Session 2A:
Hot Topics in Renewable Energy Law
Transmission & Siting

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Electric Transmission – The Magic Ingredient to Make Major Renewable Energy Development a Reality

I. Scope of Presentation –

A. Electric Energy Derived From Wind Resources

B. Electric Energy Derived from Solar Power

C. Hydropower/Pumped Storage Projects

D. Tidal/Wave/Ocean Thermal Energy

E. Attributes of Each Relating to Transmission Issues

II. The Promise –

A. Attractive, Non-Emitting Sources of Clean Energy

B. Decreased Reliance on Imported Oil and Gas

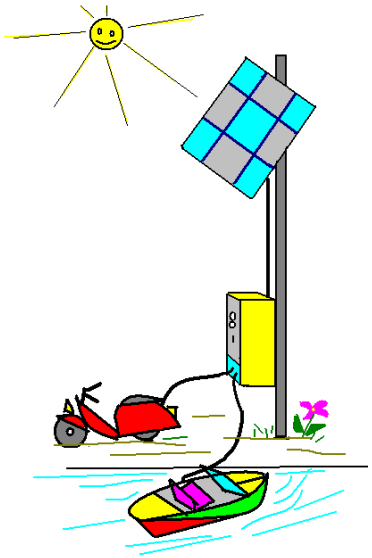
C. Decreased Reliance on Coal

D. New Jobs and Opportunities in Clean or Green Energy

E. Innovative Technology

F. Sustainable Energy Supply

II. The Promise –



G. Potential Ability to Integrate Renewables with Nuclear Energy Generation

H. Ability to Integrate with Lower Emission Natural Gas Fired Electric Generation

I. Ability to Integrate Renewable Derived electric energy with Increased Efficiency, Demand Side Management or Demand Reduction

II. The Promise –

J. Renewables Mandate/Clean Energy Mandate at State Level

K. Huge Stimulus Funding, Grants, Loans, Subsidies

L. Military, National Labs, Government Owned Building Supporting Renewable Policy, Tribes

M. The Smart Grid Dream

II. The Promise –

N. Renewable Energy Credits (RECs) and Solar Renewal Energy Credits (SRECs)

– Market Development – Trading Potential

III. So What's the Problem? Why don't we "switch" right now to renewable electric energy sources and (take your pick) close coal plants, any remaining oil burning plants, etc.

A. Grid reliability/security of supply

B. The price of new transmission/ energy price impact/See e.g. Denmark

C. Lack of available, affordable transmission capacity/antiquated infrastructure

D. Critical mass of sources not yet developed

III. So What's the Problem? Why don't we "switch" right now to renewable electric energy sources and (take your pick) close coal plants, any remaining oil burning plants, etc.

E. Smart grid development/ complexities/cost/cyber-security

F. Economic conditions

G. Drying up of stimulus related funding – grants, subsidies, supports

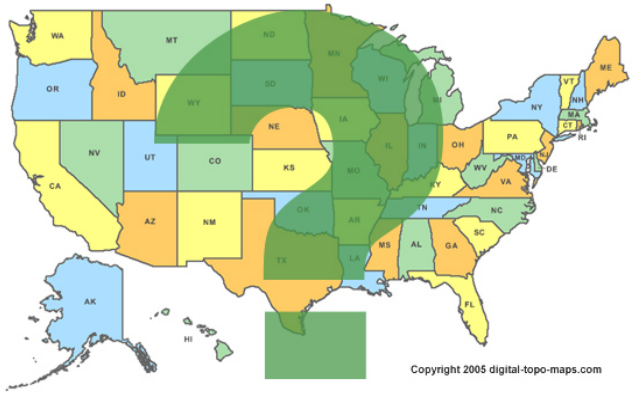
H. Confusing and unpredictable regulatory policies/State and Federal

III. So What's the Problem? Why don't we "switch" right now to renewable electric energy sources and (take your pick) close coal plants, any remaining oil burning plants, etc.

I. Continuing debate on GHG issues/EPA directives' impact on coal burning plants

J. Siting – environmental, land use, noise, avian life, other endangered species concerns

K. Inability to pass national clean energy mandate – renewables policy/partisanship and regional differences



III. So What's the Problem? Why don't we "switch" right now to renewable electric energy sources and (take your pick) close coal plants, any remaining oil burning plants, etc.

L. Tax Policies

M. Shifting political support at state and local level

N. History of clean or renewable energy projects with technological or financial or regulatory programs (the PURPA experimental phase); roller coaster of development and phase out of clean energy – e.g., price of natural gas and new availability of shale gas in large quantities – California experiences

IV. The Big Problem: Transmission! – It's big, expensive, and usually controversial

A. Siting
   1. NIMBY, BANANA, NOWAY and NOT GOING TO HAPPEN -!
   2. Why does the renewable electric generation resource often seem to be located so far from the load center?

B. Pricing structures/impacts fairness/ timing/generational

C. Allocation of Transmission Capacity

IV. The Big Problem: Transmission! – It's big, expensive, and usually controversial

D. Intermittency and variability of some resources
   1. Wind-intermittency and variability – weather, other issues including bird migration
      a. Dispatch issues – economic/environmental
      b. Grid integration
   2. Solar/land use/endangered species

IV. The Big Problem: Transmission! – It's big, expensive, and usually controversial

D. Intermittency and variability of some resources (continued)

3. Integration with other sources – e.g., natural gas fired; coal, other; wind and solar on same transmission line; divergent interests of natural gas producers
   a. Pipeline capacity and storage relationships to intermittent wind
   b. Hydroelectric renewable issues/water supply/ fisheries impacts

IV. The Big Problem: Transmission! – It's big, expensive, and usually controversial

D. Intermittency and variability of some resources (continued)

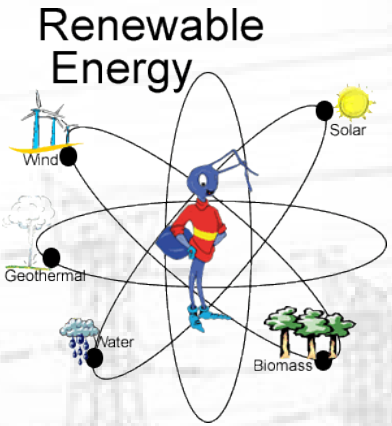
4. Funding for transmission projects; recoverability of costs; lengthy regulatory proceedings
5. Legal confusion and uncertainty for capital intensive, complex projects
   a. States vs. Federal Regulation of Transmission (see Federal Power Act and Energy Policy Act of 2005) National Interest Electricity Transmission ("NIETC"s) Corridors –

IV. The Big Problem: Transmission! – It's big, expensive, and usually controversial

D. Intermittency and variability of some resources (continued)

5. Legal confusion and uncertainty for capital intensive, complex projects (continued)
   b. Role of Regional Transmission Organizations
   c. States internecine battles in transmission planning
6. The queue – who gets in and when? Who determines the answers to those questions?

V. How do renewable resources get connected - interconnection agreements - FERC requires and oversees tariffs



A. FERC Tariffs

B. Feed-in Tariffs (FITs) – Success Abroad – does it equal a model for the U.S.?

C. Success Stories and Imperfections

D. What is key issue?

   1. Market structure?
   2. Political/price impact?/Can the economy absorb?

VI. The Players

A. Generators
B. Utilities
C. Grids
D. States/Environmental Agencies and Public Utility Regulatory Bodies
E. FERC
F. States

VI. The Players

G. DOE

H. Tribes, DOI, DOA (RUS), Federal Power Marketers

I. NERC/Reliability Councils

J. Consumer groups

K. Environmental groups

L. Local siting authorities

M. International Entities – Canadian

VII. The Federal Law That Applies

A. Federal Power Act (1920, 1935)

B. Public Utility Regulatory Policies Act – 1978 (Key part of Carter's Energy Policy Act)

C. Energy Policy Acts –

   1. 1992 (wheeling – more independent power encouraged)
   2. 2005 (EPAct – Section 216)

D. Energy Independence and Security Act of 2007

VIII. Key Concepts

A. FERC has authority over transmission and sales of electric energy in interstate commerce (sales for resale) (FPA Parts II & III)

B. Rates under the FPA "must be just and reasonable" FPA Sections 205 and 206

C. An important distinction: Unlike FERC's Section 7 Natural Gas Act jurisdictional power to certificate interstate pipelines no such power exists for FERC in the electric transmission area to license new transmission wires!!

VIII. Key Concepts

D. Major FERC orders: key

1. No. 888 series – open access tariffs – RTOS; ISOs
2. Order No. 2000
3. Order No. 2003 – interconnection agreement tariff
4. Order No. 661 – wind generation
5. Order No. 1000

VIII. Key Concepts

E. Post 2003 Blackout additional laws were passed to dramatically increase reliability, and strengthening of the North American and – EPAct 2005 –

NIETCS (Backstop siting authority)
DOE transmission study

F. Huge controversy over role of states/FERC under FPA and EPAct 2005 -; yet some success in getting new transmission built