



***How Can Large Transmission Projects
Be Designed &
Subscribed to Maximize Renewable
Energy Generation?***

***Increasing Renewable Energy in the Western Grid
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**Robert L. Sims
AES Alternative Energy
robert.sims@aes.com**

Areas of Potential Wind Power Development

South Eastern Wyoming



Delivering to Central Colorado &
Beyond

Areas of Potential Wind Power Development

South Eastern Wyoming



Delivering to Central Colorado &
Beyond

South Western Wyoming



Delivering to Central Utah and Beyond

Areas of Potential Wind Power Development

South Eastern Wyoming



Delivering to Central Colorado &
Beyond

South Western Wyoming



Delivering to Central Utah and Beyond

North & South Dakota



Delivering to Central Midwest Cities

Areas of Potential Wind Power Development

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Delivering to Central Utah and Beyond

North & South Dakota



Delivering to Central Midwest Cities

Eastern New Mexico



Delivering to Arizona & So California

Areas of Potential Wind Power Development

South Eastern Wyoming  Delivering to Central Colorado & Beyond

South Western Wyoming  Delivering to Central Utah and Beyond

North & South Dakota  Delivering to Central Midwest Cities

Eastern New Mexico  Delivering to Arizona & So California

Western Kansas  Delivering to Kansas City & Beyond

Areas of Potential Wind Power Development

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South Western Wyoming  Delivering to Central Utah and Beyond

North & South Dakota  Delivering to Central Midwest Cities

Eastern New Mexico  Delivering to Arizona & So California

Western Kansas  Delivering to Kansas City & Beyond

Texas Pan Handle & W. Oklahoma  Delivering to Mid West

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All Transmission Constrained

Common Transmission Obstacles for WindPower

Transmission Obstacle  Possible Solution(s)




Common Transmission Obstacles for WindPower

Transmission Obstacle  **Possible Solution(s)**

Interconnection Study
Quagmire
(Upgrade Cost Allocation
& Queue Changes)

 Cluster Studies, Network vs. Reliability
Upgrades, Cost Allocation

Common Transmission Obstacles for WindPower

Transmission Obstacle		Possible Solution(s)
Interconnection Study Quagmire (Upgrade Cost Allocation & Queue Changes)		Cluster Studies, Network vs. Reliability Upgrades, Cost Allocation
No Available Capacity		Conditional Firm Service Re-Rate Lines for Coincidental Wind Build New Lines & Facilities

Common Transmission Obstacles for WindPower

Transmission Obstacle	➔	Possible Solution(s)
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No Available Capacity	➔	Conditional Firm Service Re-Rate Lines for Coincidental Wind Build New Lines & Facilities
Pancaked Tariffs	➔	Merge Control Areas Establish Regional ISO Authority

Common Transmission Obstacles for WindPower

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No Available Capacity	➔	Conditional Firm Service Re-Rate Lines for Coincidental Wind Build New Lines & Facilities
Pancaked Tariffs	➔	Merge Control Areas Establish Regional ISO Authority
Deviation Penalties	➔	Tariff Reform Net Deviations Over longer Period Improved Wind Production Forecasting



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- ***Regulated utilities & 121 generating facilities totaling over 44,000 MW***
- ***We generate power for 100 million people worldwide.***
- ***Headquarters in Arlington VA, Traded on NYSE***

AES Alternative Energy Division

- ***Focused on: Wind Power, Biomass, Solar, Geothermal, Climate Change, Emissions Trading***
- ***Operates over 1000 MW of Wind Power in CA, OR, WY, TX, & Europe.***
- ***Over 3000 MW of Wind Power under development in United States, Europe, China, India, Pakistan, and Central and South America***



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robert.sims@aes.com

