

# Electricity: Yesterday, Today and the Future?

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A presentation by:

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# What Is ELCON?

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- 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

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- 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

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- 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

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- Huge Democratic victory:
  - No Democratic House, Senate, or gubernatorial seat lost to Republicans
  - Dems take control of both the House and Senate (1<sup>st</sup> 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

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- 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

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- 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.)

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## 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

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- “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

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- The Senate and House are on different tracks leading to 2012 – an election year:
- In the House (large Rep majority):
  - 1<sup>st</sup> priority – repeal health care “Obama-care”)
  - 2<sup>nd</sup> 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

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- 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

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- 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

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- 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

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- 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

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- In 2009, the 7<sup>th</sup> 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

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- 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”

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- 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

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- 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

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- 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

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- ❑ 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”

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- 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

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- 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

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- ❑ 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

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- 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

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- 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

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- 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

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- 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?

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- 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 ...

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- 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

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- 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

# To Contact ELCON

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