

INDIANA RENEWABLE ENERGY

Siting through Technical Engagement and Planning (R-STEP™)

Local Planning and Permitting

March 4, 2025

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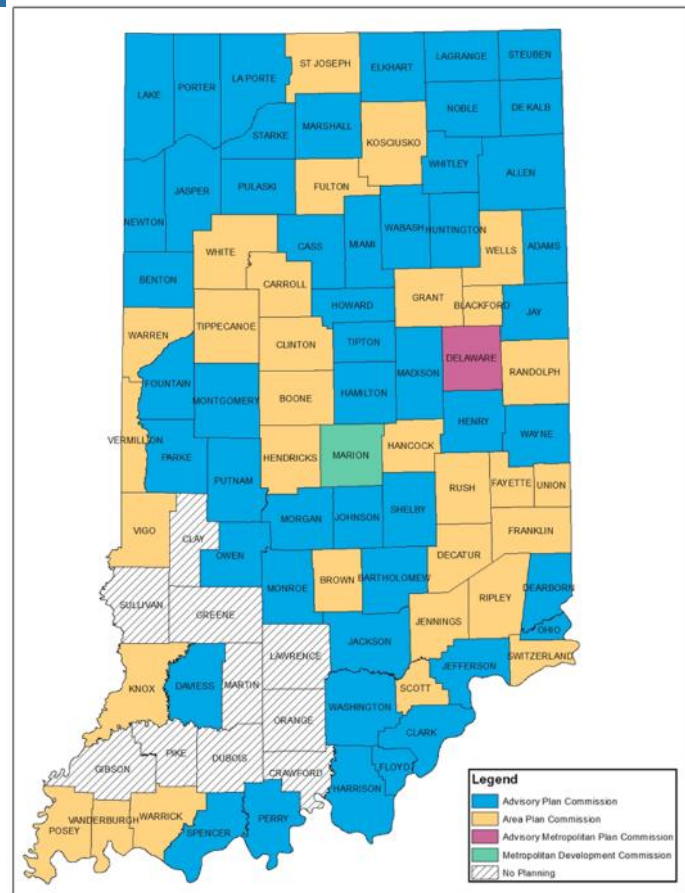


Extension - Community
Development



The Role of Planning in Communities

In community planning we are always balancing private property rights with regulated uses for the health, safety and general welfare of the community.



Plan Commission

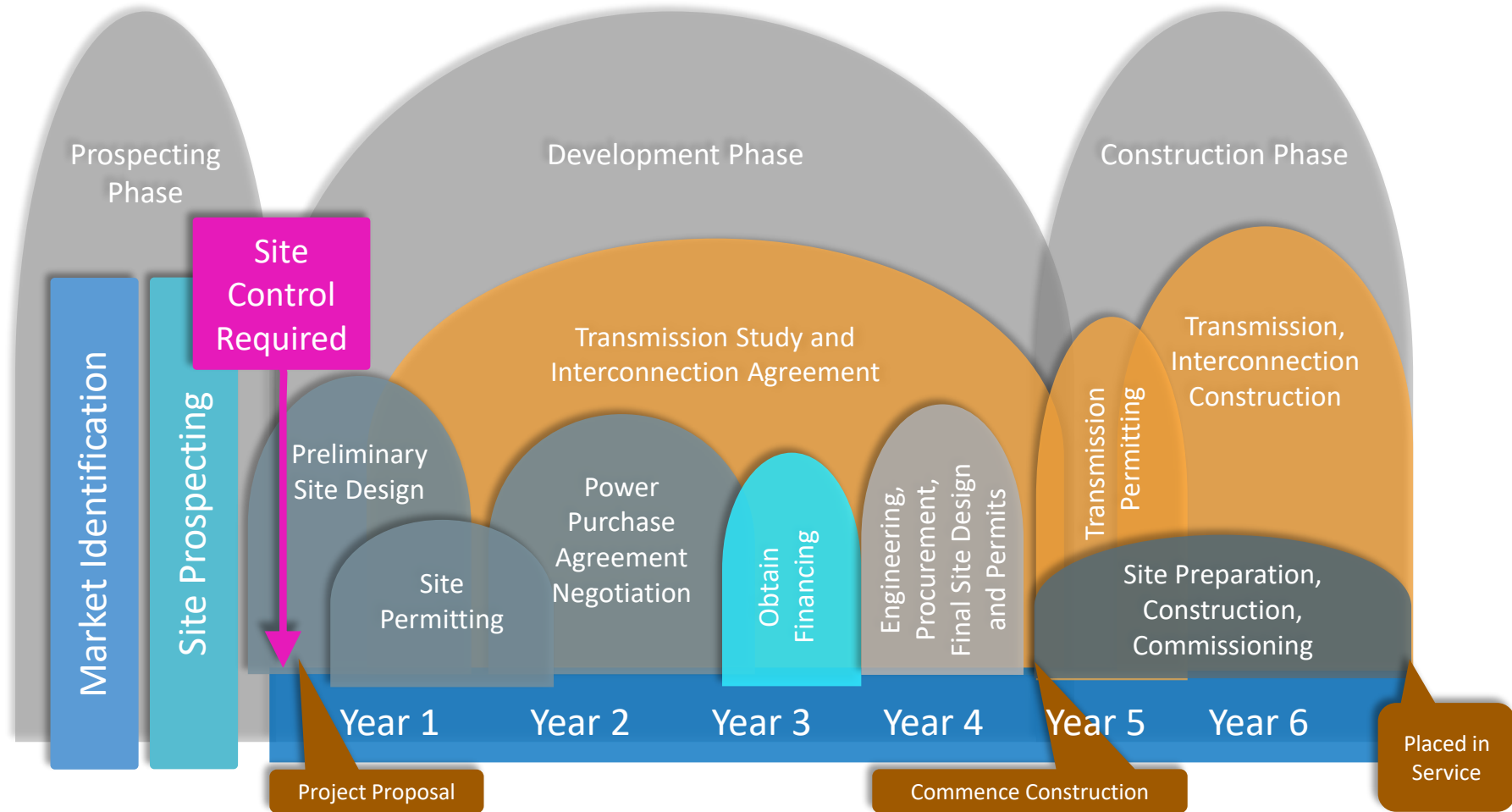
- Prepare comprehensive plan
- Make recommendations on zoning and subdivision control ordinances
- Approve development plans and subdivisions of land
- Manage enforcement

Board of Zoning Appeals (BZA)

- Quasi-judicial board
- Rule on variance from development standards
- Rule on special exceptions
- Hear appeals of staff administrative positions

The **legislative bodies** adopt the comprehensive plans, ordinances and any amendments.

Renewable Energy Planning



Hypothetical Utility-Scale PV Development Timeline (250 MW)

Source: NREL, modified from SEIA <https://ei-spark.lbl.gov/generation/utility-scale-pv/project/>

- 51 had commercial wind land use regulations*
- 46 had with commercial solar land use regulations

*8 counties did not permit wind in any district



A Snapshot of Renewable Energy Land Use Regulations in

Benton County



Farmland Coverage
96.50% land in farms

Population Density
21.5 per sq. mi.

Housing Unit Density
9.3 per sq. mi.

Population (2020)
8,719 **

County Type
Rural

PGPI (2019)
\$42,135

COMMERCIAL SOLAR ENERGY SYSTEM STANDARDS

Use standards for CWECS beyond zoning district's standards unless otherwise specified.

ZONING DISTRICT	PERMITTED USE / SPECIAL EXCEPTION
All districts except residential	Special Exception
REZONE REQ: NO ADDITIONAL PROCESSES: NONE	

DEFINITION

Convert and deliver electricity to a utilities transmission lines

SETBACKS & BUFFERS

Setback	75' from ROW
Municipal Buffer	None
Use Buffer	200' from primary dwelling
Reciprocal Buffer (CM)	None

OTHER DEVELOPMENTAL STANDARDS

Minimum Lot Size	5 acres
Maximum Height	35'
Noise Limit	41-75 dB depending on hertz
Ground Cover Standards	None
Color Standards	None
Signage/Warnings Standards	Yes
Fencing Standards	Yes
Landscaping/Screening Standards	Yes
Glare Standards	Yes
Other Standards	None

PLANS & STUDIES REQUIRED

* Upon request

- ☒ Decommission Plan
- ☒ Economic Development Agreement
- ☒ Maintenance Plan
- ☒ Transportation/Road Use Plan
- ☐ Vegetation/Landscape Plan
- ☐ Environmental Assessment
- ☐ Emergency/Fire Safety Plan
- ☒ Drainage/Erosion Control Plan
- ☐ Liability Insurance
- ☐ Property Value Guarantee
- ☐ Certificate of Design Compliance
- ☒ Other plans or studies
- Sound study

COMMERCIAL WIND ENERGY CONVERSION SYSTEM STANDARDS

Use standards for CWECS beyond zoning district's standards unless otherwise specified.

ZONING DISTRICT	PERMITTED USE / SPECIAL EXCEPTION
All districts, except residential	Special Exception
REZONE REQ: NO ADDITIONAL PROCESSES: NONE	

DEFINITION

Wind energy conversion system that delivers electricity to a utility's transmission lines.

SETBACKS & BUFFERS

Setback	350' or 2.2 times the tower height
Municipal Buffer	1500'
Use Buffer	1,000' from existing residence, occupied structure, place of public gathering and platted subdivisions
Reciprocal Buffer	None

OTHER DEVELOPMENTAL STANDARDS

Maximum Height	None
Minimum Blade Clearance	15'
Maximum Noise Level	41-75 dB depending on hertz
Shadow Flicker	None
Braking System Standards	Yes
Color Standards	Yes
Warnings/Hazard Protection Standards	None
Fence/Climb Prevention Standards	Yes
Lighting Standards	None
Interference	Yes
Other Standards	None

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COUNTY CONTACT INFORMATION

Name: Matt Hull
 Role: Building Commissioner
 Phone: (765) 884-1728
 Email: mhull@bentoncounty.in.gov
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Land Uses can be permitted in a zoning district

- By right
 - By right with additional use standards
 - By special exception
 - Not permitted
-
- If a use is not permitted in a particular district, it might require an amendment to the zoning map or (rezoning to be allowed.)

- A property that may be allowed under specified conditions.
- Intended for site-specific review
- Board of Zoning Appeals rules
 - Still needs to meet all district and use standards unless asking for variance
 - BZA may impose reasonable conditions
 - BZA may also require written commitments

- Indiana Code does not specify any set criteria
- Sometimes special criteria is confused with the variance criteria set by the state
- Communities often set general criteria for considering special exceptions
- Can also set use specific criteria
- Criteria should be used to create findings of fact for decision

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Color Standards	None
Signage/Warnings Standards	Yes
Fencing Standards	Yes
Landscaping/Screening Standards	Yes
Glare Standards	Yes
Other Standards	None

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Description	Number of Ordinances	Range (ft)	Median (ft)	Mean (ft)
Residences	20	100-660	200	255.5
<i>*Other common use buffers include churches, schools (n=6)</i>				
Setback (Property Line)	21	25-330	50	93.5
Setback (ROW)	9	30-150	100	93.3

Description	Number of Ordinances	Range (ft)*	Median (ft)*	Mean (ft)*
Residences	25	640-3,960	1,000	1,384
Municipality	20	1,500-10,560	2,070	3,390
Public Conservation Land	11	600-5,280	750	1,397
Schools	11	660-10,560	1,500	3,096

**Many wind ordinance use a factor multiplied by total tower height for buffers and setbacks. This table reflects buffers for a total tower height of 600'. The tallest towers in Indiana currently operation are 591' according to USGS.*

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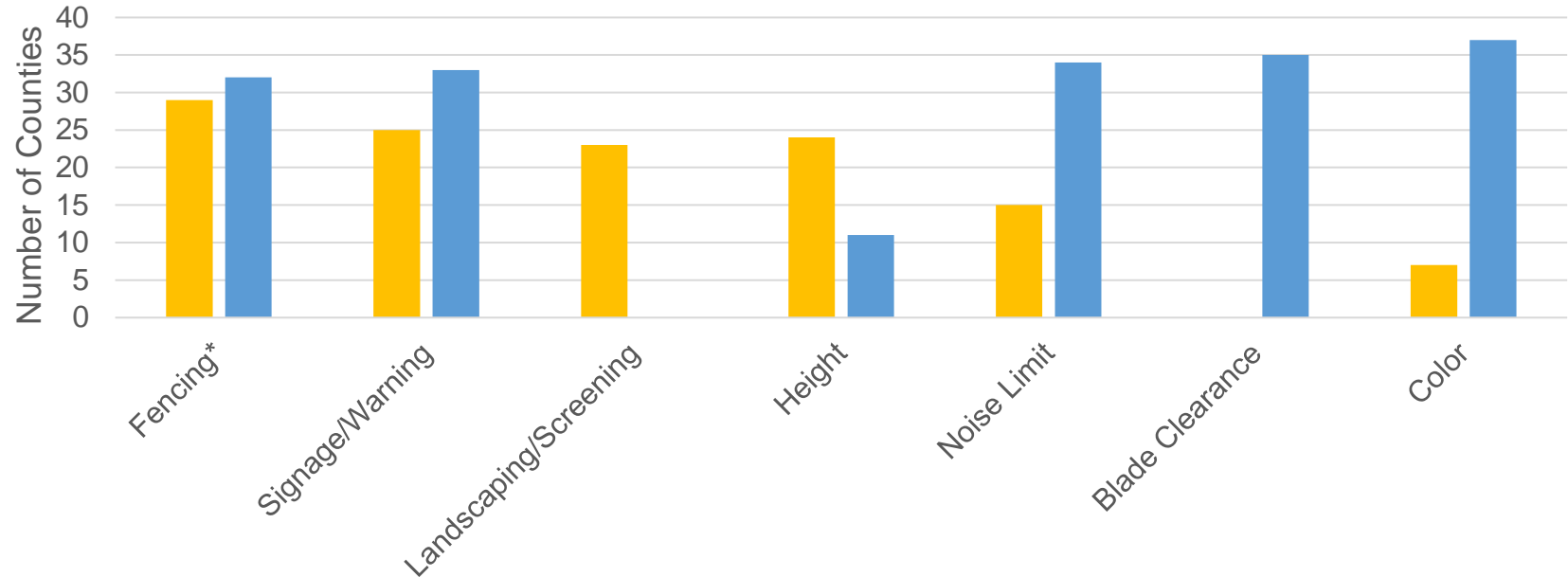
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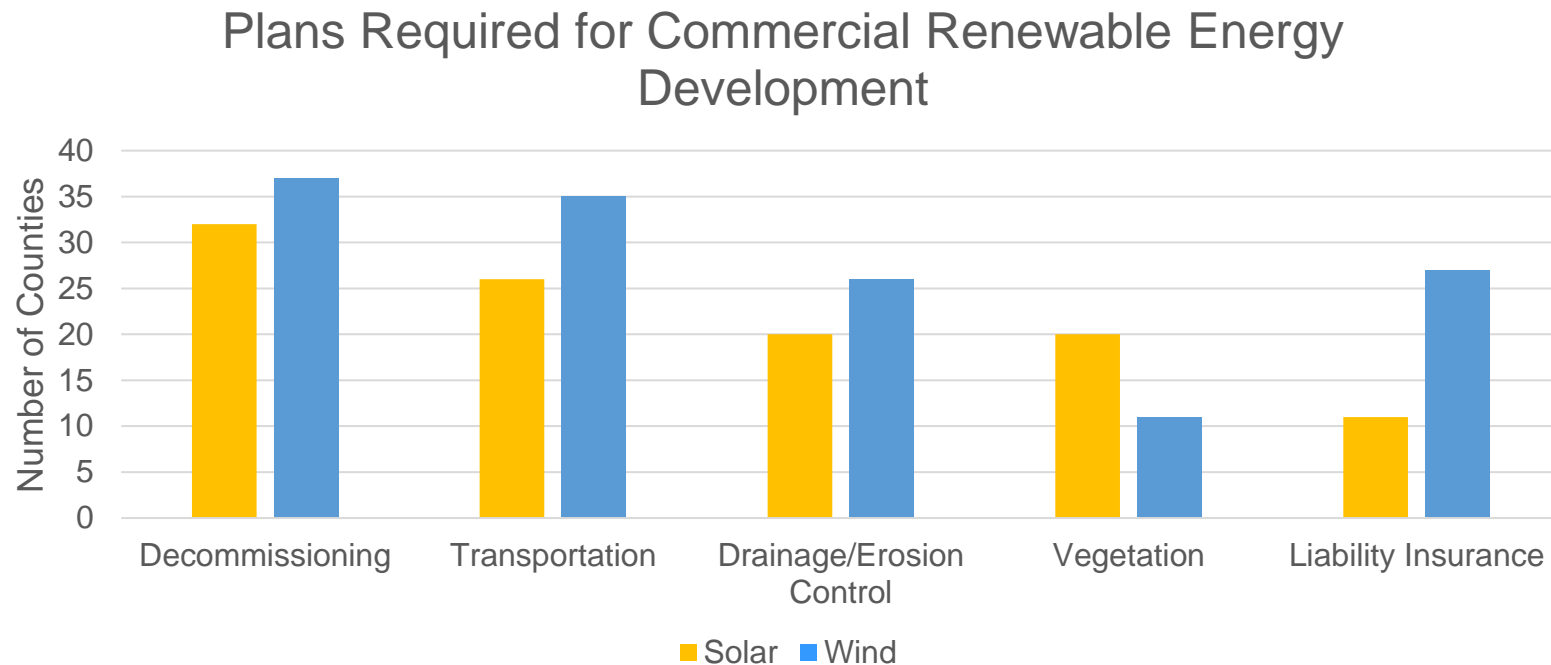
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Other Renewable Energy Land Use Standards







- Ordinance inventory update slated for 2025
 - Adding battery energy storage systems
- Survey to Plan directors will be conducted this summer
- What are we expecting
 - More counties with wind/solar ordinances
 - Several counties with amendments since 2021
 - More land use moratoria

- SB 411 (2021) Established standards for a community to be considered wind energy or solar energy ready
- Communities can set less restrictive standards
- Currently no financial incentives are tied to the designation
- HB 1278 (2024) provided some flexibility in standards for this program.



Wind

- setbacks and maximum height
- shadow flicker
- signal interference
- sound level limitations
- wind turbine light mitigation technology;
- drainage repair
- decommissioning

Solar

- setbacks, height, and buffers
- ground cover
- fencing
- underground cables and aboveground infrastructure
- glare minimization
- signal interference
- sound level limitations
- drainage repair
- decommissioning, abandonment, and "force majeure event"

- HB 1628 (2025) Did not pass committee
 - An amendment would have allowed utility-scale projects to move jurisdiction to IURC under certain conditions (i.e. less productive soil, acreage cap for county, etc.)
- Michigan
 - New law grants permitting authority to the state unless local government adopts “compatible renewable energy ordinances” Incentive to still pursue local permitting.
- Ohio
 - State siting, but gives local representation on siting board and allows county to designate “restricted areas.”
- Illinois
 - Cannot have more restrictive standards than the state
- Wisconsin
 - Anything over 100 MW is under state permitting jurisdiction

- **Comprehensive Plan Goals and Objectives**

- What goals will these developments support
- What goals will they conflict with

- **Conflicting Land Uses**

- What are the primary concerns or issues
- What tools/standards would help to alleviate these conflicts

- **Public Infrastructure and Investment**

- How do these developments add to public infrastructure and investment
- What measures need to be put in place to protect or remediate public infrastructure

- **Externalities**

- What are the positive or negative externalities of these developments

Tamara Ogle, Community Development Regional Educator
togle@purdue.edu