Preserving the Nation's Enormous Advantage of Baseload Generation from Coal

THE NEW BTU

Glenn Kellow
President and Chief Executive Officer
Peabody

Presented at the American Coal Council
Coal Market Strategies Conference
August 15, 2017

Preserving the Nation's Enormous Advantage of Baseload Generation from Coal

Thanks to all of you today, including our customers and business partners. As I look across the room, we have enormous expertise here through fuel buyers… coal traders… coal miners… rail carriers… suppliers and generators. All of us are in the business of providing clean, affordable electricity to help power a strong economy and help people live long, good lives.

That's a simple goal, isn't it? Yet its achievement is far from assured. I believe that we are standing at a dramatic juncture in the path of the coal-fueled electricity value chain in America.

- One path – perhaps the path we are on if nothing happens to change it – takes us to a future that sees rapidly rising costs for consumers who can ill afford it… threats to reliability for an electricity grid we've taught people to take for granted… and materially reduced economic growth as we outsource our best paying jobs to other nations.
- Don't despair, though. The other path is also ours to take. It is far brighter, in all senses of the word. It leads to a future where family budgets are preserved… where baseload electricity is reliably provided year in and year out… and where the U.S. economy shows that it is not only the largest… but the best in the world powered by low-cost and reliable energy.

Engineers talk in terms of root-cause analyses, and I might suggest that the root cause of either of these results sits squarely at this proposition: How are we going to approach the nation's enormous advantage of installed baseload generation capacity from coal?

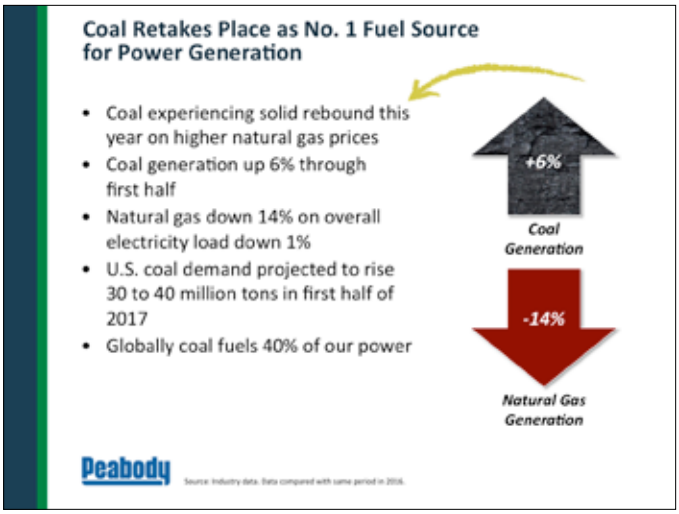
Preserve it, improve it, use it to our advantage… and the second path becomes a far easier one to travel. Sacrifice it, erode it, give in to the pressure to retire it early… and I fear the results will be one that much of America will come to regret all too soon.

That is my thesis.

If we are to preserve the nation's enormous advantage of baseload generation from coal, then together we have to change the way we think and the way we do business. We not only need to change the playbook… we need to change the entire game.

Today, I'd like to discuss the most fundamental challenges we face as an industry… and how we can work together as change agents to preserve the enormous advantage of baseload generation from coal – for affordability and reliability of the U.S. grid and for our end users: American families and businesses.

So today, I'll discuss the case for change… what I might call the power reset… and a call to action via a path forward.



I'll start by emphasizing that coal is back… and I might say, too, that Peabody is back.

You might tell from my accent that I am not originally from Missouri. I AM happy to call St. Louis home… and in the memorable words of fellow Missourian Mark Twain… reports of our death have been greatly exaggerated.

Coal, of course, had never gone away, though you might be forgiven if you were beginning to think otherwise. In fact, as most of you know, coal has retaken natural gas as the number one fuel source for power generation in the United States this year at nearly a third of overall electricity.

Coal generation is up 6 percent through the first half of the year while natural gas generation is down 14 percent. Globally, of course, coal fuels 40% of all the power in the world.

Peabody, too, is back… though we, too, never went away. We have a diversity of locations and a global portfolio to serve the best economies from the best coal regions. I believe we have financial strength and strong liquidity with a market cap of just under $4 billion.

We also have a leading reserve position… 500,000 acres of surface lands… and, by ourselves, provide the fuel for well over 5 percent of U.S. electricity generation.

We have some of the hardest working and most committed people in the industry, with 7,000 highly-skilled employees who supply customers in more than 25 countries around the world. We're pleased to have served customers for nearly 135 years and intend to continue to do so for many decades ahead.

The Case for Change

Allow me to briefly set the stage starting with coal's most compelling advantage, which sets us up to discuss a compelling "Case for Change:" Coal provides reliable, affordable baseload generation, offering enormous benefits that other fuels struggle to achieve. We provide needed energy for billions globally powering growth, and fueling some of the world's best economies at some of the lowest costs.

If the story stopped there, it would be a happy one for America's customers. We shoulder the load, we stand alongside shale gas, nuclear, hydro and renewables… and Americans benefit from reliable, low cost power. Unfortunately, though, that's not how the narrative is trending.

Instead, coal is trying to compete under a mountain of past federal policies that impose an enormous burden on compliance and costs that distort energy markets and unfairly punish electricity customers. Years of over-regulation of coal has led some utilities to begin to prematurely close reliable, low-cost baseload generation.

Utilities have been incented to build anything but coal, either directly based on rates or indirectly by avoiding the assault from a vocal minority on the industry. Peabody estimates about 10 gigawatts of U.S. coal-fueled retirements per year over the next five years, unless steps are taken to extend the lives of these reliable workhorses.

Renewable production tax credits and renewable portfolio standards grossly distort power markets with flawed signals that suggest that power is free – when electricity customers are paying excessive prices through their tax subsidies.

Renewable technologies have an important place in a balanced energy system going forward. However, heavily subsidized renewable energy is causing extreme volatility in the grid, distorting market signals, and creating enormous backup generation needs.

Shale gas is abundant and has been low cost, and we should all recognize the enormous strides taken by that industry… largely through innovation and technology… to improve its competitiveness.

Even so, we've seen the impact to generation that occurs when the cost of gas rises to just $3.00 to $3.50 per million Btu such as this year. Gas producers aren't returning their capital, exports are on the rise, and environmentalists who began with "beyond coal" campaigns are quickly turning their sights on natural gas as a major producer of methane greenhouse gases and other environmental concerns.

Whilst gas transmission pipelines are increasing, some markets still remain vulnerable. Arizona is a prime example. There is much discussion about the future of the state's largest coal-fueled power plant, which uses Arizona coal supplied by our Kayenta Mine in concert with Native American tribes.

Without the mine and power plant, there would hardly be a well-populated “Valley of the Sun.” The operations create a desert oasis and build energy security. They also power essential water supplies across the desert and fuel economic stability.

If the coal plant is shuttered before its time, the power will be replaced with imported gas, recognizing that about 70 percent of the state’s supply comes from a single pipeline.

So if Arizona puts all of its eggs in one energy basket and the supply is disrupted, you have the makings of another energy crisis. We have seen this occur in California the last decade when this pipeline was disrupted.

The result of these policies is a recipe for a major imbalance in our power supply that threatens reliability, raises costs and puts energy security at a long-term risk that few seem to appreciate.

Now, these arguments are fine, you might say, but any negative impacts in the United States are years off and difficult to predict. Are they, though?

Remember the polar vortex in 2014? It brought record-breaking cold and demonstrated the difficulty of over-reliance on natural gas which in turn, created vulnerability of our fuel supply.

In some regions, electricity costs soared as high as $2,000 per megawatt hour, largely due to the spike in natural gas pricing. Utilities drew heavily to meet the surge and many couldn’t get gas. Without coal, parts of New England, the Midwest and other regions would likely have experienced lights out and dangerous exposure to sub-zero temperatures.

Other examples can be seen around the world. Look at what’s happening in South Australia, from my home country. South Australia finds itself in the unhappy position of having no baseload coal power in a country that is one of the largest coal exporters in the world.

In fact, South Australia has complete dependence on renewables and needs baseload power to even out supply and avoid reliability issues.

The South Australian predicament has been called a first world region with a self-inflicted, third-world reliability for its energy system. This is because the state has experimented with complete dependence on renewable power without appreciating the impact to its grid.

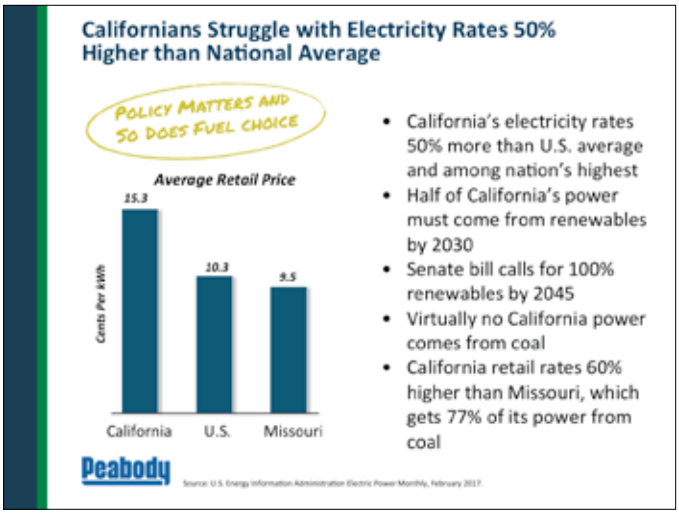
Imagine an entire state being blacked out... and disruptions have occurred four times in less than 12 months. Metal smelters being forced to incur solidification of their pots… power prices skyrocketing… and small businesses being forced to close their doors. This is a terrible crisis for families and businesses… Does it sound familiar?

Given reliability issues, the state has contracted Tesla, whom many of you would know, to build a "mega battery facility" to store intermittent power, which is billed as the world's largest battery. Yet, as one of my colleagues recently noted, this much-heralded battery would supply power for one of their aluminum smelters in New South Wales for somewhere under 8 minutes.

Australia is now having a more mature debate about whether new coal plants should be incented to be part of the future energy mix. High-efficiency coal technologies should stand along with any new plants.

And that is as it should be. Electricity systems are complex organisms striving to accomplish the three dimensional goals of energy reliability, economic growth and environmental protection.

What they should not be… given the fundamental reliance of every member of society on this foundational human need… is a laboratory for experimentation or a means to maximize a single mission at the expense of reliability or cost… even if the full impacts of these decisions aren't felt for several years down the tracks.



Beyond what's happening in Australia, we also know that many families and businesses are struggling much closer to home. Consider the glaring example of our neighbors in California, where the legislature has a mandate that half of the state's electricity come from renewables.

Recently the California Senate passed a bill that would see the state using 100% renewables as soon as 2045. Yet Californians already pay about 50 percent more for electricity than the national average, and about 60% more than those in my state of Missouri. It's not surprising that California has almost no coal-fueled electricity, whereas over three-quarters of Missouri's electricity come from coal.

At the same time, shrill words from all sides of the debate drown out reasoned conversations. In fact, I believe many of these thoughtful discussions could result in some surprising areas of agreement. At Peabody, we call this our new "common ground" approach – pun intended – that recognizes that Venn-diagram overlaps do exist… perhaps in far greater amounts than any of us realize.

Policy matters… and fuel choice matters. It's far better to learn the lessons from the mistakes of others than your own. I'd like to think that the same advice could apply to the United States.

The Power Reset

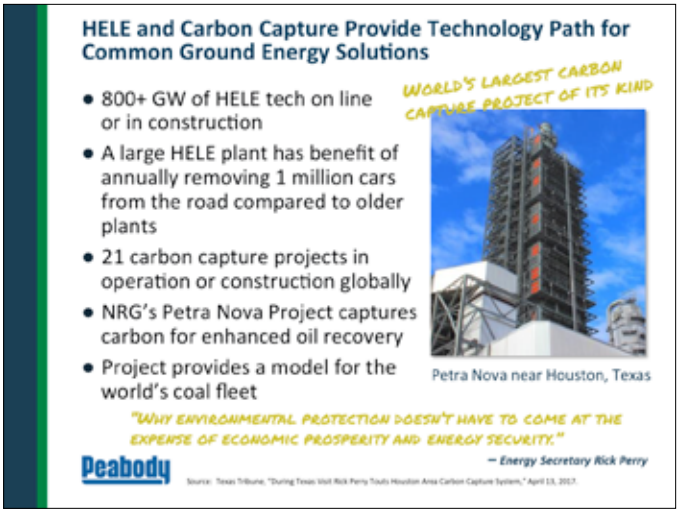
I would argue that we in this room are well equipped to advance these discussions. And from discussions can come plans… policies… and progress toward solutions for our economic, energy and environmental challenges. Our approaches should recalibrate toward serving all of these goals, which takes us to "The Power Reset."

Few industries have the satisfaction of recognizing that what we do every day is so vital to so many. If we in this room don't develop a plan to keep coal as a leading, reliable part of the energy mix – then who will?

We have an opportunity to work toward a more balanced energy approach with a new Administration that has taken a number of positive steps to advance a pro-jobs, pro-energy economy in its early days.

At the macro level, the coal industry benefits from the tremendous pro-economic growth policies underway across tax, GDP and regulatory reform. We've seen a number of positive actions such as appeal of the so-called Stream Protection Rule, and the decision to suspend the Clean Power Plan that offered no noticeable environmental benefits. We also continue to see vocal support for coal as a secure foundation for American energy.

We all await release of Energy Secretary Perry's study on U.S. grid reliability, which is intended to create a more level playing field among our choices for energy. He clearly recognizes that reducing coal from the baseload mix and forcing reliance on renewables creates vulnerabilities that could put the country at risk of the same difficulties we've just described.



So I can certainly maintain that, because coal is not going away anytime soon, the question should not be WHETHER we use coal, but HOW we use coal. I will also agree, though, that concerns over carbon are not going away.

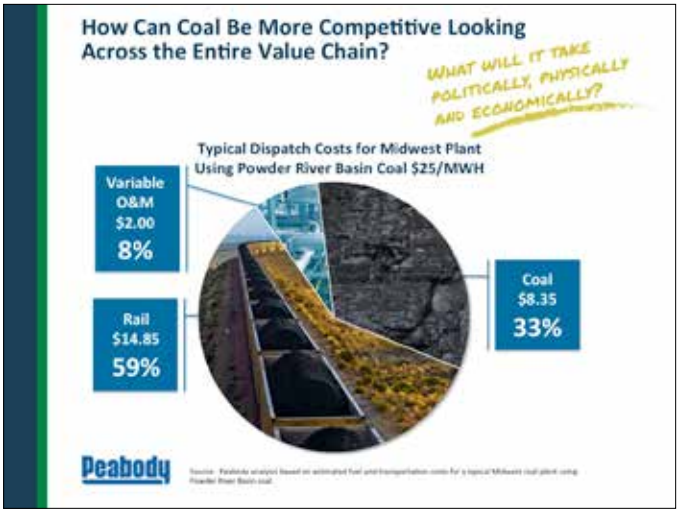
Peabody believes that the best opportunities for lower-emissions coal are grounded in technologies. And if there is a growing market for lower-carbon energy… why should we not try to serve those needs, too?

We are seeing much progress through use of high-efficiency, low-emissions power plants – HELE technologies. This technology is available off-the-shelf and is being developed around the world in large numbers.

HELE plants can reduce typical emissions by 90, 95, 99%… and can achieve as much as a 25 percent reduction in the carbon dioxide emissions rate. Said another way, each new large HELE power plant has the equivalent yearly carbon benefit of removing one million cars from the road compared to older coal plants.

Longer term, we believe that carbon capture must be brought to commercial scale for energy and industrial use by advancing a substantial increase in the number of global projects. A leading example is NRG's Petra Nova project near Houston, which uses post-combustion technology to capture carbon for enhanced oil recovery. It is the world's largest carbon capture project of its kind.

I visited the plant earlier this year, and what struck me is the unique opportunity we have to lead the world in deployment of this type of technology for the thousands of units of generation already installed globally. Never before in coal-fueled generation has innovation offered the promise of so much to so many.



So while we are asking so much of ourselves and others, I'd like to propose one other area of evolution: All of us in this room who have an interest in coal… should be focused on how to make coal even more competitive.

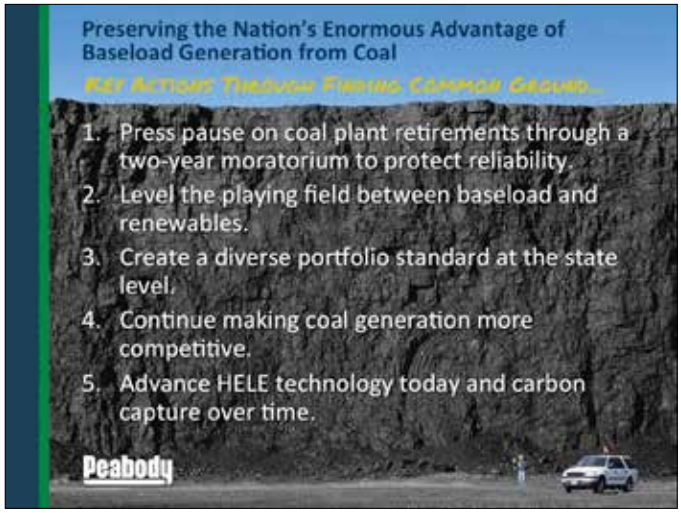
This means looking across the coal value chain at cost and logistics challenges to get coal from the mine to the transmission line as cheaply and cleanly as we can for consumers. Recent actions by the Administration are a step in the right direction, but we need to continue the momentum.

For instance… a typical Midwest coal plant using Powder River Basin coal has a dispatch cost of roughly $25 per megawatt hour. Looking more closely, within the value chain, operating costs are a small portion… coal costs about a third and transportation costs make up the rest.

There are ways we can improve on these costs across the entire value chain. For miners, this may be through economies of scale, automation, technology and best practices.

We need to deliver cost competitive, quality products in a consistent and reliable way. What does this mean for railroads and utilities? I leave it to others who may be more qualified than I to say... but we need to be focused on beating gas day in and day out.

In other words, what are the steps we should collectively take? How can we make coal more competitive so we can embolden generators and regulators to "bend the trend" regarding keeping coal plants online?



A Path Forward

I've outlined the benefits… and the challenges… to the direction that momentum may take us if left unchecked. I want to pull us back to my opening thesis looking across the full value chain to make coal as competitive as possible while leveling the playing field with coal and other fuels.

What will it take politically, physically and economically? How best can we find common ground solutions with those whose views may dramatically differ from ours?

I propose this "Path Forward:"

1. **Press pause on coal plant retirements through a two-year moratorium to protect reliability.**

   Let's delay or defer coal plant retirements until a thorough review of the grid is complete. 50 gigawatts of coal retirements through 2021 are far too many. Let's have the industry focus on cutting that in half and running the fleet harder.

   Certainly we recognize the pressures that utilities have been under with aggressive state and federal governments, noisy activists or retail voices. Of course I know that some utilities have coal as a lower percentage of their portfolio in their long-term planning.

   It will take courage to have a view that considers the long term perspective and recognizes that affordability and reliability need to be the cornerstone of our energy system.

2. **Level the playing field between baseload and renewables.**

   This could include either eliminating the production tax credit for renewables or implementing a mandated coal tax credit for existing and new baseload power. Whilst this approach continues to speak to reliability of the grid, it provides for greater equality among fuel sources.

   Just yesterday I was encouraged by comments by the newly confirmed FERC Chairman Neil Chatterjee, who said, "I believe that generation, including our existing coal and nuclear fleet, need to be properly compensated to recognize the value they provide to the system."

3. **Create a diverse portfolio standard at the state level.**

   Many states have a renewable portfolio standard in addition to generous federal subsidies… though overlook the benefits of baseload power whilst meeting the needs of only a subset of our power requirements.

   We are all in this together. It is far more logical for us to change the standard proactively… than to react to a catastrophic failure in the markets.

   I have found governors to generally be practical and pragmatic leaders who understand the direct connection of their decisions to the jobs and the cost of living in their state.

   A diverse portfolio standard would recognize the importance of baseload power versus intermittent sources and certainly starts to address the concept of a more equal playing field.

4. **Continue making coal generation more competitive.**

   No one part of the value chain can do this on its own… We are all in this together. We must work together to make coal more competitive versus our largest challenger… natural gas.

5. **My final point: Advance HELE technology today and carbon capture over time.**

   The cleaner environment that HELE brings is key to finding common ground. HELE technology, when equipped with the best controls, offers much lower emissions and a lower carbon footprint. I also see it as the bridge to low carbon energy as we work to commercialize carbon capture over time.

   New HELE plants are being built all over the world with over 800 gigawatts on line or under construction. We should return to coal for baseload generation for reliability, cost and yes, a cleaner environment.

   I may be a contrarian voice, but I believe being able to have a HELE plant permitted in the USA should be our goal and *can* be our goal. Japan, China and others are doing this, delivering an enormous competitive advantage for their economies.

In closing… We have a unique opportunity at a pivotal time in our history to take a step back, review the play book and reassess how we can work together to preserve the nation's enormous advantage of baseload generation from coal.

There is a lot to digest here and a lot of work ahead, but there is no greater opportunity or critical cause for our future.

Thank you Betsy, and I appreciate the opportunity to be here. We have a number of our valued customers, rail carriers and industry friends with us, and I want to thank all of you for your business and your engagement in the effort to protect our energy system… the world's most complicated machine… by preserving the enormous advantage of coal.

Thank you all for having me. I am happy to take your questions.

Glenn Kellow is Peabody's President and Chief Executive Officer. Mr. Kellow is a director and executive committee member of the World Coal Association, the U.S. National Mining Association and the International Energy Agency Coal Industry Advisory Board.

NYSE: BTU

PEABODYENERGY.COM