



## Thoughts on the New Energy Team

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In case you are just venturing out of your cave for the first time in a week, you are probably aware that President-elect Obama has announced his new energy team:

### [Obama names energy team](#)

The team includes Nobel Prize winning physicist [Steven Chu](#) as Secretary of Energy, former EPA head [Carol Browner](#) to fill the newly-created job of Energy Czar, and [Lisa Jackson](#) to head the EPA. The focus of this essay will be on Dr. Chu, but I will comment briefly on the others.

Lisa Jackson is trained as a chemical engineer (as was the outgoing Secretary of Energy [Samuel Bodman](#)). It should go without saying that I like to see technical people in roles like this, where understanding science and data are both critical. Carol Browner, while not trained as a technical person, has a lot of administrative experience within the EPA. Incidentally, I once met Mrs. Browner, as she was the person who presented my research group with the [1996 Green Chemistry Challenge Award](#) at the National Academy of Sciences for our work on biomass conversion to fuels.

While I don't know nearly as much about Browner and Jackson, Dr. Chu has a very long public record. I have been searching through his various publications, speeches, and presentations to get a good picture of the man. Here is what President-elect Obama had to say about Dr. Chu:

"His appointment should send a signal to all that my administration will value science. We will make decisions based on the facts, and we understand that facts demand bold action."

If you asked me for a few characteristics that would top my list of desirables for the spot of Energy Secretary, I would want someone who is 1). Knowledgeable about a broad range of energy technologies; 2). Passionate about the subject; 3). Not highly partisan, and can work with diverse groups.

Dr. Chu's record indicates to me that he easily fills my three criteria. Dr. Chu is currently director of the [Lawrence Berkeley National Laboratory](#). Among his accomplishments there was to secure a \$500 million partnership with BP to do alternative energy research. (See [this story from Salon](#) for more details.) This suggests someone who can work with industry on next generation energy technologies. I am not sure how quickly he feels we can transition away from oil, and therefore

whether we need additional exploration and drilling. I couldn't find anything regarding his position on drilling. However, he has been outspoken over his opposition to coal, and his concerns about global warming. Some quotes on these topics from Dr. Chu. First, his position on coal is pretty clear:

"Coal is my worst nightmare."

He favors nuclear energy over coal (it should come as no surprise that a physicist like Dr. Chu is pro-nuclear):

"The fear of radiation shouldn't even enter into this."

"Coal is very, very bad. Nuclear has to be a necessary part of the portfolio."

Chu, who also is professor of physics and molecular and cell biology at UC Berkeley, said nuclear is the preferred choice to coal, pointing out that coal releases 50 percent more radioactivity than nuclear power plants.

His concerns over global warming [have been well-publicized](#):

Consider this. There's about a 50 percent chance, the climate experts tell us, that in this century we will go up in temperature by three degrees Centigrade. Now, three degrees Centigrade doesn't seem a lot to you, that's 11° F. Chicago changes by 30° F in half a day. But 5° C means that ... it's the difference between where we are today and where we were in the last ice age. What did that mean? Canada, the United States down to Ohio and Pennsylvania, was covered in ice year round.

So think about what 5° C will mean going the other way. A very different world. So if you'd want that for your kids and grandkids, we can continue what we're doing. Climate change of that scale will cause enormous resource wars, over water, arable land, and massive population displacements. We're not talking about ten thousand people. We're not talking about ten million people, we're talking about hundreds of millions to billions of people being flooded out, permanently.

He is no fan of corn ethanol:

We can indeed make fuel out of crops. Corn is not the right crop. The reason it's not the right crop is because the amount of energy you put into making a fuel and growing the corn and fertilizing the corn fields and plowing the fields is within ten or 20 percent of the amount of energy you get by making it into the ethanol that you can put in your car.

Also, the amount of CO<sub>2</sub> you create by growing corn is again within 20 percent of the amount of carbon dioxide you make by drilling and refining oil and putting into your car.

If someone wants to argue from authority about the efficiency of making ethanol from corn, they need to find a better authority than a Nobel Prize winner who runs an energy research lab.

He favors higher gas taxes:

"Somehow we have to figure out how to boost the price of gasoline to the levels in Europe." [Source](#).

From that same article:

Lee Schipper, a project scientist with the Global Metropolitan Studies program at U.C. Berkeley, hailed Obama's nomination of Chu as Energy Secretary and praised his colleague's support for higher gasoline taxes.

Schipper thinks Obama's concerns about not placing additional burdens on America's families can be addressed by agreeing to rebate all -- or close to all -- of the money raised by higher fuel taxes. **"The answer is: raise the price of gasoline and give all the money back,"** said Schipper.

Hmm. [Where have I heard that before?](#)

He stresses the need for greater energy efficiency (and like me, wants to be emperor of the world):

"I cannot impress upon you enough how important energy efficiency is."

"Just refrigerator efficiency -- bigger refrigerators by the way -- saves more energy than all we're generating from renewables [today], excluding hydroelectric power."

"If I were emperor of the world, I would put the pedal to the floor on energy efficiency and conservation for the next decade."

And he recognizes that the U.S. can be a leader in new energy technologies, but are starting to fall behind in some areas.

"We have an option to be a leader in energy technologies, but we are not because our support system for that is on again off again. The future wealth of the United States will come from our ability to invent new technologies."

"Americans take for granted that the United States leads the world in science. But we've lost many of these leads, especially when it comes to energy."

"The U.S. is making it easier for other countries to catch up and pass us."

So, let's see. He has had a career focused on energy, is clearly passionate about the subject, isn't enthusiastic about making ethanol from corn, thinks we need higher gas taxes, favors nuclear power, favors alternative energy funding, favors higher energy efficiency, and is pro-science. That's exactly how I would describe myself, so from my perspective I love the choice. It's like we are twins (think [Danny Devito and Arnold Schwarzenegger](#)). I agree (almost completely) with his priorities. He has also been involved in research on cellulosic ethanol, and [will likely send more research dollars flowing in that direction](#).

I think the issue that will generate some controversy is his very strong position on global warming. Not since Al Gore was Vice-President will there be such a staunch proponent of reducing greenhouse gas emissions at the highest levels of government. Global warming activists will love him. Skeptics probably won't be quite so enthusiastic.

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Here are the quick bios of the rest of the energy/environment team, [courtesy of Wired](#):

### **Lisa Jackson, EPA head**

Quick bio: Trained as a chemical engineer at Princeton, she has spent her entire career with government environmental agencies. She worked her way up through the EPA from 1987-2002, then moved to the New Jersey Department of Environmental Protection, eventually becoming its head in 2006. She was appointed as New Jersey Governor John Corzine's chief-of-staff less than a month ago.

### **Carol Browner, energy czar**

Quick bio: The longest-serving EPA administrator in the history of the agency, Browner is the non-scientist on the team. She came up through politics, working as Al Gore's legislative director in the late 1980s, before heading the Florida Department of Environmental Regulation. She was appointed by Bill Clinton in 1993 to helm the EPA and left in 2001. Since then, she's been a consultant with The Albright Group.

Her position: The new "energy czar" will coordinate (and politically shepherd) the President-elect's various proposals around energy and the environment.



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