What's going on at the PSC?

North Dakota Public Service Commission
www.psc.nd.gov
701-328-2400

Brian P. Kalk

Commissioners


Kevin Cramer


Tony Clark
Chairman


Brian P. Kalk

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What does the Public Service Commission do?

- Follow the Law!

- Local
- State
- Federal

- Jurisdiction…. Jurisdiction…. Jurisdiction

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Federal regulatory requirements

- National Environmental Policy Act (NEPA) Environmental Assessment if there is a federal nexus
- U.S. Fish and Wildlife Service
- Federal Aviation Administration – lighting if towers are tall enough
- National Park Service
- Natural Resource Conservation Service
- Environmental Protection Agency
- U.S. Army Corps of Engineers

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Additional State regulatory requirements and permits

- Department of Transportation
- Highway Patrol
- Department of Health
- Game and Fish
- Historical Society
- Geological Survey
- Parks and Recreation
- Department of Agriculture
- Land Department
- Others

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PSC has varying Regulatory Authority Over

- Electric & Gas Utilities
- Telecommunications (not cell phones)
- Electric Generation & Transmission
  - Power plants
  - Wind farms
  - Natural Gas Facilities
  - Transmission Lines
  - Pipelines
- Railroads & Grain Elevators
- Pipeline Safety
- Coal Mine Reclamation

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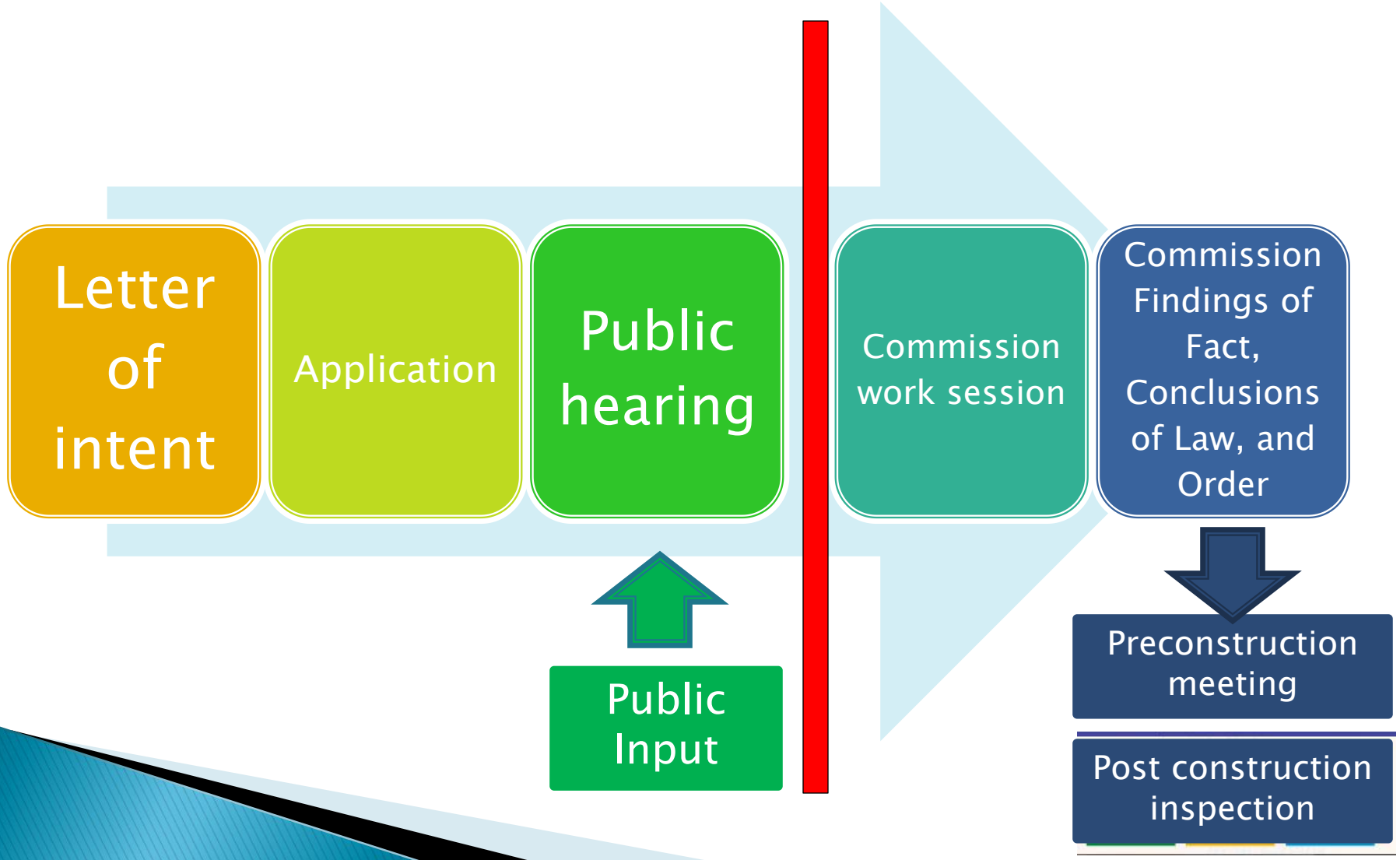
How does an applicant get a certificate of site compatibility or a corridor and route permit?



Average time for processing applications

- From date application is deemed complete to date order is issued:
  - Gas plants – 57 days
  - Pipelines – 78 days
  - Transmission – 83 days
  - Wind – 110 days

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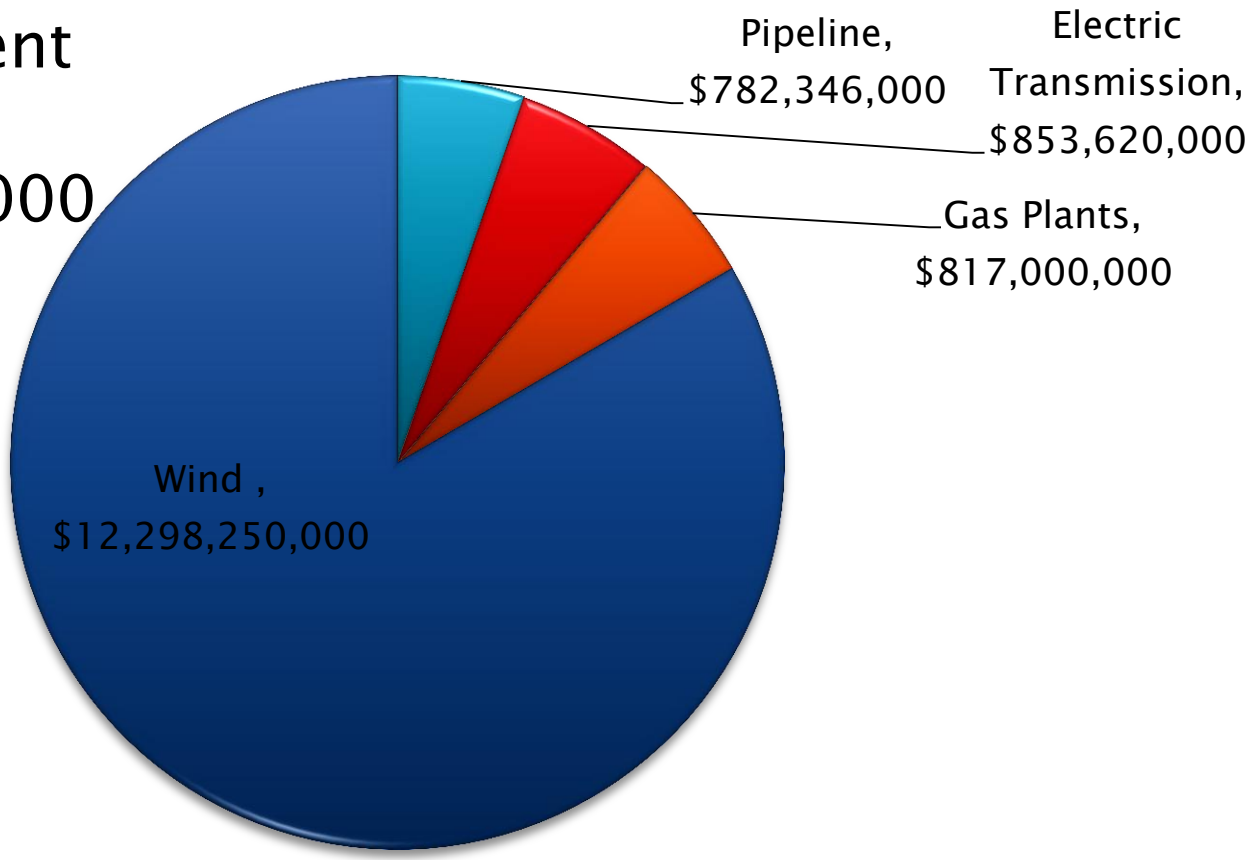
How has the PSC been impacted by the surge in energy development?

Total investment since 2005 = $14,751,216,000



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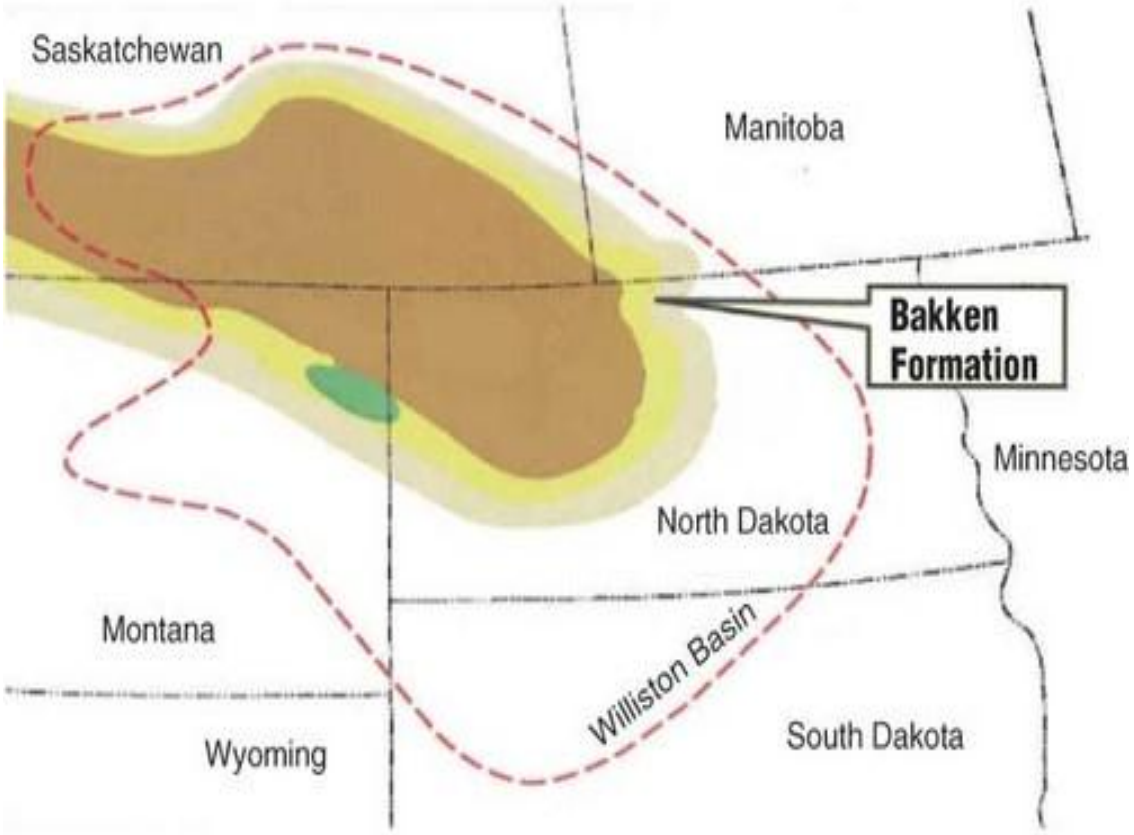
The Bakken

The Bakken Formation was deposited in the more central and deeper portion of the Williston Basin.



Source: USGS

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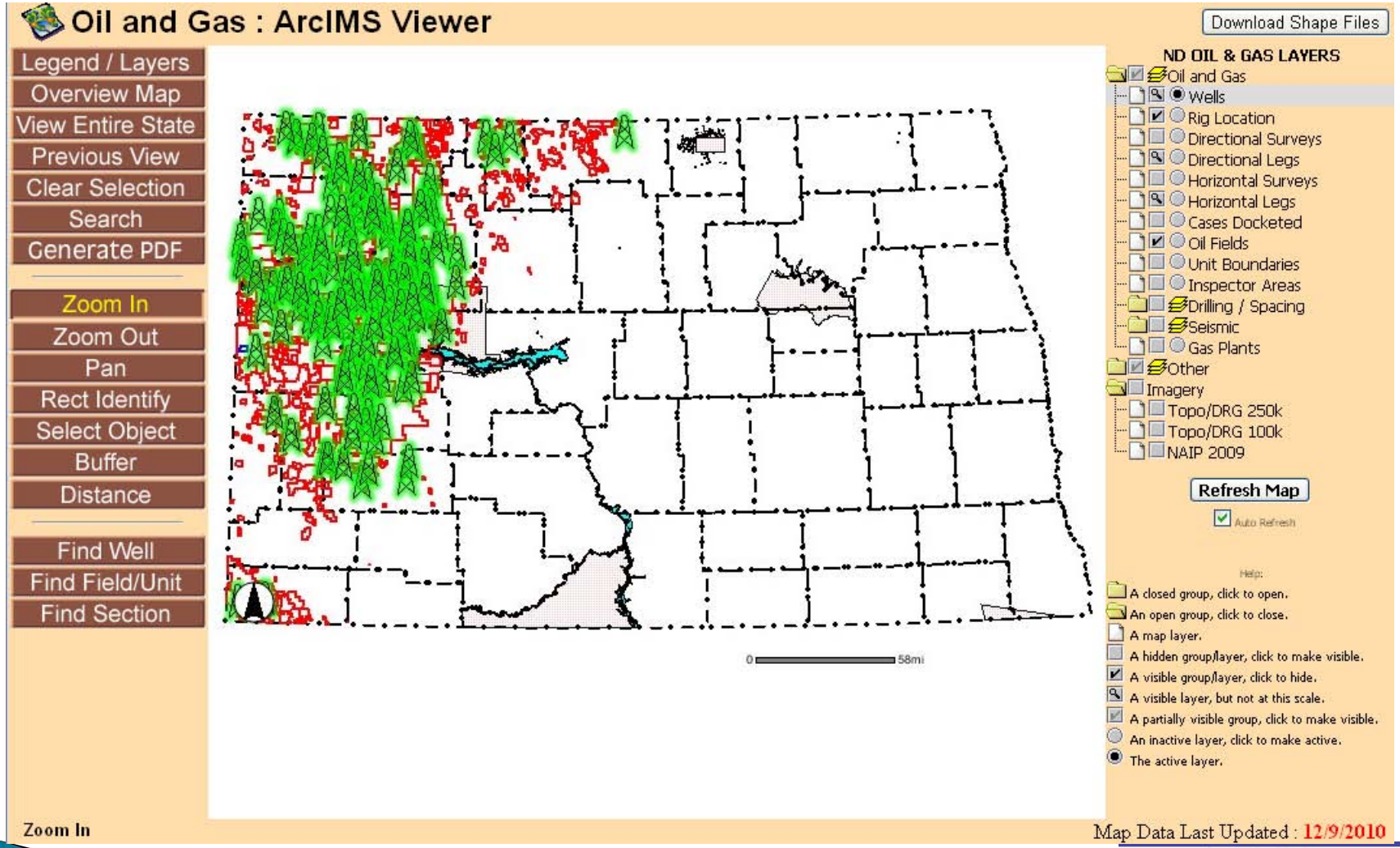
Oil fields and rig locations



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NORTH DAKOTA OIL PRODUCTION

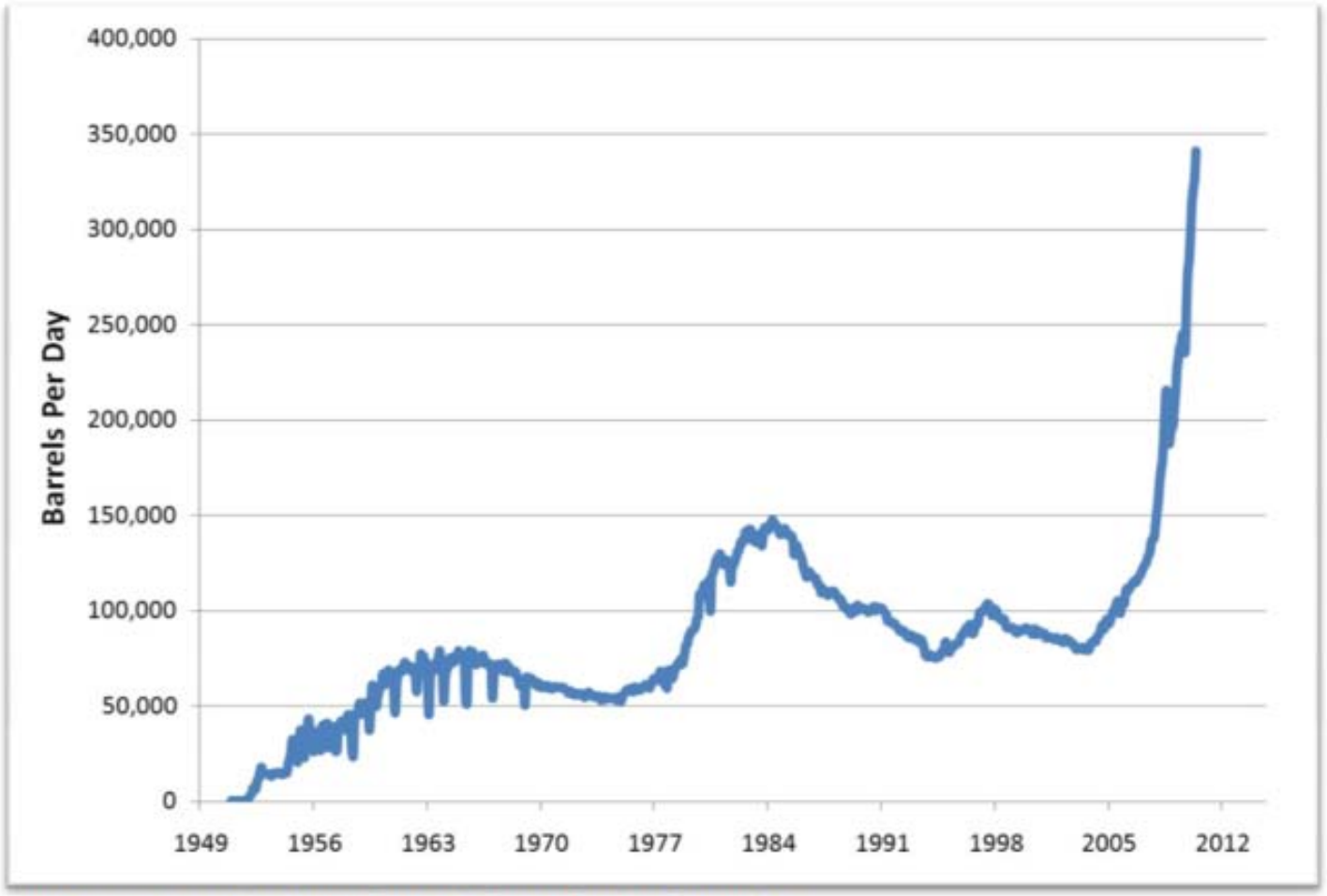

Figure 1. Historic oil production for North Dakota in barrels of oil per day.

Source: North Dakota Pipeline Authority December 2010

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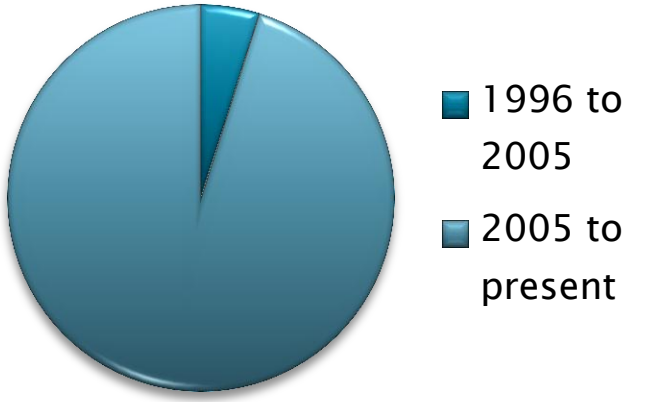
Pipelines

- Total estimated investment in pipelines from 1996 to present – $822,361,000
- Total estimated investment in pipelines from 1996 to 2005 – $40,015,000 (2 projects)
- Total estimated investment in pipelines from 2005 to present – $782,346,000 (32 projects)

TransCanada Keystone Pipeline construction



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CURRENT CRUDE OIL INFRASTRUCTURE

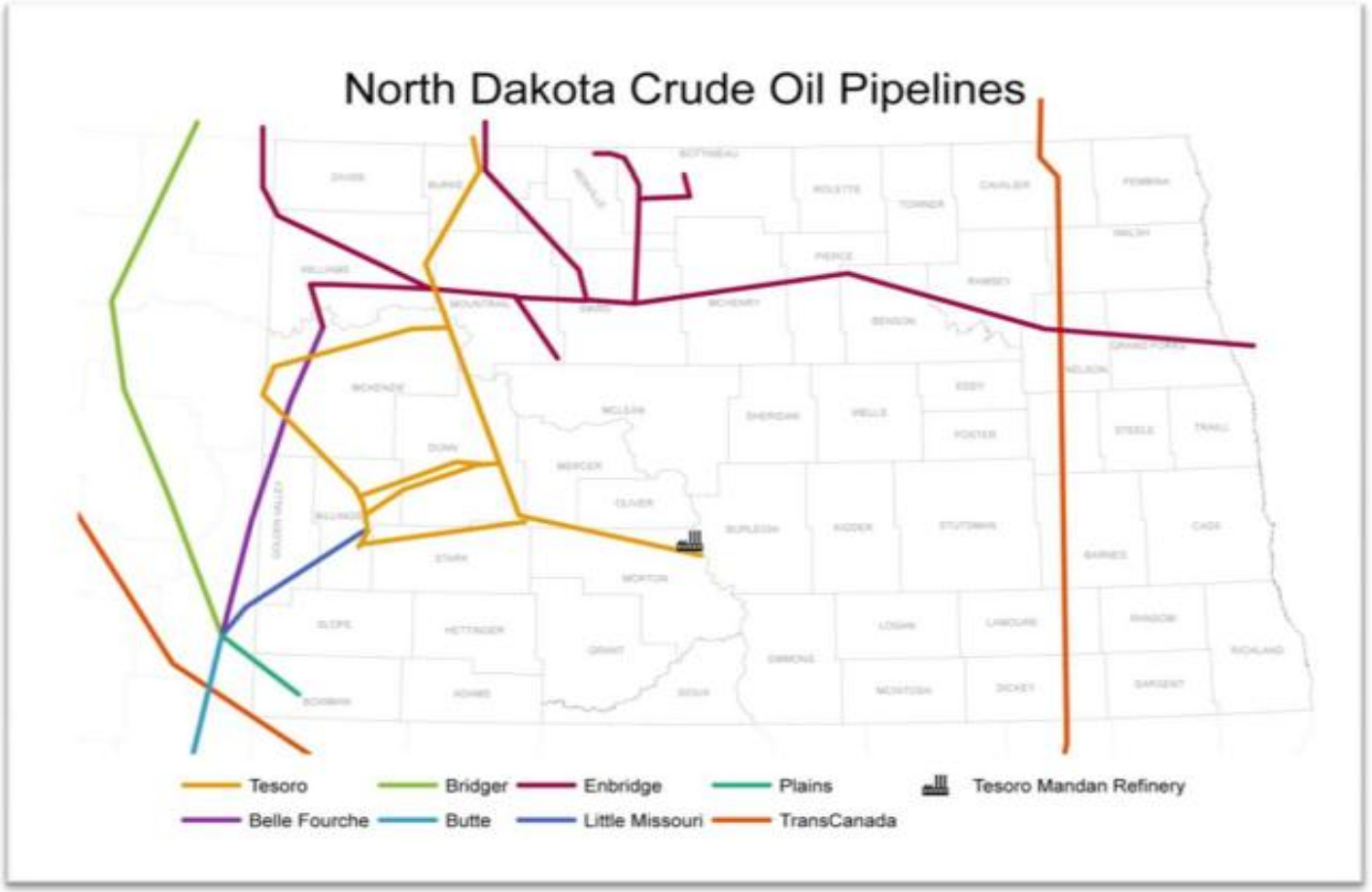

Figure 3. Map of the major crude oil transmission pipelines in the Williston Basin. Small scale gathering pipelines are not included.

Source: North Dakota Pipeline Authority December 2010

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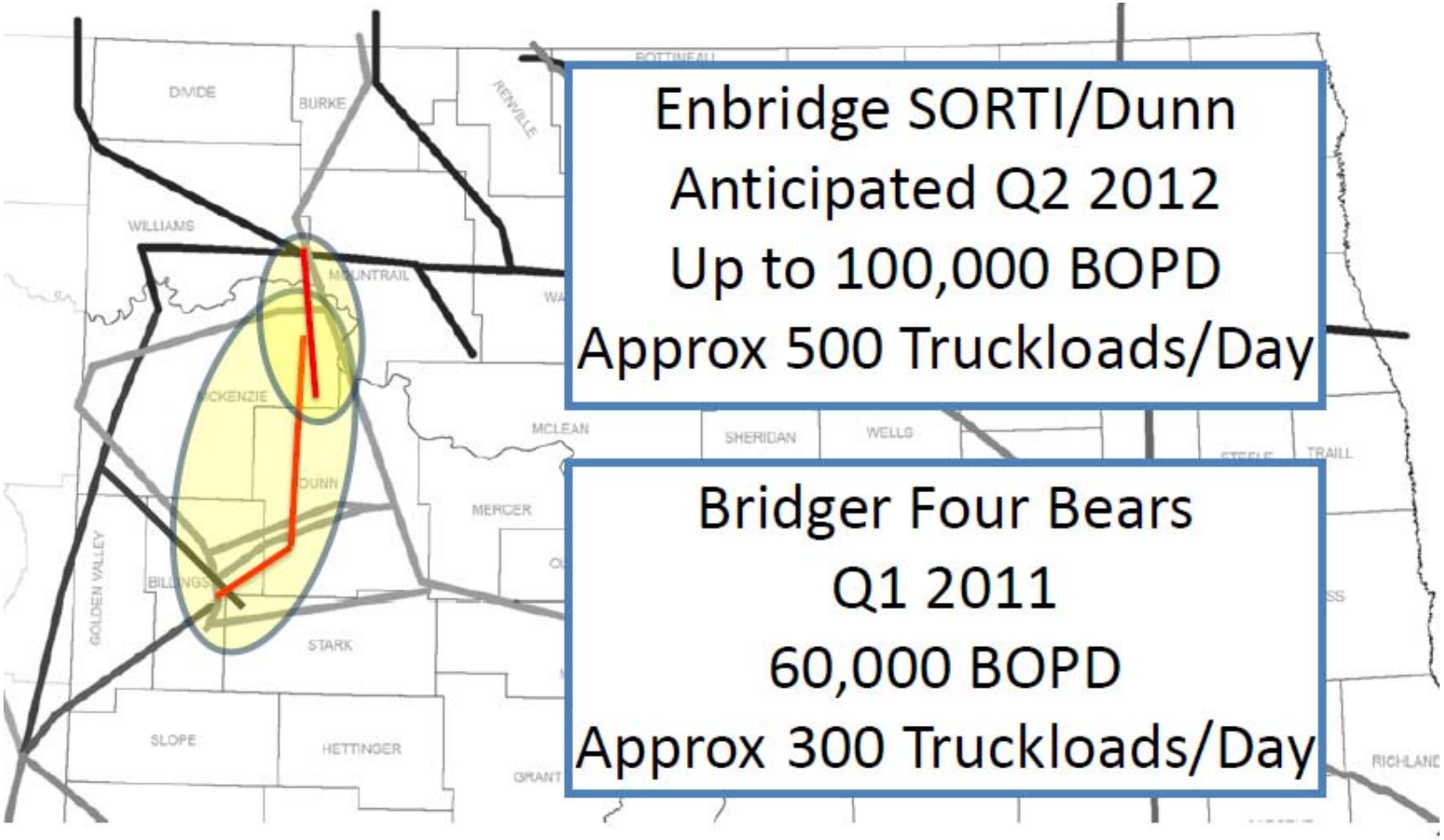
Reducing truck traffic



Source: North Dakota Pipeline Authority December 2010

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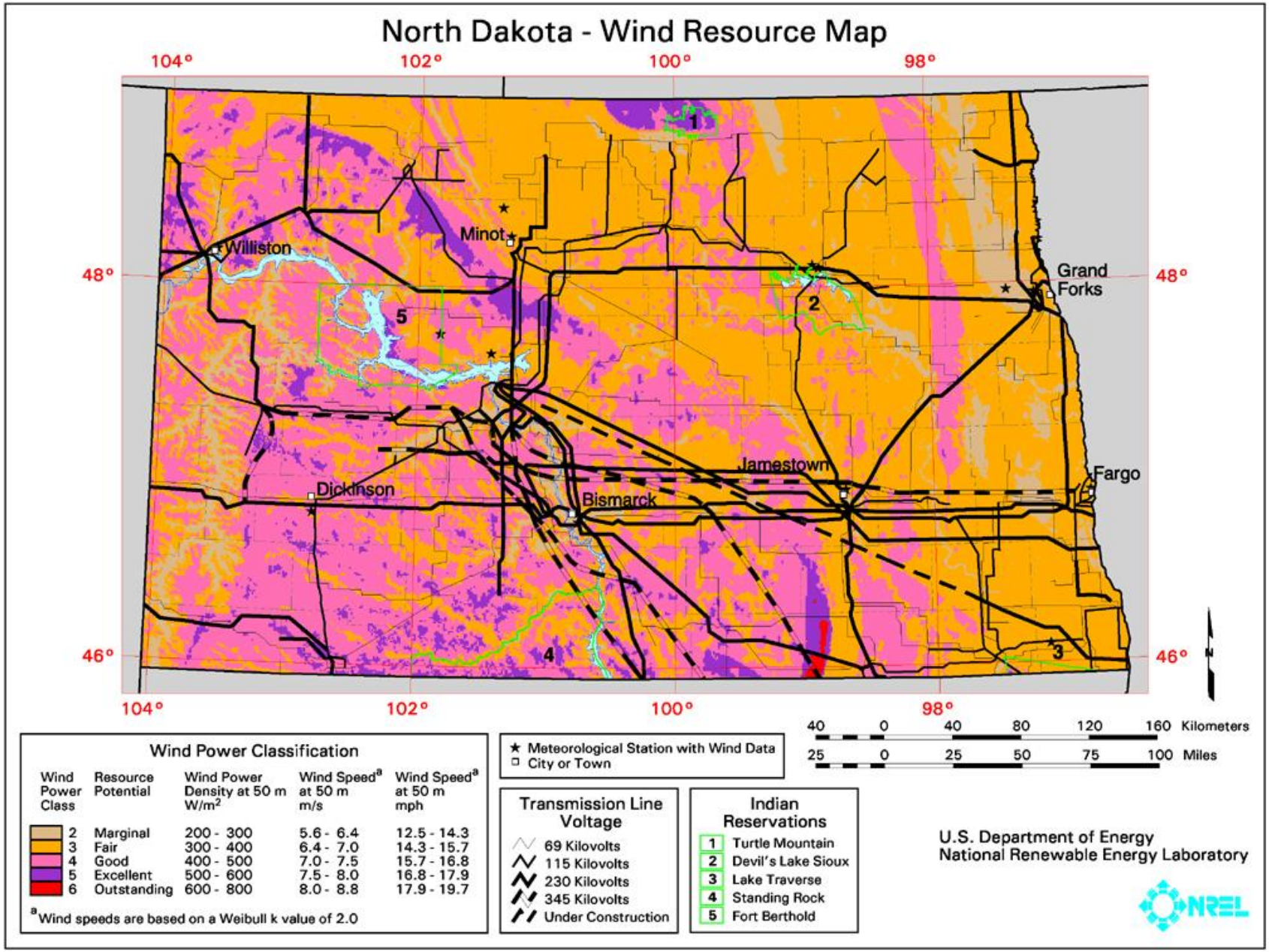
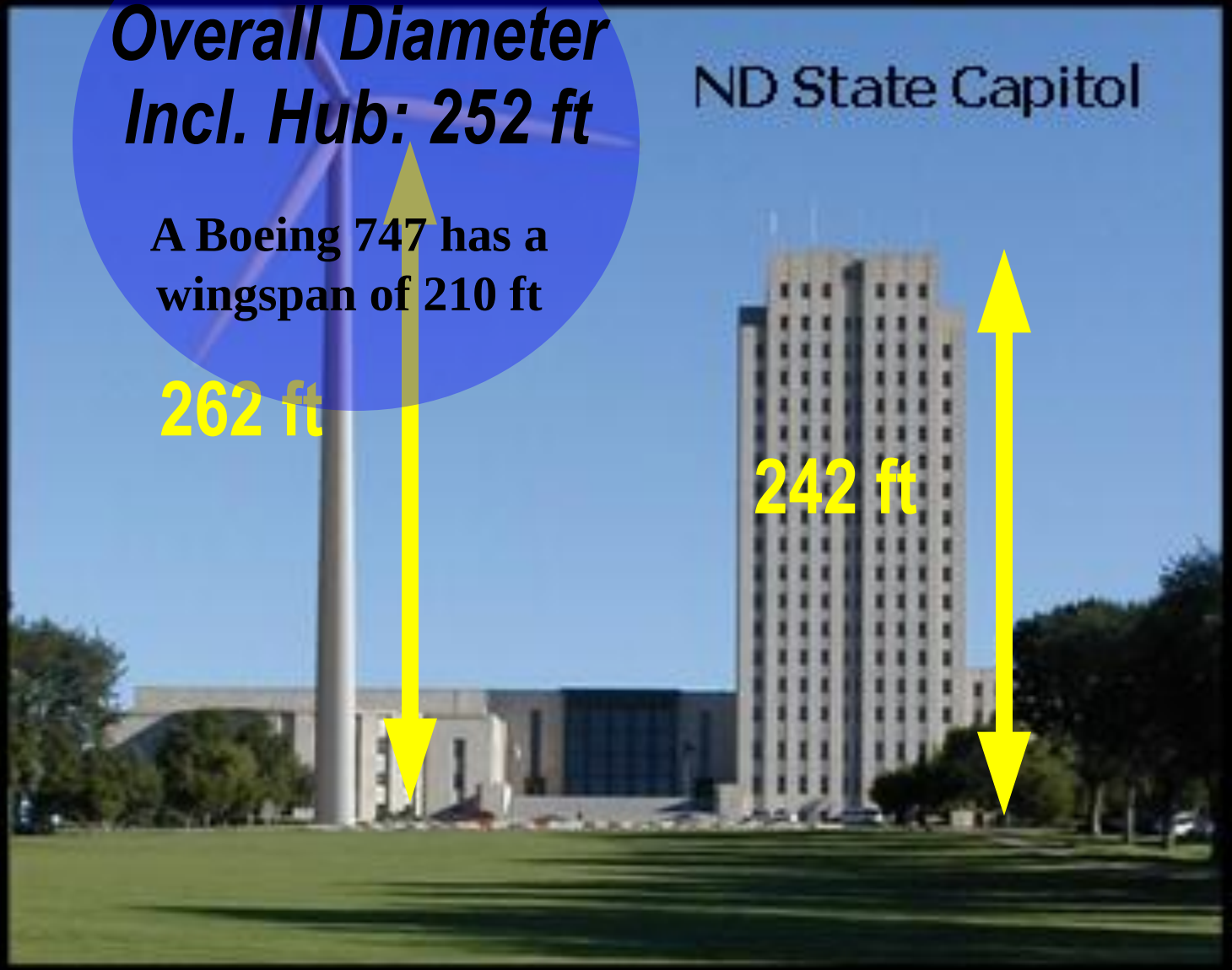

North Dakota - Wind Resource Map
104°
102°
100°
98°
48°
46°
Williston
Minot
Grand Forks
Jamestown
Fargo
Dickinson
Bismarck
1
2
3
4
5
Wind Power Classification
Wind Power Class
Resource Potential
Wind Power Density at 50 m W/m²
Wind Speed[a] at 50 m m/s
Wind Speed[a] at 50 m mph
2 Marginal 200 - 300 5.6 - 6.4 12.5 - 14.3
3 Fair 300 - 400 6.4 - 7.0 14.3 - 15.7
4 Good 400 - 500 7.0 - 7.5 15.7 - 16.8
5 Excellent 500 - 600 7.5 - 8.0 16.8 - 17.9
6 Outstanding 600 - 800 8.0 - 8.8 17.9 - 19.7
[a]Wind speeds are based on a Weibull k value of 2.0
★ Meteorological Station with Wind Data
□ City or Town
Transmission Line Voltage
69 Kilovolts
115 Kilovolts
230 Kilovolts
345 Kilovolts
Under Construction
Indian Reservations
1 Turtle Mountain
2 Devil's Lake Sioux
3 Lake Traverse
4 Standing Rock
5 Fort Berthold
40 0 40 80 120 160 Kilometers
25 0 25 50 75 100 Miles
U.S. Department of Energy
National Renewable Energy Laboratory
NREL

EAPC Architects Engineers



Typical Turbine Layout

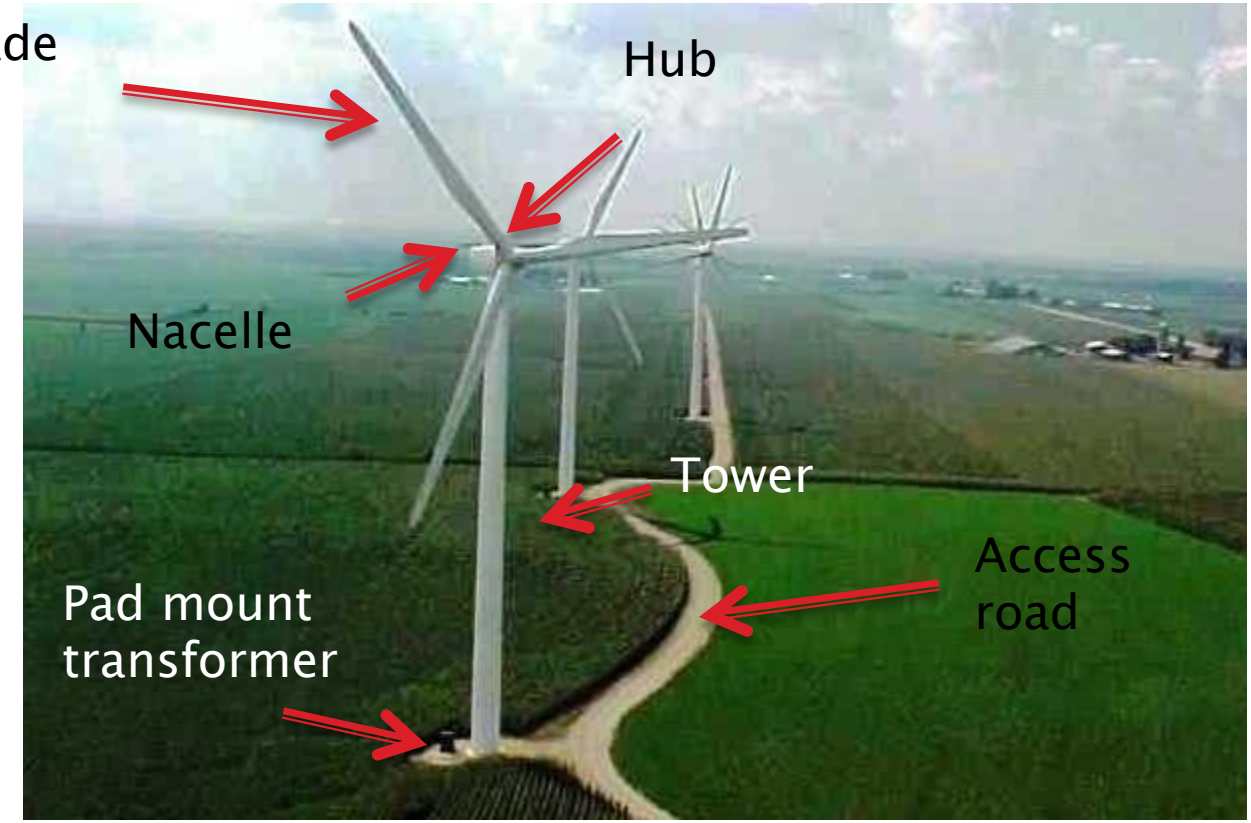


Photo Source: Langdon Wind Energy Center PSC Application, Figure 8 by Tetra Tech EC, Inc.

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Energy conversion facility siting criteria

- Exclusion areas
- Avoidance areas
- Selection criteria
- Policy criteria

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Questions?

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