

Setting the Stage: A Radical Shift in Today's Energy Reality

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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



Background

- I emphasize, my comments today are mine alone – not ELCON's
- Even before the economy crashed, manufacturers were losing sales and cutting jobs due (at least partially) to:
 - Very significant world-wide competition
 - Artificially high energy prices from the so-called "organized markets"



The Restructured Electricity “Markets”

- Simply are not competitive
 - Little real interaction between suppliers and demand
 - An impossibility to get reasonable long-term contracts
 - A new form of regulation – called “capacity markets”
- We did not get new products or innovation or a customer focus
 - But we did get higher prices – To compound the problems already confronting consumers

Now With The New Administration

- Change most certainly is coming to energy & environmental policies including:
 - Renewable energy
 - Energy efficiency
 - Demand response
 - Smart grid
 - Climate change
- I very briefly address each in turn

Renewable Energy

- Primarily wind – but also solar, tidal, geothermal, biomass and some new hydro
 - These renewables offer tremendous opportunities
 - And states are establishing renewable mandates – Some that can't be met
- However, renewables have characteristics that are significantly different from more traditional generation
 - As an example, NERC states that wind is
 - (1) variable, (2) uncertain and (3) often located in remote regions
 - Thus, it requires perhaps significant changes in operating procedures and often substantial new transmission
- The bottom line: Renewables bring significant benefits – but also substantial costs



Energy Efficiency

- Cost-effective energy efficiency (EE):
 - Has a tremendous potential to reduce load and bring significant environmental benefits
- However:
 - EE may not reduce peaks – thus not reducing the need for generation
 - Utility-administered EE programs involve a lot of overhead
 - There are many implementation issues such as: free riders and the rebound effect
 - Significant additional costs are incurred when utilities request “decoupling” to regain “lost revenues” or “lost profits”
 - Often, EE is not properly measured and verified
- The bottom line: Energy Efficiency may be a terrific resource
 - But it may cost consumers a whole lot while bringing only questionable benefits

Demand Response

- Demand response (DR) has the potential to significantly reduce both energy consumption and peak load
 - In fact, FERC has stated that DR reduced peak load by 5.8% in 2007
 - An EPRI representative recently stated that DR and EE could cut projected peak growth in half by 2030
 - Industrials have been offering DR for many years
- However, to get the most DR requires:
 - Significant capital expenditures (smart meters, special switches, expensive measurement equipment)
 - And, ideally, peak load pricing for all consumers
 - And consumers, especially small consumers, seem to want levelized prices over the year, not hourly prices
- The bottom line: There is a tremendous potential for DR – but it will come at a price



Smart Grid

- We hear a lot about the need for a “smart grid”
 - It will do for the electric industry what the internet did for communications
 - However:
 - There isn't even an accepted definition – Will we get beta rather than VHS?
 - It will be very expensive – trillions of dollars
 - Will it actually bring the claimed benefits?
 - Do consumers really want what it will bring – that is, real time pricing?
- The bottom line: A smart (or smarter) grid may bring great benefits, but it will be at a cost
 - And if not done with consumer support, could bring substantial backlash

Climate Change

- It appears that green house gas controls will be enacted soon
 - I emphasize: ELCON has no position on whether or not – or how – GHGs should be controlled
 - But we would like to see any controls be as efficient as possible

Climate Change (Cont.)

- The costs of GHG controls vary substantially
 - McKinsey & Company states:
 - We can achieve a 70% reduction worldwide by 2030 at a cost of less than 1% of GDP with no lifestyle changes for anyone
 - However, achieving this result requires by 2030 (a few examples only):
 - 42 million hybrid vehicles – 40% of all sales
 - Avoiding deforestation of 170 million hectares
 - Planting 330 million hectares of new forests
 - 90% of all forestry opportunities are in developing countries
 - 70% of global electricity from low-carbon generation

Climate Change (Cont.)

- The CA experiment may give some insight:
 - Implemented very tough controls in 2006
 - Now, according to the *Wall Street Journal*:
 - Unemployment is 9.3% (up from 4.9% in 2006)
 - 1.5 million Californians are out of work
 - CA has the 4th highest foreclosure rate in the nation
 - CA has lost more businesses than any state in recent years
 - CA faces a \$42 billion deficit
 - I do not suggest that CA's climate controls caused all of these problems – but they certainly added to the problems
- The bottom line: Controlling GHGs will be very costly to electricity consumers
 - It will result in the loss of many manufacturing jobs
 - I question of these losses will be offset by the gains in “green jobs”

Conclusions

- ❑ Basic manufacturing in the US already is in a terrible condition
- ❑ Yet, there is a great momentum to implement several new and very substantial initiatives
- ❑ Most certainly, these initiatives have the potential to create new industries and jobs
- ❑ However, each has to be done “right” to avoid even further harm to the economy

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