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A leader in renewable energy

NW Wind and Wildlife Workshop
Siting Implementation

June 7, 2011



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NW Region



Presentation Overview

- ▶ Why Windpower
- ▶ Why Windpower in the Northwest
- ▶ Key Factors in Site Selection
- ▶ Permitting Leads: Federal, State & County
- ▶ Requirements Similarities Across Permitting Leads
- ▶ County Example
- ▶ Key Takeaway: Agency and Public Involvement Early



Why Windpower

► Continuum of Reasons

- First economically viable, utility-scale renewable resource
- Displace oil-fired power plants (1970's – 1980's)
- Repeal of the Fuel Use Act (1978 - 1987) opens utility market to natural gas
- Reduce greenhouse gases (1990's to present)
- Reduce encroachment of housing developments on rural land (1970's to present)
- Rural economic development (1970's to present)



2.5 MW Mod 2 Wind turbine installed in Goldendale as part of the USDOE demonstration program, circa 1982.



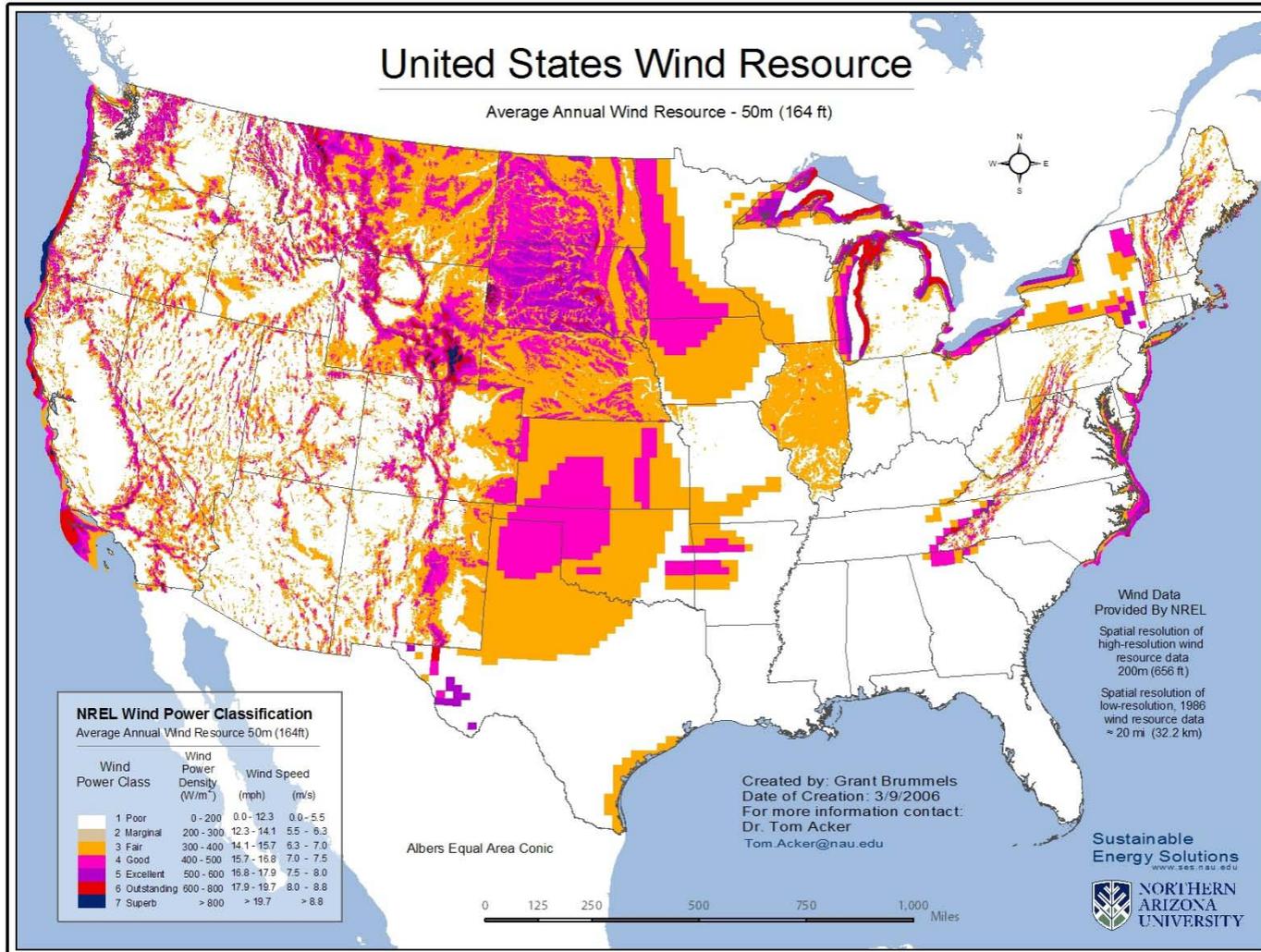
Why Windpower in the NW

► Attractions of the NW to Wind Developers

- Above-average to outstanding wind resource
- Existing transmission in some areas
- Recent adoption of Renewable Portfolio Standards (in-state markets)
- California market access (export market)

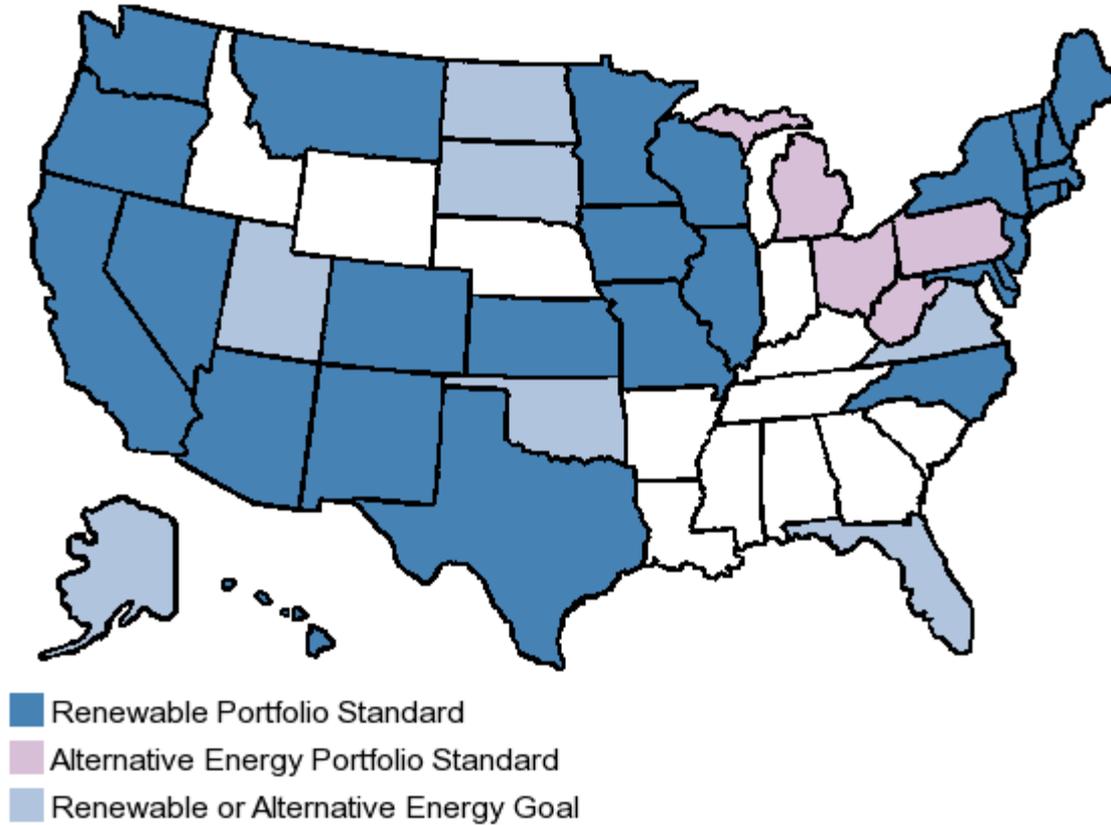


Wind Resource Map





Renewable Portfolio Standard States





RPS Data

DSIRE™

Database of State Incentives for Renewables & Efficiency

U.S. DEPARTMENT OF

ENERGY

Energy Efficiency & Renewable Energy



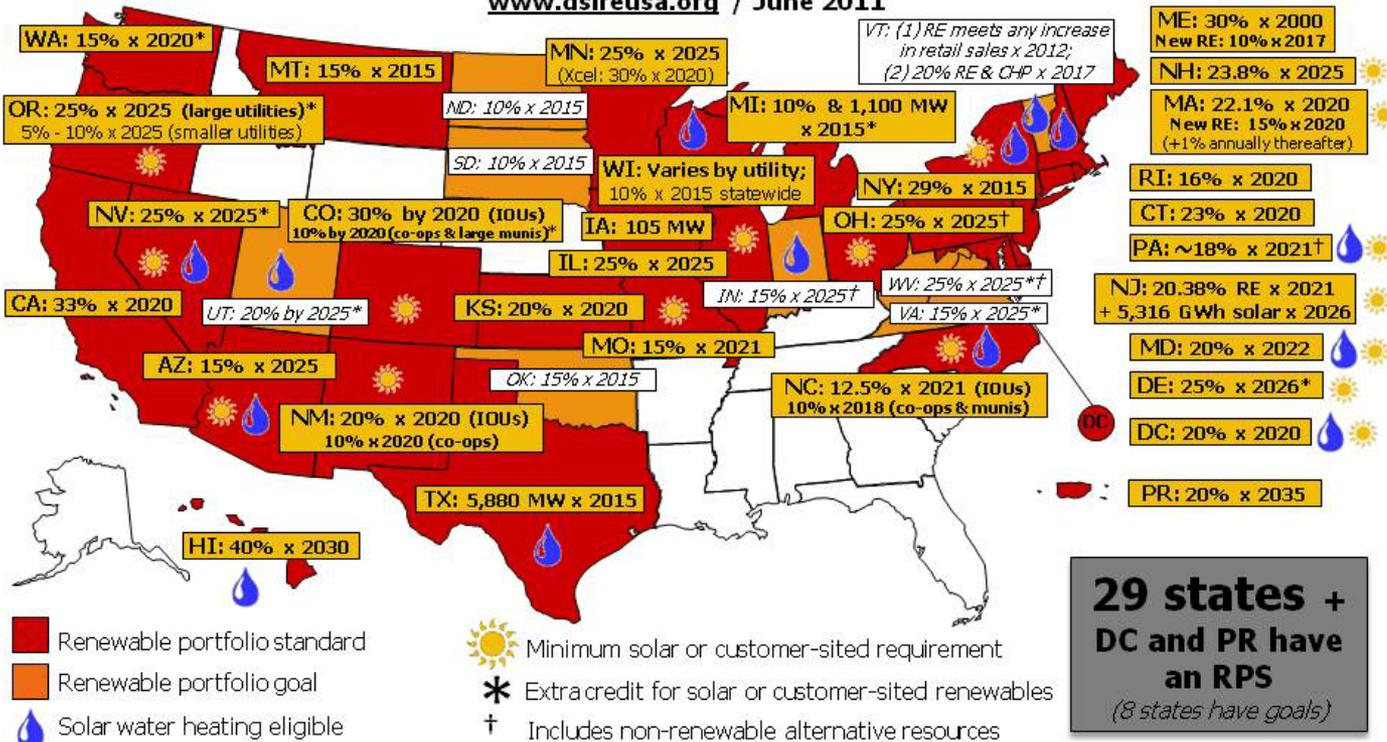
INTERSTATE RENEWABLE ENERGY COUNCIL



NORTH CAROLINA SOLAR CENTER

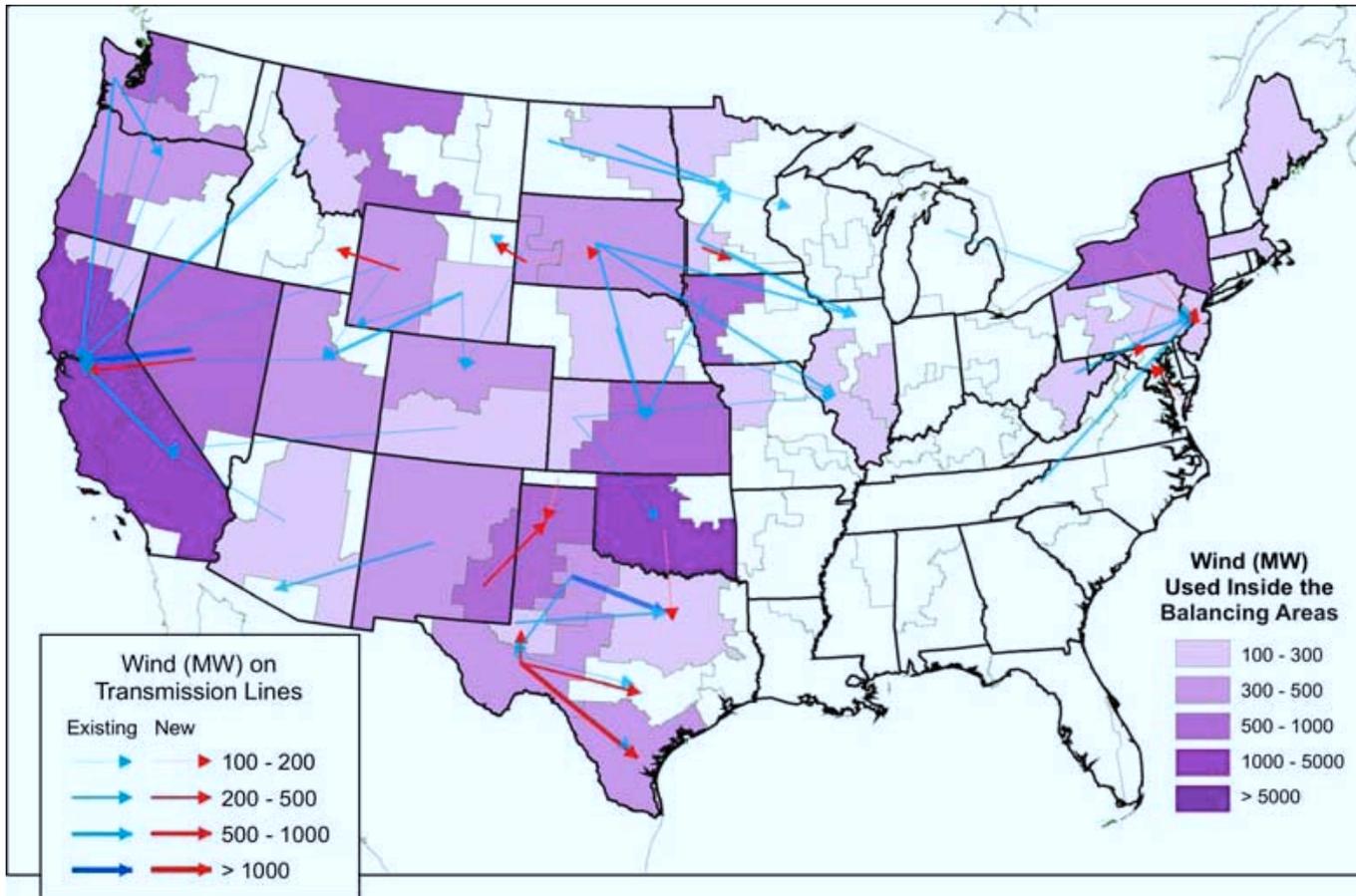
RPS Policies

www.dsireusa.org / June 2011





Wind and Transmission - 2012

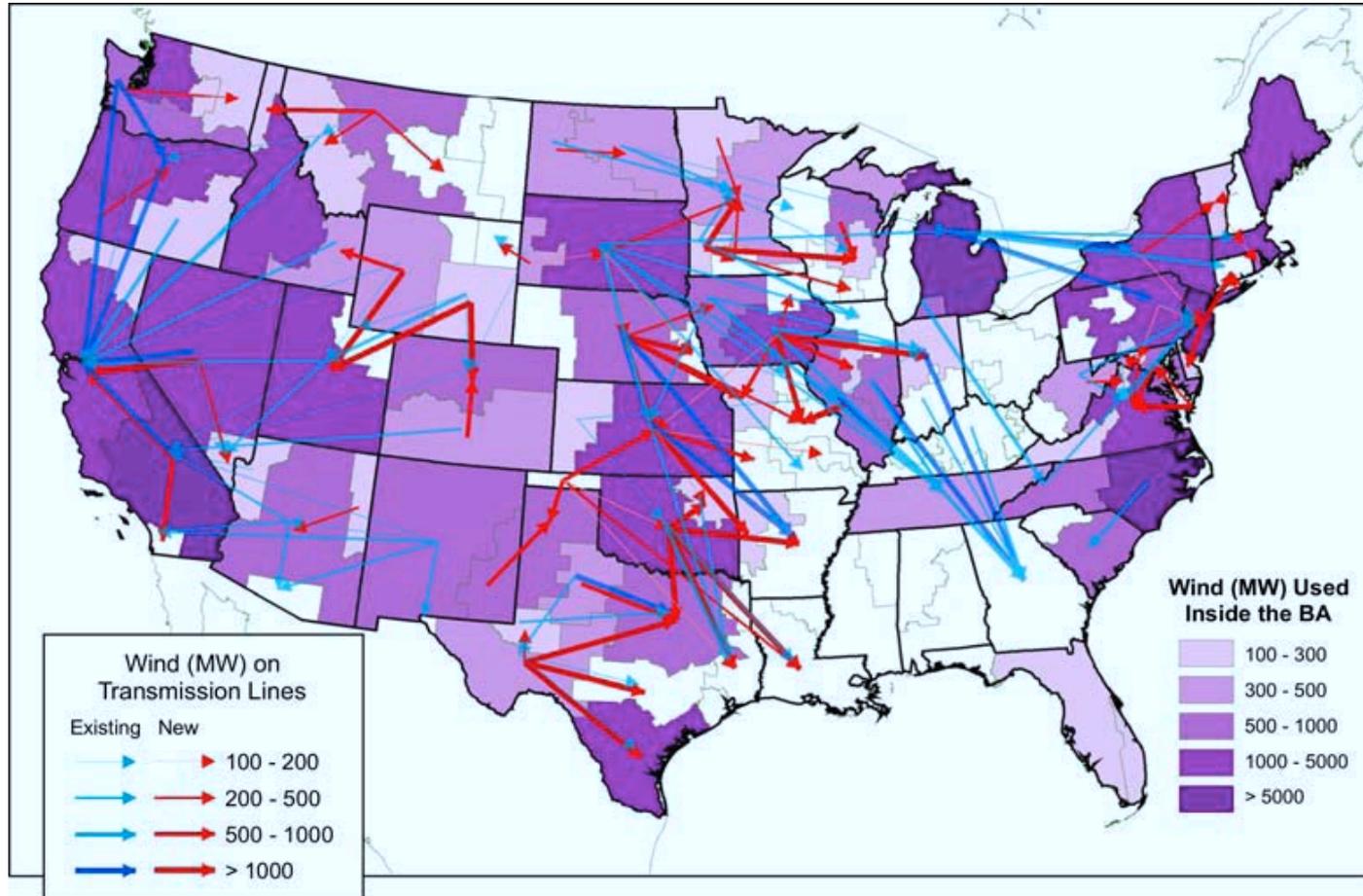


Total Between Balancing Areas Transfer ≥ 100 MW (all power classes, land-based and offshore) in 2012.

Wind power can be used locally within a Balancing Area (BA), represented by purple shading, or transferred out of the area on new or existing transmission lines, represented by red or blue arrows. Arrows originate and terminate at the centroid of the BA for visualization purposes; they do not represent physical locations of transmission lines.



Wind and Transmission - 2014



Total Between Balancing Areas Transfer ≥ 100 MW (all power classes, land-based and offshore) in 2024. Wind power can be used locally within a Balancing Area (BA), represented by purple shading, or transferred out of the area on new or existing transmission lines, represented by red or blue arrows. Arrows originate and terminate at the centroid of the BA for visualization purposes; they do not represent physical locations of transmission lines.



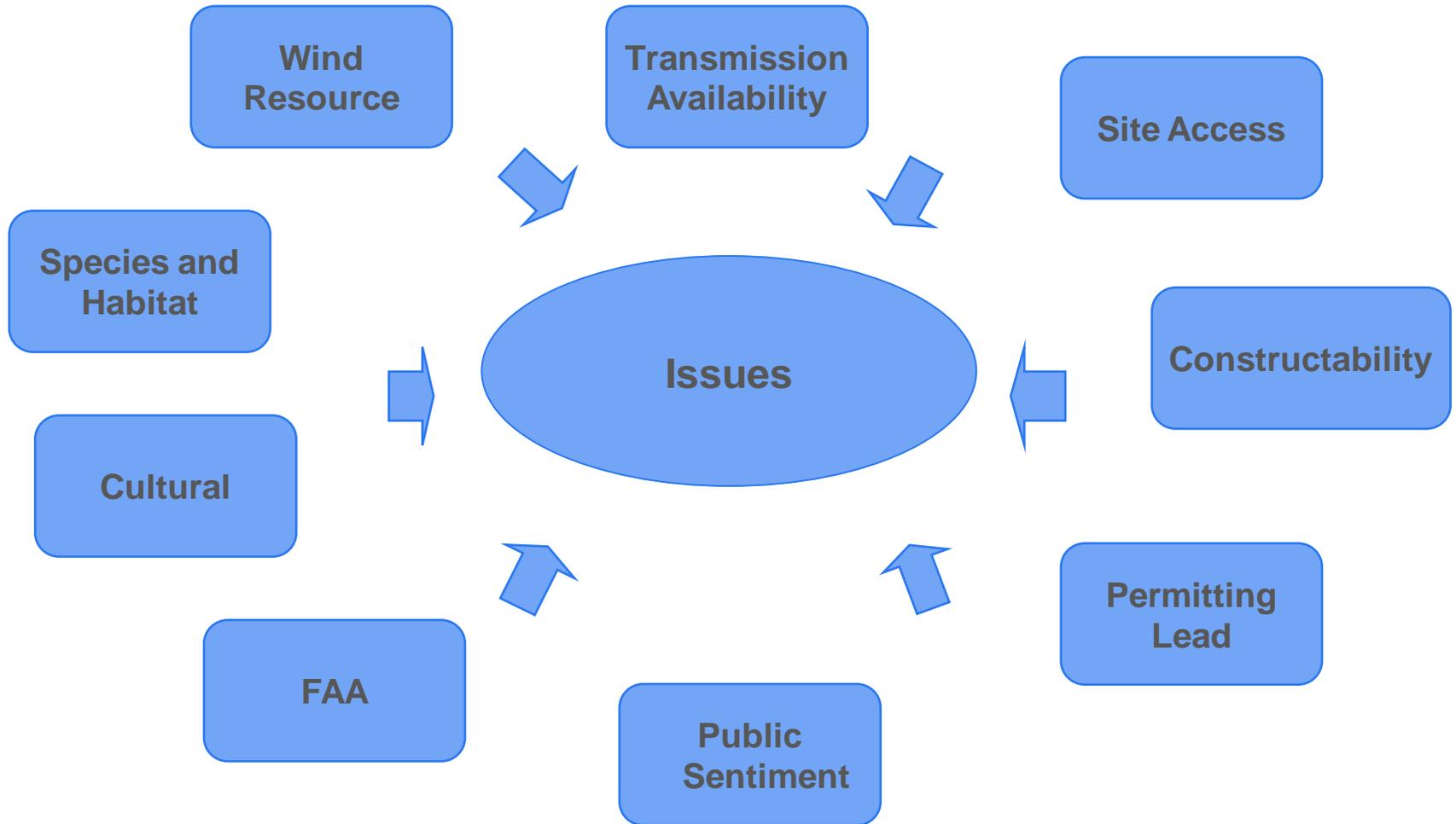
Key Factors in Site Selection

- ▶ Same factors weighed for every site
 - Wind resource
 - Transmission availability
 - Site access and “constructability”
 - Land availability (private or public leases)
 - Species and habitat considerations
 - Cultural considerations
 - FAA
 - Permitting environment
 - Public sentiment

- ▶ Typical Permitting Timeline and Budget: 3-5 years, \$750,000 - \$1.2 million



Key Factors in Site Selection





Permitting Leads in the NW

▶ Federal

- BLM – Programmatic EIS
- Forest Service

▶ State

- Washington
- Oregon
- Wyoming

▶ County

- Traditional land use permit focus
- Conditional Use Permits
- Special Wind Zones



NW State Permitting

<u>Location</u>	<u>Federal</u>	<u>State</u>	<u>County</u>
<u>Washington</u>	Limited development opportunities on BLM. More on Forest Service	Optional state permitting process, developer decides, county input	Conditional use permits in most counties, energy overlay zone in Klickitat County
<u>Oregon</u>	Extensive BLM development in southern Oregon	State permitting over 100 MW project size, county and agency input	Conditional use permit under state threshold
<u>Idaho</u>	Extensive BLM and Forest Service development	No state permitting process	Conditional use permits
<u>Montana</u>	Extensive BLM and Forest Service development	No state permitting process	Conditional use permits
<u>Wyoming</u>	Extensive BLM development	State Industrial Siting process for all projects, county and agency input	Input to state process
<u>Utah</u>	Extensive BLM development	No state process	Conditional use permits



Permitting Requirement Similarities

▶ Common elements across all permitting entities:

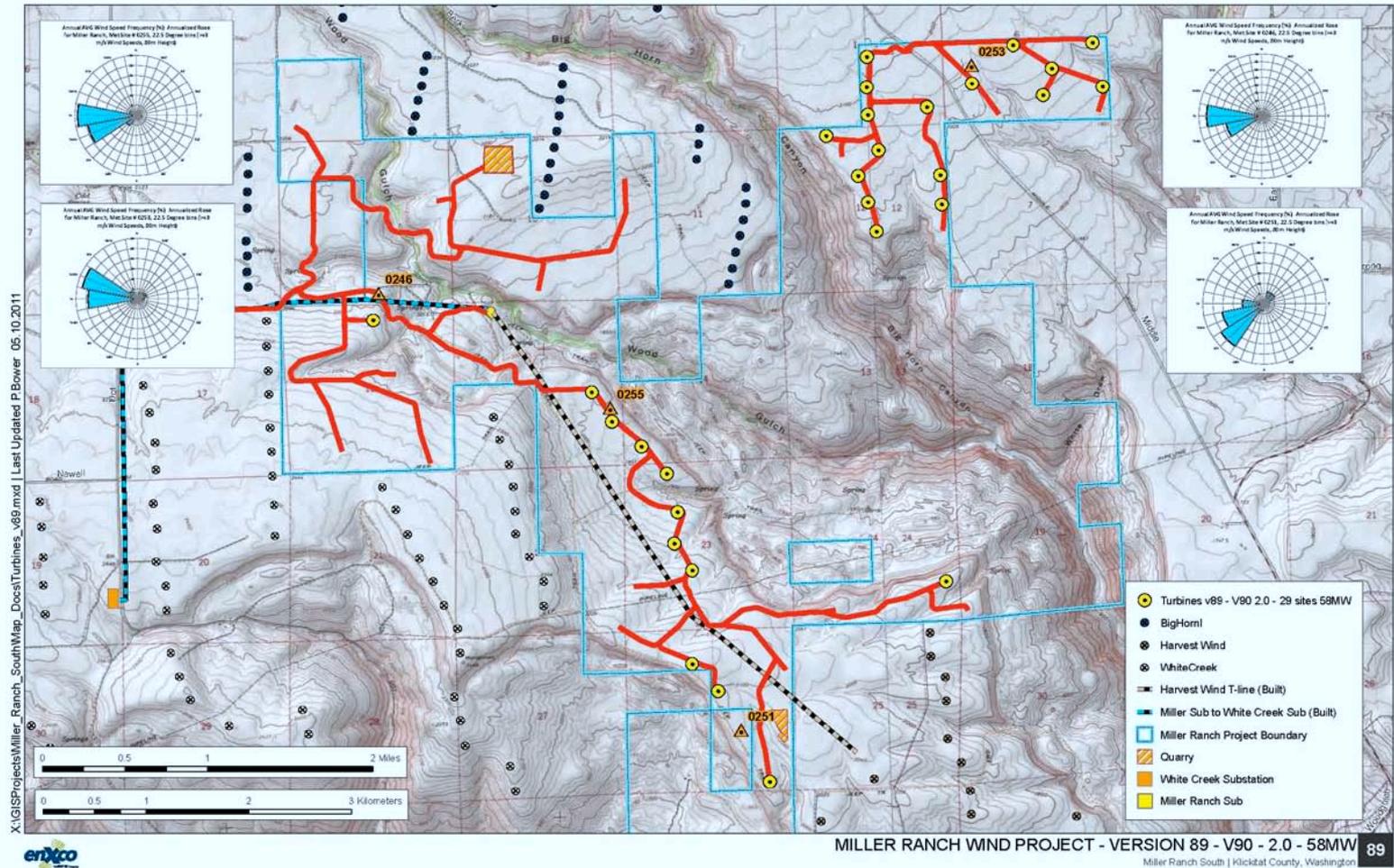
- Public notification periods
- EIS or Environmental Assessment-level analysis
- Federal and State wildlife agency consultation and protocol approval
- FAA consultation
- Tribal consultation
- Mitigation Plans (ABPP, HCP, CCA, CCAA)
- Post-construction monitoring plans
- Final permit approval before construction

▶ Other elements

- Pre- and post-construction Technical Advisory Committee participation
- Haul road agreement
- Funded decommissioning plan

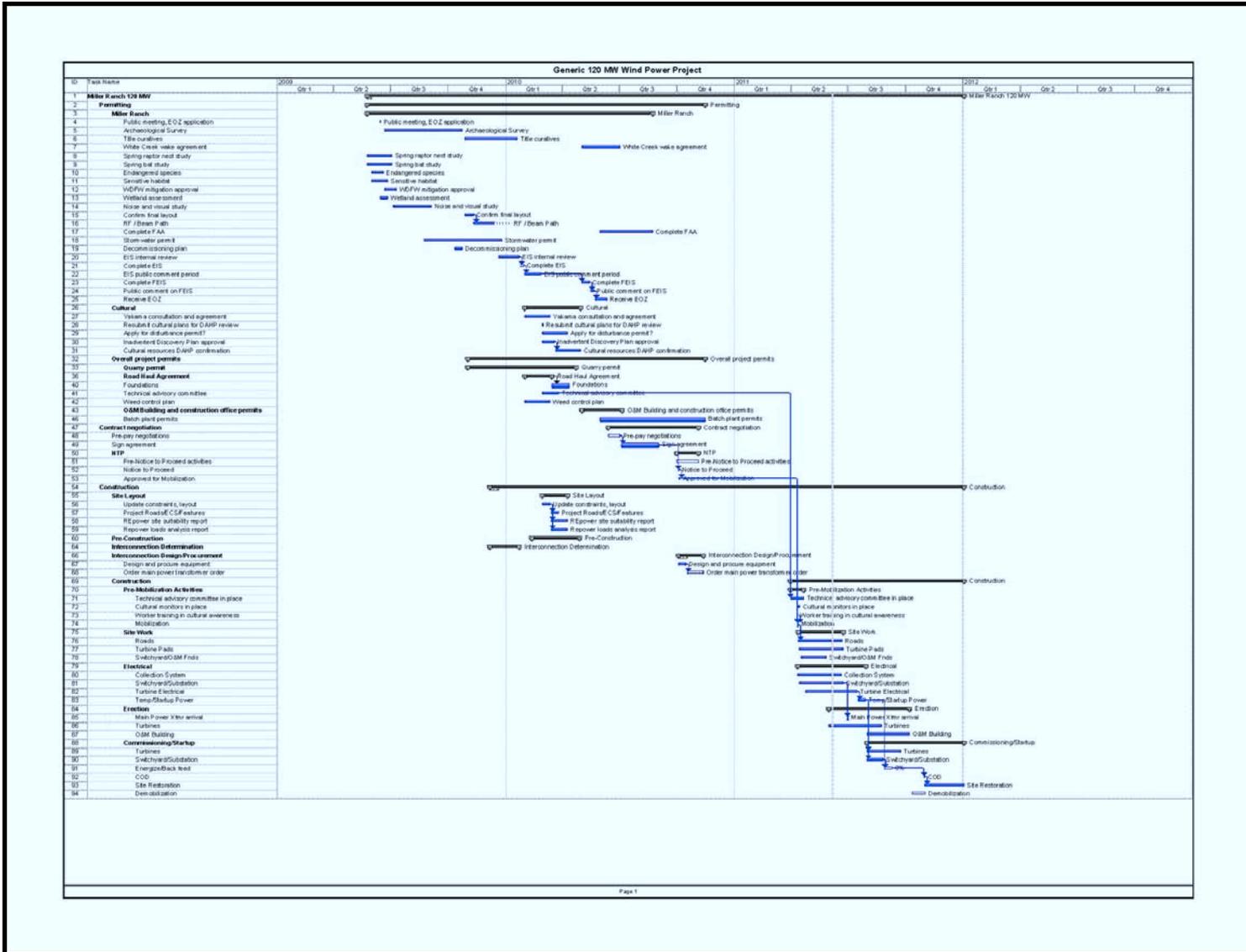


Project Permitting Example





Generic Timeline, Not Reflecting Guidance and Guidelines





County Permitting Example¹

- ▶ Miller Ranch, Klickitat County WA Energy Overlay Zone permit
 - Initial site identification in 2005-2006
 - Initial land lease in 2007
 - Mitigation option proposal October 2007
 - Energy Overlay Zone application November 2007
 - SEPA checklist, tiered off of County Programmatic EIS, November 2007
 - EOZ application deemed complete January 2008
 - Public announcement and meeting January 2008
 - Agency and public comments Jan – May 2008
 - PPM waking appeal March 2008
 - PPM waking appeal withdrawal March 2008

¹ Not a comprehensive listing; main project permit items listed.



County Permitting Example (continued)

- WDFW appeal of mitigation proposal March 2008
- WDFW appeal withdrawn June 2008
- Energy Overlay Zone permit approval June 2008
- Continuing assessment and realignment, versions 1 – 80
- Layout revision request November 2009
- Technical Advisory committee invitations January 2010
- Building permits January 2010
- Layout revision approval February 2010
- Bird and Bat Monitoring Plan April 2010
- Revegetation Plan May 2010
- Decommissioning Plan approval June 2010
- Start of construction June 2010



Effect of Proposed Eagle Guidance¹

Study	5-yr project cost for surveys/reports before ECP guidance	5-year project cost including surveys/reports after ECP guidance	Duration of additional survey work due to ECP guidance
Point count surveys	\$90,000	\$633,000	4 years ^a
Migration surveys	\$0	\$114,000	2 years
Raptor nest surveys	\$15,000	\$550,000	4 years ^b
Nest watch studies	\$3,500	\$154,000	2 years
Telemetry behavioral studies	\$0	\$184,000	3 years ^c
ABPP and/or ECP	\$40,000	\$50,000	NA
EA associated with eagle conservation plan	\$0	\$50,000	NA
Mitigation	\$560,000	\$676,000	NA
Post-construction mortality monitoring	\$310,000	\$615,000	1 year ^d
TOTAL	\$1,018,500	\$3,026,000	

¹ Based on a 100 MW generic project