

# Nebraska Wind and Solar Conference

---

Tom Swierczewski, AICP  
Bluestem Energy Solutions  
Director of Development Services  
847.909.8579  
tom@bstem.biz

# Wind Zoning Regulations

How was Lunch?



Glasgow 2009 Sameh Shehata

# Wind Zoning Regulations

Tom Swierczewski, AICP

---

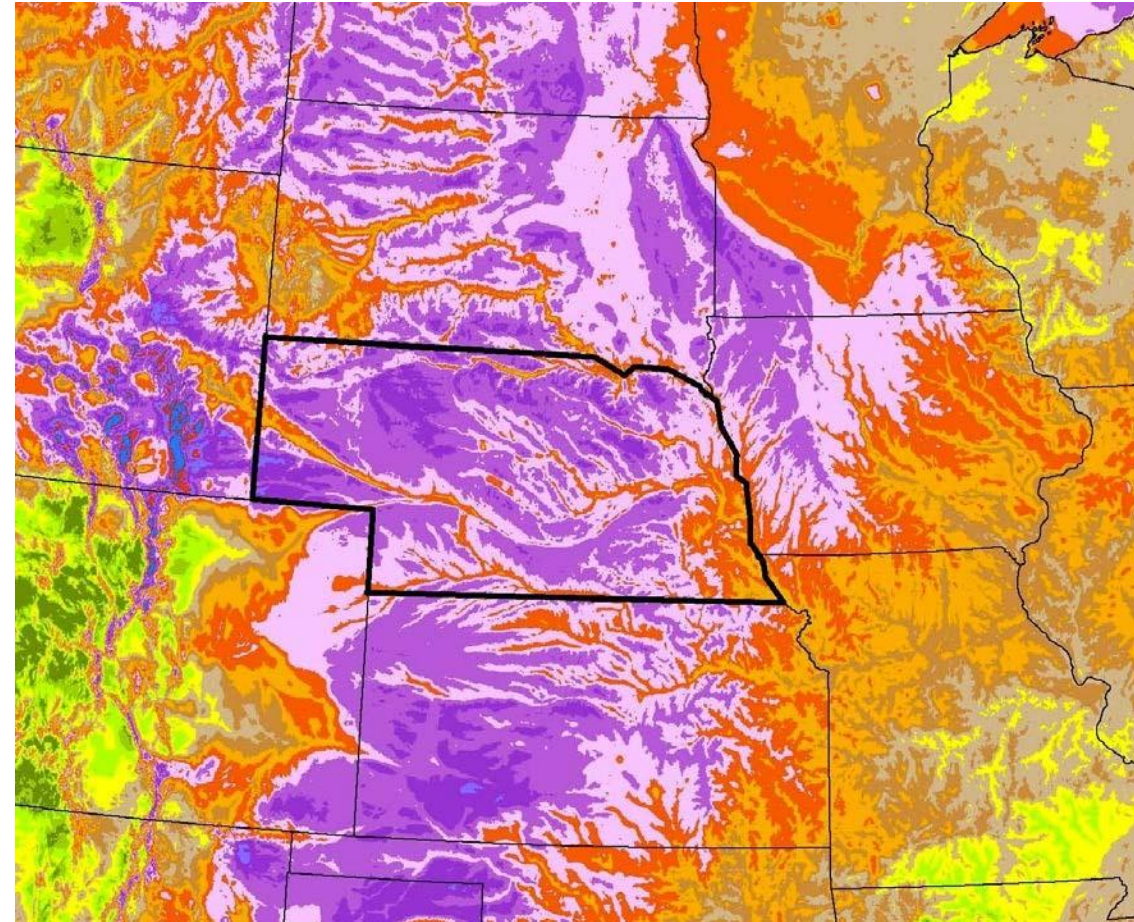
- B.S. Degree in Community and Regional Planning from Iowa State University
  - Zoning Administrator/City Planner for 9 years
  - Member American Institute of Certified Planners since 2003
  - Renewable energy developer since 2006 – 10 years!
- Not a lawyer but happily give free legal advice



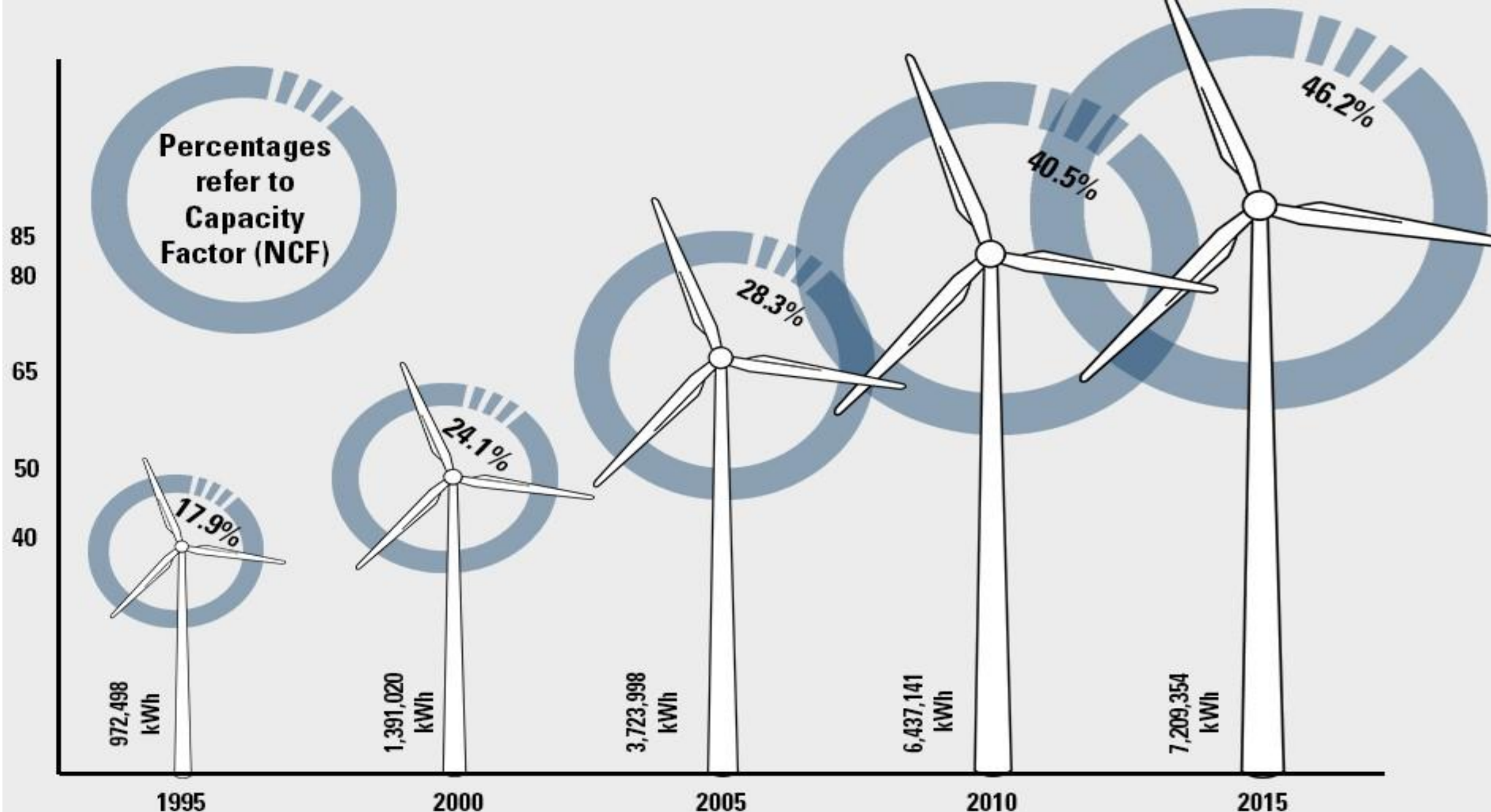
# Wind Zoning Regulations

## Why Wind?

- Nebraska ranks 20<sup>th</sup> in installed capacity and 6<sup>th</sup> in wind resource
- Cost of installed wind has decreased nearly 50% in the last 6 years
- NCF of turbines has increased from ~25% in 1990 to nearly 50% today
- Federal Production Tax Credit of \$.023/kWh in place since 1992
- Cost competitive vs traditional power sources



~\$20 billion/year business nationally



# Wind Zoning Regulations

## Zoning's Role in the Development Process - Timing

---

1. Projects Origination (6-12 months, \$250k)
  - Wind, land, interconnection (and early read on permits, PPA, construction...)
2. Early Stage Development (1-2 years, \$500k or more)
  - Public outreach, Land control, met towers, fatal flaw analysis
3. Mid Stage Development (1-2 years, \$1 mil or more)
  - Wind analysis, field surveys, prelim layout, prelim engineering, State and National
4. permits, ZONING
  - Late Stage Development (6-12 months, \$1 mil or more)
5. PPA, final layout, complete permitting, final engineering, turbine contract, financing  
Construction (typically one year)

# Wind Zoning Regulations

## Zoning's Role in the Development Process – Impacts/Needs

---

- Main process for public interaction through public hearing process
  - Not much public discussion prior to hearings
- Set rules in advance and follow them – get help if needed
- Fair and Predictable process
- Communication and expectation setting is key!
- Wording of permits/conditions is important – equity counsel is finicky



# Wind Zoning Regulations

## Choosing Turbine Locations

---

- Project footprint
  - Target area chosen based on wind and transmission availability – Lease sets footprint
- Buildable area
  - The area available for turbine placement once setbacks are accounted for
- Major factors
  - Leased land and landowner wishes, elevation, zoning requirements (shadow and noise), turbine to turbine setbacks, environmental, constructability
- Preliminary turbine layout - shifting turbines is challenging past this point
  - Most permits have little flexibility
  - Soil borings, survey work, FAA, engineering design all site specific



# Wind Zoning Regulations

## One Size Doesn't Fit All

- Most ordinances have two sizes but they may need three – S/M/L
- Small projects are typically funded by a private family and don't need noe can they afford complex regulation
- Mid-sized projects have less impact than large wind farms but still need some regulation
- Large projects take substantial review as their potential impacts are far- ranging



# Wind Zoning Regulations

Mid-Sized Project - ~500 kW– 1 MW

---

- Permitted use for a single turbine
- Public notice requirement (but no hearing)
- Height limit of ~200 ft.
- Setbacks to houses at least ~2x height
- Setback to property lines 1.1x height
- Setback to roads 1.1x height
- FAA approval
- Basic shadow flicker and noise standards, construction plan, LOC and basic decomm
- Special use for more than one turbine



# Wind Zoning Regulations

## Words of Advice to Zoning Admin and BOS - General

---

- Wind is here and viable
  - Unfair/illegal treatment won't work forever
  - Good wind sites will get developed eventually
  - Zoning isn't the best tool to stop development
- Host landowners are neighbors and constituents in your community
- Actual **RURAL** economic development
- Application fees
  - Staff will spend significant time on application
  - 3<sup>rd</sup> party experts
- Communication is key



# Wind Zoning Regulations

## Words of Advice – Regulation and Process

---

- The entire Zoning Ordinance applies
  - Definitions, CUP standards, findings of fact
  - “Waivers” are better than “variations”
    - Reduced setbacks are just part of the project not something unique
- Proof of land control
  - Recorder of Deeds document numbers, redacted leases, etc.
- Keep regulations flexible
  - “other standards as deemed necessary...”
- Future tech - bigger, co-generation



# Wind Zoning Regulations

## Words of Advice – NIMBY's

- “Not in my backyard” is easy to say
- Harder to change your mind once made up
- NIMBY's are usually the vocal minority
- Usually emotion based
- “I don't like the way they look” isn't a good argument
  - They are inefficient
  - Build them in the middle of nowhere
  - They don't pay the taxes they promise
  - They dry out the crops
- “Kill them with kindness”



# Wind Zoning Regulations

Come On, Be Reasonable

- Less than open and truthful interaction
  - Developers are people too!
- ½ mile house setbacks
  - ~1500' is more typical and ample
- 30 decibel noise standard
  - 45-50 decibels is fair and protects the public
- Zero hours of shadow flicker
  - 30 hours/year - .3% of the time
- Property value protection plan
- No waiver ability



# Wind Zoning Regulations

## Nothing in Life is Free

---

- You take the good
  - Economic development through taxes, rent and construction
  - Good paying local and regional jobs
  - Helps with energy independence
  - Carbon free fuel source – CPP hedge
- You take the “bad”
  - 500’ tall towers
  - Blinking red lights
- Shadow flicker and noise if sited improperly
- You take ‘em both and there you have...



# Nebraska Wind and Solar Conference

---

Tom Swierczewski, AICP  
Bluestem Energy Solutions  
Director of Development Services  
847.909.8579  
tom@bstem.biz