

# Options for Transmission Cost Recovery

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*The author's views do not necessarily represent the views of  
the Federal Energy Regulatory Commission.*

# WIND NEEDS NEW TRANSMISSION

## A. Federal Transmission Encouragement

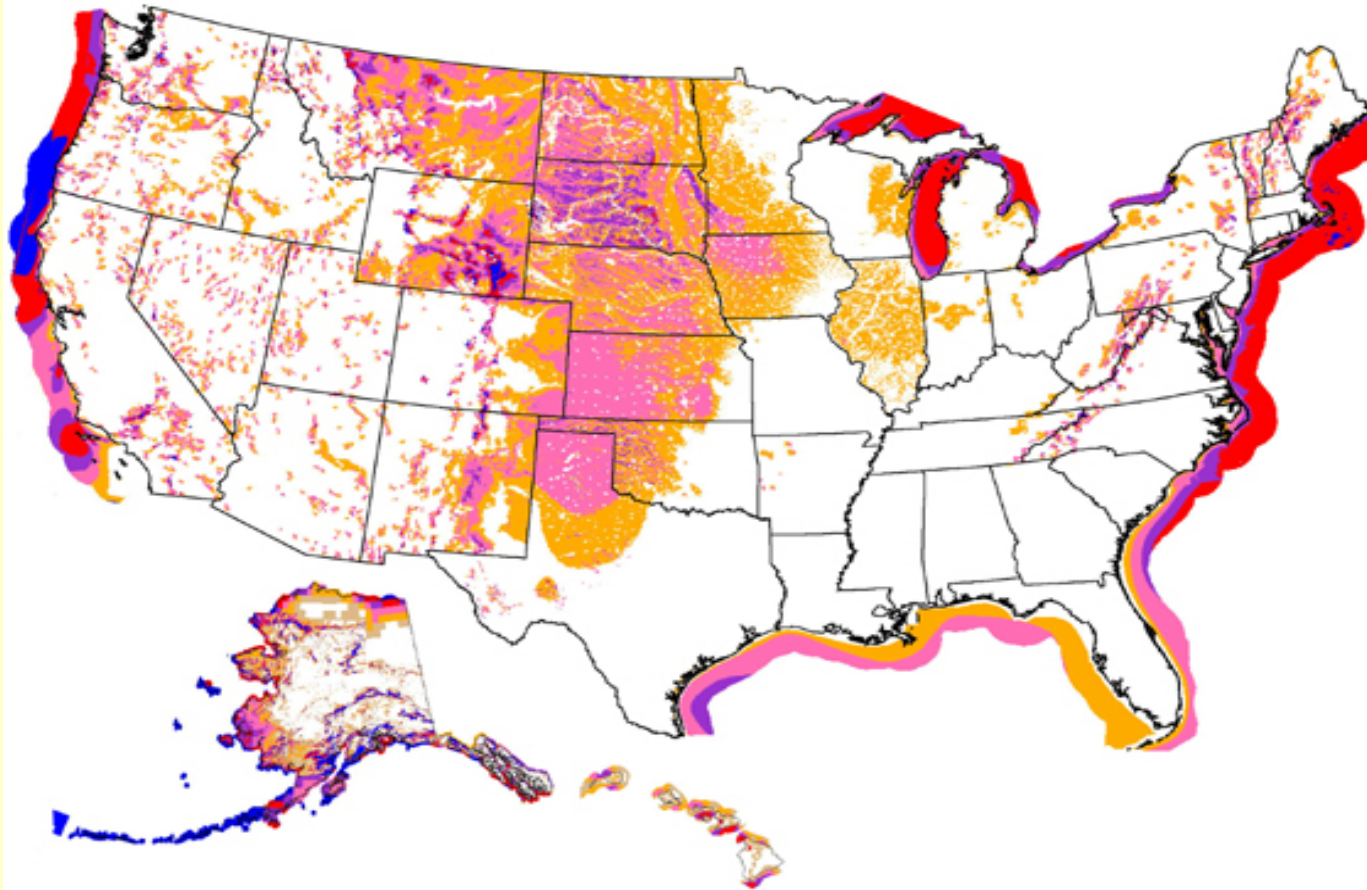
1. Transmission Incentives
2. Backstop Siting

## B. Transmission Cost Recovery

1. Interconnection Costs
2. System Upgrade Costs
  - single system
  - more than one system



# Wind Resources Are Locational



# A1. Transmission Incentives

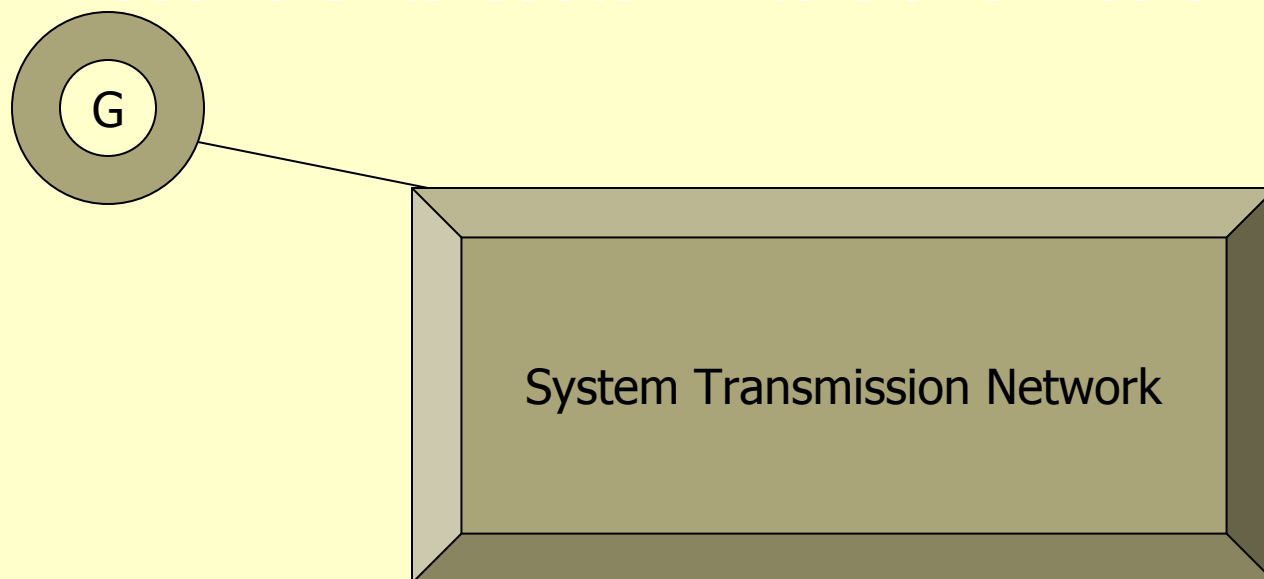
- FERC recognizes that greater risk increases capital costs and may provide “incentive” transmission rates for
  - Innovative transmission technologies
  - Unified regional operation by an RTO
  - Other goals (such as good operating performance)
- Energy Policy Act of '05 provides incentives for transmission infrastructure investment that will
  - help ensure the reliability of the U. S. transmission system, and
  - reduce the cost of delivered power to customers by reducing transmission congestion

## A2. Backstop Transmission Siting

- Energy Policy Act '05 provides for FERC “backstop” siting in National Corridors
- FERC regulations for seeking a permit to site transmission facilities, Nov. 16, 2006
- DOE designated National Corridors, Oct. 5, 2007
- No applications yet filed at FERC

# B1. Interconnection Cost Recovery

Normally, the new generator pays for “interconnection facilities.” The transmission owner pays for “network upgrades” and recovers its costs in its transmission rates.



# Interconnection Issues

- Interconnection queues cause delay
  - Interconnection rules and Queuing
  - Technical Conference Dec. 11 '07 and Clustering
  - FERC (3/20/08) directs RTOs and ISOs to report
- Some generators cannot pay for interconnection facilities.
  - Remote generating sites
  - Sometimes the wind or other generators don't yet exist
  - FERC: Tehachapi decision (California)



# Tehachapi Interconnection Facility

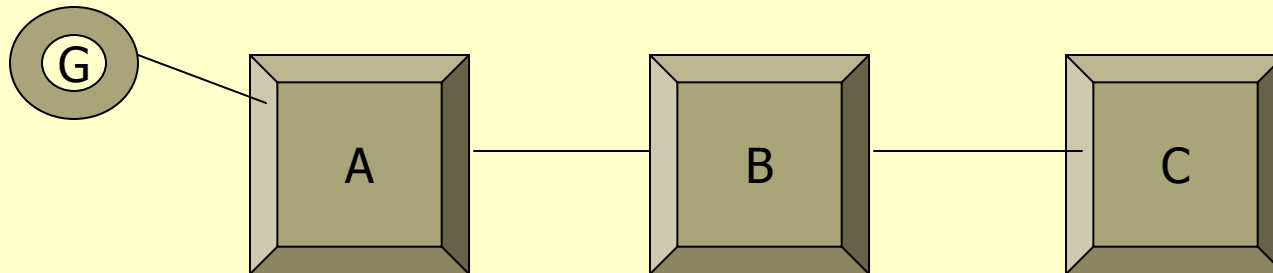
- In California, the utilities and the State supported special treatment for interconnecting certain new generators, especially wind, and FERC approved it.
  - Initially, spread the interconnection facility costs to all users of the Cal-ISO system, which are recovered through the Cal-ISO rates.
  - Each generator that interconnects must pay for its pro rata share of the going-forward cost of the facility.
  - All users of the transmission grid would pay the costs of any unsubscribed portion of the facility through their inclusion in the Transmission Access Charge until the facility is fully subscribed.
- To be eligible for this rate treatment, the interconnection facility must be approved in the CAISO's transmission planning process as providing needed system benefits.
  - Once the facility is constructed, generators of any fuel type would be eligible to interconnect and contract for unsubscribed capacity, consistent with the Commission's open access requirements.

## B2. Recovering Network Upgrade Costs - Single System

- Normally, costs are spread to all of that owner's transmission customers, called "rolled-in" pricing or average cost pricing
- Since early 1990s "higher of" pricing allowed
- FERC allows the generator to finance system upgrades and be reimbursed over time

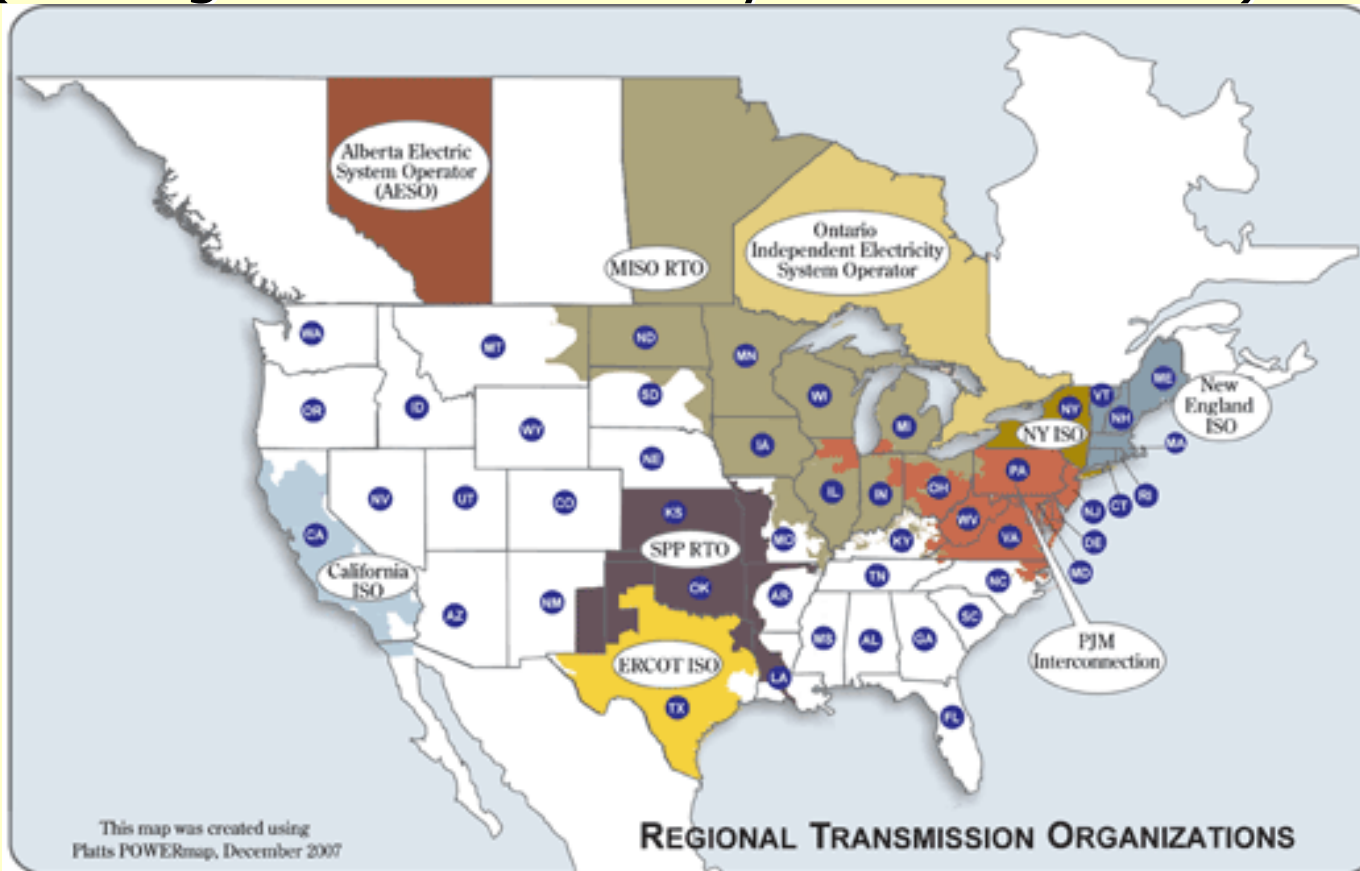
## B2. Recovering Network Upgrade Costs – More than One System

- If a new generator connects to system A and transmits power through B to sell to C's customers, who pays for any needed network upgrades to A's, B's, and C's systems?



# Who Pays?

- RTOs and ISOs have agreed-on regional cost recovery methods for new transmission in their plans (although the methods may be controversial)



# Single State ISOs Favor Spreading New Transmission Costs

## ■ **ERCOT ISO**

All old and new transmission costs are recovered through a single uniform systemwide average transmission rate.

*Notes:* - Average rate applies also to interconnections for wind generation.  
- The Public Utilities Commission of Texas sets ERCOT rates.

## ■ **California ISO**

≥ 200 kV: Goal is to recover revenues thru uniform rate per kWh.  
Spread 100% of new facilities and extra 10% of old facilities each year for 10 years

< 200 kV: Recover costs via subregional rates for North, East/Central, or South

*Notes:* - 2008 is the 8th year of a 10-year transition to a uniform rate for all  
- in 2008, 20% of ≥ 200 kV costs and all < 200 kV costs and are recovered in subregional rates

# ISO New England

- Reliability and economic projects
  - allocate costs uniformly across the ISO New England footprint if
    - in the regional system plan
    - $\geq 115$  kV

*Notes: Directly assigned are:*

- "excess" costs of projects over \$ 1/2 million
- elective, local benefit, and merchant transmission costs

# PJM

New transmission facilities in PJM's plan

- $\geq 500$  kV: spread the costs uniformly over the rates of all PJM transmission systems
- $< 500$  kV: assign costs to beneficiaries (determined by study) for most new investments identified in PJM's plan

# SPP

Transmission costs are shared for some projects:

## Reliability project costs

- 1/3 spread across SPP
- 2/3 allocated to the zones that benefit
  - if
    - in SPP's base plan
    - $\geq 60$  kV
    - cost more than \$100,000

## Economic project costs

- allocated as agreed among project sponsors

*Notes:*

- *an elective upgrade not needed for reliability*
- *sponsors receive transmission revenue for others' use of economic projects*



# Midwest ISO

- Transmission costs are shared for some projects:  
Baseline reliability project costs  
≥ 345 kV:
  - 20% of costs to all of the MISO systems, shared pro rata based on load
  - 80% of costs to the MISO systems designated as beneficiaries based on a power flow analysis100 - 345 kV:
  - 100% of costs to the MISO systems designated as beneficiariesCertain economic project costs
  - 20% equally to all MISO systems
  - 80% to MISO West, Central, and East zones based on the relative benefits if upgrade passes a benefit-cost ratio threshold and certain other tests,

*Notes: If the calculated net benefits of any one of the subregions are negative, that subregion would not be allocated a share of the 80 percent sub-regional cost component.*

# Who pays for new transmission through more than 1 utility system?

- Contracts among transmission owners normally determine who pays.
- RTOs have agreed-on regional cost recovery methods for new transmission in their plans (although they may still be controversial)
- Outside RTOs/ISOs: voluntary agreements may be used but may be hard to achieve.
- FERC's tariff reform: new regional planning requirement with a cost allocation plan
- New U.S. interest in "feed in" tariffs used by several nations, some states; one federal bill
- Growing reliance on "merchant" transmission
  - 11 FERC filings since 2000; more are coming