



Dubuque County Zoning Board Zoning Board Meeting Minutes – February 27,2024

Chairperson Dave George called the meeting to order at 6 p.m.

Chairperson Dave George, Vice-Chairperson Ron Breitbach, Kevin Soppe, Kathleen Scherrman, Jerry Sigwarth, Sam Boyes, Lisa Sigwarth.

The Zoning Commission Board met at the Dubuque County Emergency Management Training Facility, 14928 Public Safety Way, Dubuque, IA 52002. You have the option to attend Zoning Board meetings. The County offers Zoom with both audio and video available. Every agenda will include information on how to login to attend that meeting. Those wishing to attend meetings in person may do so. All Zoning Board official meetings are recorded and available to be viewed at <https://www.dubuquecountyiowa.gov/467/Agendas-Minutes>

ROLL CALL - Members present: Dave George, Kevin Soppe, Kathleen Scherrman, Ron Breitbach, Jerry Sigwarth, and Sam Boyes. Lisa Flanagan was absent. Staff Present: Tammy Henry, Ed Raber, Amy Schmerbach and Lindsey Schreiber.

NEW BUSINESS: ZC#01-01-24 Work Session on Renewable Energy Ordinance Discussion.

Justin Foss, Senior Project Manager with Alliant Energy presented a slide deck called Renewable Energy & Responsible Development. See Attached.

Mr. Breitbach asked if Alliant Energy had to decommission any Solar Projects and he said no.

Tracy Demmer, 28737 Wente Rd, Farley asked how these projects affect property values that surround these projects. Mr. Foss said as a part of the permitting process in Iowa, this is a study conducted by a 3rd party for each project and this is provided to the Iowa Utility Board. He said each study shows no discernable change.

Wayne Demmer, 9797 Lone Pine Rd, Epworth asked if a 22-acre solar farm could produce the same amount of energy as one Wind Turbine and Mr. Foss said yes. He said these projects are created to create diversity between battery, solar and wind. He said the projects complement each other depending on the season.

Mr. Breitbach said the Zoning Office and a couple of board members were able to tour two solar farms earlier in the day and asked Mr. Foss to explain the 3rd party involvement. Justin said Alliant Energy tries to develop their own projects. He said there are also 3rd parties that may come in and develop the project and their hope is to sell the project to a regulated utility in the area. Or they will develop it, own

Zoning Board Meeting Minutes- February 27,2024

it, and manage the project to sell the energy that is produced. He said businesses are looking for renewable energy. This creates claims of sustainability. The need to obtain the paperwork is better known as RECs (Renewable Energy Credits). Businesses will then buy Renewable Energy Credits. They buy RECs to claim sustainability. He said these RECs can be sold either locally or not.

A citizen asked how many projects are funded by Federal or State grants. Mr. Foss said grants are hard to obtain and they are minimal. He said Alliant Energy projects are not currently funded with grants however, they have applied for some grants so the money can lower the cost of the projects which would then benefit Alliant Energy Customers.

Citizens questioned why the Utility Rates are still increasing. Mr. Foss said he was not attending the meeting to discuss utility rates but to explain the importance of Renewable Energy. Mr. Raber said that Alliant Energy has requested a rate making case through the Iowa Utility Board.

Jeff Pape, 31406 Floyd Rd, Dyersville questioned Mr. Foss on the 85% longevity rate on the Solar Panels because it was higher than what he has studied. Mr. Foss said Alliant Energy buys tier 3 panels, which are the best panels currently in production. Mr. Pape commented that the longevity of these projects is purely a guess at this point because they have not retired from a project. Mr. Foss said yes. Mr. Breitbach clarified that once the panels are no longer viable or have reached the 85% longevity for the Solar Project they are not immediately recycled, they are sold to a secondary market for continued use.

A citizen asked why Hydroelectric energy was not utilized since we are located along the Mississippi River. (Definition: Hydroelectric energy is a form of renewable energy that uses the power of moving water to generate electricity.) Mr. Foss said it is not cost effective in the area and it's next to impossible to obtain a permit to get the hydro installed. Mr. Foss said there was more hydro in Iowa, but it was removed because the water levels could not maintain the height. He said in Iowa it is not a viable option however it is viable in Wisconsin. He said there are still Hydroelectric locations in the United States however it is not cost effective.

Mr. Demmer asked how they prevent ground erosion under the Solar panels. Mr. Foss said they place vegetation under the panels and as the panels rotate, they obtain the sunlight to grow which protects the ground from erosion.

Dave Schneider said the primary concern of the attendees is keeping farmland in production for future farm use. He said they worry that these projects will increase costs to area farmers. Mr. Schneider said the solar panels can be placed on homes and not affect farmland. Mr. Foss said it is very expensive to place solar on homes.

Matt Kutsch, 24689 Rolwes Lane, Sherrill said he is concerned that a farmer will lease out all their farm ground to Alliant for a solar project and then rent more farmland using the revenue covered by Alliant. He said this makes it hard for small farmers to compete for agricultural land. Mr. Kutsch said the State of Iowa should have a rule if you develop a solar project on your land, you will then be restricted from renting or purchasing more land. Mr. Sigwarth said these projects could create an artificial rent rate.

Mr. Raber informed the attendees that the county now has a Renewable Energy feedback page on the county website if they would like to submit more comments or questions. He said there will be live feed of this meeting available to view on the county website along with the most recent working draft of the Renewable Energy Ordinance.

Zoning Board Meeting Minutes- February 27,2024

Mr. Breitbach said this is a challenging ordinance and the Zoning Board is trying to determine what recommendation to give the Board of Supervisors whether the county should allow or not allow Renewable Energy projects within Dubuque County. Mr. Breitbach said the county has a solar ordinance now; however, it does not cover these large-scale projects, so the board decided to place a moratorium on these projects until the ordinance is adopted. He said setbacks and decommissioning are going to be a large part of the decision-making process.

Lisa Willenbring, 27147 New Vienna Rd, Farley, asked where the produced electricity is sent. Mr. George said the excess power that is unused gets sent to the grid which is a transmission network that sends electricity across great distances. Ms. Willenbring commented Dubuque County land would be destroyed and the power is sent elsewhere.

Rocky Giannakouros, 14419 North Cascade Rd, Dubuque said he is part owner of a development company that works out of Nebraska. He said he is in-favor to the ordinance because it can help small communities and solar and wind energy would create value. Mr. Giannakouros said he believes a 5 mega watt solar project is a reasonable scale for Dubuque County. He said going to a 300 mega watt project has large impacts such as roads and the aesthetics of the land. He suggested two separate solar ordinances for the smaller and larger projects because of the different impacts they have. He believes multiple smaller projects would be better for the county instead of the large projects and in Nebraska his company chooses to develop projects on non-reproducible land because the land is cheaper. Mr. Breitbach asked if he had any opinion or recommendation on utility project setbacks for a residence. Mr. Giannakouros said he would email information regarding the setback information for large-scale projects.

Austin Brown 502 3rd St West Court, Worthington said he is a volunteer firefighter and fire departments don't have the proper training for these projects. He is concerned about the vegetation growing around these projects that could potentially start on fire and water can't be used to extinguish the fire because of the electricity.

Jeff Pape, 31406 Floyd Rd., Dyersville submitted some photos and a power point to the zoning office which was then forwarded to the Zoning Board members. Ms. Boyes said she was able to review the information he provided and wants to review the information as a zoning board group. Mr. Pape asked why the flood plain was removed out of the working draft of the ordinance and Mr. Raber said the Water Shed Department has an ordinance to cover that information so that was why it was removed from the ordinance however it does reference the Water Sheds ordinance.

Wayne Kramer, 12747 Kramer Rd. said Dubuque is ranked #1 in every aspect of Agricultural perspectives and he is against having these projects disrupting agricultural land.

Wayne Demmer, 9018 Long Pine Rd, Epworth said these projects would take agricultural ground out of production. Mr. Demmer said as a county supervisor they adopted an ordinance that created A-2, Agricultural Residential in hopes to preserve agricultural land and take less land out of production but now this ordinance is doing the opposite by taking more land out of production for these potential projects. He said Dubuque County told people they could not

build houses to preserve the farmland but now were looking at an ordinance that may take more land out of production for these large-scale projects.

Mr. Sigwarth said zoning ordinances can be a difficult process because of the rules that the Zoning Board has to follow. He said it's a process to build a farm home on agricultural land and if a farmer wants to run a business on their farm, then they run into a rezoning process. He said he feels this renewable energy ordinance is handing over agricultural land for industrial purposes and he feels this goes against everything they have been trying to protect. He thinks this could turn into a litigation issue if the zoning board denies farmers the chance to run a business on their land but approves a company take hundreds of acres out of production for a renewable energy project. Mr. Sigwarth said it makes no sense to him. Mr. Sigwarth said this will affect tourism because people come to see the sites, not black panels. He said these projects are not meant to be in Dubuque County.

Dave Schneider, Schneider Land Surveying, 906 1st St., Farley, and his personal family farm at 26462 Schneider Rd., Holy Cross. He has been going against the Board of Adjustment, Zoning Board and the Board of Supervisors for 25 years trying to convince them that family farms should allow a child to build a home on the family farm. He said it's a battle unless they are Ag exempt. He said the Agricultural land should be rezoned to Industrial because the damage these projects will do to the land it will never be able to return to the original agricultural use. Mr. Schneider said he is concerned with the decommissioning process and the ordinance must be very clear regarding the process. He said the projects should be the responsibility of the landowner as well as the company with the protection of a surety bond. He wants to see in the ordinance that owners will be held liable if the company backs out on the decommissioning. Mr. Sigwarth commented decommissioning has never been done. Mr. Schneider said if the utility company along with the insurance company holding the surety bond goes bankrupt it should fall back on the property owner leasing the land to decommission the project. He said it should fall under a county nuisance ordinance and the property should be assessed and if the county ends up having to decommission the project, Dubuque County should gain possession of the land.

Craig Recker, 14106 Rt 52, Dyersville said these projects will not help small towns because the farmers will discontinue purchasing equipment and farm material. He said revenue will be lost for small town businesses. He said the solar revenue will not be greater than what the farmers spend.

Greg Hammons, 1669 Harbord Rd, Lansing said he is in favor of these projects and believes a farmer should have the right to do what they wish with their land.

Matt Kutsch, 2486 Rolwes Lane, Sherrill said these projects will hurt small farmers and he is against allowing these projects in Dubuque County. He said this will ruin family farms because they can't compete against multi-million-dollar companies.

Kyle Kelchen, 13064 Gun Club Rd., Epworth said the current zoning ordinance will not allow him to sell some land to his son to build a home and now the county is considering allowing large renewable energy projects that will take up hundreds of acres of agricultural land and destroy it. He said companies claim they will remove material up to 4 feet below ground, so they end up placing material 6 feet deep, so they don't have to remove it and just walk away.

Nicole Draus, 204 1st Ave, Farley said she is not in favor of the Renewable Projects. She said it will ruin the land and the companies will just abandon the material underground and down the

Zoning Board Meeting Minutes- February 27,2024

road someone who wants to build a home will have to remove all the abandoned material to place footings. Ms. Draus said she is also concerned how this will affect the natural habitat for animals.

John Sewell, Dubuque County Water and Soil Department hopes there is a way forward to preserve the agricultural land and still produce renewable energy.

Jared Demmer, 15043 Hickory Valley Rd, Farley studies soil health in Dubuque County. Mr. Demmer said to control the vegetation under the solar panels more chemicals will be used which will run into waterways.

Marvin Freiburger, 13295 Sherrill Rd., said he is not against solar panels but there are better alternatives than tillable ground. He said water turbines should be used and he is not in favor of using ag land for renewable energy. Mr. Freiburger said Dubuque County is not the location for these projects.

Stan Reiter, 23347 Bonesbury Rd, Monticello said he owns property and believes if these projects are allowed in Dubuque County, they should be placed only on property that Dubuque County owns.

ADJOURNMENT: A motion was made by Mr. Breitbach, **seconded by Ms. Boyes, to adjourn the meeting. The motion passed unanimously. Vote: 6-0. The meeting ended at 8:36 p.m.**

Renewable Energy & Responsible Development

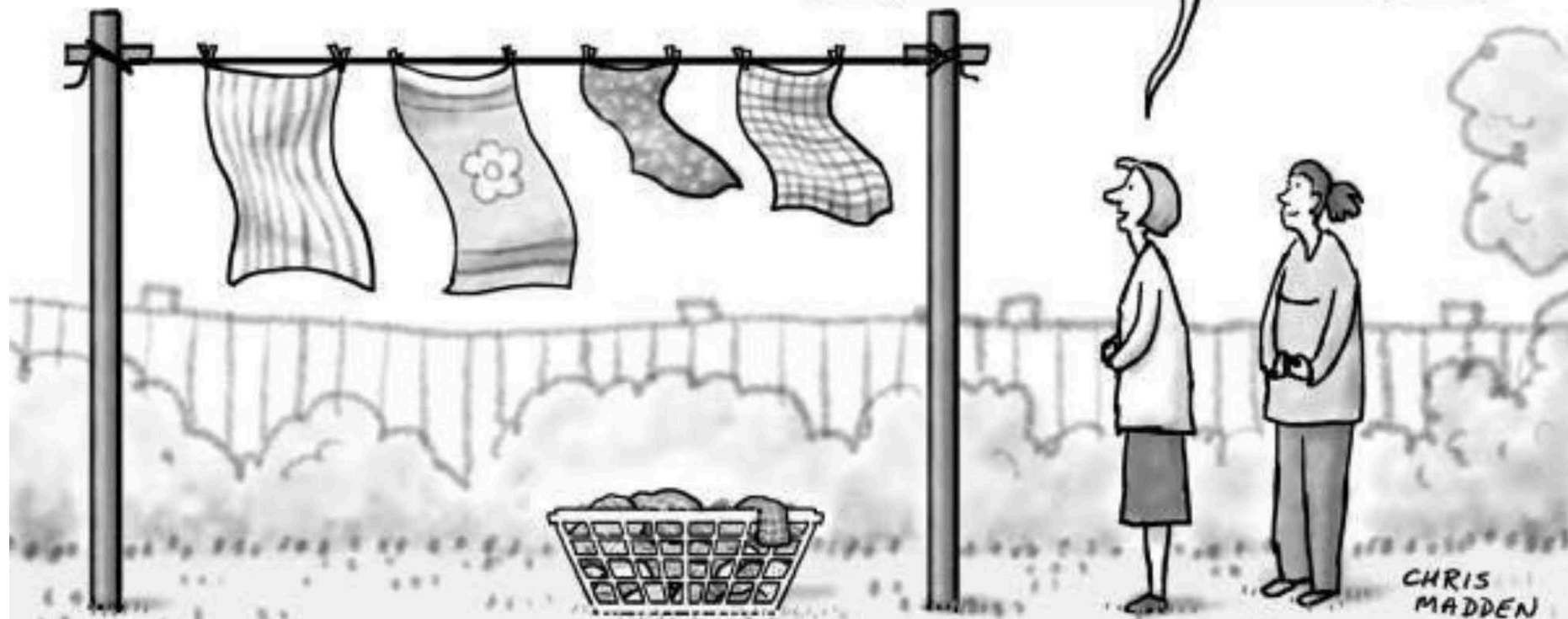
Justin Foss – Senior Project Manager

Dubuque County Zoning Board Worksession
Dubuque, Iowa
February 27, 2024



Classification: CONFIDENTIAL

IT DRIES THE WASHING USING THE VERY
LATEST TECHNOLOGY - A COMBINATION
OF SOLAR AND WIND POWER



Our Clean Energy Vision

By 2030: achieving a **50%** reduction in CO₂ emissions from 2005 levels.

By 2040: eliminating all coal from our generation fleet – **10** years faster than our previous target.

By 2050: meeting an aspirational goal of **net-zero** CO₂ emissions from the electricity we generate.

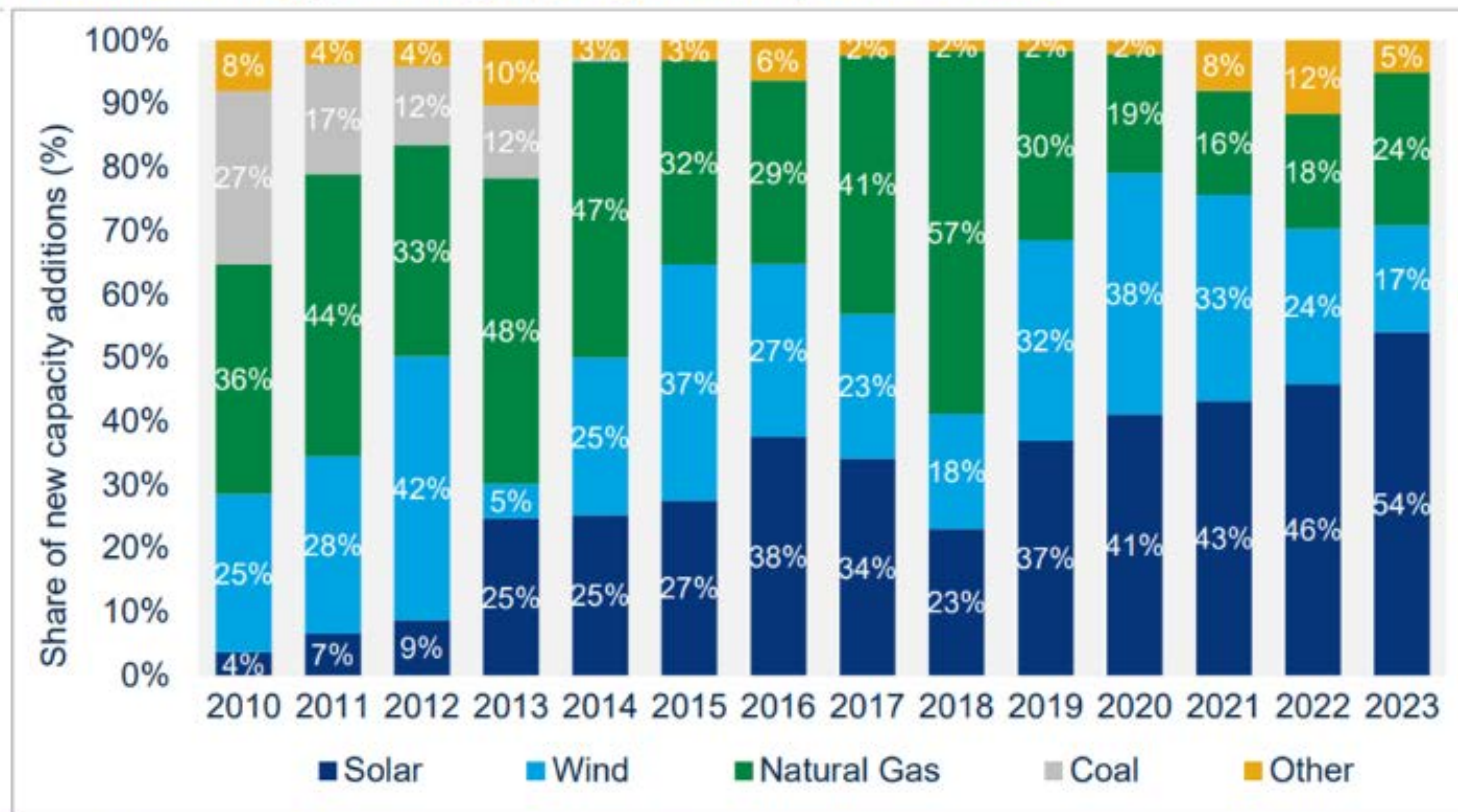


Additional information can be found in our
Corporate Responsibility Report:
alliantenergy.com/responsibility



Reliability is job #1

New US electricity-generating capacity additions, 2010 – Q1 2023



Source: Wood Mackenzie, US Energy Information Administration (for all other technologies)

Responsible Development

- 3rd largest owner/operator of wind energy by a regulated utility across the country.
- Largest owner/operator of solar energy in Iowa and Wisconsin
- 11 wind farms (more in development)
- 40+ solar farms (more in development)
- 7 BESS projects (more in development)



Types of Solar Energy Generation

Residential & Commercial Distributed Generation

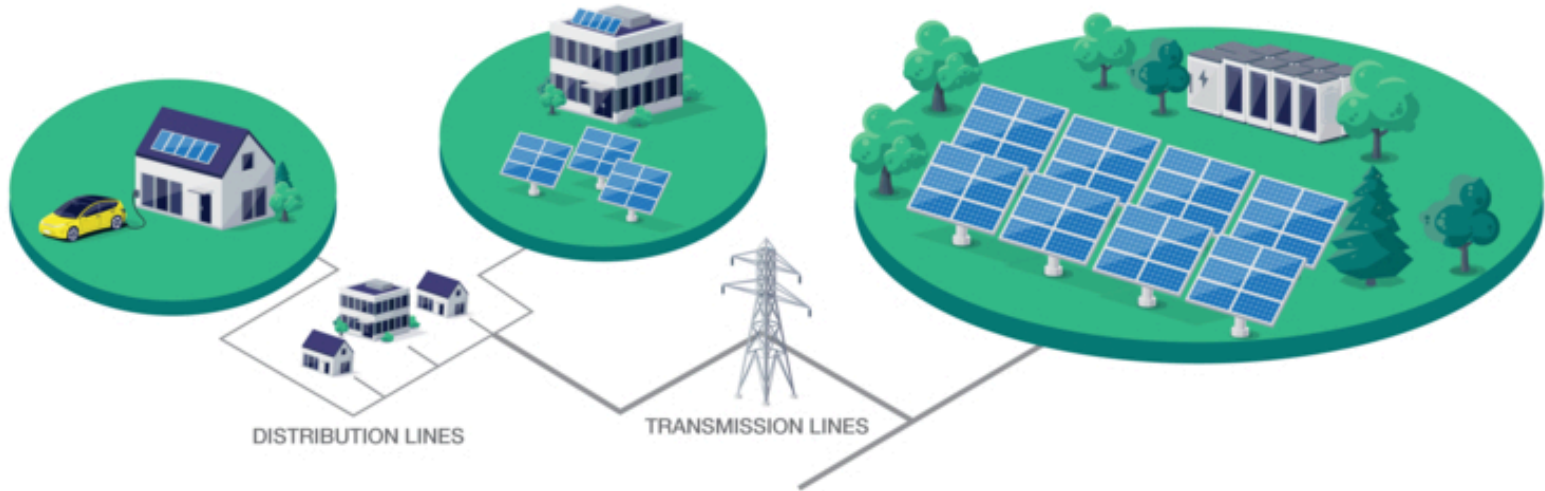
- 5-500 kilowatts
- Customer-owned systems

Community, Customer-Hosted & Renewable Energy Partner Programs

- 500 kilowatts to 5 megawatts
- Rooftop or ground-based systems

Utility-Scale Generation

- 50-200+ megawatts
- Large systems designed to power thousands of homes and businesses



Typical panels

- Dimensions: approx. 4' x 8'
- Material: Mostly silicon with aluminum metal framing and copper wiring
 - If panels are damaged, no threat of hazardous contamination
- Efficiency: Panels expected to retain approximately 85% efficiency after 30 years



Typical single axis tracker installation



Inspecting pile placement



Gear and rack installation

Typical panel setup on racks



Solar project development



Low-growth gras mix (June 2022)



4,010 KVA inverter (July 2022)

Pollinator and grass examples



Beneficial land use



- Allows landowners / farmers to diversify land use and income streams.
- Eliminates carbon emissions and water used in traditional energy generation.
- Promotes soil regeneration, water quality improvement and wildlife habitat restoration.

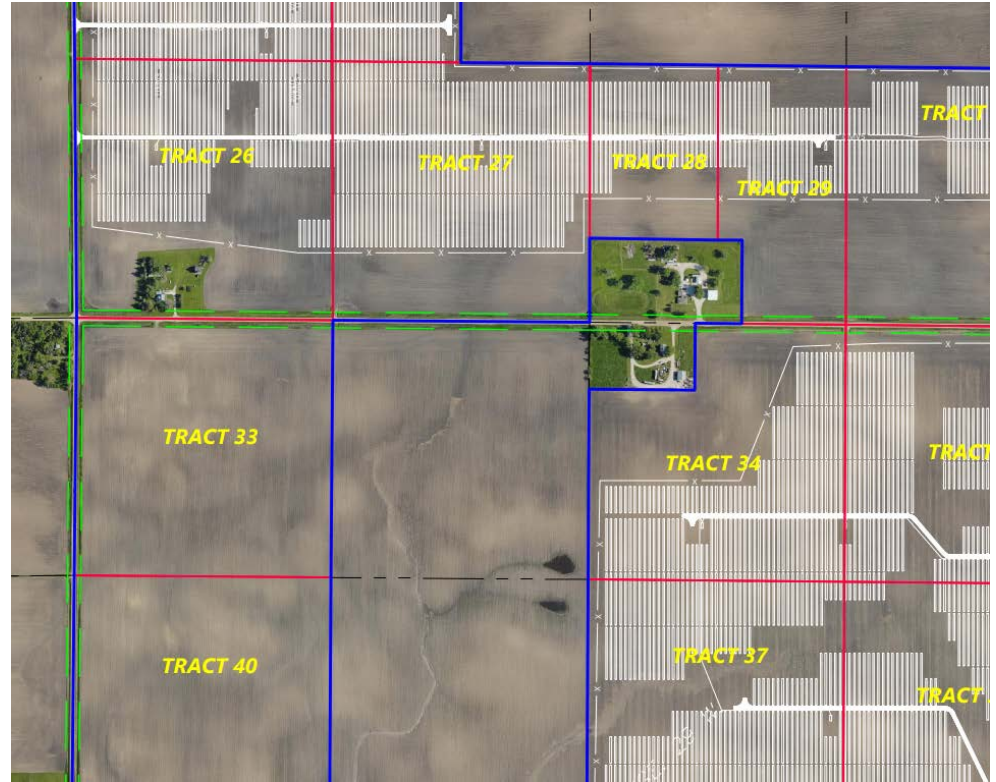
Economic benefit

- Between 100-250 workers employed on-site per project during the construction phase.
- Providing more clean energy to communities attracts new businesses.
- Tax benefit from projects is higher than typical tax payments.



Solar setbacks

- 300' from home
- 50' from non-participating property lines
- 0' from participating property lines
- All other rules follow regular zoning



Battery development



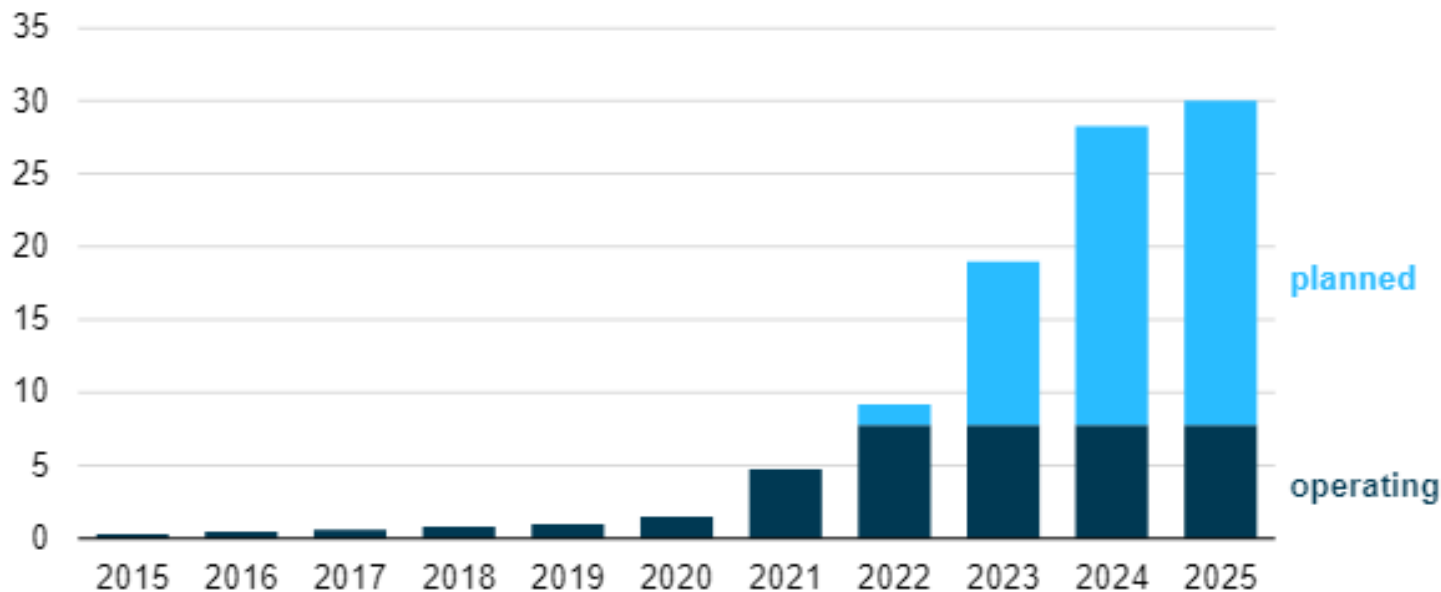
What is battery storage?



Graphics credit: NY Times

Battery storage growth in the U.S.

U.S. battery storage capacity (2015–2025)
gigawatts



Battery Energy Storage Systems



- Lithium Iron Phosphate (LFP)
 - Not using Lithium Nickel Manganese Cobalt Oxide (NMC) or Lithium Cobalt Oxide (LCO)
- LFP batteries have higher life cycle rating than traditional lithium-ion batteries
- Operate $-22^{\circ}\text{F} \sim 113^{\circ}\text{F}$

Battery storage components – Container

- Redundant HVAC systems
- Fire suppression equipment
- Smoke + temperature detection
- Insulation with 1-hour fire barrier



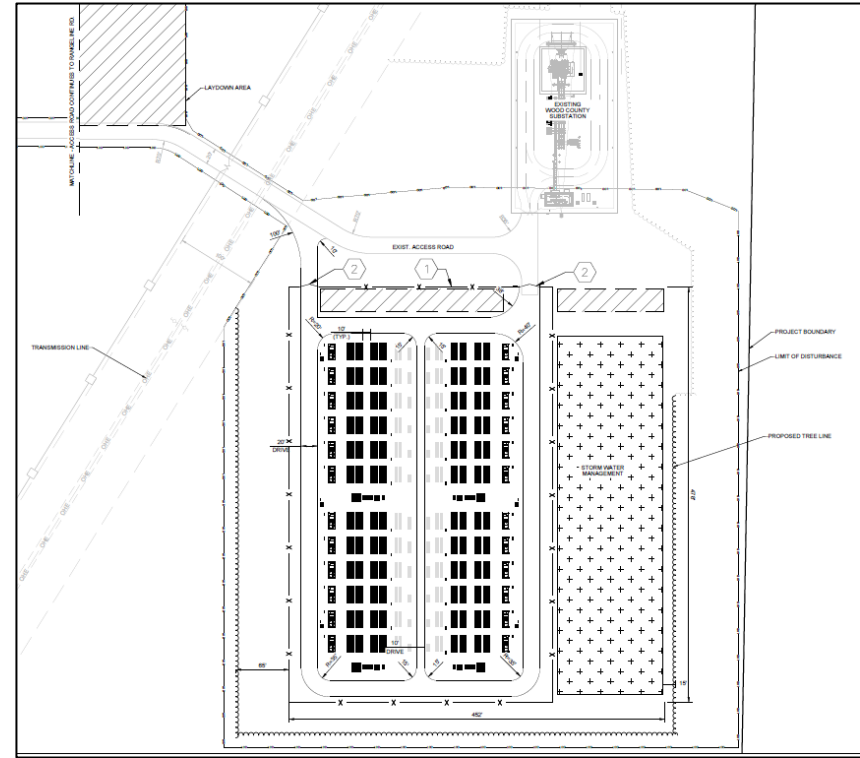
Battery storage components – Rack

- Houses fuses
- Disconnect technology
- Voltage current + temperature monitoring system



Battery considerations

- Batteries should follow the same zoning / restrictions as substations
- Water is not needed on site since it is not used
- Very dense energy source, taking up less than 10 acres for 100 MW

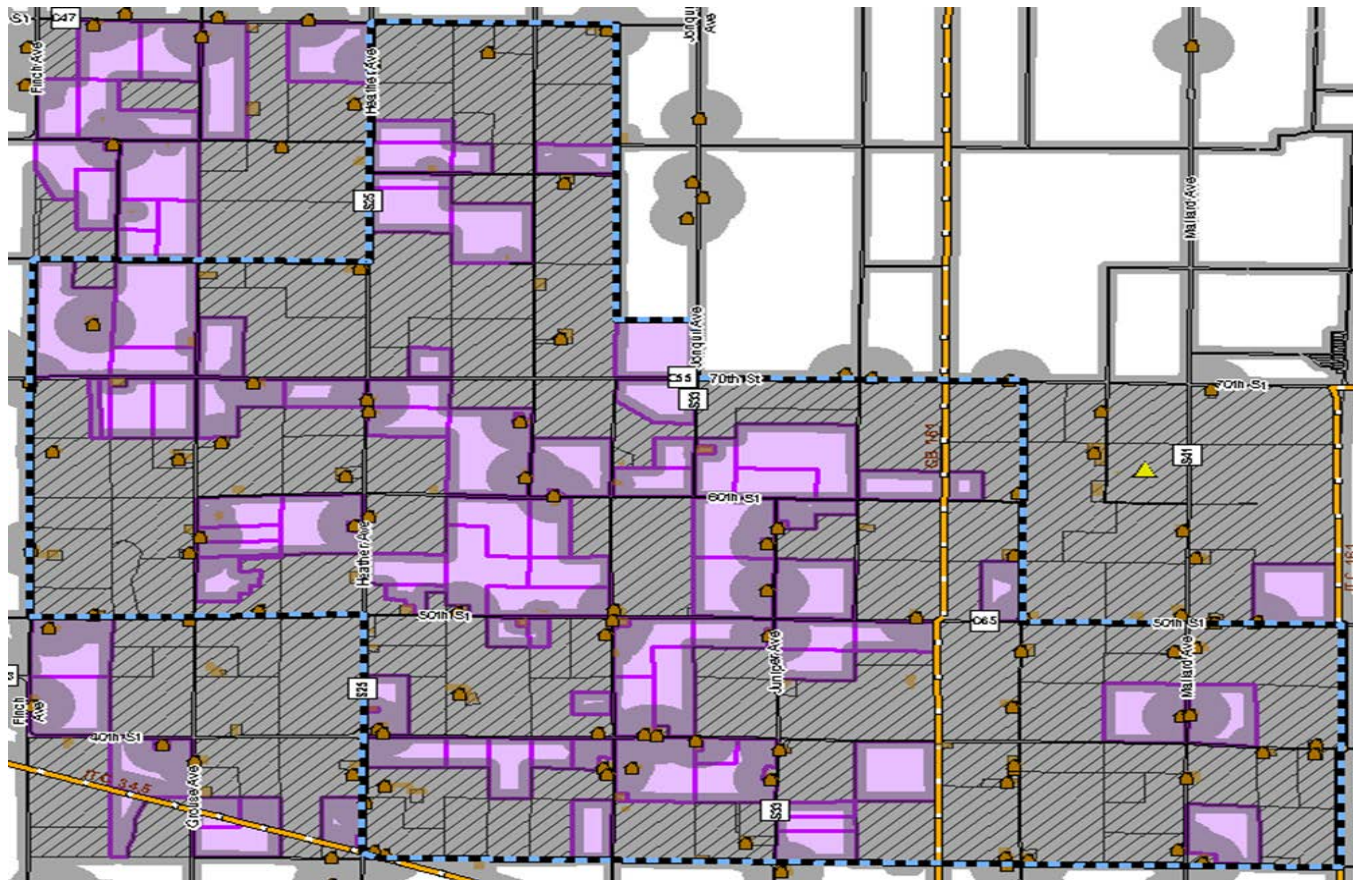


Wind development

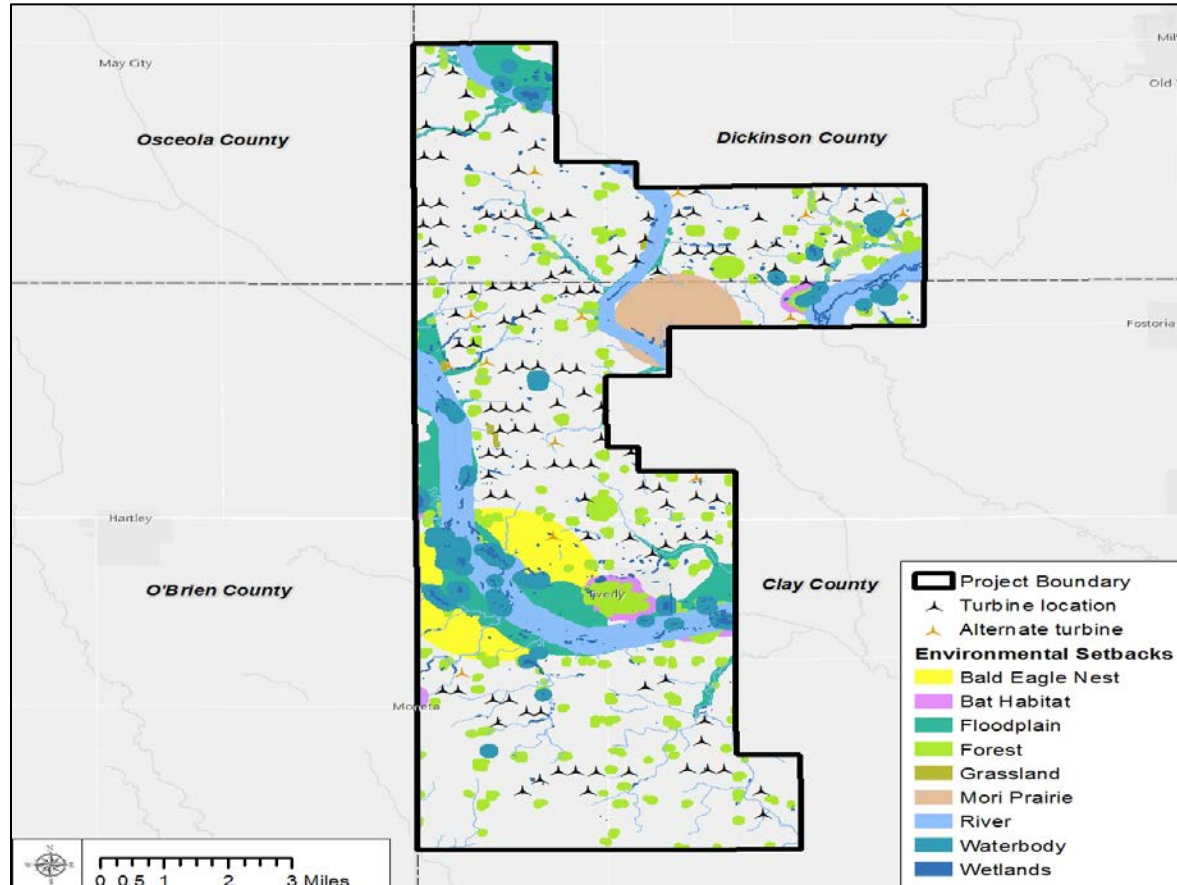


Wind Energy Siting Considerations

- Environmental
 - Wildlife
 - Wetlands
- Sound
- Shadow Flicker
- Cultural Resources
- Roads
- Houses
- Non-Participants
- Towers
- Airspace
- Pipelines
- Wind Production
- Zoning



Environmental Setbacks and Exclusions



Midwest Wildlife Considerations

Large Expanses of Ag Land

- 95%+ land disturbance in Iowa
- Avoidance of river basins, ecologically diverse areas

Bald Eagles

- Strong population
- Expanding their range



Bats

- Numbers dwindling for some species
- White-Nose Fungus (WNF) impacts

Growing Endangered Species List

Co-Existing with Wildlife



Investigating a prairie pothole
found during early development
(micro-siting)



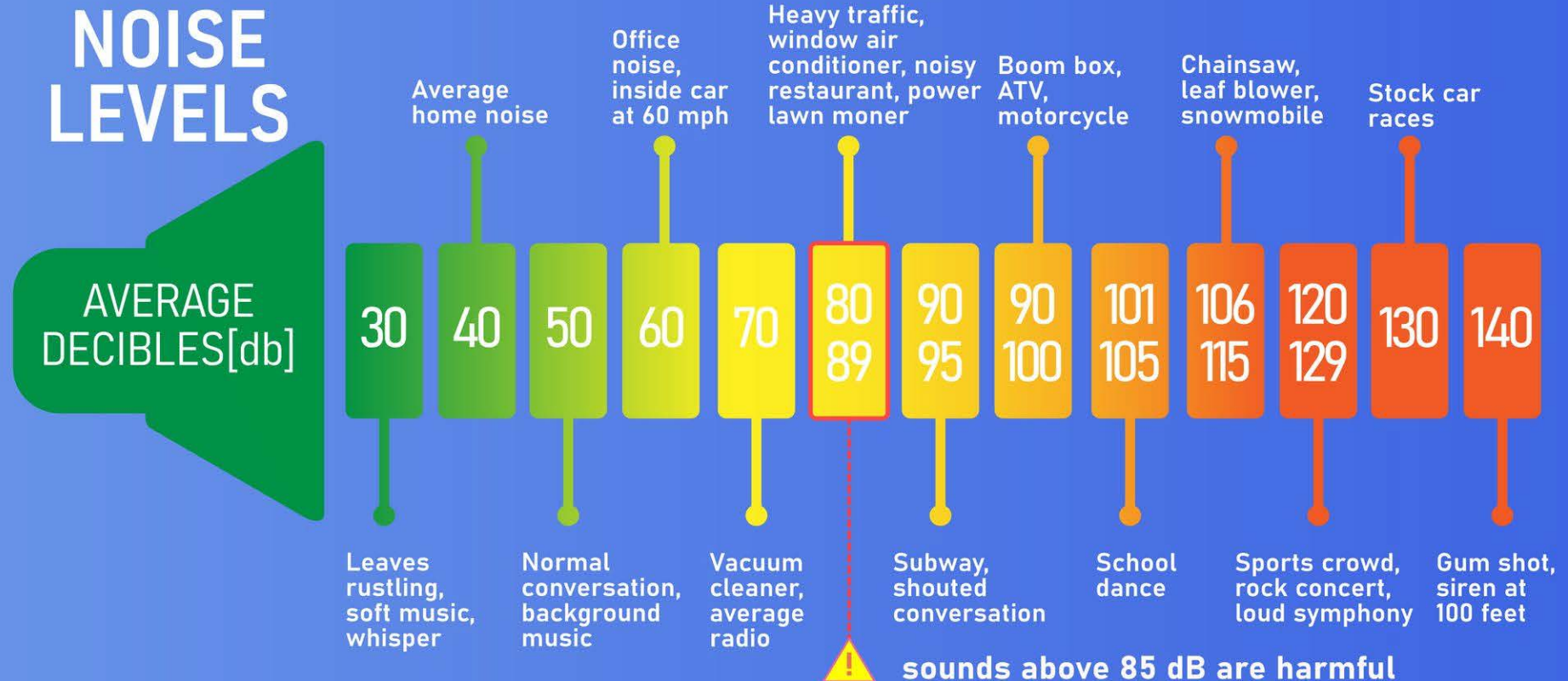
Using microphones to
determine if bats are
present in the habitat



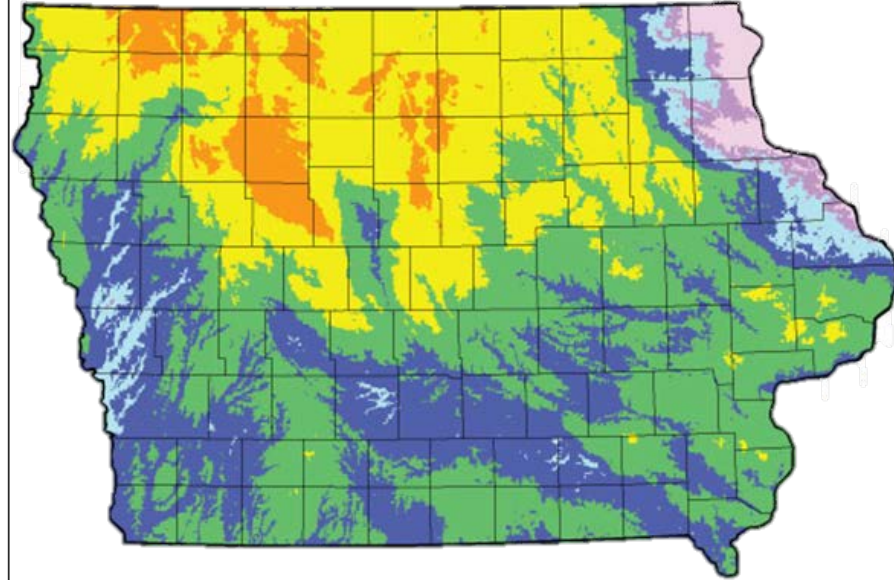
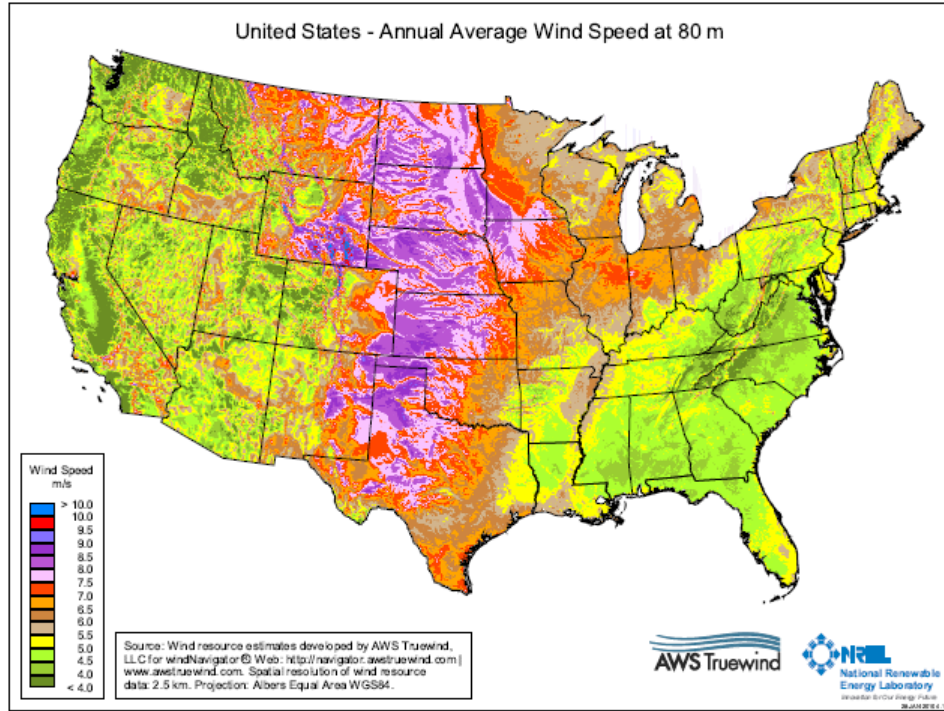
Drainage, Tile and Collection

- Lines are buried at least 4 feet deep
- Routes for crews are GPS marked to show potential issues

Common sound restriction is 50 decibels



Iowa is windy.







Ready, Set, Lift!



Wind turbine considerations



- 1.1x tip height for roads and structures
- 2.5x – 3x tip height for dwellings
- 50 decibel sound limit

Decommissioning plans

- 9-12 months to decommission
- Panels, piles and most cabling is fully removed
- Plans consider cost to remove and value of assets (financial guaranty can be set by this plan)



Road Use Agreements

- Allow for inspection before and after project to determine impact.
- Set haul routes and communicate limits on travel (bridges, roads through town)
- Set fee for county engineer and staff to inspect
- Communication is key!

