

FINAL

DELIVERING AMERICA'S ENERGY SECURITY

REMARKS
BY
CLARENCE P. CAZALOT, JR
PRESIDENT AND CEO
MARATHON OIL CORPORATION

THE CENTER FOR AMERICAN
AND INTERNATIONAL LAW
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Thank you Sylvia for that kind introduction and thanks to all of you for being here this evening.

I'm humbled and extremely honored to have been selected to receive this year's John Rogers award, especially when I look back at the distinguished list of previous honorees.

As many of you will know, it's been written that John Rogers, and I quote, "Was an attorney who loved the law, but no profession could hold him captive and his interests took him far afield." In reviewing the agenda for this year's 61st annual oil and gas conference, those words seem very relevant and descriptive of the scope of topics and issues you will be exploring during these two days.

And I believe John Rogers would be proud to see the quality and depth of the important work all of you are undertaking both here at this conference and in your day-to-day roles associated with the global energy industry.

In discussing with Sylvia what I should talk about tonight, her only guidance was “Remember, this is a room full of lawyers” at which point I narrowed my list of subjects.

But seriously, I do want to discuss a subject that I believe is one of the most serious and defining issues of our time and that is how we achieve energy security for our nation.

I define energy security as having an adequate, affordable, and diverse supply of energy to meet the needs and aspirations of private citizens, commercial enterprises, and public sector functions and very importantly, to meet this demand in a way that is environmentally sustainable.

It’s also critical that we ensure that the cost of our energy is comparable with that of other nations so we can maintain our economic competitiveness and well-being.

As I've discussed this aspiration with people around the country, including many of our elected leaders, there is strong agreement with these goals and a full recognition that we need to transition as quickly as practical to a lower carbon world.

And then the debate begins: how to get there and how quickly while still ensuring people have the affordable reliable energy they need everyday and we remain economically strong on the global stage.

The debate would be more easily resolved if there was a full appreciation of the magnitude of this challenge, whether it's how quickly or to what extent renewables can displace fossil fuels, the immense scale involved in delivering energy across our nation and the world everyday, or what it really means to reduce our GHG emissions by 17 percent by 2020 and 83 percent by 2050.

Political rhetoric and posturing have no place here. This challenge, which I believe is far greater than putting a man on the moon, must be addressed in a rational, fact-based manner that taps the leadership and finest critical thinking skills of people across the entire spectrum, regardless of ideology or political affiliation.

To illustrate the magnitude of the challenge, I will touch on a few tough realities that need to be understood and dealt with.

First, there is no question global demand for energy will continue to increase, driven in large part by both world population growth (6.5 billion today to 8-9 billion by 2030) and the strong desire of developing countries to achieve economic prosperity similar to our own.

Demand for energy is projected to increase about 40 to 45 percent between now and 2030 with essentially all of this growth coming from the developing or non-OECD countries. That's roughly equivalent to adding two United States to the world's consumption. Meeting that demand is estimated to require between \$25-30 trillion of investment.

In terms of liquids supply alone, the current global production of 85 million barrels per day will need to increase to around 95-100 million barrels of liquids per day by 2030 and half that total (50 million barrels per day) will need to come from new sources as existing fields decline and demand grows. That's equivalent to adding four more Saudi Arabias.

The International Energy Agency's (IEA) projections, even assuming their most dramatic case for emissions reductions, still shows two thirds of the world's energy in 2030 coming from fossil fuels.

You might question why 20 years from now fossil fuels will still represent such a high percentage of global energy but it's simply the reality of the immense scale of energy infrastructure and the time it takes to build assets like nuclear plants or renewable fuels or power at sufficient scale to make a difference.

There is no question that renewable energy is an essential and growing part of our future energy mix and Marathon is indeed investing in both conventional and advanced biofuels. But the fact is that all of the world's wind, solar, wave, tide, and geothermal energy accounts for only one percent of total consumption. Under the most aggressive projections by the IEA, these forms of energy only meet five percent of total demand by 2030.

So the reality is that the world consumes, from all energy sources, the equivalent of 245 million barrels of oil per day (over 20 Saudi Arabias) and demand is only moving in one direction: UP. Fossil fuels make up 80 percent of today's supply and will constitute the majority of global energy supply for decades to come.

Those who would suggest that there's a technology silver bullet that will render fossil fuels obsolete or will allow renewables to be technically and commercially viable and available at scale across the globe in the near future have not dealt with the real constraints of physical capacity, engineering, and economics.

Given all this, you can see why nations are grappling with the challenge of reducing GHG's while still meeting their growing energy needs.

We've all seen legislation being debated in Washington that targets reductions in U.S. GHG emissions of 17-20 percent by 2020 and 83 percent by 2050. It's difficult for most of us to understand what that really means so I want to provide some quantification: If we were to replace today's global transportation system with a zero-carbon solution – all cars, trucks, buses, planes, trains, and ships – we would reduce GHG emissions by only 15 percent. If we were to replace our entire global power generation system, we would reduce GHG emissions by only 25 percent.

So the complete transformation of our global power generation and transportation infrastructure, no small task, would only achieve a 40 percent reduction in GHG's.

All of this, I hope, gives you a sense of the complexity and magnitude of the challenge we face in achieving long-term energy security, sustainability, and competitiveness. It's why I said earlier this is a more daunting task than putting a man on the moon.

What should be clear is there's no simple solution, no one energy source that will meet our needs, but rather we need a comprehensive integrated plan to transition to a clean energy future which in my opinion focuses on three key elements:

- **Greater energy efficiency and conservation.**
- **The need to diversify and increase the sources of our energy supplies.**
- **The need for innovation and new technologies.**

I'd like to briefly discuss each of these:

Without a doubt, the greatest source of near-term GHG emissions reductions come from energy efficiency, which is the least expensive and fastest means of doing so.

The McKinsey Global Institute has indicated that projected energy demand in 2020 could be reduced by more than 20 percent through energy efficiency investments that importantly would more than pay for themselves.

The higher CAFÉ or fuel efficiency standard of 35 MPG for the combined U.S. fleet of cars and light trucks by model year 2020 is a step in the right direction, but further increases in the efficiency of the internal combustion engine and greater use of hybrids can generate further reductions.

Similar policies can and are being applied to energy efficiency in the residential and commercial sectors through more aggressive building codes and appliance standards. I believe a balanced combination of government regulation, standards, and incentives are the best way to achieve this.

The second of the three key elements of an energy security strategy is the need to diversify and increase the sources of our energy supplies.

Diversity equals security and comes in two forms: diversity in the forms of energy we use and diversity as to where the energy comes from.

Given the substantial growth in global demand for energy I discussed before, we will need to significantly increase the supplies of all forms of energy: wind, solar, geothermal, nuclear, wave, biofuels, and yes, oil, natural gas, and coal.

Each of these forms of energy has its own set of advantages and disadvantages such as the food vs. fuel and land use debates for some biofuels or the waste disposal issue associated with nuclear plants. And, of course, many people regard fossil fuels as yesterday's energy.

But despite their inclination to do so, it's critical that our elected leaders not pick winners and losers based on what's politically popular or expedient and then legislate and regulate on that basis.

One such example is biofuels which have a large base of support in Congress and, while our industry likewise believes in the importance of biofuels for the future and we continue to increase their use, we are concerned about the aggressive and prescriptive Federal renewable fuel requirements that we face. Currently, the law requires renewables to increase from the previous Federal mandate of 7.5 billion gallons per year by 2012, to 36 billion gallons per year in 2022.

Fifteen billion gallons per year of this total must be supplied from corn-based ethanol by 2015, with the remaining 21 billion gallons per year from advanced biofuels, like cellulosic ethanol, by the 2022 deadline.

The challenge here is that the technology to manufacture these 21 billion gallons per year of advanced biofuels is not yet demonstrated, not to mention their commercial viability or the infrastructure necessary to distribute these new generation fuels on a large scale basis. 2022 may seem like a long ways off for you, but the energy business requires long lead times and very large investments and 12 years is not very long.

I think this is a good example of well intended, but incomplete efforts to focus on what appears to be a silver bullet solution to the exclusion of other forms of energy.

Unfortunately, oil and gas aren't as highly regarded by policy makers as biofuels or other alternatives. We still face restrictions and delays in access to and the development of vital American oil and gas resource, which is key to our energy security.

The U.S. remains the world's third largest oil producing country and we accomplish this with less than four percent of our 2.4 billion acres of federal acreage under lease for development. Too many unexplored areas are off limits – like the Atlantic and most of the Pacific offshore, parts of the west, and large parts of Alaska.

It makes no sense to speak of getting away from foreign oil while needlessly blocking industry access to prospective areas in the U.S., especially given our industry's strong record of responsible and environmentally sound operation.

As you're well aware, we're going through a major step change in domestic natural gas, having seen estimated gas resources more than double over the last few years thanks to technology that allows us to economically develop shale gas reservoirs. It is estimated that the U.S. is now sitting on between 50 and 100 years of gas resources at current rates of consumption.

When you consider that in power generation, natural gas emits half the CO₂ of coal, our nation could immediately reduce GHG's emissions without any investment by simply increasing the utilization of our installed gas fired generation capacity from about 25 percent utilization on average currently to a much higher level and, as a result, shut down some of our older, dirtier coal fired plants. Doing so would achieve a significant amount of the GHG reductions targeted in the Waxman-Markey Bill but at a fraction of the costs of other options. Makes a lot of sense but there doesn't seem to be a political will to take on certain interests.

One last point on diversity -- diversity can be enhanced by encouraging imports from secure and friendly sources. Canada's oil sands are one of the world's largest oil deposits, about eight times current U.S. oil reserves. We already process much of this oil here in the U.S., creating jobs, income, and tax revenue.

But there is substantial opposition to importing this oil because its carbon intensity is slightly higher than conventional oil, but technology can solve that problem soon. Our industry is working to reduce the impact through technology application and I'll use that point to transition to the final of the three key elements of energy security strategy, which is the need for innovation and new technologies.

Technology and innovation are vitally important in increasing the supply of energy, moderation of demand, and in protecting the environment.

One technology often discussed in the context of clean coal is Carbon Capture and Sequestration (CCS).

The fact is coal is an abundant domestic resource which generates 50 percent of our power but it's also the most carbon intensive. If we are to transition to a lower carbon future, coal either has to be cleaned up through CCS or reduced in consumption.

The challenge is that there is still no commercial scale power plant with CCS in the world today and the few CCS projects currently deployed are on upstream projects.

CCS is the technology we intend to deploy in our Canadian oil sands business to reduce their GHG intensity.

Along with our Athabasca Oil Sands Project Partners and the Canadian Government, we are pursuing a CCS project called Quest that will capture some 1.2 million tonnes of CO₂ annually at our upgrader and sequester it in a saline aquifer.

But the challenges of CCS and the investment requirements are such that I don't believe we'll see it deployed on a large scale commercial basis for at least another 10 years.

Transportation is another area requiring innovation.

We need to continue and even accelerate the development and commercialization of key technologies around vehicle technologies (fuel cell, hydrogen, and battery), biofuels (especially those that don't compete with food) and renewables (lowering the cost of solar and wind).

Much work remains to be done on solving the waste disposal issue for nuclear energy, but I applaud President Obama's decision to provide \$8.3 billion in loan guarantees for the first nuclear reactor to be built in the U.S. in nearly 30 years. Nuclear must play a much larger role in the future and this is a start.

So to summarize, I believe the key elements of a sound and secure energy strategy must include a keen focus on efficiency and conservation, diversity of supply – both geographic and type – and the development and application of new technologies that will advance alternatives, while at the same time allowing us to utilize the world’s abundant fossil fuels more efficiently and with less impact on the environment.

It’s pretty clear that we need a balanced, integrated, multi-disciplinary plan that deploys the solutions available now like energy efficiency and increased use of natural gas and embarks on the development and implementation of longer term solutions.

Ladies and gentlemen, I can think of few industries that have contributed as much to the wellbeing of the world as has the oil and gas industry. The energy we deliver has contributed immeasurably to our standard of living and the economic growth of the U.S. and other developed nations. And it promises to be the engine by which developing nations will build a higher standard of living for their citizens.

I hope you share the same sense of pride and optimism for the critical work we do together and the positive contributions we will continue to make to the global community.

Thank you again for the great honor of receiving this year's John Rogers Award, and all the best to each and every one of you for continued success in the work you are doing for this great industry.