Renewable Energy Projects: Siting and Permitting Challenges
Legal Strategies to Select the Site, Choose the Permitting Authority, and Manage Environmental Constraints

A Live 90-Minute Audio Conference with Interactive Q&A

Today’s panel features:
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The conference begins at:
1 pm Eastern
12 pm Central
11 am Mountain
10 am Pacific

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Renewable Energy Projects:
Siting and Permitting Challenges

*Strategies for Site Selection, Choosing a Siting and Permitting Body, and Addressing Environmental Constraints*

Jim Barkley, Partner - Global Projects
Tom Jackson, Special Counsel - Environmental
Factors Affecting Site Selection
Site Selection Issues

- Availability of Renewable Resource
- Transmission Lines and Other Infrastructure
- Regulatory Roadblocks
- Addressing Public Opposition
- Meeting Renewable Portfolio Standards
- Environmental Constraints
Site Selection - Location of resources

- **Wind, geothermal, biomass and solar resources are limited to specific geographic areas.**
  - Wind - Central Plains, Coastal Regions
  - Solar - Southwestern States (AZ, NM, CA, NV, UT, TX)
  - Geothermal - Western U.S.
  - Biomass - North Central U.S. and West Coast

- **Resource location impacts regulatory jurisdiction**
  - For Example: Development of wind in Texas requires minimal FERC involvement whereas development of solar resources in Southwest may trigger jurisdiction of FERC, Dep. of Interior, Bureau of Land Management Dep. of Agriculture, and Dep. of Fish and Wildlife Serv.
Site Selection - U.S. Wind Resources

Wind Resource (50m) of the United States

The annual wind resource data shown are a composite of available high resolution wind power resource produced by NREL, AWS TrueWind Solutions, states, and other organizations. For states that did not have high resolution data available, low resolution wind power resource data produced by the 1987 "Wind Energy Atlas of the United States" is shown. For more info, visit Wind Powering America: http://www.eere.energy.gov/windandhydro/windpoweringamerica/wind_map.asp

This map was produced by the National Renewable Energy Laboratory for the U.S. Department of Energy.
Site Selection - U.S. Solar Resources

Image Source: National Renewable Energy Laboratory
Site Selection - U.S. Geothermal Resources

Photo Source: Southern Methodist University Geothermal Laboratory
Site Selection - U.S. Biomass Resources

Biomass Resources of the United States

This study estimates the annual technical biomass resources currently available in the United States by county. It includes the following feedstock categories:

- Agricultural residues (crops and animal manures);
- Wood residues (forest, primary mill secondary, mill and urban wood);
- Municipal discards (municipal solid waste, yard waste, and food waste);
- Dedicated energy crops (switchgrass on Conservation Reserve Program lands).

This map was produced by the National Renewable Energy Laboratory for the U.S. Department of Energy. See additional documentation for more information at http://www.nrel.gov/docs/fy09osti/39181.pdf

Image Source: National Renewable Energy Laboratory
Site Selection - Transmission Limitations

- Finding good renewable resources doesn't make a successful project in the absence of adequate transmission
  - **Example**: Texas Panhandle has great wind, but SPP is still a weak market and the region lacks interconnections to ERCOT.
  - **Example**: Midwest wind resources in general do not have adequate transmission linking them to load in the west and east.
Site Selection - Regulatory Limitations

- Renewable portfolio standards or other frameworks, even when intended to encourage renewable development, may define and limit the practical sites for development.

- **Example:** Texas Competitive Renewable Energy Zone (CREZ) framework defined the best areas for development of wind resources and directed that transmission with specific capacities be built to those zones.
  - Defines the areas that will have transmission access
  - Limits the amount of transmission to be built for now
Site Selection - Wind Development in Texas

Texas Wind Map

Designated Zones

Current CREZ Transmission Plan

Image Sources: State Energy Conservation Office, Energy Reliability Council of Texas, and Texas Wind Energy Clearinghouse
Site Selection - States with RPSs

- States with RPSs

29 States and DC have an RPS
5 States have goals

State renewable portfolio standard
State renewable portfolio goal

Image Source: Database of State Incentives for Renewables & Efficiency (U.S. Dept. of Energy)
Site Selection - Traditional Challenges

- The unique challenges faced by developers seeking to locate renewable energy projects make it especially important (and often more difficult) to avoid the traditional challenges that confront all developers.

  - Public opposition (NIMBY, BANANA, NOPE)
  - Regulatory hurdles (development restrictions, land use planning, zoning)
  - Environmental constraints
Site Selection - Public Opposition

- Public opposition to renewable energy projects does not always follow traditional battle lines
  
  - Example: Environmental groups find themselves conflicted between support for clean energy and concern about other effects on the environment.
  - Example: Land owners and communities often divided between those who will receive payments and those who will not.

- Not In My Backyard
- Build Absolutely Nothing Anywhere Near Anything
- Not On Planet Earth
Site Selection - Traditional Regulatory Hurdles

- Restrictions on development
  - Example: Coastal Zone Management Act

- Tax Decisions
  - Example: Local Property Tax Abatement Decisions

- Transportation Access
  - Example: Limits on port access
  - Zoning Restrictions

- Land Use Planning Restrictions
Siting and Permitting Bodies
Permitting Bodies - State Authority

- State Regulatory Commissions
  - States still handle the bulk of the permitting when dealing with generation siting issues
  - Federal legislation and permitting generally only extends to interstate transmission facilities or facilities on federal lands
  - Developers must be prepared to deal with often widely divergent state regulatory frameworks
Permitting Bodies - Federal Authority

- Federal Legislation
  - Energy Policy Act of 2005
  - Coastal Zone Management Act

- Note - Federal legislation generally only extends over those matters which are not subject to regulation by the states, and therefore rarely address siting issues related to generation facilities.
Permitting Bodies - Federal Legislation

- **Energy Policy Act of 2005**
  - Provides for designation of National Interest Electric Transmission Corridors (NEITC) by Secretary of Energy

Image Source: U.S. Department of Energy
Permitting Body - Federal Legislation

FERC may issue a construction permit for transmission facilities in NEITC if a state:

- "withholds" approval for more than one year,
- does not have authority to site a transmission facility, or
- cannot consider interstate project benefits of facilities proposed to be constructed within the NEITC.

Department of Energy (DOE) acts as lead agency in coordinating Federal Authorizations by:

- establishing deadlines for review of federal authorizations,
- establishing a pre-application mechanism for applicants to confer with various federal agencies, and
- preparing a single environmental review document to be used by all federal agencies.
Permitting Bodies - Federal Authority

Agencies covered by streamlined authorization process under the Energy Policy Act of 2005

- FERC
- Bureau of Land Management**
- National Park Service
- Bureau of Reclamation
- Fish and Wildlife Service
- Minerals Management Service
- Forest Service
- Department of Defense
- Army Corp of Engineers
- Environmental Protection Agency
- Oceanic and Atmospheric Admin.
- Marine Fisheries Service
- National Ocean Service
- Council on Environmental Quality
- Council on Historic Preservation
Permitting Bodies - Federal Authority

- **Coastal Zone Management Act**
  - Promotes limitations on development of coastal areas
  - Requires states to put in place coastal zone management plans or lose certain federal funds
  - Affects coastal wind locations that offer strong capacity factors during peak hours
  - Has been discovered by some environmental groups as a tool for fighting coastal wind projects.
Permitting Bodies - Local Authority

- Local permitting authorities can significantly affect the siting of renewable generation projects with permits affecting project economics:
  - Tax Abatement Authorities
    - **For Example:** Chapter 312 of the Texas Tax Code vests counties with tax abatement authority. Chapter 313 provides a value limitation mechanism that reduces a developer's public school district tax obligation.
  - Building Ordinances
    - Spacing and design of projects
  - Eminent Domain Authorities
    - **For Example:** In Texas, County Commissioners retain jurisdiction over condemnation cases.
Permitting Bodies - Local Authority

- Differences in local attitudes, topography, environmental resources, etc. result in permitting processes regulating:
  - Land Use / Zoning
  - Noise
  - Visual resource considerations
  - Soil erosion and water quality
  - Local wildlife or habitat loss
  - Solid and Hazardous Waste
  - Cultural and Paleontological Sites
Permitting Bodies - Debate over authority

- Energy Policy Act of 2005
  - Act provides a Federal "hammer" for building interstate transmission facilities
    - NEITC can be designated for reasons other than reliability concerns (e.g., economic, supply diversity)
    - Provides short timelines for issuance of construction permits by FERC
  - Although States retain predominant control over generation, the Act encourages development of an interstate transmission network over the hub and spoke paradigm traditionally employed by states
Permitting Bodies - Debate over authority

- **Piedmont Environmental Council v. FERC**
  - Addresses issue of FERC's authority to issue construction permit when state "withholds approval for more than one year."
  - 4th Circuit rejected FERC's argument that "withhold approval" included a state's outright denial of a transmission facility.
  - Case represents a limitation on federal ability to circumvent a state's transmission siting authority under the Federal Power Act.
Permitting Bodies - On the Horizon

- Potential Impact of American Reinvestment and Recovery Act on siting
- Waxman-Markey Bill of 2009
- State Developments
  - Market Deregulation
  - Transition to Nodal Pricing
- Renewable Projects to Keep an Eye On
Environmental Issues

- Environmental issues of concern depend on a variety of factors
  - Type of project - wind, solar, geothermal, biomass
  - Landownership - public vs. private
  - Region/state
    - Some states have more rigorous environmental review processes than others, e.g., California
  - Onshore/offshore
Wind

- Key issue is birds and bats - mortality from turbine strikes
- Two key federal statues
  - Endangered Species Act - prohibits taking of endangered or threatened species (e.g., Indiana bat)
  - Migratory Bird Treaty Act - prohibits taking of migratory birds (broadly defined)
- Fatalities from turbine strikes qualify as "takes" under both statutes
Wind

- Compliance options
  - ESA
    - Section 7 consultation - available if another federal permit is required (e.g., 404 permit)
    - Incidental taking permit - requires preparation of Habitat Conservation Plan
  - MBTA
    - No existing method to authorize takes of migratory birds
Wind

- Compliance Options
  - FWS Interim Guidance on Avoiding and Monitoring Wildlife Impacts from Wind Turbines (2003)
    - Site assessment guidance
    - Guidelines for siting turbines
    - Design and operation

- Wind Turbine Guidelines Advisory Committee
  - Developing expanded set of recommendations
  - Recently issued third draft
Wind

- Other options
  - Avian and Bird Protection Plan
  - Real-time radar systems

- Bottom line - do something to demonstrate you are trying to minimize impacts to migratory birds
  - Pacificorp plea agreement - $510,000 fine plus $900,000 restitution
Wind

- **Other environmental issues/permits for wind projects**
  - Other impacts to protected species from modifications to habitat
  - Clean Water Act Section 404 - impacts to wetlands or other waters of the U.S.
  - Stormwater permitting
  - Coastal Zone Management Act
  - Spill Prevention Control & Countermeasures Plan
  - National Environmental Policy Act/State NEPAs
Solar

- Principal environmental issues related to size of the project area
- Potential issues/approvals
  - Endangered species impacts - e.g., Beacon Solar Energy Project HCP covering impacts to three species over 2,300 acres
  - Wetlands/Waters of the U.S.
  - Water sourcing issues
  - NEPA
- Projects on public lands
  - BLM Solar Programmatic EIS
Geothermal

- Air issues
- Wastewater issues
  - Underground Injection Control permits
- Environmental review
  - NEPA
  - State NEPAs
General Considerations

- Environmental permitting agencies are often sympathetic to renewable projects
  - But bureaucracies are still bureaucracies - environmental permitting takes time

- Environmental issues are still a favorite tool of project opponents
  - ESA/MBTA lawsuits challenging wind projects around the country
    - *E.g.*, Beech Ridge
  - Coastal Habitat Alliance petition to FAA
  - Don't assume that environmentalist support for alternative energy will protect you