End Users Response to an Environmentally Aware Society

Clean Air Counts Energy Forum

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Presented by:
Craig Schuttenberg
Energy Choices, P.C.
schuttenberg@energychoices.com

Three Subjects Covered

- Buying Energy – Electricity and Natural Gas
- Buying Renewable Energy
- How State and Federal Policies Affect Electricity Pricing

Buying Energy (Electricity and Natural Gas)

- Most end users have been purchasing third party supply natural gas and electricity for years
- Many have their own insight and procurement process

  Define objectives, detail a plan, implement plan, change plan as required, report to management

Buying Renewable Energy
Kinds of Renewable Energy

Wind, Solar, Low Impact Hydro, Geothermal, Landfill Gas, Bio-Digester, Wood Chips, Farm Waste (e.g., corn stalks) – and in some states – municipal trash and energy efficiency

Renewable energy is in the eye of the beholder

Definition is determined by legislation

Renewable Energy's Deliverability Challenge

- If you are a purchaser, the challenge was getting the renewable energy delivered to your site
- To facilitate a market, the environmental benefits and the actual electricity production are sold separately
- The environmental benefits are Renewable Energy Certificates (RECs)

To make this work, some standards needed

Standards/Certification of RECs

- Strict accounting prohibits double-selling of RECs
- The generators must meet certain standards
- Green e certified is the most common certification

How Do You Buy RECs?

- Easiest way is to buy them through your electricity supplier
- Can purchase from a third party provider of RECs

When you do buy, make valid comparison on product, term, etc. as prices vary

Issues with Buying RECs

- What is the purpose?
- What do you actually buy?
- What do you get?
- What is the deposition of the revenue from the sale of RECs?
- The Additionality question

Issues with Buying RECs
(continued)

- When the price goes down, you pay less. Does that mean you care less about the environment?
- Statements corporations make about their REC purchases sometimes are questionable or misleading.
- Losses – brought to you by the coal industry?

Cost of Renewable Energy (Approximate)

- IL Wind -- $22/mWh
- IL Land Fill Gas -- $14/mWh
- National Wind -- $3/mWh 2009 rising to $6/mWh 2012
- Green Certified sources -- $2.50/mWh 2009 rising to $5/mWh 2012

Carbon Cap & Trade

- Market Based – those for whom it is easier (i.e., cheaper) to achieve reductions, they will invest in those reductions and sell permits
- Cap is on a set time-table for reduction
- Permits are traded bilaterally or an auction process
- Similar to successful trading of SO2 credits in the 1990's

Waxman-Markey

- Caps carbon emissions at 17% below 2005 for 2020 and 83% below 2005 for 2050
- Cover 86% of all emissions by 2020
- Targets emissions at their source – 7,400 companies targeted for reductions/compliance , however, reporting may affect small businesses (10,000 metric tons per year in direct emissions)

Illinois Renewable Portfolio Standard

- Started at 2%, now 5% with year ending June 2010. Steadily increasing over time to 25% by 2025
- Affects both electric utilities and third parties
- There are some cost-effectiveness tests – Price and Source Locations
- Basically 75% from wind, approx. 25% from other sources, small amount from solar PV

Federal RPS
Udall Bill

- Calls for 6% by 2012 and 25% by 2025
- Energy efficiency can satisfy up to 8% of the 25%

What's the impact on future electricity pricing?

Commodity Pricing

- Prices are determined by the variable operating costs of the generator on the margin
- Probably be sequestered CO_2 from coal plants
- Will add approximately $15/mWh to the price (about 40% to today's price)

What's the impact on future electricity pricing?

Subsidizing Renewable Energy

- Federal tax credit and grant $21/mWh ($4/mWh over national portfolio)
- Electricity Storage ($12/mWh)
- Additions to transmission system ($2/mWh)
- Satisfying RPS standards ($3/mWh)

Subtotal for Renewables --$21/mWh

What's the impact on future electricity pricing?

Smart Grid

- Large unknown – investment is paid by tax and rate payers, much of the benefit goes to the utilities
- Increase in efficiency is only about 1% to 2%

  Probably adds $1 to $2/mWh to the price of electricity

What's the impact on future electricity pricing?

- Sequestering Carbon + Renewable + Smart Grid
- $15/mWh + $21/mWh + $1mWh = $36/mWh or 3.6 ¢/kWh increase

  Approximately 50% to 60% of the increase (i.e., 2 ¢/kWh) will be reflected in the price of electricity

How Do You Position Yourself for the Future?

- Use less – invest in energy efficiency – good for the environment and your business
- Take advantage of every program that will subsidize your energy efficiency program
- In the future there will be more utility and RTO sponsored programs, check them out
- Be open to new ideas and approaches that achieve your objectives

Energy Choices' Experience

- As a company, we always believed we had an environmental/sustainability leaning
- Measures were being taken by individuals, but we weren't taking a corporate perspective
- We took an objective look at what needs to be done (could be done) from a corporate view
- Founded non-for-profit Education and Actions for Sustainable Energy Efficiency (EASEE)

EASEE's Mission

Education and Actions for Sustainable Energy Efficiency (EASEE) empowers students and, through them, their families and communities) to effect positive change on the environment by educating them and giving them strategies to share their knowledge and implement their ideas.

Our efforts promote everyday actions to help families use less energy and cut energy costs – that's the EASEE way to keep the planet green.

www.EASEE-USA.org

Enhancing the Environment without Incurring Additional Cost

- Blue Planet Energy provides competitive pricing from MidAmerican Energy
- Blue Planet pledges to donate 25% of gross revenue to energy and environmental educational programs (e.g., EASEE)
- Do some good, get recognition and get a good price