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Shaping the New Agenda (A Special Report) --- Energy & The Environment

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America faces an energy crisis, one the economic crisis makes harder to fix.

The recent drop in oil prices and the broader economic slump threaten to divert attention from the need to find more fossil fuel and to develop more alternative-energy sources. But the members of The Wall Street Journal's CEO Council want the new president and Congress to stay focused on energy and the environment, because they believe the underlying problems are only getting worse.

They want policy makers to level with Americans that finding new energy solutions won't be cheap or easy. They want the government to pursue a comprehensive strategy promoting a variety of technologies: cars that run on electricity, and power plants than run on everything from nuclear energy to "clean coal" to wind and solar power. They want the government to promote, and mandate, improvements in energy efficiency. All of this, they believe, will require a modernized electrical grid. And all of this will require more federal authority and assertiveness.

Jeffrey Ball, The Wall Street Journal's environmental news editor, moderated the task force's discussion. Here are edited excerpts of the group's discussion of priorities.

JEFFREY BALL: We had what seemed a really interesting microcosm of the federal energy debate.

The discussions started out talking about going from technology to technology. So, do we want electric cars? No, we want natural-gas cars. No, we want biodiesel cars. Do we want nuclear? No, we want wind and solar. No, we want clean coal. And at the end of the discussion, there seemed to develop a pretty clear consensus that that was the wrong approach, that what was necessary was a more comprehensive sort of top-down view of strategy, as opposed to a bottom-up view of incentivizing particular technologies.

So, why don't we start with Jim Rogers, who will talk first about comprehensive energy policy.

JAMES ROGERS: We really focused on developing the first notion of a comprehensive energy and environmental policy. Because we recognize that energy and environmental policy are inextricably linked, and inextricably linked to the economy. And the whole notion here is we're on a road, and President-elect Obama should put us on a road, to decarbonizing our economy, as well as on the road to creating the most energy-efficient economy in the world. Because that is the way we really grow our GDP per capita long term, particularly as the rest of the world grows.

As James Schlesinger once said about energy policy, "We swing between panic and complacency." And as oil prices went up, we panicked; as they've come down, we're slipping into complacency. But the fact of the matter is we need a consistent policy to allow us to plan for the future.

I think the second area, and I say this as someone who's in the power sector, is that job one for the power sector is to provide affordable, reliable, clean electricity 24/7. But one of the aha's that we have is that virtually every power plant in our sector will be retired or replaced by 2050. And so if it's the policy of our country to decarbonize, we have the capability to do that over the next 40 plus years. But what's important to recognize is that there are only so many ways to generate electricity. We can't take any off the table.

For instance, renewables are important, but it's intermittent power and they're not often close to where the load is. And to build the transmission lines, we need federal eminent domain to build it to where the load is. And it's not a product that we can count on 24/7. But it needs to be part of the equation, both wind and solar.

Also coal: 50% of the electricity in this country comes from coal today. We need to look for ways to make

coal clean, and we need to invest in carbon capture and sequestration. That's a technology that probably is a decade to 15 years off before it will be commercially available, but it needs to be part of the equation as we look at decarbonization by 2050, which most of the carbon legislation calls for today in Washington.

Nuclear also has to be a key part. In fact, it's the only technology today that gives us power 24/7 with zero greenhouse-gas emissions. But we have yet to solve the storage issue.

And lastly, as we turn increasingly to natural gas -- and every time we ban a coal plant or we ban a nuclear plant, we build a gas plant, because it's an easy thing to build -- at the end of the day it still has a pretty significant **carbon footprint**, 50% of that of coal. So natural gas is not a complete answer.

None of these in and of themselves is a complete answer. Each plays an important role, and each can contribute in a low-carbon world. All require further research and development, dollars spent and new technologies developed to use them in a low-carbon world.

MR. BALL: Thank you. Eric Schmidt, energy efficiency?

ERIC SCHMIDT: As part of a comprehensive energy policy, the first thing really has to be efficiency. Maybe the most boring, but in fact the highest-return thing that we can possibly do: just make the current stuff more efficient. There are many, many technologies that can be applied to do this, which we won't review, but they're all very compelling.

So how do we make it happen at scale? In fact, utilities -- especially in the two-thirds of the states which have decoupled regulations where the utilities are managed to efficiency goals rather than revenue goals -- already have energy-efficiency programs. But often they don't quite have it right. So an idea that I thought was particularly compelling that came out of the group was to allow utilities to think of the efficiency that they cause in their customers, to treat it in the same way as the capitalization that they do of a new plant. So from their perspective it's a good choice. It's cheaper, it's more effective, they get a better rate of return, and it makes their internal business logic make a lot of sense.

In a situation where utilities can capitalize their investments, they'll do it more quickly. It's also stimulative, going back to the stimulus question, because it's something that's done by all those out-of-work construction people and so forth who are not building houses right now. So all of a sudden, whether it's federal buildings, state buildings, city buildings or homes, you've got this huge, huge market.

Along the way, you also need to do things like raising consumer incentives for pursuing energy-efficient technology, a federal building code and federal standards around energy efficiency. And the reason you want this form of **regulation** is that the consumer and the manufacturer and that whole transaction cycle don't bear the full cost of it.

So the sum of that is, energy efficiency is clearly the first place you put your money. It's relatively straightforward, but with some clever **regulation**, we can build something that we'll sustain independent of the panic.

MR. BALL: One quick thing that strikes me: There's been talk about a federal building code for years and it hasn't gone anywhere. It'll be fascinating to see whether the energy situation we find ourselves in leads to getting through that gridlock.

OK, Paul Otellini on infrastructure?

PAUL OTELLINI: This had to do with how the stimulus-plan money would be spent. Our idea was to focus on infrastructure. And one comment was, let's make sure the stimulus plan is not just a payout, that it rather is an investment. If you think about ROI, return on infrastructure ought to be something we look at as part of deciding of how this gets spent.

There were two big areas. The first was, focus on roads, bridges, airports -- allowing us to put people back to work but also to decrease things like congestion. As the arteries are expanded, it allows us to be able to get cars, even as they get more efficient, to be able to move more rapidly and therefore waste less energy.

A second big part of that had to do with something that Jim coined, a green stimulus plan. And this addresses the supply side of renewables: What can we do to really encourage a buildout, perhaps even slightly ahead of demand, on renewable energy sources to ensure that becomes one of the five key elements of the decarbonization process?

And then the last comment on this was obviously self-serving: Let's ensure that there's business participation in deliberating how the stimulus plan would be spent.

MR. BALL: Now on electric cars, Carlos Ghosn.

CARLOS GHOSN: We started with a very general topic: decarbonize the transporation sector -- try to eliminate as much CO2, try to eliminate as much as possible dependency on oil.

And we took the electric car as a very specific and maybe eye-catching example of where the evolution of technology leads us to something which was unthinkable a few years ago: We ought to have very specific goals of saying by 2020, and if possible before that, 10% of total car sales should be zero emission -- which means electric cars -- reaching up to 50% of car sales in 2030.

Now, by electric cars, I'm not talking about hybrid electric; I'm talking about cars with zero emissions, however you use them. It's not a car with a small engine to reinforce the battery. We're talking about the fact the consumer cannot emit any CO2 while he's driving this car. And it's a real car, it's not a golf cart.

So, this technology today is about ready to be launched. In 2010, 100,000 cars will be on the market. I think the U.S. is going to receive the first lot of them. In 2012 many markets in the world -- we have counted about 40 countries -- are going to have an important amount of electric cars.

But it's not only about electric cars, because if you have 10% of cars being electric in 2020, it doesn't solve the problem. In the meantime, you still have to go through the continuous improvement on gasoline engines, diesel engines, flex-fuel, ethanol, and continue to develop technology of the future that may be ready after the electric car is being mass-marketed, like the fuel cell, using hydrogen as a fuel and then you emit water.

So the electric car is a very specific issue. Obviously, there are going to be different generations of technology coming, but the present technology ready to be mass-marketed in 2010 is already sufficient to fulfill the basic needs of the American consumer, the European consumer and the Japanese consumer.

MR. BALL: Two other quick things. If you remember back to this morning, the number we started out with for electric cars was 5% of sales in 2020. We're now at 10%. There was an impassioned discussion in the room about what the right number was, but a general sense that 5% was not being ambitious enough.

Lastly on the numbers, there was a sense that we did not want to have just a 2030 or a 2050 goal, that there are too many long-term goals that are not able to be sort of grabbed onto. And so it's important to have a goal that's in a much shorter time frame.

ALAN MURRAY: I think it's great you have those specific goals in the electric car item. But in the decarbonize power sector item there are no specific goals, although Jim Rogers mentioned zero emissions by 2050. And the second thing is, it's not clear how you get there. Can you get there without putting a price on carbon emissions? Can you get there without a cap-and-trade system?

MR. ROGERS: It would be my judgment that you need a cap-and-trade system. You need a cap on emissions to decline over time. You need a price on carbon for long-term planning. But quite frankly, to quote the Pentagon, which often says, "A vision without resources is a hallucination," I believe a carbon policy without technology is a hallucination.

MR. BALL: There was, I think, a pretty strong consensus in the group that where a lot of this needs to start is with some political honesty and leveling with the American people about the degree of pain and money and sacrifice that's going to be required.

MR. GHOSN: Today coming to the car industry -- not only the Big Three but also the Japanese and Europe and everybody -- and telling them, "You guys are going to have to invest billions of dollars in transforming your car into zero emission, and you have to invest in batteries" -- well, they have practically no accessible financing. I can tell you all the car makers today have a problem with credit.

That's why I think ensuring long-term financing -- and again, it's not only a U.S. problem -- is absolutely fundamental if you want these things to happen.

MR. ROGERS: I want to underscore what Jeff said: It's not going to be cheap, it's not going to be easy. Many environmentalists and many political leaders are leaving the impression with the American people that you can snap a finger and there we are. But I think it's going to be expensive, it's going to take investment and it's going to take a consistent policy in this country -- something that we haven't had, and we've been talking about energy independence and energy policies since the 1970s. But we have yet to actually implement a consistent policy.

MR. MURRAY: Let's go to Senator Bingaman and let him respond to what he's heard here.

JEFF BINGAMAN: The point that seemed to me to be unsaid is that all of these recommendations involve a substantial accretion of more authority at the federal level. A lot of what is currently done with regard to energy efficiency, with regard to the power sector, with regard to the infrastructure, those decisions are made by state regulatory agencies. And that's got to change in order to put in place the kinds of long-term policies that I think are being advocated.

If you're going to have federal siting of transmission lines, if you are going to do the decarbonizing that you're talking about, if you're going to have decoupling of profits from improved efficiency, all of that is going to have to be done federally if it's going to have the impact that we're talking about.

So, I don't disagree with the main thrust of what's being discussed. I do think that an integral part of it is the cap-and-trade proposal, which has been endorsed by our president-elect, and I think is going to be seriously considered in this Congress. And I think it will have an impact on carbon usage throughout the economy, and it will overlay in many ways the regulatory changes that are being discussed here.

MR. ROGERS: Senator Bingaman remembers how difficult it was just to get the type of legislation we have today in terms of building transmission lines and interstate commerce. It's a huge pushback at the state level with respect to that.

I do think you can have some overarching principles, but the implementation is going to have to be at the state level. This is going to take a collaborative effort between the federal government with overarching principles and state commissions actually implementing them.

MR. OTELLINI: I think there also has to be a sense of urgency built into it. When one thinks of federal **regulation** or more power accreting to the federal government, one doesn't usually think of things moving faster. So there has to be implicit in this a sense of urgency, and a sense of to some extent relief to be able to do things more rapidly. Like building a nuclear plant.

MR. SCHMIDT: There are many, many interesting technology projects just waiting for infrastructure that are hung up in local and state governments. As we all know, the states have no money for the next year or two, and may not for a long time. The only place where both the authority and the financing will be possible will be at the federal level, and it needs to happen quickly. The reason it has to happen quickly is it's a compounding effect. If you don't get started now you'll lose those years forever.

SEN. BINGAMAN: I think implicit in my concept of a comprehensive national energy policy is the authority at the national level to make energy policy. And that doesn't exist in many parts of what we call energy policy today.

The Top Five Recommendations

1. COMPREHENSIVE ENERGY AND ENVIRONMENT POLICY

Put national legislation in place that starts us on the road to decarbonize our economy and to create the most energy-efficient economy in the world. Level with the American people that ensuring an adequate and diverse energy supply in a low-carbon world will not be cheap or easy. But make the case that the transition must be transparent and fair to all Americans, and that linking the economy, the environment and energy policy bolsters security for all three.

2. DECARBONIZE THE POWER SECTOR

Launch a coordinated strategy to curb emissions from electricity production that recognizes the need for a variety of energy sources. To facilitate renewable energy, allow the use of federal eminent domain to site transmission lines, and increase federal spending to improve energy-storage technology. To allow the continued use of coal, promote carbon capture and sequestration technology by boosting federal R&D spending and by streamlining procedures for the licensing and siting of facilities to store the carbon dioxide underground. To expand the use of nuclear energy, resolve storage issues. To promote all these technologies, create a cap-and-trade system for carbon emissions.

3. ENERGY EFFICIENCY

Change current regulations to allow utilities to capitalize investments in energy efficiency rather than just adding generation capacity. Increase consumer incentives for purchasing energy-efficient technology. Create a federal building-efficiency code. Toughen federal appliance-efficiency standards.

4. INVEST IN INFRASTRUCTURE

Broad federal investment in new infrastructure -- including roads and bridges, which would decrease traffic congestion. Include particularly infrastructure to promote low-carbon energy. Ensure business participation in deciding how money is spent.

5. ELECTRIC CARS

Aim for electric cars to represent 10% of total car sales in 2020 and up to 50% in 2030. Provide long-term federal financing to facilitate the transition, with a particular eye to two technological tasks: improving battery technology and developing lighter-weight materials.

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