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Employment vs. Environment vs. Competitiveness

Finding Balance

CIBO Annual Meeting

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Environmental Regulations = Good

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We are all stewards of the earth.

Utilizing science and technology to counter the effects of growing populations and manufacture of products and power for these efforts is good.

Time and existing data have proven this to be true.

Improvements in reducing environmental pollution has taken great strides.

Time Frame = Bad

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The existing suppliers that will accomplish these goals are sized to service the industry based on an existing level of work predicated on replacing worn out equipment and some amount of growth in the industry.

There is room for some growth in the amount of services that can be supplied. It is unreasonable to expect huge increases in the services that can be supplied by the existing suppliers in such a short time frame.

Compliance dates are too short to bring on new suppliers

New suppliers would be faced with a short (2 – 3 years) life of their companies due to severely reduced demand after the compliance date.

Short term large investments in equipment will cause rapid short term rise in product prices.

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WHAT HAPPENS WHEN A SIGNIFICANT EXTERNAL FORCE IS IMPOSED ON AN EXISTING SYSTEM?

Example 1:

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Project: Convert over 300 schools from coal to gas/oil firing

Boilers and associated systems (feedwater system, heating system traps, thermostats, etc) to be fabricated/installed/started up

Over 600 boilers to be fabricated, delivered, installed, started

Time Frame: 2 years

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PRICE EFFECTS

First open bid contracts awarded for under estimated cost per school

Subsequent open bid contracts awarded for approximately estimated cost

Final group of open bid contracts awarded for significantly above estimated cost

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INSTALLATION EFFECTS

Initial schools installed in expected time frames.

Subsequent schools saw contractors “sharing” workforce between schools, resulting in gaps in timing and work completion.

Final schools saw further erosion of reaching substantial completion and some deterioration of work quality (but not across the board).

Example 2:

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Project: Hurricane Andrew vs The Roofing Industry

Hurricane Andrew literally blew the roof off the Florida roofing industry.

The majority of homes in south Florida required either new roofs or significant repairs to their roofs.

- Scale of work too large for existing workforce to accomplish repairs in time to prevent further damage to houses.
- Cost of roofing for immediate work and some time thereafter significantly higher than normal.
- Less qualified roofers played larger role in roofing industry with lower quality work resulting.
- Out of state roofers entered roofing industry with insufficient knowledge of Florida requirements.

Moral of the Story

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Significant external forces applied to existing systems can cause substantial negative impacts.

A 100 hour project can not be accomplished by 100 people working 1 hour a piece.

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HOW DO THESE PAST EXPERIENCES RELATE TO THE INDUSTRIAL BOILER FLEET?

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Determine Effect of Meeting Regulations on Boiler Supply System

Estimated number of new gas fired boilers/conversions required for compliance

From Boiler Database and Cost Review, Amy Marshall, URS

CIBO Emissions Conference August 2013

Analysis 1 = 886

Analysis 2 = 1079

Analysis 3 = 777

For illustrative purposes assume 900 new boilers will be required.

Boilers for Compliance Ordered Evenly to End of Compliance Date

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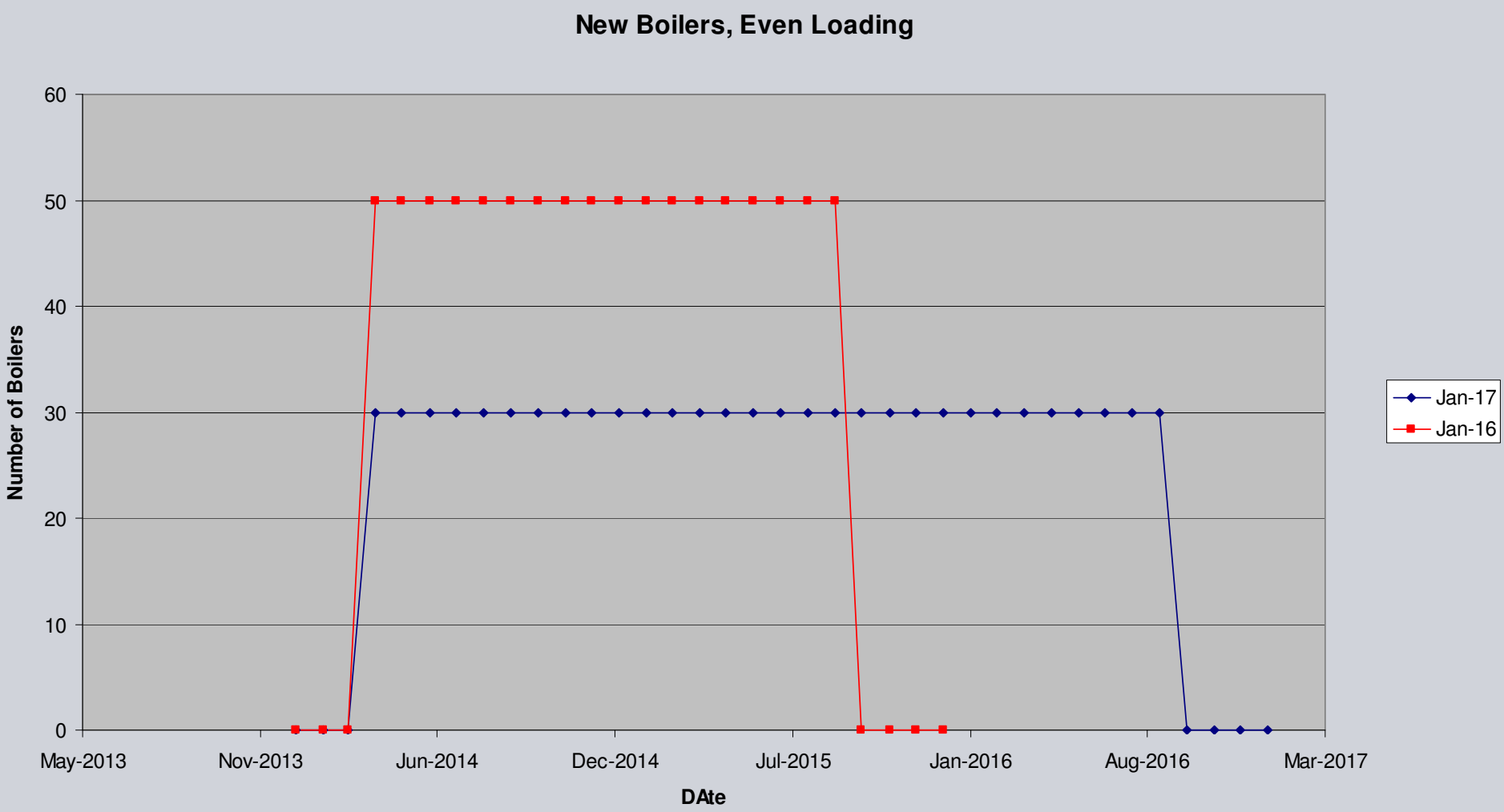

Boilers for Compliance Ordered With Heaviest Ordering Near End of Compliance Date

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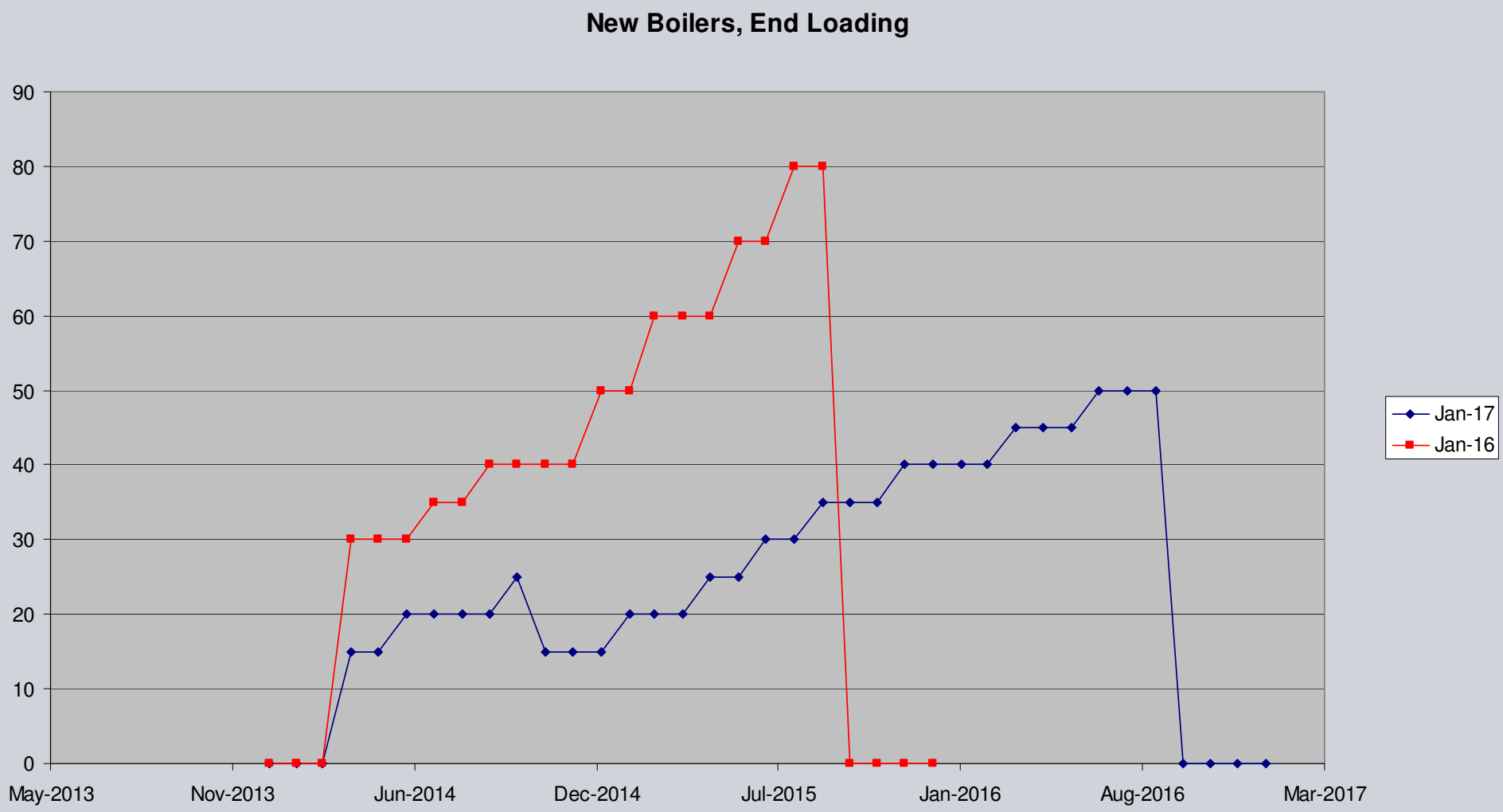
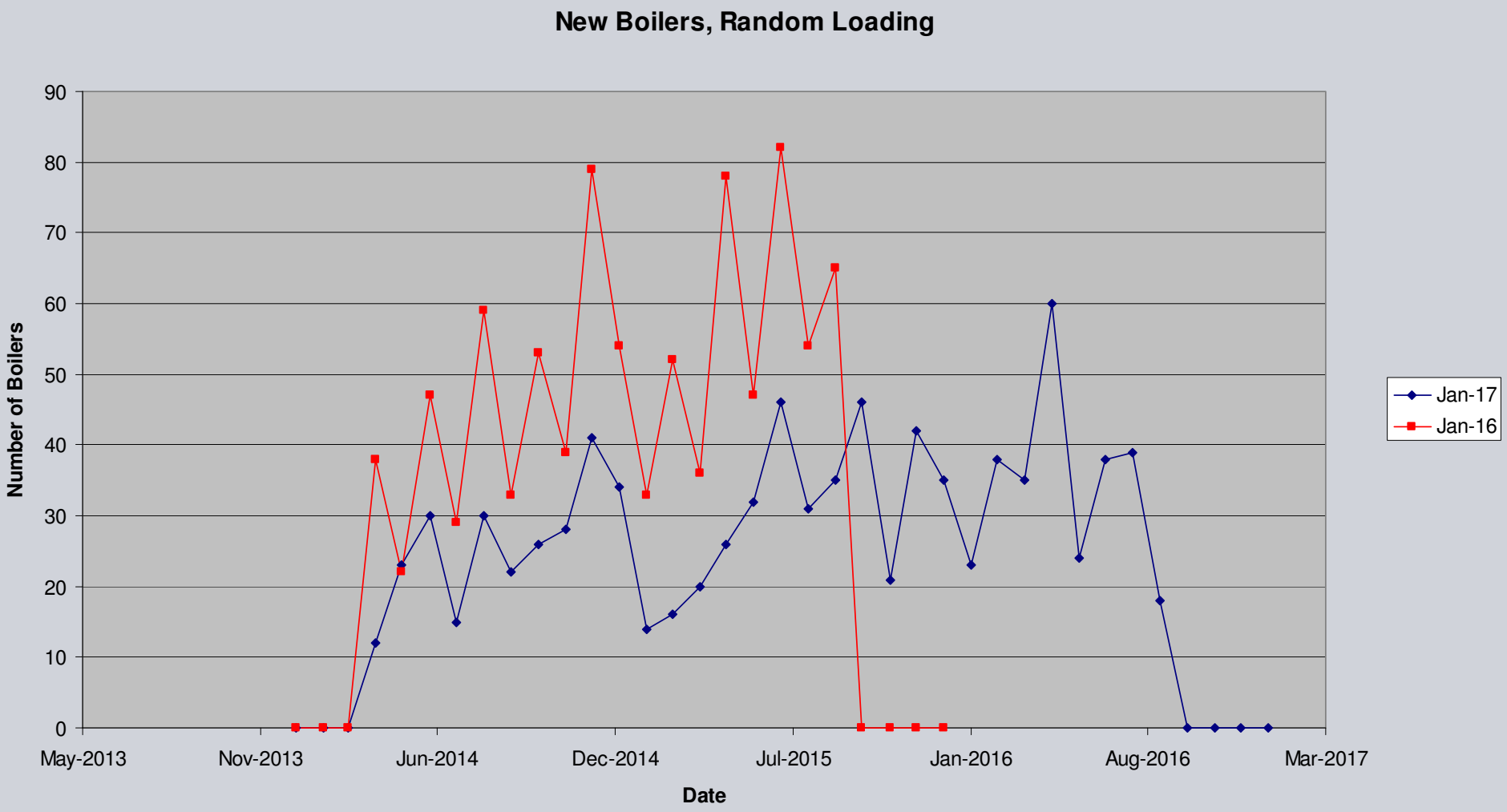


Boilers for Compliance Ordered Randomly Through End of Compliance Date



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What Are Employment Effects of the Proposed Boiler Demand?

- Demand for experienced and qualified equipment designers will exceed the available supply
- Companies/potential employees will know that the demand for products, services and continued employment will be short lived
- Continued and substantial hiring of new workforce will put added demand on existing employees for training and supervision
- On completion of compliance work, substantial shedding of workforce will be required, upsetting any remaining operations.
- Potential for smaller weaker companies to not survive such a large drop in industry demand.

What Are Potential Shortfalls in Products to Meet Compliance?

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- Raw materials
- Specialty equipment (valves, instrumentation, etc)
- Experienced engineering personnel for design and fabrication
- Available shop space
- Qualified and experienced welders, machinists, etc.

What Are Potential Shortfalls in Services to Meet Compliance?

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Boiler Industry:

- Delivery services (trucking, rail)
- Federal, state, local permit agents to process required paperwork
- Experienced start-up personnel
- Training of operators on new equipment
- Customer engineers, project managers, etc for support internally

FUEL FLEXIBILITY = COST COMPETITIVENESS

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Currently there is a good mix of fuels among various users within the industry.

This leads to competition among fuel suppliers between all of the available fuels and serves to maintain the lowest possible fuel prices.

Effectively eliminating all fuels except gas provides gas providers with a monopoly on the fuel supply market.

History has showed that gas prices are prone to spiking. This will be especially true short term when the gas delivery system will be challenged due to short term growth in demand.

The industry will suffer as a whole and will have no recourse but to increase product prices due to cost of fuel.

FUEL FLEXIBILITY = COST COMPETITIVENESS

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NATURAL GAS?

What is the real gas supply?

What are unexplored, undetermined, undeveloped gas reserves? Do they exist?

Will there be restrictions on gas exploration due to contaminated water supplies, etc?

Will gas prices rise once nearly all sources are converted and the gas suppliers will have a captive market (ie price not tied to available supply but rather captive market)?

FUEL FLEXIBILITY = COST COMPETITIVENESS

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Can we afford to eliminate the existing good mix of fuels used in the industry?

What are the real available gas reserves?

Do current price projections consider a captive market?

Can we afford to eliminate the ability to control production costs through cost control of fuels consumed?

Is this an unfair hindrance to US companies vs foreign suppliers not subject to limitations on fuel costs?

FUEL FLEXIBILITY = COST COMPETITIVENESS

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What happens when we take coal out of the fuel mix?

- Technology ceases to progress.
- The ability to burn coal cleanly will be essentially frozen at current levels.
- As any remaining coal fired equipment requires replacement, newer more efficient and cleaner technology will not be available.
- This all leads to an even further elimination of fuel flexibility in the industry.

What happens if there is a major event in the gas industry and we find the need to burn coal?

We will be forced to burn coal with equipment that is no longer state of the art.

Questions To Ponder

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Given the current weak but improving economy:

Is imposing limits that essentially eliminate a cost competitive and price stabilizing fuel practical?

Is requiring compliance and the associated increase in prices for products and services in such a short term good for an economy that needs more stabilization?

Will we lose some level of competitiveness to foreign suppliers not required to undertake large short term burdens?