

The Role of Natural Gas in U.S. Energy and Climate Policy

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Thank you, Bruce. Good morning, everyone. I'm honored to join you today. My thanks to Don Briggs and the hard-working staff at LOGA – you folks are fighting the good fight on behalf of what may be the most important industry in America. It's clearly the most important industry in this fine state.

Just a few words about Questar: Our two E&P subsidiaries combine to rank as the 13th largest natural gas producer in the U.S. today – and we're one of the fastest-growing natural gas producers in Louisiana. Over the past two years we've invested about \$1.4 billion in this state. We operate in the “the core” of the Haynesville Shale play. This year we expect to drill or participate in about 35 new horizontal Haynesville wells. Our talented Haynesville team [identify] has turned six straight Questar E&P-operated Haynesville wells to sales with 24-hour average IP rates above 20 MMcfd. We plan to operate eight rigs in Northwest Louisiana in 2010. We're also investing in gathering and treating infrastructure in this region.

But you didn't come here for a commercial about Questar, and I didn't come here to give you one. I'm here to have an honest conversation about energy policy and climate change. Our industry's challenges go well beyond a brutal recession, supply glut, weak demand, and low natural gas prices. In my 33-year career I can't remember a time when so many issues have demanded our industry's attention *and action* all at once. I certainly can't recall a time when the public discourse about energy has been so tortured with contradiction, phony math, half-truths, hyperbole, naïve self-delusion, and wishful thinking – just to name a few!

There's a scene at the end of the movie “Butch Cassidy and the Sundance Kid.” Butch and Sundance come out from hiding, guns drawn, ready to fight for their continued freedom. But they freeze in the last split-second of their lives, not sure where to shoot, because they're surrounded, bullets coming at them from all directions.

Well, the bullets are coming at our industry from all directions – and the some of the gunmen are folks we elect and send to Washington. Simply put, politics – not markets – are the biggest threat to our industry today.

My comments may strike some as having a political edge, so let's be clear. I'm not here as a Republican, and I'm not a Democrat. When it comes to the politics of energy, I'm a chartered member of the Disgusted Party.

The story of the year – if not the decade – in energy *should be* the paradigm shift for U.S. natural gas supply. In late June the Potential Gas Committee (PGC) confirmed what many of us have known for years: America is swimming in natural gas. The PGC estimates that America's *technically recoverable* natural gas resource base has jumped 35 percent from just two years ago – to 2,100 trillion cubic feet (Tcf). That's 90 years of supply at current U.S. consumption. To put 2,100

Tcf into perspective, that's the energy equivalent of 350 billion barrels of oil. Saudi Arabia claims *proved* oil reserves of 260 billion barrels. "Technically recoverable" and "proved," of course, are not the same. But the PGC estimates are just a snapshot. These estimates will continue to grow as the smart people in our industry apply new technologies to produce gas from formations that today are written off as unproducible.

This is a game changer for U.S. energy policy- it *should be* front-page, above-the-fold news. Unlike oil, 98 percent of this country's natural gas supply comes from North America. It's also a game changer for climate policy. It *should be* cause for celebration by those who believe that human CO2 emissions must be cut sharply to reduce the risk of global warming. Indeed, if the goals of U.S. energy policy are to reduce America's dependence on imported oil, reduce CO2 emissions, and create American jobs, then greater use of American-made natural gas – *owned* by Americans, produced in America, by American companies who hire Americans and pay American taxes – *should be* the bedrock of that policy.

Should be – but in the world of politics one can never take logic, facts, and the integrity of the policy-making process for granted. I've said that the bullets are flying at us from all directions:

Bullet No. 1: punitive taxes. The Obama administration has proposed a massive tax increase on U.S. independents at a time when we're being called upon to raise and invest vast amounts of capital to increase natural gas supply. The Treasury Department's so called "Green Book" explains Team Obama's logic. It says: *Overproduction* of domestic oil and gas *threatens* America's long-term energy security." Are they kidding? *Overproduction* of domestic oil and gas *threatens* America's long-term energy security? Many of you are too young to remember Vietnam, but this logic reminds me of that hapless briefing officer, standing in front of a smoldering Vietnamese village, telling reporters that "*we had to destroy the village to save it.*" The elimination of expensing of intangible drilling costs and other proposed changes in the tax code may force U.S. independents to cut capital spending by 20 percent to 30 percent within a year of enactment. *Apparently, Team Obama believes we have to destroy U.S. energy supply to save it.*

Bullet No. 2: federal regulation of hydraulic fracture stimulation. This of course is the technology that's produced a boom in U.S. natural gas supply from shale and tight-gas formations here in the U.S. Booming supply is not only driving down natural gas prices. It's driving down CO2 emissions. This too should be front page, above-the-fold news! U.S. CO2 emissions in 2009 are *down over 8 percent from 2005.* Most of this drop results from the substitution of natural gas for coal in existing electric power plants – and that's a direct consequence of our use of frac technology. You'd think that environmental groups would be cheering "Eureka" – we've found it, a proven, cost-effective way to cut CO2 emissions without driving energy costs painfully higher. But apparently, some groups hate drilling more than they fear climate change. So they're pushing the EPA to regulate hydraulic-fracture stimulation. Our industry has frac'd roughly a million wells in the U.S. over the past 50 years, and *no one* has documented a single case of drinking-water contamination from hydraulic fracture stimulation. The API estimates that federal regulation could cut shale-gas drilling by 35 percent. And it's unnecessary – drilling and completion operations are already regulated effectively by state oil and gas conservation commissions. Even the DOE agrees that frac regulation should be left to the states. But a few politicians, environmental groups and their allies in the media have turned this non-issue into a bullet headed right at the heart of U.S. natural gas supply.

Bullet No. 3: the green jobs hoax. Shortly after the House narrowly passed the Waxman-Markey bill in late June, Speaker Pelosi crowed that the bill was about three things: "jobs, jobs, and jobs." She's right – it is about jobs. The Heritage Foundation estimates that Waxman-Markey will *destroy*, on average, 1.1 million jobs per year. A National Black Chamber of Commerce study

reached a similar conclusion. Of course, much of that job destruction will occur in our industry. This bias against our industry makes no sense on either energy or economic grounds. In 2008, we employed about 1.6 million people, compared to just 40,000 jobs in the wind and solar industries *combined*. But apparently, Speaker Pelosi believes that if you work in the oil and gas industry your job is expendable.

Bullet No. 4: This may be the most lethal, because it's one that we didn't see coming. It's the Waxman-Markey bill that passed the U.S. House in late June. Henry Waxman, Nancy Pelosi, and 217 others in the U.S. House of Representatives have offered a radical vision for America's energy future. It's not just a future in which government micromanages the energy choices of everyday Americans. It's not just a future in which we all drive cars that run on ethanol-flavored gasoline and electricity and wind power. It's a future in which "clean coal" becomes the fuel of choice, while natural gas's share of the U.S. energy market *declines sharply* over the next two decades.

"Clean coal" is sort of like the tooth fairy. We all want to believe in it. But no one's ever seen it.

Show of hands, please: How many have read the entire Waxman-Markey bill? Well, you're not alone. Neither did the White House or anyone in Congress. Let me show you what a 1,428-page bill looks like. It was still at the printer's when the House was voting 219-212 to send this Orwellian nightmare on to the Senate. The debate now moves to the Senate. In late September Sens. Barbara Boxer and John Kerry introduced similar legislation in the Senate – Kerry-Boxer. Americans can only hope that *someone* in the Senate provides some desperately-needed adult supervision.

Waxman-Markey is arguably the most asinine piece of legislation in American history – government at its worst. According to the U.S. Chamber, Waxman-Markey promulgates over 1,500 new regulations and mandates involving 21 federal agencies. It contemplates a level of federal government micromanagement of energy choices that is, frankly, shocking. Let me read you just one example, found on page 445. "*Effective January 1, 2012 portable electric spas shall not have a normalized standby power greater than $5xV$ to the two-thirds power, where V = the fill volume in gallons.*" I'd bet that if you gave Henry Waxman a calculator and asked him to calculate the energy cap on a 300-gallon portable electric spa he wouldn't be able to do it. Makes you wonder which member of Congress has a brother-in-law who's cornered the market for portable electric spas in Beverly Hills.

Incredibly, Henry Waxman – who early this year was calling for a moratorium on coal-fired power plants – put his name on legislation designed to *protect* coal-fired power plants from a market-driven shift to natural gas. Coal plants generate 40 percent of America's manmade CO2 emissions. You can cut CO2 emissions by nearly 50 percent when you use natural gas instead of coal to make electricity. But Waxman's bill gives coal a "get out of jail free card," not just nullifying the market's preference for low-carbon natural gas over coal, but potentially enabling utilities with aging coal-fired plants to build *new coal plants*. The EPA forecasts that under Waxman-Markey electricity supply from conventional coal-fired power plants might rise slightly over the next 10-15 years.

Waxman-Markey also extends mandates and subsidies for the already heavily subsidized wind, solar, and ethanol industries. In 2007, federal subsidies for wind and solar averaged about \$7 per MMBtu-equivalent. Yet even with subsidies these underachieving, niche forms of energy together contribute just a fraction of 1 percent of total U.S. energy supply today – invisible on a pie chart. A well-documented but sadly ignored study in Germany found that it costs about \$100 to avoid emitting a ton of CO2 by using wind energy. A similar study by Britain's National Audit Office found that wind energy was the most expensive way to cut carbon emissions – they put the

cost at over \$200 per ton. But Waxman-Markey ignores economics and thermodynamics, and instead mandates that 15 percent of America's electricity must come from wind, solar and other renewables by 2020 –“spreading the wealth” from unsuspecting taxpayers and consumers to companies in those sectors.

Some may try to tell you that the wind and solar mandate is good for natural gas. They'll argue that natural gas will be needed when the wind doesn't blow and the sun doesn't shine. Don't buy it. Electric-power dispatch doesn't work that way. Wind and solar will primarily *displace* natural gas, not coal or nuclear power.

Under Waxman-Markey natural gas also gets shut out in the vehicle market. CNG is proven technology – there are 10 million CNG cars and trucks on the road around the world. You cut CO2 emissions by up to 30 percent when you run a car or truck on natural gas instead of gasoline. The Honda Civic GX natural gas car is the lowest-carbon car on the market today. You can fill one for less than \$1 per gallon-equivalent in many parts of the country today – and you can drive more than 200 miles before refilling. It's astounding that Waxman-Markey virtually ignored this low-cost, lower-carbon, American-made alternative to foreign oil in a bill that purports to be about both U.S. energy security and CO2 reduction. Instead, Waxman-Markey delivers a goodie-bag full of subsidies and mandates for high-carbon ethanol and plug-in electric cars powered by the tooth fairy – er, “clean” coal.

Someday, we may all drive electric cars. But that day is still a long way off. Battery technology just isn't there yet. Until then, CNG is a compelling alternative.

So why was natural gas shut out with Waxman-Markey? Because the electric-utility lobby and large industrial users of natural gas convinced Henry Waxman and others that natural gas is scarce, and that natural gas prices would skyrocket unless climate legislation was rigged to stop the market-driven “dash for gas.”

Ironically, when it comes to putting America on a lower-carbon diet, the market has been way ahead of the political class in Washington. From 1995-2005, the private sector added over 200,000 megawatts (MW) of new power-plant capacity, 95 percent of that built to run on natural gas. America now has about 1 million MW of installed electric generation capacity. Forty percent of that runs on natural gas – over 400,000 MW, compared to just 315,000 MW of coal capacity. But unlike those coal plants, which run at an average load factor of about 75 percent, America's existing natural gas-fired power plants operate at an average capacity factor of less than 25 percent. It turns out that the market has already found a cost-effective way to cut CO2 emissions – we just need to use it.

But that's the rub for some electric utilities. They don't own a lot of those plants. Most are owned by IPPs like Calpine.

Coal and nuclear-based utilities in particular have a compelling financial incentive to push a climate bill that's pro-coal, pro-nuclear, and anti-natural gas. Utilities earn a regulated return on their investment. The more they spend, the more they earn. Coal and nuclear power plants are two to three times more expensive to build than combined-cycle natural gas-fired power plants. Add the promise of enormous future capital required for carbon capture and sequestration – assuming that it, like the tooth fairy, turns out to be real – and Waxman-Markey means rapid rate-base growth and thus rapid profit growth for coal and nuclear-based utilities.

The CEO of a large, coal- and nuclear-based electric utility – one of the world's largest emitters of CO2 – calls natural gas “crack cocaine” for electric power. His disdain for natural gas

may be a bit disingenuous. Most of his coal and nuclear plants are 30-50 years old. They'll have to be replaced over the next two decades. He wants to build new coal and nuclear plants *inside rate base* to replace these aging plants. He doesn't want to be forced to buy power from natural gas-fired power plants that he doesn't own, because when he does he's required to pass the cost on to ratepayers *without markup*. No investment, no markup, no profit.

Let's be clear. I'm not anti-coal. Coal will continue to dominate the electric-power market for many decades. Obviously, I'm not anti-utility – my company owns one! I'm certainly not against wind power when it's economic. But U.S. producers must fight legislation masquerading as “climate policy” that prevents lower-carbon natural gas from competing on a level playing field in the U.S. electricity market.

Waxman-Markey was a *loud* wake-up call for our industry. It shows that natural gas has virtually no mindshare in Washington. We need to respond as if the future of our industry depends on it – because it does.

Job one for our industry must be to rebut misguided concerns about U.S. natural gas supply. Every one of us, at every opportunity, in every forum, public and private, needs to tell the story of this Expo – that America is awash in natural gas.

Second, we've got to reach out and find common ground with *responsible* environmental groups. The truth is that the natural gas industry has every right to claim the moral high ground on environmental issues. We find, produce and deliver a clean, safe fuel to 65 million American homes and businesses. Look at the facts. The market-driven substitution of natural gas for coal in existing power plants has helped cut U.S. CO2 emissions by 6 percent in 2009, and by nearly 9 percent since 2005, the baseline year in Waxman-Markey. The U.S. is now half-way to Obama's 17 percent goal by 2020 – and we didn't need a 1,400 page bill to do it! No other country in the world can make that claim! And Obama had nothing to do with it – it was you folks, the natural gas industry that did it. And by the way, in addition to cutting CO2 emissions, we also cut NOX, SOX, CO, particulate and mercury. Tell me again – who are the good guys?

Third, we need to join forces with the U.S. Chamber and other business groups in an all-out effort to defeat Kerry-Boxer in the Senate. Folks, we now have no choice. If Kerry-Boxer passes the Senate, it will then go to conference to be merged with Waxman-Markey. Even if the Senate produces a bill that makes sense, horse trading in conference is unlikely to fix all of the problems with Waxman-Markey. In an effort to buy our support for CO2 regulations, proponents of these bills have offered us a “seat at the table” and offered us a pen, to draft a few pages for natural gas. They hope we'll hold our noses and live with the other 1,400 pages in this bill. We should not take the bait. Waxman-Markey is not just anti-natural gas. It's a blueprint for regulatory chaos. The only jobs it will create are jobs for lawyers, bureaucrats, and promoters of uneconomic forms of energy.

Now, I'm going to say something that's politically incorrect. But it needs to be said. Even if you believe that human CO2 emissions must be drastically cut to prevent climate change, *unilateral* action by the U.S. will have *no discernible impact on global climate* if China and the rest of the world refuse to go along. Even the head of President Obama's EPA, Lisa Jackson, admits this. Global warming is by definition a *global* problem. A pound of carbon emissions in Shreveport is the same as a pound of emissions in Shanghai. Our government's own forecasts show that by 2050, 70 percent of global manmade CO2 emissions will be coming from China, India, Russia, and other non-OECD countries. It's simple math. We can cut U.S. emissions by 80 percent – in fact, we can turn America into Bangladesh – and *global* emissions will still grow by over 30 percent by 2050. Two hundred-nineteen members of the House and many in the Senate apparently accept as a

matter of faith that the rest of the world will follow America off the economic cliff – if we jump first. But China – the world’s largest emitter of CO₂ – has publicly refused to do so. Ditto India. Barack Obama may be the biggest rock star since Elvis Presley. But these countries are not going to sacrifice their economies in a futile attempt to sever the link between prosperity and fossil fuels. It would be economic suicide for America to act without a transparent, verifiable, global pact that includes China, India, and the rest of the world. The U.S. Chamber occupies the moral high-ground on this – we need to stand with them.

Fourth, we’ve got to focus on, defend, and grow natural gas’s share of the electric-power market. Author Daniel Yergin called oil “the prize” in the 20th century. For our industry, in the 21st century, electricity is “the prize” – the “Super Bowl” for the energy market. Coal-to-natural gas substitution in the electric power market this year has increased U.S. natural gas consumption by 3-4 Bcf/d above what it would have been without that substitution. We can’t get anywhere near that growth in any other market any time soon. Perhaps we need a “gas for clunkers” program – replace the dirtiest 20 percent of America’s existing coal-fired “clunkers” with gas.

Fifth, we’ve also got to help the market overcome the “chicken and egg” problem and jump-start the market for natural gas in cars and trucks. This issue is gaining traction, thanks to the efforts of Chesapeake Chairman and CEO Aubrey McClendon and others. Boone Pickens testified this morning at a hearing in Washington, D.C. My Questar colleague Ron Jibson also testified alongside Boone. Chuck Stanley, who runs our E&P business, represents Questar on the board of America’s Natural Gas Alliance (ANGA). ANGA has an idea that may work: let’s “walk the talk.” Let’s commit to replacing some of our company-owned cars and trucks with CNG-fueled vehicles. Then as a group let’s take the order to Detroit. Let’s ask them to do in the U.S. what they already do around the world – and that’s make cars and trucks that roll off the assembly line ready to run on natural gas. Gas utilities across the country led by the American Gas Association are gearing up to do what our utility is doing – building CNG filling stations at busy intersections in major cities, and along interstate highways.

Sixth, we’ve got to refute the phony math of the alleged “green-jobs transformation” of the U.S. economy. These claims are rife with self-delusion and ignorance about basic economics. President Obama calls Spain a role model for the U.S. But a recent study shows that for every green job Spain has created with massive taxpayer subsidies it has lost 2.2 jobs elsewhere in its failed attempt to micromanage the energy choices of its citizens. Anyone who has taken Econ 101 understands that it’s foolish to think you can create jobs in an inefficient industry by destroying jobs in an efficient industry. Sadly, too many politicians here and around the world skipped Econ 101.

Seventh, it’s time for a pragmatic approach to global warming. Yes we can – and should – cut CO₂ emissions, by substituting low-carbon energy for high-carbon energy where it makes economic sense. Yes, we need to improve efficiency, conserve, and stop wasting energy. But simple math reveals reality – with today’s energy technologies, there’s no way to sever the link between prosperity and fossil fuels. Mankind has no real choice but to plan to adapt to the effects of global warming, whatever they may be.

You’ve no doubt heard the argument that even if global warming turns out not to be as bad as some are saying, government should still intervene to force drastic reductions in CO₂ emissions – as an insurance policy – the so-called precautionary principle. While appealing in its simplicity, there are major problems with the precautionary principle.

For one, none of us live our lives according to the precautionary principle. Let me give you an example. Around the world about 1.2 million people die each year in car accidents – about 3,200

deaths a day. At that pace, 120 million people will die this century in a car wreck somewhere in the world. We could save 120 million lives by imposing a 5 mph speed limit worldwide. Show of hands: How many would be willing to live with a 5 mph speed limit to save 120 million lives? Most of us wouldn't. We implicitly do a cost-benefit analysis and conclude that we're not going to do without our cars, even if doing so would save 120 million lives. So before we start down this expensive and almost-certain-to-be-futile cap-and-trade path, don't you think we should insist on an honest cost-benefit analysis of alternative responses to global warming?

The media dwell on the potential harm from global warming, but ignore the fact that the costs borne to address it will also *do harm*. We have a finite amount of wealth in the world. We have a long list of current problems – hunger, poverty, malaria, nuclear proliferation, HIV, just to name a few. We should be asking: How can we do the most good with mankind's limited wealth? The opportunity cost of diverting a large part of current wealth to solve a potential problem 100 years from now means we do “less good” dealing with our current problems.

Economists will tell you that a cap-and-trade tax on energy will result in slower economic growth. Slower growth, compounded over decades, means that we leave future generations with far less wealth to deal with the consequences of global warming, again, whatever they may be. That's not just bad economics. It's immoral.

And that leads me to my final point, No. 8, for anyone who's still counting! Our industry needs to defend the role of the market in U.S. energy policy. If Margaret Thatcher was here today, the right-honorable “Iron Lady” would likely counsel that “now's not the time to go wobbly on free markets.” We've learned in the past that energy choices favored by politicians but not confirmed by markets are destined to fail. If history has taught us anything, it's that we should resist the temptation to ask politicians to substitute their judgment for that of the markets. Instead, we should let markets determine how much energy gets used, what types of energy get used, and where, how, and by whom energy gets used. In truth, no form of energy is perfect, thus only markets can weigh the pros and cons of different types of energy. Government's role is to set reasonable standards for environmental performance, and then make sure that markets work.

Indeed, 2009 may well be remembered as the year the market – and the smart people in our industry – changed America's energy future for the better, bringing us abundant supplies of low-carbon, clean, abundant, and affordable, American-made natural gas.

I've covered a lot of ground this morning. The bottom line is this: Our industry has a big job to do on behalf of America's prosperity. We've got a great story to tell – we all need to get better at telling it. Thank you for your attention, thanks again to LOGA, enjoy the conference.