

Electricity: Yesterday, Today and the Future?

A presentation by:

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What Is ELCON?

- The national association for large industrial users of electricity in the U.S.
 - Founded in 1976
 - Members from a wide range of industries from traditional manufacturing to high-tech
- The views today are mine alone



What I Plan To Do Today

- Respond to Bob Bessette's request to compare electricity legislation of +/- 5 years ago to now
- Go out on a limb and venture a guess as to what energy legislation will be enacted in 2012
- But, most of all, point out that even without any Congressional action, electricity prices are expected to rise for a variety of reasons
 - In addition to the cost increases expected to come from EPA actions – which I will not address

A Little Background on Electricity Legislation

- Electricity is more a regional than political issue:
 - Usually based on a combination of price, fuel sources and utility reputation
- In 2004:
 - George W Bush President
 - FERC establishing ISOs/RTOs (with a supplier bias)
 - DOE and EPA very quiet

The 2006 Election

- Huge Democratic victory:
 - No Democratic House, Senate, or gubernatorial seat lost to Republicans
 - Dems take control of both the House and Senate (1st time since 1994)
 - Dems near euphoria – close to heaven
 - Nancy Pelosi slated to become Speaker
 - Hugh symbolic message
 - Woman, CA liberal, ardent environmentalist
- Energy/environmental objectives:
 - Boost renewables
 - Regulate GHG emissions
 - Attack big oil companies

The 2008 Election

- Barack Obama succeeds “W”:
 - He was barely a blip on the radar screen in 2006
 - Hilary, Biden, Edwards Richardson, etc. were the frontrunners then
 - But he wins with a tremendous margin
- Then, Henry Waxman ousts John Dingell:
 - Dingell is the longest serving House Member
 - Waxman is a personification of environmentalism
- Democratic expectations:
 - GHG regulations
 - Renewable energy
 - Repeal of the oil tax “loopholes”

2008–10 Hurdles to Overcome

- Recession hits in the end of 2008:
 - Takes focus off of energy – to economic recovery
 - Some begin to realize that environmental objectives may jeopardize jobs
 - Partly through higher electricity prices
- Senate:
 - Dems begin 2008 with the 60 votes necessary to overturn filibusters
 - But then Ted Kennedy dies and is succeeded by Scott Brown (R) – now 59 and need bipartisan
- House:
 - Passes Waxman-Markey cap and trade
 - But the Senate fails to act

2008–10 Hurdles to Overcome (Cont.)

Public reaction

- Upset with:
 - Little (if any) economic recovery
 - Many view the stimulus package as a failure
 - High energy prices
 - Congress' inability to act
- Growing opposition to health care legislation
- GHG emissions decline in importance

The 2010 Election

- “Throw the bums out”:
 - Major anti-Washington sentiment
 - 60 vote Republican majority in the House
 - Narrow 3-vote Dem majority in the Senate
 - Very partisan environment on the Hill
- However, the Administration (esp. EPA) actually increases activity:
 - Even though much energy policy is not always partisan, environmental policy issues clearly are partisan
 - House on EPA attack – But Senate blocks
 - Legal challenges may bring more change

Expected Congressional Actions (or Inactions) Until 2012 Elections

- The Senate and House are on different tracks leading to 2012 – an election year:
- In the House (large Rep majority):
 - 1st priority – repeal health care “Obama-care”)
 - 2nd priority – rein in EPA (avoid “train wreck”)
 - The “silly season” is here – Only a couple of examples:
 - HR 2250 – “Provides that the following rules shall have no force or effect ***and shall be treated as though they had never taken effect***”
 - The House is debating HR 2250 at this time
 - HR 2584 – “Mother of all anti-environment bills”
 - Example: would “prohibit funds for the promulgation or implementation of any regulation requiring a permit for emissions resulting from the biological processes of livestock production”

Expected Congressional Actions (or Inactions) Until 2012 Elections

- The “TRAIN” Act:
 - Getting a lot of attention recently
 - H.R. 2401 – Transparency in Regulatory Analysis of Impacts on the Nation Act of 2011
 - Would (1) delay the implementation of two EPA proposed regulations (CSAPR and Utility MACT) and (2) require a study of the cumulative costs of numerous EPA regulations
 - The White House says:
 - Costly, unnecessary and redundant
 - Would slow or undermine important public health protections
 - The President would veto

Expected Congressional Actions (or Inactions) In 2012

- The House will continue to pass legislation
 - But the Senate (still Dem controlled) will block most House actions
- Sen. Bingaman says smaller bills with bipartisan support:
 - Could include: energy efficiency, loan programs, studies
 - Business support from: manufacturers of insulation and efficiency materials, technology vendors
 - Several R Senators supported – so ready to go to the Senate floor
 - Sen. Reid wants an “energy jobs” bill
 - But concerns over amendments to restrict EPA
 - Solyndra bankruptcy after very high-level support will slow future loans and stimulate great debate

However, No Congressional Action Does NOT Mean No Cost Increases

- I mention only a few:
 - FERC actions – Potentially very significant
 - Energy efficiency – Cuts both ways
 - “Clean energy” – Integration of renewables, the need for transmission and backup, failures, gas/wind alliance
 - “Smart grid” – and cyber security
 - NERC (a whole new set of requirements)
 - And of course EPA

FERC Activities: Integration of Variable Generation

- FERC issued a NOPR in 2010 to:
 - Reform the OATT to require transmission providers to offer services to ease the integration of VG
 - Several entities have been raising concern over reliability as VG grow
 - The NOPR would require:
 - Scheduling at 15-minute intervals
 - Better meteorological and operational data
 - New generator regulation service
 - ELCON called for:
 - Strict “cost causation” principles
 - “Source neutrality”
 - Cost recovery on a demand and energy basis

FERC Activities: Transmission Cost Allocation

- In 2009, the 7th Circuit overturned FERC's approval of PJM's method of allocating costs for EHV transmission (a "postage stamp" type of tariff)
 - The Court ruled that the record did not justify rejecting the traditional "beneficiary pays" method of cost recovery
- However:
 - FERC issued a NOPR in 2010 that has raised significant cost "socialization" concerns
 - FERC called for "public policy" to be considered as benefits
 - FERC approved transmission tariffs from MISO (MVPs) and SPP that (basically) spread transmission costs throughout the regions
 - FERC stated that the courts have said that rates and costs must be related "to some degree" but does not require "exact precision"

FERC Activities: Transmission Cost Allocation

- Transmission will become even more important as renewables grow
 - NREL concluded: 20% wind in East is “technically feasible” – but requires \$93 B in T and the establishment of large regional operating pools
- FERC’s Final Order 1000 in July 2011:
 - Requires consideration of “public policy requirements”
 - Veers away from “participant funding” and would allow the socialization of costs
 - Fails to recognize that the costs of low capacity factor energy resources (e.g., wind) should be allocated based on capacity
 - ELCON filed for clarification and rehearing

FERC Activities: Transmission “Incentives”

- EAct 2005 allowed FERC to grant “incentives” for transmission construction
 - In 2006, FERC issued Orders 679 & 679-A to implement EAct 05
 - These Orders provided “incentives” to numerous projects that were already slated to be built
 - They failed to protect consumers
 - FERC initiated a NOI on transmission incentives in May 2011:
 - ELCON urged FERC to:
 - Establish a rebuttable presumption that there is no need for “incentives”
 - Incentives should be tailored to the risk profile of the project



FERC Activities: Demand Response

- In July 2011, FERC issued a final rule (Order 745) requiring ISOs & RTOs to pay DR “full LMP” – the same as generators
 - ELCON strongly supported (most of) FERC’s proposal
 - Generators and other suppliers are strongly opposed to these proposals
 - FERC:
 - Issued a “supplemental NOPR” on August 2 seeking additional comments
 - Held a Technical Conference on September 13
 - Very recently, ISOs & RTOs have made “compliance filings” as required by the Rule
 - A big issue is whether DR can be supported by behind-the-meter-generation (BTMG)



Energy Efficiency

- There is strong Administration and Congressional support for energy efficiency:
 - Many utility-implemented EE programs bring few, if any, benefits to industrials, but they cost a lot
 - However, there is a growing “recognition” that there are significant opportunities for additional EE in industry
 - Example: The ACEEE states that the “key target” for EE should be manufacturing firms who “are poised to make major new capital capacity investments” as the economy recovers
 - ACEEE states that the so-called “coal train wreck” can be avoided with EE
 - There may be opportunities for manufacturers to benefit from new EE “incentives”
 - But care must be taken as there are possible downsides

Clean Energy – Renewables

- ❑ Many states have implemented RPS/RES-type standards
- ❑ The federal government has:
 - Strongly encouraged renewables and
 - Has issued billions of dollars in subsidies and load guarantees
- ❑ Increasingly, it is recognized that integrating large amounts of “variable generation” is difficult
 - It requires new transmission, back-up generation and changes in operating systems and procedures
 - The Solyndra bankruptcy will slow DOE funding
- ❑ Recently, the natural gas industry has proposed an alliance with the wind industry
 - Advocating that gas turbines can compensate for the intermittent nature of wind
- ❑ There are many, many dollars in play that industrials may be asked to pay

Grid Improvements and the “Smart Grid”

- The stimulus bill contained \$4.5 billion for grid improvements
 - These are matching grants
 - Most for “smart meters”
 - There are now about 25 million advanced meters installed
 - It is projected that there will be 65 million by 2016
 - The electric industry has suggested that a fully functional “smart grid” would cost over \$1 trillion
- Consumers are beginning to question the net value of a smart grid
 - Several utilities have raised cost issues
 - Gov. Pat Quinn (D-IL) vetoed legislation supporting a smart grid initiative
 - Some consumer advocates have expressed strong opposition to mandatory “real time pricing” that may result from advanced meters

NERC Issues: Background

- The North American Electric Reliability Corporation (NERC):
 - Is the FERC-designated “ERO”
 - It develops mandatory reliability standards with up to \$1 million / day penalties
 - Any entity that is on NERC’s Compliance Registry must:
 - Comply with all applicable standards
 - Make required compliance filings
 - Be subject to periodic audits
- If you have not yet been placed on NERC’s Compliance Registry
 - You are lucky

NERC Issues: Concerns

- Industrial Facilities can become NERC-Jurisdictional in at least three ways:
 - BES Definition
 - Defines the specific assets that make up the BES
 - Therefore makes them subject to Standards
 - FERC and NERC staff want more, rather than less, jurisdictional
 - Statement of Compliance Registry:
 - Defines the “users, owners and operators” of BES assets
 - Specific reference in a standard:
 - Standards that specifically reference an asset or facility require them to be compliant until “excluded”

NERC Issues: Concerns

- Current Risk to Industrial Facilities:
 - Behind-the-meter-generation is at perhaps the greatest risk
 - Large (>100kV) interconnection facilities
 - Interconnections with the BES
 - That do not have utility-controlled protection devices
 - Any “utility-like” behavior
- Potential NERC scope creep:
 - Large loads
 - Demand response
 - Contiguous path between behind-the-meter-generation and the BES
 - Control centers (e.g., EMS)



Why Industrials Should Care About NERC

- Once NERC-jurisdictional:
 - Entities must devote large quantities of resources (both time and money) to ensure compliance and respond to audits, etc.
 - Some industrials have had to:
 - Hire additional staff and spend large amounts of money on lawyers and consultants to attempt to both be in compliance and comply with audits

And Then There Are The EPA Activities

- CIBO knows the EPA issues much better than I
- You just had several presentations on EPA actions – including one by EPA
- I can't add much more
 - Other than to say that these actions will bring with them a lot of costs

Overall Impacts of These EPA Actions

- The EPA initiatives that are presently under development are under attack by House Republicans
 - However, the Administration does not seem ready to do so
- It is very difficult to estimate the costs
 - But from the scarce information available, the costs (and thus rate impacts) will be substantial
- EPA has stated that the benefits far exceed the costs
 - OMB estimated that the rules would cost between \$43 and \$55 billion but the benefits are between \$128 and \$616 billion
- But EEI has said that the EPA non-GHG costs
 - Will add up to \$200B annual CAPEX by 2015 on top of the existing \$80 B annually
- NERC stated that between 441 and 761 generating units would be “economically vulnerable for accelerated retirement” by 2018
- And an analysis conducted for the NAM and API concluded:
 - The annual attainment costs is \$1.013 trillion between 2020 and 2030
 - By 2020, GDP is reduced by \$676.8 billion and 7.3 million jobs are lost

So Where Are We?

- The U.S. has experienced a very difficult and severe recession
 - Unemployment is still above 9%
 - Electric demand is still significantly below the level of just a few years ago
- There appeared to be a “light at the end of the tunnel”
- The opposition to the EPA activities seems to be growing
 - Several labor unions have weighed in
 - The Small Business Administration warned that 1,200 small entities would be swept in
 - And EPA seems to be listening – at least a little
 - The Administration “blinked” regarding ozone
- There was even talk of the need for new electricity supplies
 - Starting a real discussion of the type of new supplies – coal, nuclear, renewables, EE, DR, etc.

But Then ...

- The turmoil in the Mid East and the Japanese 9.0 earthquake and tsunami have caused tremendous unknowns
- What now are realistic options for future electricity supplies?:
 - What are the prospects for nuclear?
 - Is “clean coal” a real option?
 - It is still an unproven and untested option
 - What is the future role of shale gas?
 - What are the prospects for renewables?
 - Clearly renewables represent a growing proportion of the supply mix
 - Though concerns are growing regarding the possible reliability impacts of variable resources
 - It is interesting that many in the renewables industries are concerned that the legislative focus will shift to the domestic economy to the detriment of renewables

Conclusions

- These truly are “interesting times”
- There is little on the horizon to suggest lower electricity costs
 - And there is much to suggest higher electricity costs – perhaps substantially higher
 - The only question is when and by how much
- We all struggle with how to make policymakers more aware of the impact on manufacturers
 - But we are not optimistic

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