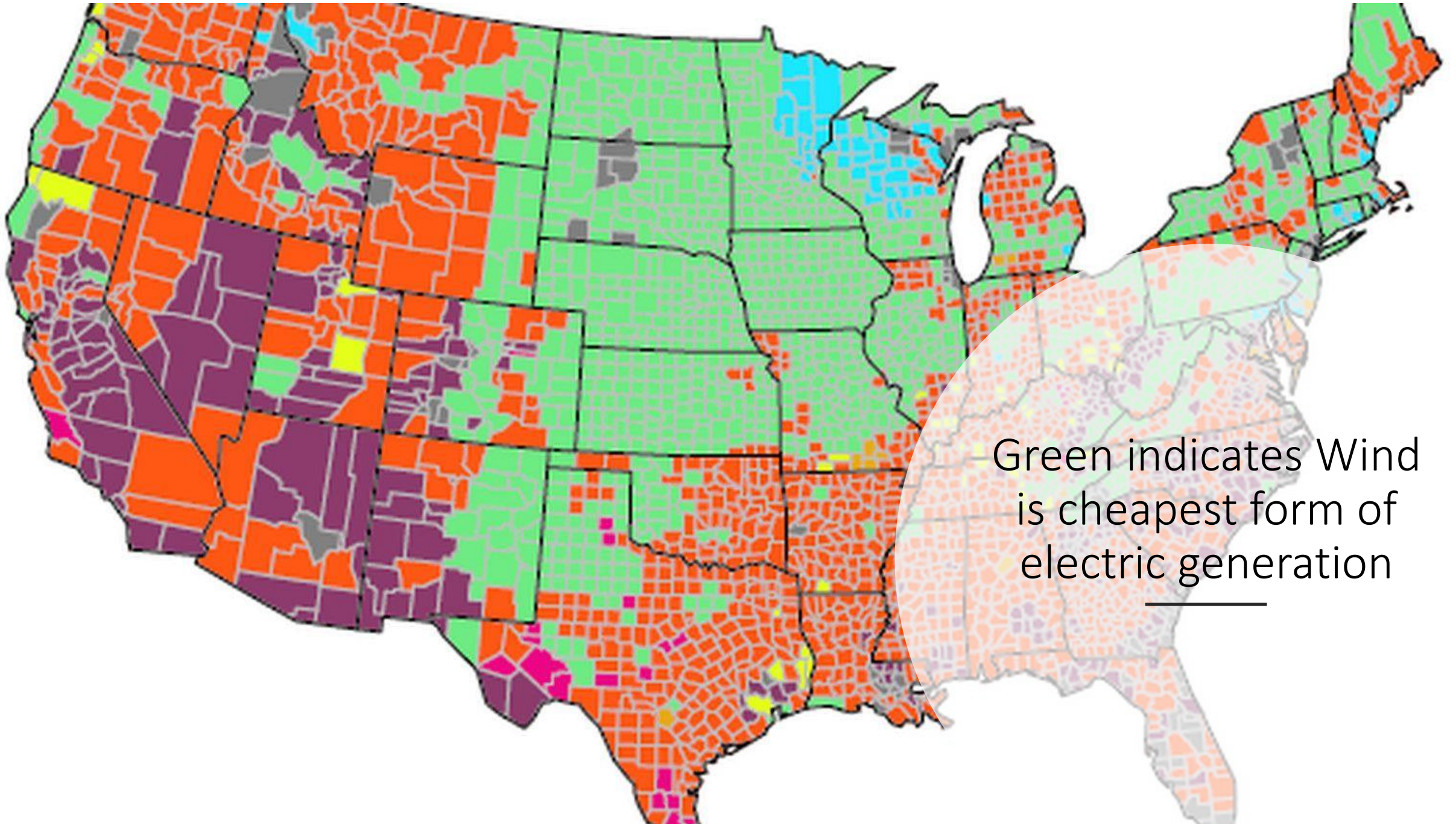
The Grand Compromise

- RPS
 - 20% by 2020 met 5 years early
- Tax
 - Property Tax Exemption
 - Shift from “life of project” exemption to 10-year exemption
- Pad Site
- Projects online post January 1, 2017



What is next?

- Wind
- Solar
- Storage



Green indicates Wind is cheapest form of electric generation

NEW RECORDS


SPP SET NEW RECORDS

84% WIND PENETRATION

4:34 a.m. | May 8, 2021

87.5% RENEWABLE PENETRATION

5:02 a.m. | May 8, 2021

A large field of wind turbines under a cloudy sky. The turbines are arranged in rows, with the most prominent one in the foreground. The sky is overcast and grey. The ground is a flat, brownish field.

Who Is Buying
Kansas Wind?

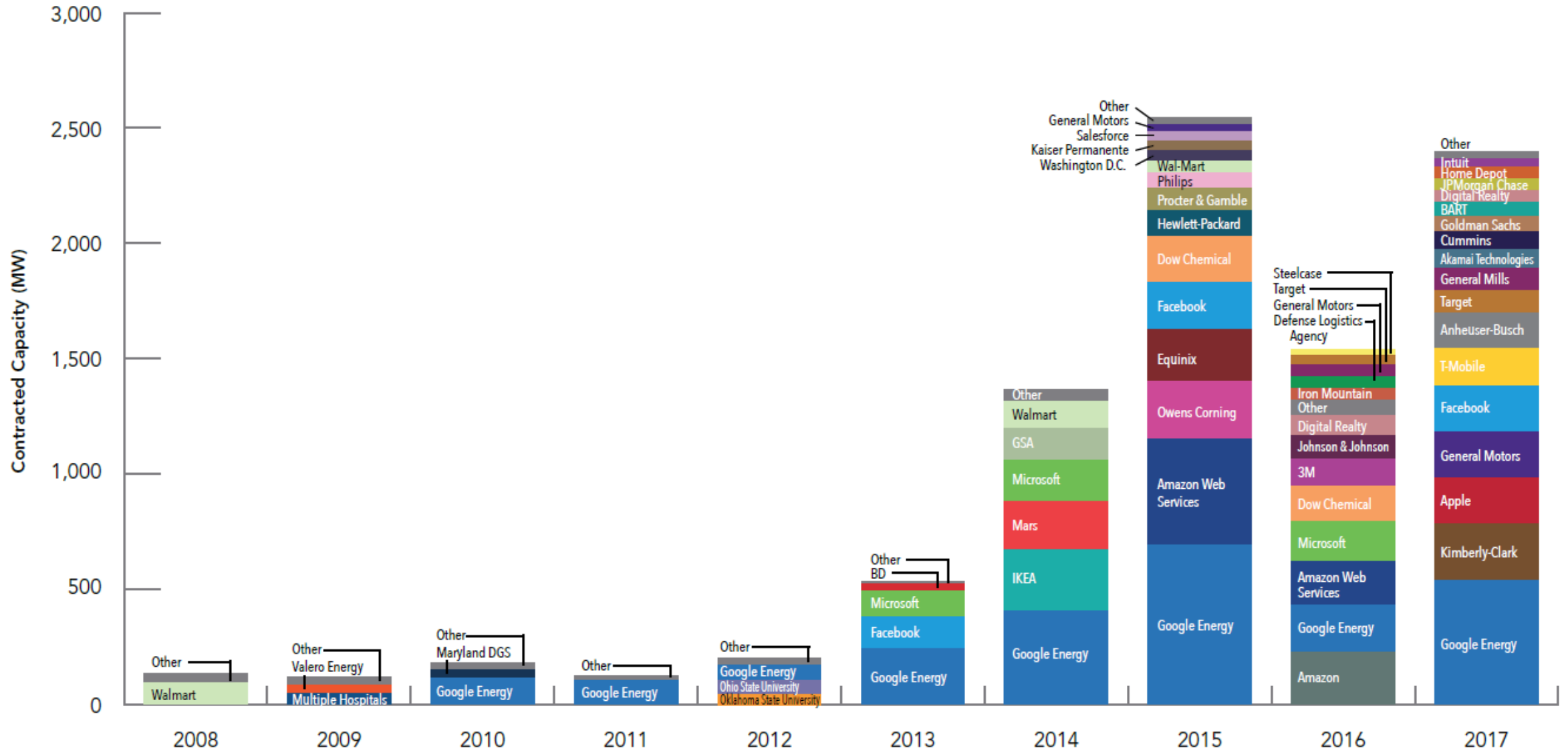


Corporate Purchasers

- Arrangements with SPP
- Renewables Direct Program
 - Soldier Creek Off-takers
 - 100% subscribed
- KCPL program
- Corporate Purchaser group

Figure 47

Non-Utility Wind Power Purchases, by Year

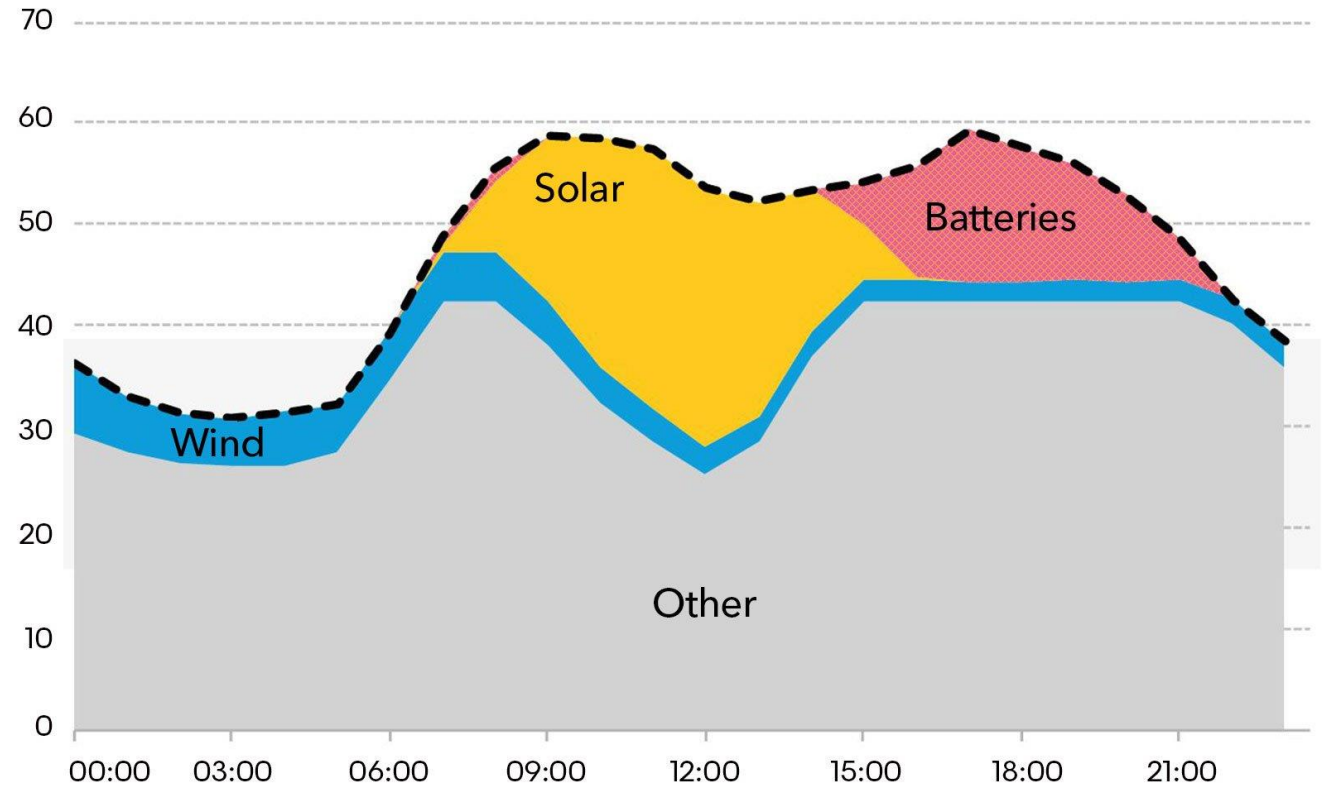


Note: Data include publicly announced physical and virtual power purchase agreements (PPA), direct ownership of onsite or offsite wind projects, and large-scale REC purchases associated with specific wind projects. Data is recorded at the time of announcement and does not indicate when the associated wind project is placed into operation.

What is Next?

Cheap batteries can make solar and wind dispatchable

Intraday electricity generation (GW)



Source: Bloomberg NEF

The Elephant in the Room

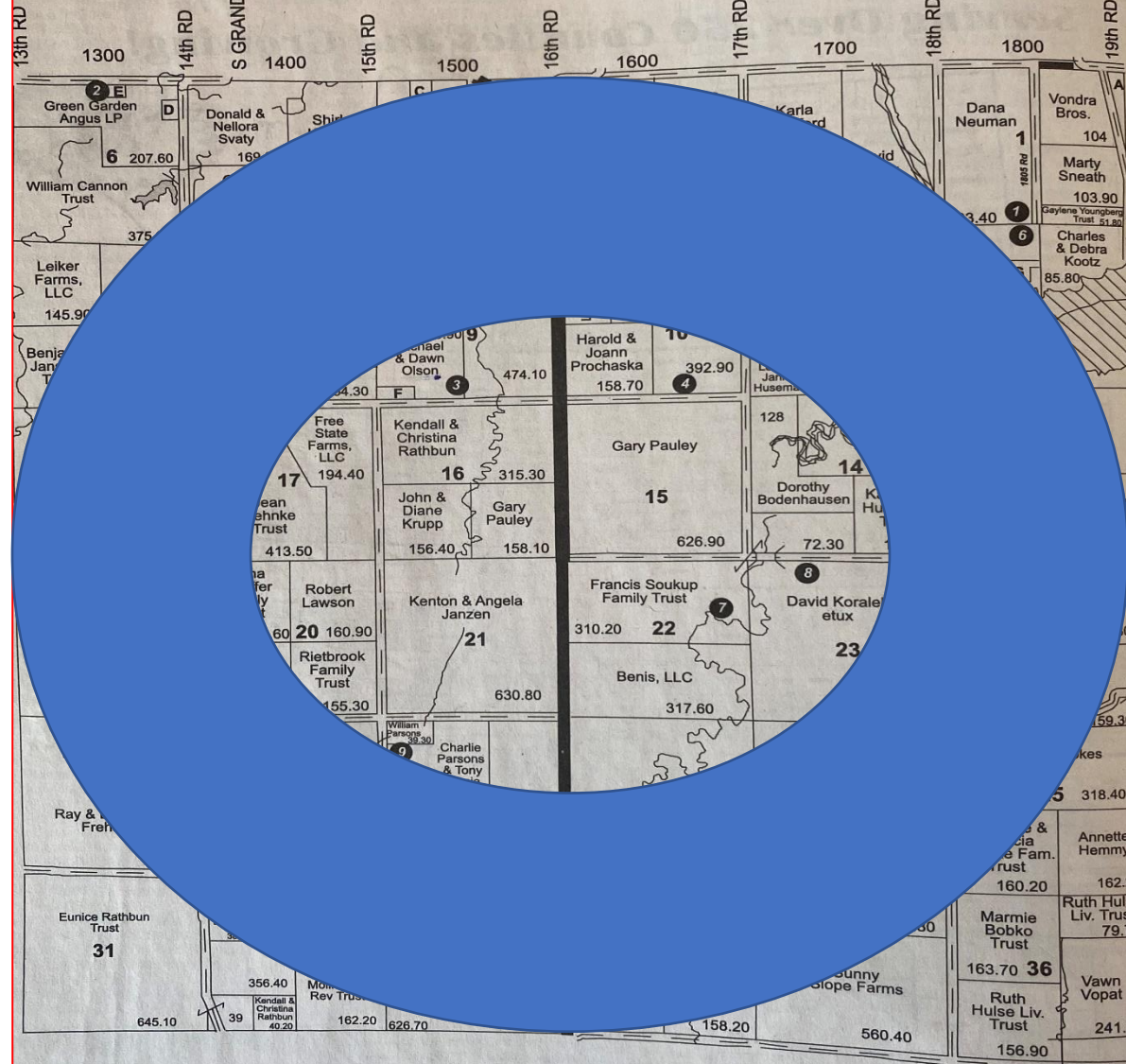
- What has happened over the last year?
- What has changed?
- What can county staff and policymakers do?
- What can the renewable industry do better?
- What does the future look like?

ASH CREEK TWP

T 16 S

R 8 W

JOINS ELLSWORTH TWP



Resident Locations

- 1 Joye Neuman - 1396
- 17 Larry Beagley - 1876

Small Tracts

- Section 1 A Michael & Dawnde Bunch - 17.50
- Section 4 B Josue W...

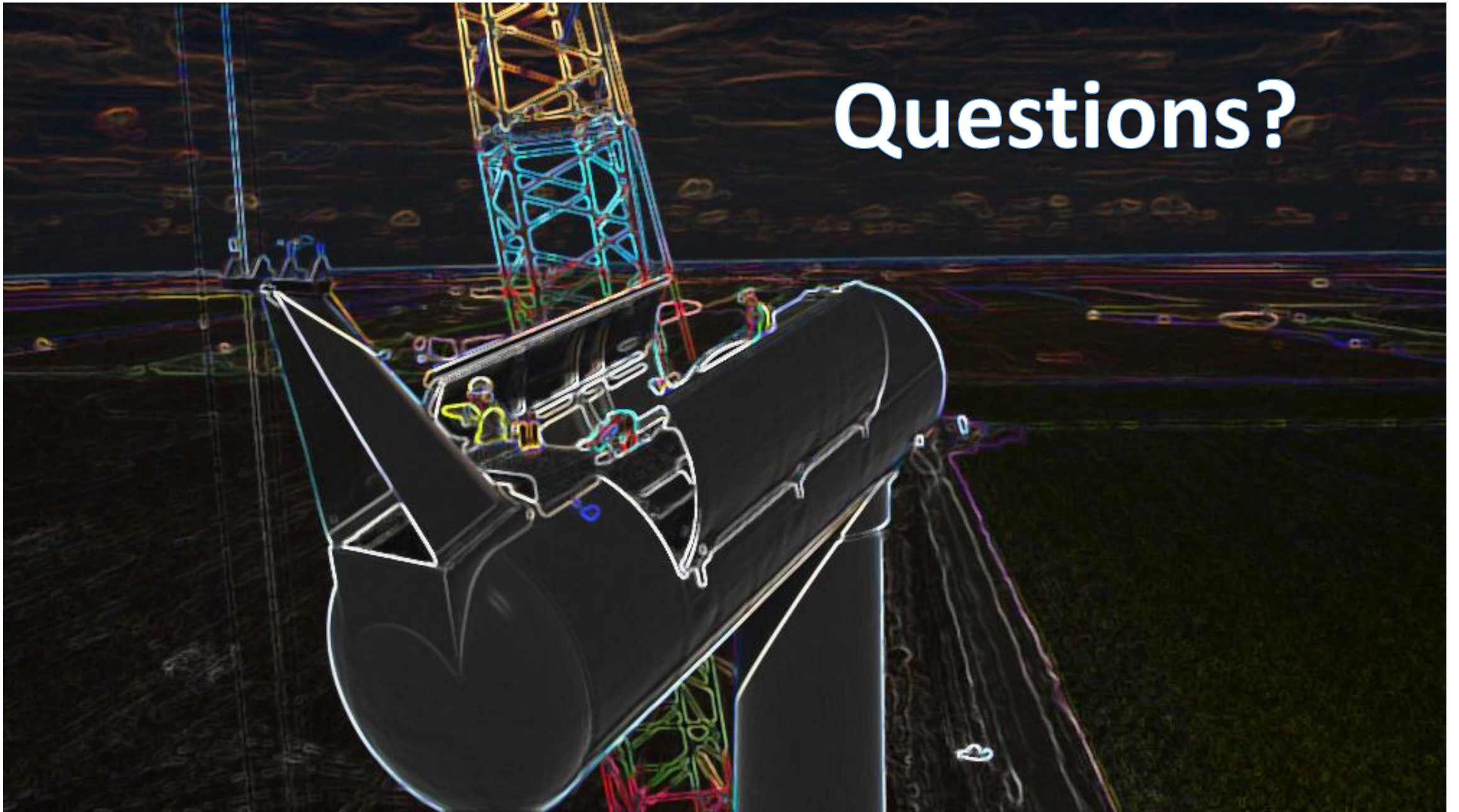
JOINS THOMAS T

Always Remember:

- This is a private lease contract, freely executed between a private company and a private property owner
- The only way to protect your viewshed is to own your viewshed. If you don't own it, should the county protect it for you? Is that fair to the person(s) that own that "viewshed" that want to do something with it?
- There are more than 40 operating wind farms in Kansas, and here's what we know –
 - With thousands of installed megawatts for years, there are no damaging reports of health effects, property values, etc
 - We also know that in the past five years KS has been a leader in farm oriented Chapter 12 Bankruptcy filings, and those filings have never included a participating farmer in a wind project.

Renewable development in Kansas is not only *not harmful*, it is also *very positive*.

Questions?



Next Workshop Dates

**May 25th, 2021 - Economic Development
with Randi Tveitaraas Jack & Joann Knight**

**June 8th - Health and Safety
with Amanda Miller, Pete Ferrell**

June 22nd -Property Values with Mike Busch and Mary Fund

July 13th - Wildlife ft. Zac Eddy

To register visit

<https://bit.ly/2021KSWindWorkshops>

COMMUNITY WIND WORKSHOP 2021

