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THE AMERICAN CLEAN ENERGY SECURITY ACT OF

2009 (DAY 1)

TUESDAY, APRIL 21, 2009

House of Representatives,

Committee on Energy and Commerce,

Joint with the

Subcommittee on Energy and Environment

Washington, D.C.

The committee met, pursuant to call, at 3:06 p.m., in Room 2123, Rayburn House Office Building, Hon. Edward J. Markey [chairman of the subcommittee] presiding.

Present: Representatives Waxman, Dingell, Markey, Gordon, Stupak, Green, Doyle, Harman, Gonzalez, Inslee, Baldwin, Ross, Matheson, Butterfield, Melancon, Barrow, Hill, Matsui, Christensen, Sarbanes, Space, Sutton, Braley, Welch, Barton, Hall, Stearns, Whitfield, Pitts, Walden, Murphy of Pennsylvania,

Burgess, Blackburn and Scalise.

Staff Present: Matt Weiner, Special Assistant; Alexandra Teitz, Senior Counsel; Greg Dotson, Chief Energy Counsel; Lorie Schmidt, Senior Counsel; Cara Anchman, Communications Associate; Lindsay Vidal, Press Assistant; Phil Barnett, Staff Director; Kristen Amerling, General Counsel; Melissa Bez, Professional Staff; Mitch Smiley, Special Assistant; Matt Eisenberg, Staff Assistant; William Carty, Minority Professional Staff; and Garrett Golding, Minority Legislative Analyst.

Mr. Markey. [Presiding.] The committee will come to order. Today we will begin our legislative hearings on the American Clean Energy and Security Act discussion draft, which Chairman Waxman and I released 3 weeks ago. This bill provides a comprehensive approach to solving our economic energy and climate crisis. The time for delay and denial and inaction has come to an end. It is time to put Americans back to work in the jobs needed to bring about the age of the clean energy economy.

We have an ambitious but achievable schedule before us. The markup process will begin next week, and we expect to report the bill from the full committee before the Memorial Day break.

In my 33 years on the Energy and Commerce Committee, I cannot remember a week of hearings quite like this one. We are fortunate to have three Cabinet-level officials: former Vice President Al Gore; national security statesman, Republican Senator John Warner; dozens of executives from Fortune 500 companies; and many environmental leaders. We have already heard from more than 60 other witnesses at the subcommittee's previous hearings this year in addition to nearly 160 witnesses who appeared at the 24 hearings held by the subcommittee in the last Congress.

The Waxman-Markey discussion draft uses many of the ideas put forth in the hearings held last year and this year and represents a solid start towards a consensus product. This legislation

presents us with an historic opportunity. Of all the committees in Congress, I believe this committee is best suited to handle the challenge of passing strong energy legislation that will help grow our economy, create millions of green jobs and address the global warming crisis.

We will now begin to hear from Members who wish to give their opening statements. And I will turn and begin by recognizing the gentleman from Oregon Mr. Walden.

[The information follows:]

***** COMMITTEE INSERT *****

Mr. Walden. Thank you very much, Mr. Chairman. And I especially appreciate your comments about the need for jobs. Oregon is now second only to Michigan in its unemployment rate, and I dare say the district I represent that is home to 10 or 11 of our Nation's national forests unfortunately comes in with some of the highest unemployment rates in the country and in the State.

Unfortunately, the draft bill which I have begun to work my way through doesn't help us if you are in a forested timber community. And, in fact, there is no scientific basis for the definition that is used in here to describe biomass and prohibit the use of any biomass off Federal forestlands and most likely off private forestlands to account toward renewable energy, when, in fact, there is enormous opportunity for renewable energy to be produced off our Federal forestlands and our private forestlands. For some reason the definition on page 8 of this bill specifically prohibits any biomass off Federal land from being included as renewable.

There is no scientific basis for that definition whatsoever, and I hope it can be changed. I plan to offer an amendment to change and delete it, frankly.

My district is also home to enormous growth in wind energy, and I have been a big advocate of wind energy. One of the great synergisms that occurs in the Northwest is between using the hydroelectric system to be the battery by storing water to balance

out the curve when it comes to wind power, because as anybody in the wind energy side knows, wind is not firm power. And, in fact, in the Northwest you will find times, this January specifically, where there was 10 days when there was no wind, which meant no energy release. Other times within an hour you could have a 1,000-megawatt difference between the output of the wind energy up or down.

That means that energy has to be firmed up. Hydro systems are terrific for firming up energy. Yet in this legislation hydro that predates 2001 is not considered as renewable, and yet hydro after that is, unless hydro is on a facility that on page 11 of the definition shows that if the water surface elevation at any given location or time changes because of that hydro, then suddenly it is not considered renewable.

Can somebody explain to me how that works? Unless you simply have in-stream hydro, which really isn't a reality in most cases, although we have some in irrigation canals, which is fine, but to do big hydro or new hydro, you are most likely going to affect the elevation at some point and at some time if you are going to use hydro that stores the battery, the energy, that then is used to fill in when wind energy does not occur.

So, Mr. Chairman, there are enormous challenges with the draft of this legislation when it comes to the definitions. Some of these definitions defy both logic and science. And yet there is enormous opportunity to develop renewable energy.

I participated in a Science Committee field hearing yesterday morning in Vancouver, Washington, that was put on by our colleague Mr. Baird. And at that hearing one of the scientists from the University of Washington indicated that there is plenty of renewable wood fiber in the Northwest to, in fact, she said, provide replacement fuel for all gasoline consumption in the State of Oregon using something called methanol. Methanol, by the way, is what we use today in race cars. It is a proven technology, it is a proven fuel, and yet it is discriminated against when we talk about alternative fuels. Meanwhile our forests go up in smoke at unprecedented rates.

With temperature change and global warming, we need to be better stewards of our Nation's forests, and yet you have got enormous fires. According to the California Forestry Association, wildfires burning more than 8 million acres spew as much carbon dioxide into the air as all the cars and factories in the U.S. combined in the same months. From 2004 to 2008, an average of 8.9 million acres burned in wildfires each year.

Our forests are going up in smoke, drought, bug infestation, mortality, 400 million boardfeet a year mortality alone in the Northwest. There is enormous opportunity to turn that woody biomass into a fuel source to use it for heat source with very little emission to improve the habitat and environment of the forest, and to thin them out to protect some of the old growth and all that people would like to do, and yet the very definitions in

this bill fail that stewardship.

So, Mr. Chairman, I look forward to the markup. I look forward to future hearings on the substance of this measure so that we can fix it and make it workable. Thank you, Mr. Chairman.

Mr. Markey. I thank the gentleman.

[The information follows:]

***** COMMITTEE INSERT *****

Mr. Markey. The Chair recognizes the gentleman from Tennessee Mr. Gordon.

Mr. Gordon. Thank you, Mr. Markey.

You have a lot of people to make statements today, so I will be very quick.

Climate change is real. We need to do something about it. It is the right thing for our country, it is the right thing for the world. Business needs reasonable, I think, rules of the road so they can make a business plan and have certainty, and I think, as you have pointed out, we need to legislate this rather than have it done by regulation.

I want to thank the committee and its staff for working with the staff of the Science Committee on some areas of joint jurisdiction and also some unique jurisdiction. We look forward to seeing the mark so we will know how to better move in that direction.

There is one area that I do want to point out that I think we need to do some more fine-tuning, and that is the renewable electricity standard. I think that we do need to have a broad use of the NES. I think that it is important for us as we start to move toward more energy independence. But it should not be punitive to different parts of the country.

And I would ask the committee staff please to put a chart up if you have it. There we go.

So if you can see that chart, and it is not mine, it is the National Renewable Energy Laboratory, and what you will see there is the green area is where current technology can be used for biomass. The blue is for wind, and the red is for solar. And as you see, there is some broad swaths of the country -- you know, we are all sitting here for our own constituents, so you can see parochially if you look down on the east side of the Texas all the way up through the Southeast, up toward Bart Stupak's up there, there really are very few types of alternative energies that we can use and that are appropriate for those communities.

So hopefully, again, we do not want something that is going to be punitive, and I have some suggestions in that area. First of all, we should allow real credit for energy-efficiency improvements. Expanding the definition of what is renewable power, I think, is important, including giving the Secretary of Energy some authority for future technologies. If we are going to get from here to there, we can't do it on today's technology. And so there is going to be different types of, I think, renewable power in the future that we need to recognize in that regard.

I think it is important that we don't apply the mandates to small and midsize municipalities and cooperative utilities. I think it is also important that we consider the use of nuclear power and coal through CCS, and also reducing the alternative compliance payments.

So while we have begun a conversation or continue that with

you, I suggest any other Members here that would like to be a part of that, we would welcome you to join in that. And again, thank you for this hearing and all the hearings you have this week.

Mr. Markey. We thank the gentleman very much.

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Mr. Markey. The Chair recognizes the gentleman from Texas Mr. Hall.

Mr. Hall. Thank you, Mr. Chairman. And today we are embarking on what I would call a mad dash to examine almost 650 pages of text, which includes various mandates and an incomplete cap and trade proposal containing no specifics on how CO2 emissions allowances would be allocated in the unprecedented expansion of environmental litigation placed and based on perceived risk.

Despite the amount of paper it is printed on, the discussion draft lacks detailed information on the disposition of allowances. Will the allowances be distributed or auctioned? Would there be 100 percent auction? If auctioned, what are the cost-control mechanisms, and where would the proceeds be directed?

This lack of clarity, Mr. Chairman, leaves the Congressional Budget Office absolutely unable to properly score the bill to start with, and American businesses and consumers in the dark to suggest how much this bill is going to cost. The entire promise and the premise on which the climate change debate hinges is on the idea that we can accurately measure, monitor and verify greenhouse gas emissions coming from all sectors of the country.

Second, a cap implies that we know where we currently stand. We are betting the U.S. economy on the assumption that verifiable data collection and monitoring is as simple as you indicate it to

be. Without U.S. regulation of greenhouse gases, what impact would we have if other major carbon-emitting countries do not follow suit? And would this reality put America in the position of shouldering the burden of cleaning up the world and having our citizens bear the high cost? What would regulations mean for electricity rates? Are these costs we are willing to accept given the uncertainty about whether regulations would even help at all?

Recently Energy Secretary Chu mentioned that under the administration's bill, the price of energy would increase. These costs will be passed on to the consumers, and the United States would be at a disadvantage to other nations. Just last month China's top climate negotiator proffered that any fair international agreement to curb gases blamed for global warming would not require China to reduce emissions caused by or manufactured to meet demands elsewhere in the world. If China, the world's largest emitter, is not willing to play, are we comfortable putting America's economic security in further jeopardy by moving forward with this legislation?

The key question facing all of us here in Congress is, quote, what is the appropriate policy for the United States to move our Nation toward affordable, reliable and clean energy sources? It is not an easy question to answer. We must discuss what the U.S. could accomplish with the right investments in energy research and development. For example, many, including myself, hope that carbon capture and sequestration technologies will make it

possible for coal-fired power plants to limit their emissions while providing affordable electricity. Technologies researched and developed by the oil and gas industry in partnership with universities and national labs and utilized for enhanced oil recovery make for -- the potential for carbon capture and sequestration make that possible.

This innovation should be nurtured and not stymied. However, on top of a cap-and-trade system, this bill places a command-and-control regime on coal-fired power plants. Mandating that after 2009 no new coal-fired plants without CCS technology in place may be built sets an unreasonable deadline. Even Energy Secretary Chu recently acknowledged that such CCS technologies will take many years to develop and even longer to be put into practice. What is to be gained by such a short time line?

The elimination of the use of one of the most abundant domestic energy resources, while at the same time increasing the demand for electricity, what energy source will be used to replace fossil fuels to meet the increased electricity demanded and triggered by the various mandates in this bill? If not clean coal, what about nuclear power? Unfortunately, nuclear is never featured among the almost 650 pages of your text.

Mr. Chairman, I yield back my time. I am very concerned about this bill, the effect it is going to have on this country, the effect it is going to have on taxpayers in the future, the effect it is going to have on those of us who rely on energy and

right now relying on countries that we don't trust and don't trust us for the energy we have. Surely there is a better way to go.

I thank you, and I yield back the balance of my time if I have any.

Mr. Markey. We thank the gentleman.

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Mr. Markey. The Chair recognizes the gentleman from Texas Mr. Green.

Mr. Green. Thank you, Mr. Chairman. And the following week will now be historic for the Energy and Commerce Committee. After years of debate on the root causes, impacts and potential solutions to address global climate change, our committee will soon consider comprehensive legislation that seeks to reduce greenhouse gas emissions both home and abroad.

Both the full committee Chair and you, Chairman Markey, have worked quickly on a discussion draft which sets the markup for action on climate in the House of Representatives. It is an understatement to say that all Americans in the entire world are closely watching how this debate unfolds. That is why I am pleased you have set an aggressive hearing schedule this week with distinguished panelists to learn more about the American Clean Energy and Security Act, or ACES, released shortly before the April recess.

Since the draft's release, the Environmental Protection Agency has issued a finding that greenhouse gas emissions pose a threat to public health and welfare. If Congress does not act, greenhouse gas emissions could be regulated administratively without input from Members that represent diverse constituencies nationwide.

While I commend Chairman Waxman and your work, Chairman

Markey, on the draft, and I hope to support the final product, I have serious concerns with the impact ACES may have on my constituents and job base in the overall economy. First, we must protect our U.S. energy-intensive domestic industries, including refineries, so we do not simply export those jobs abroad to nations without carbon controls and lax environmental regulations.

I represent the Houston Ship Channel, a petrochemical complex that stretches along the Texas Gulf Coast and is home to thousands of chemical industry and petroleum refining jobs. These energy-intensive industries we left vulnerable to foreign competitors not facing carbon regulations if we do not carefully craft transitional policies to prevent job leakage. We cannot allow the petrochemical and refining industries to migrate out of America. They are vital to our economy and to our national security.

I want to thank Congressman Inslee and Congressman Doyle for putting forward a proposal to provide free allowances of certain energy-intensive industries regulated under a climate program. I urge the committee to provide ample allowances sufficient for all exposed industries, including domestic refineries, which will place our refineries on an equal footing with their competitors in the European Union, which are considered energy-intensive, trade-exposed industries. Border adjustment policies must level the playing field in the global market for all trade-exposed products, and our export and import policies under the

cap-and-trade program must not place our domestic industries at a competitive disadvantage.

None of these proposals, however, can substitute for the need for a strong international agreement with binding carbon reductions amongst the world's largest emitters, including developing countries.

Second, our transportation fuel policy must be based on sound science, and avoid duplicative regulation, and enhance our broader national energy security. The draft discussion includes a low carbon fuel standard, which does not reflect the consensus-based principles issued by the U.S. Climate Action Partnership, and raises more questions than answers. Under the cap-and-trade program, refiners must already purchase emission allowances for all fuels produced, with the total volume in the nationwide emission allowances declining over time. Layering an additional regulatory scheme on fuels may be the least efficient way to reduce carbon emissions and must be weighed against the impact the proposal would have on consumer gasoline prices.

Third, complementary policies addressing renewable electricity and energy efficiency standards must reflect State and regional capabilities, avoid overlap, and not unduly burden low-income Americans with higher home energy bills. A mechanism must be in place to adjust targets if energy prices escalate, or if transmission capacity is inadequate.

Fourth, a final proportion of allowances must be allocated

for consumer assistance programs. Assisting with higher electricity prices is one piece of the puzzle. An effective rebate program must also address higher gasoline prices as well as the price of all goods that rely on energy inputs. If our climate policy leads to energy supply disruptions and price spikes without effective remediations, consumers and voters will begin to question that policy, and they will respond.

Finally, the overall design of the cap-and-trade program must be improved. Any final bill should include realistic emission reduction targets, more effective cost-containment mechanisms, and enhance carbon market oversight provisions. I hope to work with Chairman Waxman, Chairman Markey and all the members of our committee on other concerns to craft a climate policy that protects both our environment and our economy.

Mr. Chairman, I yield back my time. Thank you.

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Mr. Markey. The gentleman's time has expired. The Chair recognizes the gentleman from Texas Mr. Burgess.

Mr. Burgess. I thank the Chairman, and I thank the Chairman for the opportunity to have this day of opening statements as we begin a week of doing these hearings with several dozen witnesses. And I am assuming that we will hear over and over again witnesses tell this committee that the draft bill under consideration is the answer to all of our energy and security problems, as well as a vehicle that our economy needs to carry us through this economic downturn.

I would argue that in its current form, this bill may do more harm to our economy than any bill that is likely to come before Congress the rest of this year, perhaps during my natural lifetime. That is because this cap-and-trade proposal will increase the daily overhead cost for businesses, increase the cost of running our families to work and school and in jobs of businesses unless they are explicitly protected in the language.

Let me say that again: unless they are explicitly protected in the language. In other words, we will have a system of earmarks for what businesses we favor. Once again, Congress, in full transactional mode, will be able to pick winners and losers.

Credit allocations are conspicuously absent from the language in this bill.

I would also argue that some of the witnesses the committee

has put together should be scrutinized for their support of this bill. I believe that some merely see a business opportunity to create strategic alliances in order to gain a greater share of future energy market. Certainly we have dealt with problems in the futures market and energy last summer when oil went up so high, and interestingly enough, Thomas Friedman, writing in an article a week, week and a half ago, said if we are going to be honest about it, let's just tax carbon; let's not play this elaborate game of hide the ball from the American public. The American public deserves to know what we are doing, and we are only going to create a system where the buying and selling of carbon futures are going to mimic that of energy futures last summer.

Now, I would like to highlight the fact that some of the largest corporation industries affected by this draft bill are absent despite the seemingly unending list of witnesses that we have had before us this spring and are going to have this week. I have also noticed for the second time in two attempts the witnesses representing the U.S. Climate Action Partnership have avoided hearing opening statements from members of the committee. Now, I know they are boring, and I know that people don't like to pay attention to them, but this is an historic time, and they should be here.

I am looking forward to hearing from Secretary Chu, Secretary LaHood, Administrator Jackson at tomorrow's hearings. As members

of this committee, we really haven't had an opportunity to hear from them. In fact, we have created our whole budget without any input from the Secretary of Energy or the Secretary of Transportation. In the previous administration we would bring the Energy Secretary in, we would bring the Secretary of Transportation in and get their views and estimates before we created the budget. We didn't get to do that this year, so maybe tomorrow will be a good opportunity to ask about the views and estimates for their budget and how this bill will be incorporated into each agency's responsibility and roles in government over the coming years. That opportunity for Members to question agencies about their budget is an important role of Congress, and I will appreciate the opportunity to exercise that tomorrow.

I would also point out that it is up to the Congress to -- we hold the pursestrings, and if indeed the Environmental Protection Agency is producing regulations that are damaging to the economy, we do have the ability to withhold funding for their activities during the appropriations process, and perhaps some clever person can draft an amendment that will do just that.

Now, fortunately, this draft legislation today is only a draft. We still have time to make changes to this bill, and I hope some of our witnesses will offer suggestions, constructive suggestions, for how we can do this without further damaging the economy. For example, if the goal is to reduce emissions, 1 ton saved through energy efficiency should receive the same treatment

as 1 ton saved through technology transfer, fuel switching or renewable production. I think energy efficiency is the real common ground in this energy discussion because it reduces consumption and saves money.

And finally, the aggregate cost of this bill is a very serious concern. The current draft makes it nearly impossible to estimate the eventual cost because we are still not sure how the allowances will be distributed. But comparing this draft to similar bills that have already been scored brings this bill to well over \$1 trillion. One trillion dollars is still what it used to be even in the recent time of \$1 billion and \$1 trillion bailouts.

I have said it before in this committee: Strong and growing economies are more likely to develop the technology breakthroughs we needed to spur the next wave in energy innovation. That is something we can address without imposing a cap on carbon or establishing a trading platform where sophisticated investors can work up exotic carbon options to trade or mandate the use of nonreliant or unavailable technology.

So I certainly look forward to questioning the witnesses, Mr. Chairman, and I yield back the balance of my time.

Mr. Markey. Let me thank the gentleman.

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Mr. Markey. The Chair now recognizes the Chairman emeritus of the committee, the gentleman from Michigan Mr. Dingell.

Mr. Dingell. Mr. Chairman, thank you for holding this hearing today. Climate change is one of the most serious issues facing the Nation. The effect the legislation discussed this week will have both on the environment and the economy cannot be overstated. The fact that the committee is dedicating such time in going through the regular order is of the utmost importance. And both you and Chairman Waxman are to be commended for your handling of these matters within the regular order. You are also to be commended for the outreach you have done to the members of the committee to enable the committee and its members to understand the issues each of us faces in our unique and geographical and economically diverse districts.

In reading through the legislation, and in talking to stakeholders over the recess, I am impressed with the draft bill before us. Of course, the question of auction versus allocation still lies before us, and that is a very serious question, some might say deal breaker, for many Members.

I would note that this bill bears strong similarities to the recommendation of USCAP and also to language of legislation introduced by Mr. Boucher and I during the last session of the Congress.

I do remain concerned about the aggressive nature of the

renewable electrical standard as written in the draft. While a strong renewable standard is critically important as we move forward, and would certainly go a long way in preventing the dash to gas, I worry that 25 percent in 15 years might be more than States can handle. One possible solution to this would be to back nuclear out of the baseline that has been done for waste energy and existing hydro. It is my sincere hope that we could work together to find a standard that is both workable and achievable and fair.

I would also like to work with you and Chairman Waxman on the provisions dealing with autos. Included in this legislation I would like to see a doubling of the authorization of the Department of Energy's section 136 Advanced Technologies Vehicle Manufacturing Incentive Program. I would note that this country has been in and out of programs like this, like Murphy's glass eye, and every new administration that comes along has changes which will give us better, they say, technology assistance to the auto-manufacturing industry. But this has left us with a very unstable and unreliable situation. The program that I refer to has proved wildly successful, and applications to date far outweigh current funding levels. And we are seeing how this kind of program will work and has worked in other countries like Japan, China and Korea, which are now exporting batteries to this country and other advanced technology in the automobile industry.

I would also propose dedicating 1 percent of the allowance

values a direct funding source for section 136, and generally for retooling to help the domestic auto industry meet the higher fuel economy standard. In addition, I would like to see the inclusion of the so-called "cash for clunkers" bill.

Mr. Chairman, I look forward to working with you and other members of this committee as we work towards compromise language between the Sutton bill and the Inslee bill. Any compromise must favor automobiles built in the United States and not exacerbate the disadvantages our domestic auto industry already faces. It would indeed be curious if we were to spend money to stimulate the economy of the United States by supporting autos built in Japan, Korea or China.

I also want to applaud Representative Doyle for his work on ensuring that the United States manufacturing is not placed at a competitive disadvantage as a result of this legislation. His leadership has been valuable, and, again, I commend him for it. I support your efforts also, Mr. Chairman, in this area and look forward to doing so.

Finally, Mr. Chairman, as we move forward, I am committed to securing a dedicated fund for natural resource adaptation. As we heard in the testimony before the subcommittee at a hearing on adaptation, the forest assessment report of the Intergovernmental Panel on Climate Change noted, and I quote, observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes,

particularly temperature increases, closed quote. In that same report we are warned that in the lifetime of a child born today, 20 percent to 30 percent of the world's plant and animal species will be on the brink of extinction if we don't take action now.

One of my great heroes, and a great conservationist, and the 26th President of the United States, Theodore Roosevelt, taught us that conservation is a great moral issue, and that it is our duty as it ensures the safety and the continuance of the Nation and mankind.

Mr. Chairman, I look forward to hearing from the many witnesses over the next several days and working with you as we continue to work to address climate change in a manner which protects the environment and which must protect jobs and the economy. I yield back the balance of my time.

Mr. Markey. We thank the gentleman from Michigan very much.

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Mr. Markey. And we now turn and recognize the gentleman from Kentucky Mr. Whitfield.

Mr. Whitfield. Chairman Markey, thank you very much. And before I give my opening statement, I would like to ask unanimous consent that the statement of Mr. Radanovich of California be submitted for the hearing record.

Mr. Markey. Without objection, it will be included.

[The information follows:]

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Mr. Markey. And any opening statements from any of the Members who cannot attend this session will be included by unanimous consent in the record.

[The information follows:]

***** COMMITTEE INSERT *****

Mr. Markey. If the Chair is recognized, we will put it back at 5 minutes.

The gentleman from Kentucky Mr. Whitfield is recognized for his opening statement.

Mr. Whitfield. Thank you very much, Chairman Markey.

And I would like to say that while climate change may be one of the most urgent problems facing our country, the way that this bill affects our production of electricity and the production of the fuel we use for our transportation needs in America may very well dwarf the climate change problem. Now, why do I say that? I say that because it is essential, as we move forward to produce cleaner energy, that we balance the need of cleaner energy versus the need of protecting jobs in the U.S. and keeping the U.S. competitive in the global marketplace.

Now, President Obama and others have said that the jobs created as this country moves into clean energy will far offset the jobs that we lose with our traditional energy sources. I have read a lot of studies, and there are some studies that say that that is actually the case. But you can find just as many studies that say the jobs created as we move into a greener economy will not offset the jobs of the traditional economy, and so I think we have to look very carefully at that as we move forward.

I would also point out that recently we met with a group of Chinese, and they were very emphatic when they met with us. And

they indicated that every 2 weeks they are bringing on a new coal-powered plant in China. And also the same type of activities taking place in India. And I might say that those coal plants in China and India frequently do not have scrubbers, they certainly don't have carbon capture and sequestration, and those countries are utilizing coal because it still is the most economical way to produce electricity. And they want to maintain low transportation costs, they want to maintain low electrical costs, they want to maintain low labor costs, because they want to be the most competitive country in the world. And if we move unilaterally to address some of these issues as is set out in this legislation, I think there is a real danger that we are going to be less competitive in the global marketplace.

Renewables under this legislation, we want to produce 20 percent of our electricity by renewables by the year 2025. And I think Mr. Barton in his testimony showed very clearly that in States like Missouri, Kentucky, Tennessee, Alabama, Mississippi, Ohio, Florida, Georgia, you simply cannot produce that much electricity by wind power and solar power. It simply cannot be done, and yet this legislation will provide a penalty for those utilities that are unable to do so.

I would also point out that we know that we produce 51 percent of our electricity by coal, and in order to continue to do that, and also to help using coal around the world, that we have to perfect capture and storage technology. Recently I have

had some conversations with Dr. Curt Halice, who is one of the few people that I know that actually wrote and received a doctoral degree on carbon capture and sequestration. He has looked at this legislation, and he is also involved with a company that right now is featured in the New York Times on Saturday that they are contemplating building a \$5 billion carbon capture and sequestration plant that will store carbon dioxide on the ocean floor. But when he made comments on this legislation, and I think this is very constructive comments that we should look at as we move forward -- and I would also ask unanimous consent that I be able to submit for the record his comments on the carbon capture and sequestration part of this bill. So if there is no objection, I hope that that would be admitted.

Mr. Markey. Without objection, it will be admitted.

[The information follows:]

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Mr. Whitfield. But one of the suggestions that he made, and this is the only one that I will talk about, and I think it is something we should think about, was to reduce the bill's floor for the amount of CO2 that a plant emits before it can qualify for funding from this act. He suggests lowering it from 250,000 tons of CO2 to 100,000 tons of CO2.

He also has some other, I think, very constructive recommendations on the carbon capture part of this bill which will play a vital role if we are going to continue to utilize coal and be competitive in the global marketplace.

So I want to commend the Chairman and the others who have worked on this bill, and we look forward to working with you as we move forward.

Mr. Markey. We thank the gentleman very much.

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Mr. Markey. And now we turn and recognize the gentlelady from California Ms. Harman.

Ms. Harman. Thank you, Mr. Chairman, and thank you for holding what will be 24/7 hearings for the next few days.

There are some young people in the audience that are wearing green shirts. Those shirts say "Power Shift 2009," and their hard hats say, "Green Jobs." Now, I just want to say, Mr. Chairman, that what we do here with this legislation is about you folks. It is about the kind of world you will inherit and the kind of jobs you will perform. We can get it right, or we can blow it. I am for getting it right.

I would suggest that your legislation, Mr. Chairman, and Mr. Waxman's legislation, is very thoughtful, has a few holes to fill in, but it is based on a sound foundation, and that foundation is the USCAP blueprint for legislative action. I know it was no accident that you had USCAP appear here as our first witness in this session of Congress to talk about climate change legislation. I would just like to read the list of its partnership members, or some of them: Alcoa, BP America, Caterpillar, the Chrysler Group, Duke Energy, the Environmental Defense Fund, General Electric, Natural Resources Defense Council, The Nature Conservancy, Shell Oil, Siemens, Xerox.

Now, this is not your average advocacy group, I would say. This is a, I assume, bipartisan, very bipartisan, and very unusual

group of folks who probably had extremely different positions when they formed the group, but have now been able to arrive at consensus principles. It is a sound foundation for the legislation, and it is a bipartisan foundation for the legislation. And I think the fact, as the Chairman emeritus said, that we are moving in the regular order speaks to the fact that this committee, with a great history, will build on a sound foundation and bipartisanship and produce a great bill.

I would just like to point out two of its more brilliant provisions. One is section 211 that relates to outdoor lighting efficiency. Everyone should know that Congressman Upton and I introduced this as a stand-alone bill. It is based on the way we were able to achieve success with respect to indoor lighting, and it set tough standards over a series of years to increase lighting efficiency.

That would be one of the brilliant provisions, and the other might be section 214, which is about cash for clunkers. It is a system of incentives to get Americans to replace their older, energy-wasting washing machines, refrigerators and other household appliances, to trade them in so that they no longer consume excess energy and get replacements that are efficient.

This is the kind of material in this very thoughtful bill. It will need, as I said, us to come together on some of the tough details, but it is built on a sound foundation. And I predict to you kids out there that we are going to do the right thing, and

that you can feel that you were part of a very impressive project which the 111th Congress is about to undertake.

Thank you very much, Mr. Chairman, and I yield back.

Mr. Markey. We thank the gentlelady.

[The information follows:]

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Mr. Markey. The Chair recognizes the gentleman from Louisiana Mr. Scalise.

Mr. Scalise. Thank you, Mr. Chairman.

I appreciate the hearings you have scheduled this week; however, I am very concerned about how we plan to mark up this bill while the details of how the administration intends to issue exemptions versus auctioning permits off is not included in the draft of this bill. Similarly, we cannot know the true cost of this bill until the permit issue has been decided.

While the debate on the causes of climate change are far from settled, as well as the cost of this bill, what has not been disputed is the fact that a cap-and-trade energy tax will cost this country millions of good jobs and will force the average American family to pay thousands of dollars in increased energy costs. This bill is expected to raise over \$640 billion in new taxes on energy. Even the Congressional Budget Office notes regardless of how the allowances were distributed, most of the cost of meeting a cap on CO2 emissions would be borne by consumers who would face persistently higher prices for products such as electricity and gasoline.

The President has acknowledged that his plan will lead to higher electricity prices when he stated, quote, under my plan of a cap-and-trade system, electricity rates would necessarily skyrocket, unquote. According to the President's Budget Director

Peter Orszag, the average annual household cost increase would be about \$1,300 a year for a 15 percent cut in CO2 emissions, which is 80 percent less than the cut sought in the President's proposed budget. In fact, Peter Orszag testified last year before Congress that price increases borne by consumers are essential to the success of their cap-and-trade energy program.

Rather than a national energy tax, we need a comprehensive national energy policy that takes an "all of the above" strategy. We need to encourage conservation, we need to pursue an increase in technologies and renewable sources of energy like wind and solar, but we also need to explore our own natural resources like oil, natural gas and even clean-coal technologies; but we also need to make nuclear power part of a renewable energy portfolio standard, because clearly nuclear power is a reliable and successful and efficient source of energy that most of Europe is using, and it emits no carbon. This bill doesn't include nuclear in part of that strategy.

This cap-and-trade energy tax will send millions of our energy-intensive manufacturing jobs overseas to countries like China and India. According to the National Association of Manufacturers, an estimated 3- to 4 million net American jobs will be lost under cap-and-trade energy tax. Some estimates on job losses go even higher, well over 7 million jobs that would be lost in our American economy. Surely at a time when we need to be creating jobs, this bill goes in the opposite direction.

Moving into a cap-and-trade tax system would place the United States' economy at a distinct competitive disadvantage because it would place additional costs on American manufacturers and cede market share to overseas competitors that are not subject to the limits on greenhouse gas emissions. What this bill will do is redistribute wealth from American families and consumers to special interests. As we speak, deals are being cut right now with special-interest groups to grant them free allowances in exchange for their support on this legislation.

Is that really the change in the way of doing business that so many Americans were promised? That is why so many of the details of this cap-and-trade bill are not yet available to us on the committee, as well as to the public, and so there is a clear lack of transparency in this legislation in part because of the deals that are currently being cut, with those details that are conveniently left out.

Furthermore, government-run cap-and-trade systems smother innovation since companies are artificially constrained in their economic activities, and this will dampen the incentive to create new products and services.

For those who are concerned about reducing carbon emissions, this cap-and-trade energy tax will ironically increase the worldwide carbon emissions, because many of the millions of American jobs that will be shipped overseas due to a cap-and-trade energy tax will be, in fact, sent to countries who do not follow

the environmental standards that are in place here in America. So while those jobs will be shipped overseas, and we will lose that economic opportunity here in our country, the countries that don't participate in cap and trade, like China, India and others, actually emit more carbon in the way that they produce the same goods.

Again, I appreciate the opportunity to discuss this issue in a broad context this week; however, without the details on some of the most significant portions of the bill, this committee is doing a disservice to the American people by purporting to have a hearing on a bill that is incomplete.

Thank you, and I yield back.

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Mr. Markey. The gentleman's time has expired. The Chair recognizes the gentleman from Washington State Mr. Inslee.

Mr. Inslee. Thank you.

It is Earth Day tomorrow, but I want to point out this is not just a green bill one way, it is a green bill two ways. It is not just about decreasing pollution, it is about increasing jobs. And with this bill we are on the launching pad for the single most ambitious, the single most promising job-creation program since the launch of the Apollo project under the leadership of John F. Kennedy.

And I think we ought to approach this with three basic American attributes, the first being confidence. And I just want to share some reasons why I am confident that we will fulfill America's destiny of being the clean energy arsenal to the world.

Last week I was at home for a couple of weeks, and I just want to share some of the people that I talked to in one week. I talked to the people at the SAFIRE energy company which just announced yesterday that they intend to have an algae-based biodiesel biofuels, zero CO2 emission, up and running by 2011 at twice the levels that they originally predicted, using only sunlight and salt water and no feedstock.

I talked to the A123 Battery Company that is ready to manufacture a lithium-ion domestically produced battery to drive American-produced electric cars. We ought to have confidence we

are not going to allow China to dominate the world economy in electric cars and lithium-ion batteries. This bill is going to make sure that that industry stays here.

I talked to the Infinia Company in the Tri-Cities, Washington, which has a sterling solar-powered engine, which is now selling well in Spain and we want to start selling well here, and this bill will make sure that that happens.

I talked to the Ramgen Company. A lot of people have talked to coal -- about the need to sequester coal CO2. We have a technology at the Ramgen Company that leads the world in the ability to compress CO2 so we can bury it permanently and create jobs in this country.

I talked to the AltaRock Company, which is one of the world's leading companies to do engineered geothermal, which we can do perhaps in 50 percent of the United States.

The list goes on and on and on. But what these Americans need is a policy jump-start so that these jobs get created in America, and fundamentally this is what this bill does. So we ought to have confidence.

Second, we ought to act as a union, recognizing the very disparate nature of our country, and that is I am very pleased to be working with Mike Doyle, to have -- and I appreciate Chairman Waxman and Mr. Markey's including our provision that will prevent job leakage and not give an advantage to our international competitors by, in fact, giving some free permits to domestic

high-energy-intensive industry. It is the right thing to do, and it is our answer to the international situation.

But further, I want to mention one thing that I hope we will address as we go forward in the bill. To truly act as a union, we have to unify the electrical grid system of the United States. If you look at the map that Mr. Gordon put up about the disparate access to very renewable sources, we have to have a grid system that is fitting for this century. And I hope that we will find a solution to site these grid systems and finance these grid systems. It is both necessary and possible to do so. Can you imagine what the Interstate Freeway System would look like if we just did it county by county? We need to have a backstop so that Uncle Sam can help out local communities site these systems.

The third thing we need to do in this bill is be smart, and I want to mention a couple of things in that regard. The smartest thing we can do is to learn from the lessons of Europe. Europe essentially used a cap-and-trade system that we invented here to deal with sulfur dioxide. It has been extremely successful in our American experience. We have tamed sulfur dioxide at probably half the cost that was originally anticipated. I believe there is a possibility to do the same with carbon dioxide.

But there are some lessons from Europe. I just want to mention one of them. When they started the cap-and-trade system in Europe, they gave away all the permits. And the reason they did that is it created less controversy to simply give away the

permits. And it was a spectacular disaster when they did that because it ended up consumers bore the cost, rather than utilities, of the cost of this program, and there were scandals galore in Europe about that. And they did not achieve in the first 3 years of their program what they wanted because they gave away the permits and did not create an incentive to go to low-carbon fuels.

We ought to be like the guy who putts second. You always follow the putt of the guy who went first. And we ought to learn from the lessons of Europe and have a more reasonable disposition of these permits. And when we do that -- I want to make one important point here -- this is going to be the largest recycling program in American history because a huge amount of these dollars are going to be recycled right back to the American consumers to help with their utility bills. You can make sure we are going to grow jobs, help consumers and get this job done. Thank you.

Mr. Markey. We thank the gentleman.

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Mr. Markey. The gentleman's time is expired. The Chair recognizes the gentleman from Pennsylvania Mr. Pitts.

Mr. Pitts. Thank you, Mr. Chairman. Thank you for holding this hearing.

Like all of us, I believe we should work to decrease the amount of greenhouse gas emissions in our atmosphere and be good stewards of this Earth and its resources. However, I don't see how these 3 days of marathon hearings will shed light on how the discussion draft of the Cap and Trade Act proposes to actually decrease greenhouse gas emissions and not cause devastating harm to our economy. The discussion draft is incomplete. The most important provision regarding the allocation of allowances has yet to be decided or even written. Because of this, CBO said they cannot score the bill. And industries, and thus consumers, cannot truly define how the bill would impact them. How then can we have legislative hearings and engage in fruitful dialogue and debate about a bill that is incomplete?

Even though the most critical portion of the bill is not included, we can talk about the numerous ways in which this bill will inevitably increase energy costs and negatively impact working families across America. The last major cap-and-trade provision considered in Congress was the Warner-Lieberman Climate Security Act. As far as decreasing greenhouse emissions, according to the Institute for Energy Research, Warner-Lieberman

would have only reduced global temperatures by 18/100ths of 1 degree by 2050. As far as economic impact, according to the Heritage Foundation, in the first 20 years alone, the ramifications of that bill would have resulted in aggregate real GDP losses of nearly \$5 trillion. In the first 20 years, it would have destroyed 900,000 jobs and caused nearly 3 million job losses in the manufacturing sector by 2029, many jobs driven overseas. In my State of Pennsylvania, it was projected that over 94,000 jobs would have been lost in the manufacturing sector by 2030.

Yet the Waxman-Markey draft is far more sweeping than Warner-Lieberman, and thus economic consequences will be even worse. The bill imposes a tax on every energy producer for their carbon emissions. This tax will most certainly be passed on to consumers. President Obama acknowledged this in a meeting with the editorial board of the San Francisco Chronicle in January of 2008 when he said, quote, under my plan of a cap-and-trade system, electricity rates would necessarily skyrocket. That will cost money. They will pass that money on to the consumers, end quote.

In Pennsylvania, 56 percent of energy demand that relies on coal, with the advent of a harsh energy tax that discriminates against coal-powered electric utilities, hard-working families will have to devote a larger proportion of their income to increasing energy prices.

Every American realizes that we are in a time of economic trouble, so we must ask the question, is it prudent to pass a

cap-and-trade bill which will increase the cost of energy and conceivably cause 3.75 million job losses? Is it prudent to pass legislation that will make matters even worse by levying a new national energy tax that could cost families over \$3,100 per year per family?

Mr. Chairman, we need to carefully consider the negative impact that a cap-and-trade bill will have upon our economy. I do not believe it is in the best interest of American families to pass a bill that will make their way of life harder and more challenging by job losses and higher energy costs.

In addition, despite the harmful economic consequences, the bill is even short-sighted in what it considers alternative and renewable energy. Nuclear energy, a prime source of clean energy, is entirely excluded from this bill, as is waste energy, which has been successfully used in my district for decades to produce energy from municipal solid waste. Therefore, Mr. Chairman, I hope that these hearings will be substantive, clarify several aspects of the discussion draft that are puzzling at best and harmful to the consumers at worst. I look forward to hearing from our witnesses over the next 3 days, and I yield back.

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RPTS KESTERSON

DCMN MAYER

[4:03 p.m.]

Mr. Markey. I thank the gentleman.

The Chair recognizes the gentlelady from Wisconsin,
Ms. Baldwin.

Ms. Baldwin. Thank you, Mr. Chairman. And thank you for all of your leadership in bringing us to this moment. We have an opportunity before us to address climate change in a real and meaningful way.

Our greenhouse gas emissions have put our global environment, social structure and security at risk, and if we fail to act boldly, comprehensively and decisively, the impact will reverberate during the later decades of this new century with the loss of human lives, declines in health, species extinction, destruction of ecosystem and increase of social conflict.

Among the challenges that we face is that we are asking current generations to conserve and live a lower carbon lifestyle in order to improve the lives and well-being of future generations, generations yet to come. I often remind folks, especially my colleagues, that the future doesn't have a voice or a lobbyist. Our great, great, great grandchildren don't have a voice or a lobbyist. The present has plenty of lobbyists. Those of us who are here on Earth today have a voice. We know that it

is up to us. We know the science, we know the consequences of inaction and we must act on behalf of both those who are here today and those who will inherit this Earth in generations to come.

Now, if we are truly to be successful in our effort, it is necessary for our energy legislation to address climate change while spurring innovation, creating jobs and containing costs. The bill we have before us begins to set us down such a path. It is not perfect, but with four key components of this legislation -- increases in renewable energy requirements, higher energy efficiency standards, a cap-and-trade program to address emissions and assistance incentives for transitioning to a low-carbon economy -- our opportunities for success are achievable.

I cannot overstate, our Nation's security, our planet's sustainability and our children's future hang in the balance, and the world is watching our every step. They are looking to us, with the largest economy, most talented innovators and the richest resources, to bring leadership and commitment to Copenhagen and beyond. We absolutely cannot show up empty handed.

I look forward to hearing from the experts who will address us in the panels throughout this week and to working with my colleagues to ensure that we craft a bill that meets all of our diverse needs regionally, our challenges and our opportunities.

Like my colleague, Mr. Inslee, I also had the chance to tour

cutting-edge businesses in Wisconsin over the spring recess, who are doing incredible innovative things with regard to energy efficiency and renewable electrical and liquid fuel production. I had a chance to go to Orion, who is manufacturing a solar light pipe technology that can eliminate factory floors electricity free. I visited Johnson Controls that is focusing on building efficiency and lithium ion batteries for plug-in hybrids and fully electric vehicles of the future. I had a chance to visit We Energies and their carbon capture demonstration project and a chance to tour a wind farm in my State and to see a farm with a manure digester generating enough electricity for 600 homes in the area.

As I toured these innovative businesses throughout the State of Wisconsin, what I took from that is that we can do this. Folks are doing it right now. Many are already leading the way. The goals that we have to confront the challenge of climate change are within our reach, and we must lead at this moment.

Thank you, Mr. Chairman. I yield back my remaining time.

Mr. Markey. The gentlelady's time has expired.

The Chair recognizes the gentleman from Pennsylvania, Mr. Murphy.

Mr. Murphy of Pennsylvania. Thank you, Mr. Chairman. I remember as a young boy one day hearing my parents talk about this thing called Sputnik that was launched into space and they were worried, as were many Americans, that somehow the Russians were

beating us at something that -- what we thought was a backwards sort of country, the Soviet Union that really didn't have much science at all.

But it did spark an incredible change in America. In our schools, it emphasized science. And our universities, they really began to look more beyond just our streets and into our skies.

And then came this incredible challenge by the President of the United States that said, Within 10 years we will put a man on the moon safely and bring him home. And indeed we did that because over a 10-year time span, our Nation came together to meet the challenge of its generation to do that.

Well, now, we have a new challenge for our generation and that has to do with energy. Now, I am not a climatologist or a physicist, and I am not here to argue about any of the things that people do discuss with regard to climate change and its causes and what that might be. But I have a background in health, and I am concerned that where we should find common ground is that we do want a clean planet with clean air and clean water and clean soil. And we can get there if we pull together to do that; the question is how. And the question is, can we do this in a way that boosts our economy and not hurts it, that creates jobs in America and not sends them overseas and really and truly works in a way that American families find opportunity and not the loss of more jobs.

To that end I think we have three things we should do:

One, we need to explore. We need to find domestic energy

sources and make sure we clean them up and not just continue business as usual. As it is, nothing should sicken us more than when we find that we are sending hundreds of billions of dollars overseas and, in essence, funding both sides in the war on terror when we see other countries use that money from oil to buy bombs or create them and use them against our soldiers, and to fund terrorism. That is unacceptable to all of us.

What we need to do is find ways of using our domestic resources, as abundant as they are, of coal, of natural gas, of oil, but clean it up so we are not polluting this planet and leaving it dirtier than when we came.

The second thing we have to do is conservation. Many of my colleagues and I have companies in our districts that are coming into their own now as they find many ways to conserve energy. We will recognize that homes and farms and factories and offices perhaps use only about 40 to 50 percent of the energy effectively, but they pay for 100 percent. And -- it is unacceptable for our economy that we waste so much, and we have to work on ways of conserving that with every conceivable thing from manufacturing to transportation to education.

The third thing, however, we have to do is innovation. The Apollo Project of our generation is energy, and we need the idea, the science, the research and the funding to get there. We need to have a sense of awe, and wonder what we can do; and we need to be dealing with, Is this the truth? We cannot afford to have

commercials sniping each other with people pretending there is no such thing as clean coal. I suppose the Wright brothers faced the same sort of challenge and other people said there is no such thing.

If there is any country in this world that can clean it up, we can do it. My friends, that is Nobel prize stuff to find someone who will find a lump of coal and find a way of getting all of the energy out of it, not 40 percent, and do it without pollution. We ought to be funding that.

We do so many other things with innovation, but where I must say I have agreement with many parts of this legislation before us, I hope the door is still open to do some other things that deal with innovation. I am deeply concerned that what this bill will do with cap and trade is not really stop pollution, because it merely sells pollution credits and does not reinvest in cleaning up our coal plants and, I believe, will actually send many, many jobs to China, to Brazil and to India.

We have to gather together and find ways that we can use our abundant resources in effective ways. We can do that. But it also means we have to put that money back into these things and not siphon it off and send it off to the Federal Government to use for other sources.

It is going to take a lot of work here; and I hope, as we proceed in this, we remember the awe and wonder in which we were -- many of us were inspired back in the 1960s, and instead of

sniping at each other with regard to political gain, we gather together. Because the end is something we have to agree on: energy independence and a clean planet, with a good future for our children and their children.

I yield back.

Mr. Markey. I thank the gentleman.

The Chair recognizes the gentleman from Arkansas, Mr. Ross.

Mr. Ross. Thank you, Mr. Chairman, for holding today's hearing.

Let me begin by stating that, like all of you, I am concerned about climate change, and I believe that we must develop a comprehensive plan to reduce greenhouse gas emissions and invest in alternative and renewable fuels like wind and solar, cellulosic ethanol, biodiesel, biofuels, as well as nuclear power and clean coal.

As the leader of the Free World, I also believe we must lead by example. However, we must embrace a commonsense approach to imposing regulations that will help to improve our environment while still maintaining jobs and strengthening our Nation's economy here at home in America.

In order to do this, we must ensure that we do not allow our laws to get ahead of our technology, but that when the appropriate technology becomes available, we demand that industry use it.

In addition, I think we must be very careful in enacting climate legislation to ensure that we do not enact a policy that

will simply result in shipping our jobs and our carbon dioxide emissions overseas, which would do nothing for Planet Earth. I recognize that few things get done without U.S. leadership and action, but our action must include compelling other countries to join us. The reality is that between now and 2040, 97 percent of all new carbon emissions will not be produced in North America or Europe, but in places like China, India and the Middle East. We must do all we can to ensure that the rest of the world works with us towards a goal of improving our environment and reducing carbon dioxide emissions. We are not trying to fix a problem in the United States of America; we are trying to address a problem that affects the entire planet.

I believe that the draft we will be discussing this week is a significant step in the right direction. Or maybe a better word would be to say "correct" direction. For example, I was pleased to see that the draft addressed and embraces carbon capture and sequestration. In my own State of Arkansas, there are massive deposits of lignite coal, over 9 billion tons to be exact. However, there must be a serious investment in carbon capture and other new carbon technologies in order for lignite to realize its full potential.

The bottom line is that, you know, if you didn't like \$4 gasoline last summer, you are really not going to like your electric bill sometime between now and 2030. We are going to have an electricity crisis sometime in this country, and I say we could

do it all. We need to do more nuclear. We need to continue to find ways to clean coal up. We need to do all those things in the science lab today. We need to find ways to move them to the marketplace. A few of them, to me, sound a little goofy, but if we can make them work, we should embrace them. The sooner we can do that, the fewer dollars we will be sending overseas and the more of those dollars we can keep at home, make our energy here at home and put people back to work.

While I believe that the draft is a good first step, there are a number of concerns I have. I am deeply concerned that the more traditional renewable resources -- wind, solar, geothermal -- do not exist in places like Arkansas in sufficient amounts to satisfy a Federal renewable electricity mandate, especially an aggressive one. This draft needs to expand its definition to include biomass to a much larger degree than what it does today.

I represent a very rural and poor district. As a result, any increase in electric rates due to a renewable electricity standard will fall disproportionately on consumers in my district. And I want to ensure that this does not happen.

I hope to work with the chairman to ensure this legislation will not create a burden, much higher electricity bills for consumers and business, and to ensure that all of our available natural resources like biomass are included to the fullest extent possible in that definition.

I also believe that our Nation's farmers and agriculture

community can play an important role in the fight against climate change by growing our fuels and restoring carbon in their fields. I am hopeful that we can work to make that possible in this legislation.

I also believe that we must ensure that energy-intensive industries like the refining industry are still able to supply our Nation as we transition to more renewable forms of energy. This U.S. industry must remain viable, and I hope to work with the committee to ensure that.

Finally, I believe that the draft provides a strong framework to protect natural resources, but I want to ensure that there is significant funding to protect our Nation's wildlife and natural resources as well as the low-income consumers who could be disproportionately affected by this legislation.

With that, Mr. Chairman, I realize I am out of time, and I thank you for the opportunity.

Mr. Markey. I thank the gentleman very much.

The Chair recognizes the gentleman from Florida, Mr. Stearns.

Mr. Stearns. Thank you, Mr. Chairman.

I think that what concerns us on this side, Mr. Chairman, is that this economy is obviously struggling in the worst economic crisis in over 70 years. The majority, I think, should move very carefully here and not hastily move the bill or craft an incomplete emissions mitigation plan that lacks any procedure for distributing the allocations in a very precise manner.

Since 1997, Europe has engaged in a similar-style cap-and-trade system that certainly should serve as an example of how such a hastily crafted system can be manipulated. Their cap-and trade-system as been plagued with industry closures, price spikes and windfall profits. European governments and industries, in an attempt to head off a negative economic impact of cap and trade, freely handed out emission allowances that resulted in an emission permit market that constantly fluctuated. With the price of carbon up and down by an average of 17.5 percent per month, with daily price shifts as great as 70 percent, European companies have been left to simply guess at how much their environmental compliance costs might be every month. Meanwhile, European consumers have suffered as the rates for energy have increased, with homeowners in Germany paying 25 percent more for electricity now than they did before the implementation of the cap and trade.

The intellectual architects of this U.S. cap-and-trade plan acknowledge higher energy prices would result from an emission cap here as well. In fact, they rely on it. This will force manufacturers and small businesses to absorb the cost of higher energy prices, which they will do by raising prices, cutting costs by laying off employees or, of course, being forced to close. This is what we don't want in this economic situation.

Now, the National Association of Manufacturers estimates that a cap-and-trade plan will cost up to 4 million jobs. The Heritage Foundation also estimates the loss of up to 5.5 million jobs. The

Charles River Associates estimates job losses as high as 7 million. The consensus seems to be that a cap-and-trade plan will cost millions of U.S. jobs.

Besides instituting a bureaucratic cap-and-trade plan, the majority draft here also mandates that 25 percent of U.S. electricity generation come from a limited list of renewable sources by 2025. Because my State of Florida and the Southeast have limited availability of solar, land-filled gas and virtually no wind power, electric consumers in our region would be forced to pay through their electric bills for renewable energy credits, if available; or for alternative compliance payments essentially amounting to a tax on electricity used by businesses and other consumers. This will drive up energy costs and hurt economic growth with no guarantee that the money collected would actually be invested in generation and efficiency projects in their State.

If Congress were to enact a 25 percent renewable electricity standard, as proposed in this bill, it would cost my State over \$10 billion between now and 2030.

Renewable energy programs should be based on consumer demand, regional differences and appropriate incentives, not on unrealistic Federal mandates that selectively penalize electricity consumers in certain regions of our country. Ultimately, it should be States, not the Federal Government, that should be responsible for the design and implementation of renewable energy directives affecting electricity consumers in their areas.

The fact remains that despite political favoritism and billions in subsidies, wind power still only accounts for 1 percent of U.S. net electricity generation, and solar power accounts for just 100th of 1 percent. Any meaningful effort to achieve long-term, sustainable reduction in global greenhouse gas emissions will depend on the development and deployment of new energy technologies, including advanced clean coal technologies and carbon capture and sequestration. The rapid development and demonstration and widespread deployment of such technologies are of paramount importance in any reasoned and effective effort to address climate change concerns.

The expansion of nuclear power production in the United States must also be part of this plan to address carbon dioxide reduction, yet nuclear power is only mentioned twice in the entire 648-page bill.

So, Mr. Chairman, I think this bill requires amendments, and I look forward to the markup. Thank you.

Mr. Markey. We thank the gentleman.

The Chair recognizes the gentleman from North Carolina, Mr. Butterfield.

Mr. Butterfield. Thank you very much, Mr. Chairman, for convening this important hearing this week. I know that you told us at the beginning of the session this would be a long, robust debate; and I thank you very much for getting it started.

You know, I have been listening very carefully to my friends

on the other side of the aisle this afternoon to see if there is any support for the notion that the science is unsettled in this area. I have not heard that today and that is very pleasing to hear that. The science is indeed clear, the planet is warming, sea level is rising, so I don't see how we can deny that human beings are indeed contributing to this warming. To continue to debate the science, if that is going to happen this week and next week, does a disservice to this enormous issue.

So we must lead the way on climate change. We simply cannot wait, and I thank you, Mr. Chairman, for at least getting it started. I know it would be nice to wait on developing countries; I have heard that argument made and that is not wise. We must lead the way. We cannot wait until the recession ends. I don't know when that is going to be, but we must begin this debate this week; and so I am ready to engage in this process.

But, Mr. Chairman, having said that, I have some deep and serious concern about some aspects of the bill, and I want to associate myself with some of the comments made by Bart Gordon earlier in this hearing this afternoon. I also want to thank Mike Ross from Arkansas for his comments, as well as those of Mr. Stearns, my friend from Florida.

The RES, the renewable electricity standards, I am very concerned about that mandate on some of our States, particularly my home State of North Carolina. We cannot achieve, Mr. Chairman, a 25 percent mandate by 2025. Not only is it impractical, it is

impossible.

But there are ways that we can address my concerns and the concerns of others. We can reduce the RES mandate to 15 percent, for example, or some other number by the year 2025, or we can authorize a greater mix of renewable sources. We can certainly look at including nuclear power in the mix; I am not opposed to that. We can look at the possibility of maximizing the use of biomass; I am not opposed to that, as well.

Also, I would not rule out, Mr. Chairman, a conversation about allowing special consideration for those States in the condition of my State. There are several States in the Southeast who are similarly situated, and I think there could be some language put in the bill that would allow some special consideration.

Also, Mr. Chairman, I am particularly concerned that the economic impact will be devastating on low-income families in America. Low-income families simply cannot absorb the increase in consumer prices that are sure to come. We must make sure that we devise a way to offset the increased prices. We can do that. We can do it in a variety of ways that we should discuss and debate, and I have some proposals that will be offered at the appropriate time.

Finally, Mr. Chairman, I encourage us to move deliberately on this important legislation, and as Ms. Harman said earlier, to get it right. If we fail to get it right, the result will be very

painful to many American families.

Thank you. I yield back.

Mr. Markey. The gentleman's time has expired.

The Chair recognizes the gentleman from Iowa, Mr. Braley.

The Chair recognizes the gentleman from Georgia, Mr. Barrow.

I am sorry. The gentleman from Iowa is here. I think we should stay in regular order. My apologies to the gentleman from Georgia. We will recognize the gentleman from Iowa for his opening statement.

Mr. Braley. Thank you, Mr. Chairman, for your extraordinary leadership on this important legislation. And I want to join Congresswoman Harman in welcoming all the young people that are here today because we are really here to talk about a blueprint for an energy revolution that is going to affect you the rest of your lives. And for somebody my age -- I am not going to be around as long as you are to see the impact that this bill is going to have, not just on your lives, but on the future of this planet; and that is why the work we are doing here is so significant.

Mr. Chairman, I want to thank you for your efforts on the American Clean Energy and Security Act. We all know addressing climate change and energy independence are two of the greatest challenges facing this country. It has taken a lot of work and consensus to try to come up with language that balances the need of people with businesses, but this discussion draft is a great

start, and I am pleased that you have brought so many people to the table from diverse industries and interest groups to put together this legislation.

This year I was proud to form the Populist Caucus, the only caucus in Congress devoted solely to addressing middle-class economic issues. I can take this bill back to caucus members and tell them there are provisions here that will help working class Americans.

I am extremely encouraged by several provisions included in this draft to appropriate green jobs, and I think that your presence here today confirms that. This bill should be seen as an opportunity to put in place a green industry in the United States and take advantage of a world-class education system to make sure we have adequately trained workers for careers in renewable energy, energy efficiency, climate change mitigation; and the grant program that is a part of this bill will be a good step toward accomplishing those goals.

Tomorrow, President Obama will be in Newton, Iowa, where I got my first drivers license at the age of 16, to discuss the importance of this legislation to economic revitalization. For over 100 years, Newton was the world headquarters of Maytag Corporation, a leader in home appliances, making washers and dryers. When Maytag shut down, the Newton facility, some of my high school classmates, lost their jobs. Now that facility is putting Iowans to work building wind turbine components to meet

the growing demand for wind energy in Iowa, the United States and the world.

These are the kinds of job opportunities that make a renewable energy investment pay off for America. This is no silver bullet, but I am proud that Iowa is now second in the Nation in wind generation; an Iowa success story is further evidence that investment in renewable energy is working. Iowa is currently home to six wind manufacturing companies, representing thousands of green collar jobs and an investment of nearly a quarter of a billion dollars in our State's economy. Recently, Iowa surpassed California and now has the installed capacity over 2,700 megawatts this amount of wind generation will provide about 18 percent of Iowa's total electricity needs.

We can all benefit from investments in wind energy and other renewables through newly created jobs, cheaper energy, cleaner skies and a reduced dependence on foreign oil.

One of the things I would like to see as a part of this bill is an allowance allocation for renewable energy deployment. I have been working with many renewable energy groups to discuss a subsidy matrix that takes into account distributed generation versus centralized generation and matured technologies versus emerging technologies. I hope we will soon have some language that the committee can consider as a part of the base language, and I believe this type of approach will bring new technologies to the market faster and ensure that effective technologies have

resources they need to expand.

I also think it would be helpful to have an expansion of the temporary program for the rapid deployment of renewable energy and electric transmission projects. The program modeled after the Department of Energy's loan guarantee program is designed to speed commercial adoption and use of advanced renewable energy technologies by providing low-interest, government-backed loans to companies investing in the implementation of technologies, including advanced biofuels technologies. The stimulus program expires on September 30, 2011.

I am also glad there is language in place that will help low- and middle-income Americans lower their energy costs, like money for weatherization of homes. And I am also hopeful there will be additional protections for working-class Americans as part of this legislation. I want to make sure that some kind of mechanism is in place to provide rebates to middle- and low-income Americans to help balance their energy costs. Including additional projects in LIHEAP money would also be welcomed.

I am glad there is a requirement to report and set forth a unified and comprehensive strategy to address the key legal and regulatory barriers for the commercial-scale deployment of carbon capture and sequestration. According to the legislation that we are considering, the EPA is to write regulations for certifying, maintaining and trading offsets. I am hopeful they would see the benefits that farmers can provide in reducing carbon emissions and

include these things such as methane digesters and no-till farming.

The Energy Revolution has begun. We need your help to make it a reality. And I yield the balance of my time.

Mr. Markey. We thank the gentleman. The Chair recognizes the gentlelady from Tennessee, Mrs. Blackburn.

Mrs. Blackburn. Thank you, Mr. Chairman.

Last week the EPA positioned itself to regulate carbon dioxide emissions under the Clean Air Act without congressional consent. We are then faced with a choice. We can acquiesce to bad regulation that will have certain and disastrous impacts on our economy, or we can legislate an even more harmful system. It is as though, when faced with a gun to our head, Congress is going to take it and shoot ourselves in the chest.

For the record, I would remind the committee of my bill, H.R. 391, which will prohibit the EPA from taking action under the Clean Air Act and allow Congress the time we need to craft intelligent legislation. My bill would also save farms who, under the EPA's proposed regulations, would face steep levies on livestock.

Laying aside my skepticism of the underlying science that led us to this bill, I would like to address some of my concerns on the legislation itself. There are at least two provisions that we know will be detrimental to the economy at a very bad time.

First are the renewable electricity standards imposed by the

bill. Currently 3 percent of our electricity is generated by renewable energy. The chairman's bill calls for 25 percent by 2025 to meet these standards. Under current electricity usage levels it would require 20,000 megawatts of renewable energy to come on line each year until 2025. That is 20,000 megawatts a year.

I would remind my colleagues that only 10,000 megawatts' worth of renewable electricity came on line last year. The Energy Information Administration estimates that only 8,000 additional megawatts will come on line over the next 4 years, and that is in total. This makes the renewable energy requirements in this bill unrealistic, and that is under current usage rates.

This bill aims to increase electricity usage without accommodating the increased usage in the standard for renewable generation. They also happen to be exceedingly expensive. We are saddling our States and our energy consumers with unrealistic demands at prohibitively high prices.

Secondly, while there are large blanks in the chairman's bill when it comes to the mechanics of a cap-and-trade proposal, few in this room doubt that we are actually talking about a cap-and-tax system. Electricity rates are going to rise and Washington is going to pocket the profits.

I take no comfort from any assurance I hear from my colleagues across the aisle or down the street that energy consumers will be compensated in some way. We must be plain, and

we must be honest when we discuss this system. It will pull thousands more out of the family budget each and every year. There is simply no way around it, and we are wrong to try and sugarcoat it.

Mr. Chairman, I wonder if the committee will give as yet unforeseen compounding effects of this bill due consideration. We know that the renewable energy standard will increase electricity costs; there are ample case studies to prove it. We also know that the cap-and trade-system will drive up electricity costs. The President himself has told us the prices will -- and I am quoting him -- "necessarily skyrocket," end quote, for consumers. What we don't know, what we must know before this bill becomes law, is what the compounding effect of an expensive renewable energy standard and an expensive cap-and trade-system will be to the family budget. As my colleagues and I work on this legislation, that is what I am going to be paying the closest attention to.

Thank you, Mr. Chairman. I yield back.

Mr. Markey. We thank the gentlelady.

The Chair recognizes once again the gentleman from Georgia, Mr. Barrow.

Mr. Barrow. I thank the chairman. And I want to thank you for holding this marathon series of hearings this week.

Mr. Chairman, if I were to adopt the mood of my colleague, Brother Murphy over here, and go back to what I learned as a

child, I would have to recall learning about the wonders, the miracle of the carbon cycle, the idea that what plants emit as poison to them is food to us, and what we emit as poison to us and is food to them just struck me as such a miracle of evolution. But I have to acknowledge that the Almighty had a carbon sequestration plan of his own in mind in order to be able to create the conditions in which this balance could exist, and we busted the Almighty's carbon sequestration plan all to hell with our own activities.

So climate change is real, our role in it is real, and I want to support the work of the committee in trying to do something about it. I have to say, though, this bill has potential for far-reaching impacts in our economy, both good and bad, and we are going to have to be very, very precise about how we craft the programs that are contained in this legislation.

There are big gaps that remain in the language. It seems that we have an awful lot of work yet to do.

I look forward to a productive week of hearings. And I look forward to working with my chairman and my colleagues to craft what I hope will be a reasonable bill.

With that, I yield the balance of my time.

Mr. Markey. We thank the gentleman.

The Chair recognizes the gentleman from Texas, Mr. Gonzalez.

Mr. Gonzalez. Thank you very much, Mr. Chairman. And I will commend, of course, your fine work and that of the chairman of the

full committee bringing us this far and this quickly. And we will be moving with great dispatch in the next couple of weeks.

I will make some very general statements first and then be specific as to one issue of great consequence, I think. First, I would hope that all of us will recognize the different challenges that face the different regions of this country. While we all must represent our distinct districts we need to understand that we are all not similarly situated. I do not have to live in Salt Lake City or Boston or Los Angeles to understand that their situation there may be different than those of the citizens in San Antonio, Texas.

I would like to be specific when it comes to automobiles. We have over 200 million vehicles in the United States, which are responsible for approximately 20 percent of greenhouse gas emissions. We will start with a system with greater efficiency of the internal combustion engines with emphasis on hybrid technology, with eventual conversion to battery-based powered vehicles. The question is, how long will this conversion take.

What we do know is that traditional transportation fuels will be required during this transition period. To determine the amounts needed during this transitional phase, we must establish first the number of vehicles in use today using hydrocarbon-based fuels and the duration of their expected use, because we know just recently what we used to think in terms of what would be the replacement rate of vehicles in the United States has been reduced

drastically.

And, secondly, the characteristics of replacement vehicles: Will it be hybrids and what type of hybrids, battery operated, hydrogen cell, alternative fuel powered and so on? And the technological feasibility of placing sufficient and affordable number of these vehicles in the marketplace, I believe that the inevitable conclusion is that the United States will require an increase in the domestic production in refining capacity of traditional carbon-based fuels. This does not mean that we will abandon our clean air objectives, but rather adopt a transitional approach that allows us to achieve our goals in a realistic fashion. Should we ignore what will be required during this conversion period, we will find that we have created a situation that exposes us to greater dependence on foreign sources of transportation fuels with the attendant costs to our Nation's economy and security.

In closing, while a cost-benefit analysis will not be ignored, but we need to understand that increased costs and the required change in consumption behavior by our citizens in this country will not represent insurmountable obstacles to the passage of a meaningful energy reform legislation.

Thank you very much. And I yield back, Mr. Chairman.

Mr. Markey. We thank the gentleman.

The Chair recognizes the gentleman from Louisiana, Mr. Melancon.

Mr. Melancon. Thank you, Mr. Chairman. I am finally getting used to being the second Louisiana guy. I appreciate the opportunity to do an opening statement.

And thank you, Mr. Waxman, for your work on this legislation.

We are now considering the most important energy legislation of our generation. This bill and the final version of this bill will shape our environment, our energy consumption, our independence and our economy. These issues deserve thoughtful consideration and diligent debate.

Before we can discuss the specific provisions of this bill and their merit, we must acknowledge the science of climate. Some choose to debate whether the cause of climate change is man-made or a result of natural cycles.

To be frank, the cause does not matter. We have all seen the impact of change in climate on our land and our oceans. Droughts damage our crops, while rising water levels threaten to erode our shores. My home, Louisiana, has the tragic distinction of bearing witness to increased hurricane strength, a result of the warming of waters in the Gulf of Mexico.

Energy policy has been at the forefront of American politics for decades. The shortages of the 1970s, the manipulation in the 1990s and the technology shifts of today all reflect our Nation's dependence and growing demand for energy.

I believe that any responsible energy legislation should consider the broad spectrum of energy sources that are available

today. Just as American innovation can create new sources of energy, it can take our existing resources and adapt them to a low-carbon environment.

America has been blessed with rich deposits of energy that have driven our economy for decades and through many wars. As we strive for energy independence, we should focus on reducing foreign imports first, allowing domestic production to continue and be the bridge our economy needs to flourish. Technologies may eventually exist that replace fossil fuels, but even under the most optimistic of projections, those technologies are decades away for large-scale commercial viability.

As this country makes the transition to renewable fuels and electricity generation, we must be open to all energy solutions. Climate change legislation offers the promise of millions of green jobs, but those jobs will not materialize overnight, and to avoid the loss of even more job, we must be deliberate and considerate in the policies we draft. American innovation has the capacity to make us world leaders in the export of new energy technologies, and those future firms and construction opportunities mean good, decent-paying jobs for Americans.

However, let us not forget the contribution existing companies have made to that same goal. The oil and gas service companies in my district have provided gainful employment to millions of men and women for generations. These are jobs that require skill and good work ethic, and they pay livable wages in

return. The loss of those jobs would cripple the economy of Louisiana and many other blue collar and oil in energy-producing States across the country.

I commend you, Chairman Markey, and Chairman Waxman, for your diligence on these issues. I would also like to express my appreciation for the dedication to regular order, allowing input from all the members of both full and subcommittee. The staff has also shown tremendous commitments to this legislation and have produced a solid working document, and I thank them also.

I look forward to working with this committee now and into the future on energy policy that will be good for this country.

I yield back the remainder of my time.

Mr. Markey. We thank the gentleman very much.

And we now turn and recognize the gentleman from Utah, Mr. Matheson.

Mr. Matheson. Thank you, Mr. Chairman.

I have a number of concerns I want to raise. I think I participated in close to 2-1/2 years of hearings on climate change before this subcommittee. We have a 648-page draft that we are looking at right now. This is a huge piece of legislation, this is an exceptionally complicated issue, and I am concerned of moving so quickly that when we go to markup next week, we may not get it right. And I just want to make sure that we are deliberate in how we go about this.

The draft has, as many members have pointed out, significant

holes right now in terms of how we will address the issue of allowances. So I just want to express that concern.

Second, major or landmark legislation that has been passed through this Congress historically in terms of environmental issues has often had a bipartisan component. I believe good policy on this subject should be bipartisan. I implore all members on this committee, on both sides of the aisle, to step up to the plate on this issue. It is a serious issue and everybody ought to get engaged.

Third, the idea, if your goal is to reduce carbon emissions and you talk about cap and trade, one of the things that people like about cap and trade is, it provides a certainty about how the emissions will be reduced year to year and allows the marketplace to decide the most efficient way to go about doing that. But then we have other sections in this bill where Congress starts to dictate how we are going to reach these emission reductions.

Now, we ought to have a discussion in this committee about if and when that is appropriate. We have got a renewable electricity standard here. We have got renewable fuel standards. We have talked about an energy-efficient standard. Those are all good discussions to have. But in the context of the cap and trade where people want to let the marketplace decide how to achieve emission reductions, how far should Congress go in stovepiping down into specific issues, as well, and mandating what happens?

Next issue: I want to talk about targets that were

established in this bill. It is my understanding that this draft uses the high end of the targets, the most aggressive end of the targets the USCAP developed for its year-by-year targets for emissions.

When USCAP testified before this committee, I asked, how did they arrive at these targets, what was the justification, what was the economic modeling. I haven't gotten an answer on that. That is one of the most significant aspects of any climate change bill, and this committee needs to have a discussion about that; and I hope we do that in these legislative hearings, because we haven't done it yet.

Number five: I have expressed many times in hearings about this concern of what I call a potential regional income transfer. There are many ways that this can happen. It can happen through the way our allowance system is structured. It can happen through a renewable electricity standard. It can happen even -- through perhaps even the efficiency standard. But there are a lot of ways that that could happen. And I think from a substantive and, quite frankly, a political standpoint, that is a really important issue for this committee to understand better than it has so far.

Allowances: It has been mentioned many times we have got to figure out what we are doing with that. It is silent right now. We don't even have a bill that says how it is going to be addressed, and yet we are looking to mark up next week.

RPS: Twenty-eight States in the district have an RPS

already. I question whether there ought to be a Federal standard, and we shouldn't set up a policy to encourage the rest of the States to do this. If there is a standard, if the goal here is really to have lower carbon emissions, then should we care how we produce the electricity if the kilowatt hour doesn't produce carbon?

So why are we picking just one set of technologies? Shouldn't we include nuclear? Shouldn't we include zero-emission coal as the Utah voluntary RPS does right now?

Next issue: Energy efficiency. That is a good thing. And the energy efficiency resource standard which calls for 15 percent efficiency by 2020 and 10 percent for natural gas by 2020, that is a good thing to have; but I am concerned that we are piling on when we are already looking at the renewable electricity standard.

I also think that decoupling for electricity has to be on the table.

Next issue: Transmission. There is nothing real for transmission in this draft. People are talking about going to 25 percent renewable electricity generation in this country. If we don't deal with our transmission issue, you can't do it. So we have got to get serious about transmission.

Offsets: I am pleased with the Offsets Integrity Board provision, but I think we are being unfair to businesses by trying to discount offsets. If the offsets are real, then a turning of five offsets for full reduction credits doesn't make sense to me.

This should be a one-to-one ratio and it should also include the western climate initiative offsets.

Next issue: International offsets. This should not link up with the CDM. Witnesses have testified before this committee that the international program has had major problems. Language should be tightened to preclude international offsets are not of equivalent quality to U.S. offsets.

Next issue: Fuels. This committee wasn't involved in writing the RFS that went through Congress. It wasn't run by this committee, and its feedstock mandates don't make any sense. Our corn ethanol policy is a failure, and we ought to address that issue as well.

Two more issues, Mr. Chairman; I will be real quick as my time is running out.

CAFE: I think we have to have some harmony between where Federal and State policy is on this. I am concerned about getting the checkerboard pattern of how this policy is set in this country.

Last issue: Where do revenues go? The President suggested revenues from auction of offsets should go to pay for the middle-class tax cuts. I think that is bad policy. I think that any revenues that come out of this policy need to be plowed back into the climate change set of issues; and this whole discussion about costs to rate payers, until you identify where the money goes from the auction of some allowances -- and I am not for 100

percent auction, by the way -- but until you figure out where those revenues go, any discussion about cost to consumers is a moot point because we are not talking about where the money is going to come from to help mitigate those cost components. So let us address that issue as well.

That was 14 quick issues, Mr. Chairman. Thank you for your patience and letting me go over time.

Mr. Markey. Let me thank the gentleman. You have crammed more into a 5-minute statement than -- it was like Olympic-level issue identification.

The Chair recognizes the gentlelady from the Virgin Islands, Ms. Christensen.

Mrs. Christensen. Thank you. And thank you, Chairmen Waxman and Markey, for your commitment and leadership on this important issue. It is an honor for me to be on this committee at such a historic time, because the work that we do in this committee in this Congress will determine the future of our country for generations.

I also want to take the opportunity to thank the President for his commitment to also reducing our dependence on foreign oil and ensuring a better quality of life for everyone in this country and, indeed, the world because, as we will discuss in one of the hearings, this effort to provide clean air, reduce the process of climate change and mitigate the impact of global warming has to be one of international collaboration.

We are on the cusp of creating a whole new green economy, a green revolution through increased adoption of renewable energy, a green revolution that is reminiscent of the Industrial Revolution of the 18th and 19th centuries. My colleagues and I on the Energy and Environmental Task Force of the Congressional Black Caucus have written to both of you, and I want to reiterate here, as we move forward, we ensure that the needs of minority and underserved communities, who are not a part and do not benefit in the Industrial, be fully included in this one.

As we support science-based legislation to reduce domestic greenhouse gas emissions to at least 80 percent below 1990 levels by 2050, we want to see included a serious attempt to address the education, training and employment of workers who live in inner-city urban, rural and island communities. We want to see a career pipeline created for low- and middle-income communities that will not only lead to the much touted green jobs, but the entrepreneurial opportunities in distressed communities, and for educational opportunities at the vocational schools, community colleges, universities that serve rural communities, that serve our territories and racial and ethnic minorities.

We also look for an adequate transition for those who work in high-emitting industries to meaningful work in the emerging low-carbon economy.

As a representative of an island community and as a representative of the other territories of the United States, it

is clear that despite our minimal contribution to greenhouse gas emissions, we stand to be severely impacted by global warming, and so reducing it is vital to our interests and survival. From the loss of coral reefs, to the rise of sea levels, to the spread of tropical diseases, my colleagues and I are requesting that the special needs of our offshore areas be looked at carefully as we prepare this landmark legislation.

The CBC task force has also asked that steps be taken to ensure that the cost of this new energy is not prohibitive but affordable to all. It is important to note that energy costs in the island territories that are part of the U.S. family are already among the highest in the Nation. At present, provisions that would address affordability are not yet completely written.

So I look forward to being involved in that process and to working with you, Chairman Waxman and Chairman Markey, and my other colleagues to examine and discuss the other issues, especially finalizing the details of cap and trade. I look forward to passing comprehensive energy legislation that creates a robust economy, that meets the energy needs of today and also the energy needs and environmental needs of people and our planet for generations to come.

And I thank you for the opportunity to make an opening statement.

Mr. Markey. We thank the gentlelady.

The Chair recognizes the gentlemen from Pennsylvania,

Mr. Doyle.

Mr. Doyle. Thank you, Mr. Chairman.

Mr. Chairman, I rise today with a lot of hope that these hearings will serve as a big first step towards eventually passing a comprehensive climate bill through our committee, so that it can continue on to the House and Senate floors and eventually make it to the President's desk for his signature. I applaud your decision to use regular order, and I hope that the members of this committee on both sides of the dais will use this opportunity to offer constructive ideas so that the eventual law is reflective of the combined efforts of the entire committee.

After all, climate change is not a problem that will affect only Democrats or Republicans. It will affect each and every one of us, as well as our children and our grandchildren.

As I have said in the past, the draft that you and Chairman Markey released on March 31st was a good starting point from which this committee can begin to craft our answer to the question of climate change. However, I would also like to say that this bill was just that, a starting point. As everyone in this room knows, many of the key questions that will define this bill's workability have yet to be answered, and I, for one, look forward to working with you, Mr. Chairman to fill in these blanks.

These are questions such as, where are credits allocated? What are the appropriate time frames and reduction goals? How will we minimize the cost imposed on our constituents? And how

will we encourage and deploy next-generation clean energy technologies? These are not simple questions with simple answers. They are very complex and challenging issues, one that will require a careful look at to where we are today, where we want to be tomorrow and most importantly how are we going to get there.

As I have said many times, the threat of climate change is really a question of two things, technology and transition. What technologies can we bring about through innovation, research and deployment that will ensure that America has the energy it needs to power our country for generations in the future, while at the same time reducing and eliminating the carbon footprint resulting from the way we power ourselves today? What are the appropriate transition steps that need to be made not only to encourage these technological advances, but to ensure that we preserve current jobs while creating new green jobs? And what transition steps need to be taken to ensure we don't greatly increase our constituents' power bills?

This bill gives us a bit of a framework picture as to how we are going to answer those questions, but much work will need to be done to fill in these blanks if we are going to adequately address climate change.

Like most Democrats on this committee, I hope that we can all work together to answer these questions so that we can bring about a bill that we can all eventually support. Unlike some of my friends on the other side of the aisle, I have long ago taken the

position that it isn't enough to just say "no"; we must be able to find a way for all of us to say "yes," and I am committed, as I have been all along, to working to help us get to that place.

I must admit I have a lot of concerns with the renewable electric standard as it is currently written. I think a better standard would be like the one we already passed through the House in the last Congress. That is a standard that is workable and one that will not penalize many of our constituents simply because of where they live.

Any new renewable standard must do more than this bill currently does to recognize that different regions have different resources available to them. And I look forward to discussions on this matter.

Furthermore, we need to do more to encourage CCS deployment. Without widespread deployment of this technology, all other reductions in this bill won't matter. This fact needs to be reflected more in the bill, and we need to ensure the framework and funding for these technologies is certain.

Similarly, the transmission piece of this bill is quite inadequate, in my opinion, and I would like to see more work done there also.

I would also like to see the provisions that Jay Inslee and I worked on regarding emissions and job leakage tightened.

These are a few examples of places where I think the bill needs some improvement. It is a good starting point, and I, for

one, am ready to work with our chairman to refine and improve the starting text. I personally appreciate our chairman's efforts to this point, especially in areas such as including the Doyle-Inslee EMPLOY Act provisions, as well as the Boucher CCS bill.

It will be critical for us to concentrate on transitional and technological issues as we move forward with our attempt to fundamentally alter how we produce and use power in this country for the first time since the Industrial Revolution.

Mr. Chairman, I believe, if done right, this bill will serve as an engine to transform our economy to ensure that America is the world's leading manufacturer and exporter of clean fuel technologies. The jobs that can be created by this transformation are needed in every region of this country, and it is critical that Members from all regions of our country work together to create them.

I, for one, am ready to do my part; and with that, Mr. Chairman, I yield back the balance of my time.

Mr. Markey. We thank the gentleman.

The Chair recognizes the gentleman from Ohio, Mr. Space.

Mr. Space. I want to begin by thanking you, Chairman Markey, and also Chairman Waxman, for the initiative you have undertaken in approaching such a monumental and ambitious task.

Today, we have before us one of the most significant pieces of legislation that Congress will consider in our lifetime. As we proceed with our deliberations, we must be mindful that we are

operating in the shadow of history and at a moment pivotal in the lives of this generation.

Without question, our Nation faces a significant challenge in addressing the issues of climate change and energy production. While current sources of energy, such as coal, are critical components of our Nation's economy, creating a new energy policy that encourages investment and expansion in new green jobs offers important opportunities that cannot be overlooked. It is incumbent upon us in this committee to seize upon those opportunities.

As the committee considers this critical legislation, I am mindful of the fact that I represent a district facing significant challenges of poverty. Even when times are good, the economy of Appalachian Ohio can claim unemployment rates approaching 10 percent and poverty rates exceeding 20 percent. Thus, as the committee proceeds, it is my intention to view this legislation through the lens not of any one group represented here in Washington, but through the perspective of the residents of Ohio's 18th Congressional District.

I believe this legislation offers significant opportunities for my district. The provisions of this bill pertaining to carbon capture and sequestration offer the promise of continued employment for the mine workers I represent as we strive to create a future for this critical domestic resource.

This bill also includes legislation I introduced, the Renew

Through Green Jobs Act that authorizes grants for new green job training programs. These training programs are a critical link in the creation of a new green economy, and I thank the chairman for the inclusion of this provision.

Finally, this legislation also includes important investments in building efficiency that will provide badly needed stimulation to the insulation and glass industries. Many of these industries have faced layoffs and furloughs in the face of declining demand, and I am hopeful this legislation can provide new life to this sector.

However, this legislation is larger than these provisions and represents an effort to comprehensively overhaul how we produce and consume energy in this country. As such, we must move with caution to ensure the same people we are striving to protect are not harmed by this legislation. We must be cautious to ensure that this legislation means a brighter future for those we represent, not darker days to come.

I believe we have an opportunity in this legislation to create a stronger future for two critical industries in Ohio, coal and manufacturing. This legislation creates a pathway forward to real investments and technology, and I appreciate the time of the committee today and look forward to hearing more perspectives from the many witnesses over the coming days.

And I yield back my time.

Mr. Markey. We appreciate the gentleman's work.

And now we will, I think, complete -- no. We have another member who is joining, and we will then recognize the gentleman from Vermont, Mr. Welch, for his opening statement.

Mr. Welch. I thank you very much, Mr. Chairman. I thank you and Chairman Waxman for the ambitious work you have set before our committee.

I agree with much of what my colleagues have said. We now have a consensus that climate change is real, it is urgent, and we have to address it. And this bill is the first attempt of this Congress, really any Congress, to undertake a challenge that we too long ignored.

In the process of moving from a fossil fuel-based economy to one that is based on efficiency, alternative energy and getting the most out of the energy that we do use is going to be very daunting, and it will impose some dislocations. So the points that have been made by our colleagues on this committee about the regional interests and about the real-world impact of climate change legislation is something that has to be taken very seriously by all of us.

But the big question that will allow us to proceed forward is whether we have confidence that by undertaking the challenge that is ours to undertake -- and that is to eliminate or dramatically reduce carbon greenhouse gas emissions by 2050; and this bill has as its goal an 80 percent reduction by 2050 -- the question is, do we have the confidence to undertake that challenge, knowing if we

do it wisely, we do it energetically and we do it well, we can actually create jobs, create foreign independence and clean up the environment?

The Union of Concerned Scientists has just done a study that has found that if we, in fact, enact policies -- and we have to do it the right way, from renewables to efficiency -- our climate bill will bring the cost to consumers and businesses down.

In 2030, according to this study, the policies implemented under the blueprint would save business and consumers \$465 billion while maintaining the same -- the same -- rate of economic growth. An average U.S. household, if we do it right, will enjoy net savings of \$900 on their energy bills and that includes \$580 on transportation costs and \$320 on electricity, natural gas and heating oil. Business collectively would realize net energy bill savings of \$130 billion by 2030.

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[5:06 p.m.]

Mr. Welch. And what we know is that if we are going to achieve this goal, we have to start with efficiency. It is the most cost effective at cost containment. And in fact, one of the byproducts of our fossil fuel-based approach to economy is this notion that we had an endless and cheap supply and it led to wasting energy that we should never waste. This legislation should focus on a number of things, but first and foremost, among them is efficiency. And I am delighted, Mr. Chairman, that you see fit to include in this title an energy efficiency legislation that I have sponsored and that we have used in the State of Vermont with real success. And that is for building retrofits. In the carbon emissions that come out of our buildings, residential and commercial, it is about 50 percent of the greenhouse gases.

And if we give the tools to our businesses and our homeowners to save that energy through energy efficiency, we are going to create jobs and go a long way towards achieving our goals. Thank you very much, Mr. Chairman. I look forward to working with you and our colleagues on this committee to achieve our goal of an 80 percent reduction by 2050.

The Chairman. We thank the gentleman very much. And we

recognize the gentlelady from California, Ms. Matsui.

Ms. Matsui. Thank you very much, Mr. Chairman. I want to thank you for convening this week's hearing on the American Clean Energy and Security Act. I commend you and Chairman Waxman for both your leadership and your determination to advance this bill to where it is today. The legislation we are discussing will be an achievement for the American people. And it is an achievement for future generations of Americans. Because of this legislation our children and grandchildren will live in a country that is more sustainable, more economically viable and more efficient than the country we live in today. And for my hometown of Sacramento, the bill is more than an achievement, it is a necessity.

My district sits at the base of the Sierra Nevada Mountains and at the confluence of two great rivers, the American and the Sacramento. The threat of flooding in Sacramento is ever present and is made worse by a warming planet. California's Department of Water Resources projects that the Sierra Nevada snowpack will experience a 25 to 40 percent reduction by 2050. These are not empty numbers. They represent real impacts of climate change that translate into serious and unpredictable risk for my constituents. As California's climate warms more of the Sierra Nevada snowpack will contribute to peak storm runoff. High frequency flood events are projected to increase as a result. In a city like Sacramento we simply cannot afford to ignore the reality that global warming and flooding are interconnected. We have no choice but to adapt

to these realities. My constituents realized this long ago.

As a result the majority of them have long supported taking action to cap the carbon emissions that are warming our planet. They recognize that taking bold action today means a more secure future for Sacramento tomorrow. I also recognize this truth which is why I support the American Clean Energy and Security Act so strongly. But fighting global warming is not just about preserving our current way of life, it is also about creating a cleaner stronger economy that will power the United States into the future. When I was home last week I saw numerous examples of how Sacramento is already generating new clean energy opportunities. I toured a renewable energy testing center that is about to open at the converted site of the former McClellan Air Force Base. This center is working to give small businesses the support they need to take clean energy companies to the commercial stage. I visited an innovative company called Synapsis that helps data centers improve their cooling capabilities.

Synapsis is working HID Laboratories which is developing energy efficient lighting technologies. Both companies revolutionize the way commercial businesses save money on energy efficiency strategies. I also saw UC Davis biogas energy project, an innovative way of converting organic waste into biogas fuels and other valuable products. This technology has so much potential that Campbell Soup is interested in using biogas digesters to fuel their plant in Sacramento. These businesses and

technologies are not dreams in someone's mind, they are neither ideas nor concepts on a paper, instead they are the realities of the modern American economy. They are real businesses creating real jobs, real technologies, during a revolution in Sacramento's regional economy. With the help of the American Clean Energy and Security Act, every city and community in America can emulate the clean energy blueprint that Sacramento has pioneered. What is needed today are strategic investments in clean energy infrastructure that will help similar projects expand and prosper.

With the American Clean Energy and Security Act we are making these smart investments. We are giving entrepreneurs the tools they need to create clean energy jobs that demand American skills and that put our country in a strong position to compete internationally. These tools will continue to help the economy grow even as we reduce the carbon dioxide emissions that threaten our very way of life. In this way, clean energy will be the building block of a new era of American economic strength. With the American Clean Energy and Security Act, we will show the rest of the world that America is back and they are ready to lead again. I will look forward to remarks of the many and varied witnesses who will testify before us in the coming days in regard to this groundbreaking legislation. And with that I yield back the balance of my time.

The Chairman. I thank the gentlelady. And the Chair recognizes the gentleman from Indiana, Mr. Hill.

Mr. Hill. Thank you, Mr. Chairman. Mr. Chairman, thank you for your work and leadership on this issue. It is not easy to tackle such a big problem, but this draft represents an important first step in the process. These hearings will be instructive for us as we hear an array of viewpoints. Addressing climate change is an issue of utmost urgency. Though we may differ on the details of how to tackle this problem, we agree on the broader picture. This draft represents an important first step but much more work remains. We must ensure that States like my own are not unfairly punished for using abundant resources that are legal and viable. I want to urge you, Mr. Chairman, to ensure each region of the country is treated appropriately and that the committee recognizes that certain areas will be affected more by this legislation than others.

I would also like to call to the committee's attention to municipal solid waste. I believe this is a proven technology that has been improved over the years and will be an important tool for us to solve climate change. In order to gain the full benefit from this technology, I believe that it should be classified as a renewable energy source. I also hope that we will work with our Republican colleagues to produce a bill that produces the desired environmental results, spurs investments in new technologies and creates the new jobs that we desperately need. I believe entrepreneurs can find the technology to solve this problem better than any politician can.

Clean coal technology, while helping us at home, has the potential to be an important export for years to come. I believe that farmers by growing our fuels and storing carbon in their fields are a valuable asset in reducing our greenhouse gas emissions. I believe that we don't need government micromanagement. Set smart pollution standards and show American business what needs to be done. They will figure out the fastest cheapest way to do it. I recognize that nothing important in the world gets solved without U.S. leadership and action. And the U.S. will lead. And that must include compelling China and other countries to do their part too.

For those who believe China should get a pass I say no chance. These investments will make our country's economy stronger and more secure. America has the opportunity to be a leader in these issues. And I look forward to working with Chairman Markey and Waxman to ensure that this bill puts us on the right path. And I yield back the balance of my time.

The Chairman. The gentleman's time is expired. The Chairman recognizes the gentleman from Maryland, Mr. Sarbanes.

Mr. Sarbanes. Thank you very much, Chairman Markey. Chairman Waxman, thank you for your tremendous leadership on this issue. When it comes to energy policy, this American Clean Energy and Security Act of 2009 is really turning the titanic around and setting targets that are going to help us get to a new place when it comes to energy independence, when it comes to clean jobs, when

it comes to these exciting new technologies that we are going to see, and obviously with respect to progress on global warming. My view has always been that government's role is to take the framework that operates and every so often move it forward in a significant way.

And if we do that, what happens is the entrepreneurs of this country and ordinary citizens then come in and they take up the charge. For too long, that framework has been stuck when it comes to our energy policy and our environmental policy, and the pent up passion and creativity and ingenuity of the country has been held back. Now, what this proposal does is it opens the floodgates, I believe, to a whole new generation of ingenuity and creativity.

I come from Maryland. The Chesapeake Bay is a national treasure. And we consider ourselves stewards of the Chesapeake Bay. The other day I was at a high school in Anne Arundel County and I met with the environmental club there. And I know what is going to happen when we pass this bill. Led by the next generation, led by young people in this country who are going to take up this charge, we are going to go places we can't even conceive of right now. We think about how much we can dent our energy portfolio with respect to wind power and solar power and other sources of clean energy and we estimate 5 percent, 10 percent, 15 percent. I will bet you that in 2 years or 3 years, once we let loose this ingenuity on clean technologies, we will be making even more progress with respect to that

portfolio. That is what is about to happen.

And we have to seize this moment in time. And I thank you for your leadership, I thank Chairman Waxman for his leadership. And I look forward to the hearings that we are going to be holding. Thank you, and I yield back.

The Chairman. We thank the gentleman from Maryland very much. The Chair recognizes the gentlelady from Ohio, Ms. Sutton.

Ms. Sutton. Thank you, Mr. Chairman. It was not long ago that gas was over \$4 a gallon and people across this country struggled with those high energy costs. Energy and its related costs impact every segment of our lives. It impacts our economy, it impacts our manufacturers and our industries, it impacts jobs, and it impacts our national security, it impacts our health and clearly it impacts our environment. And that is why we are here today. It will be a challenge for our country to transform the way we operate and to transition to a green economy. But the cost of not addressing climate change far outweigh the challenges. We cannot afford to delay but we must be smart. Scientific evidence confirms that unrestrained growth in greenhouse gas emissions poses a danger to public health and the environment. The American Clean Energy and Security Act boldly seeks to address the global warming crisis, and I would like to commend Chairman Waxman and Chairman Markey on the enormous task of drafting this landmark legislation. We must bolster our national security by mapping out a more energy dependent future for our country. Today the United

States imports nearly 60 percent of the oil that we consume. By expanding our energy supply we can reduce our dependence on foreign oil and increase our energy security.

And most importantly we can bolster our economy by creating hundreds of thousands of new green jobs. With the economic recession Americans are hurting, and the resolve of the middle class is being tested. The economic downturn has taken a toll on U.S. manufacturing, including the steel plants in my congressional district.

Ohio's unemployment rate hit 9.7 percent in March and continues to be higher than the national rate. We can turn our country around and at the same time bring America to a cleaner safer more productive future. With the American Recovery and Reinvestment Act we made a down payment investing billions of dollars to spread the development of clean renewable energy production and transmission. Just last night, I spoke at an Avon Lake city council meeting to explore the potential forming a community-based wind energy co-op in Lorain County, Ohio. It is encouraging to see people working toward solutions that will create jobs, help local economies and improve our environment. And we must do all we can to continue to encourage this type of creative thinking and innovation to develop energy from renewable sources.

I support a national renewable energy standard that shifts towards wind solar biomass and other forms of energy to meet our

electricity needs. Investments in alternative sources of energy, clean technology and energy efficiency will create new industries and jobs, revitalize American manufacturing, jump start economic growth and revive the middle class. And as we move forward in our efforts to retool our economy and our workforce it is important that there are safeguards in place for worker transition and assistance. We cannot leave our workers and communities behind. We cannot leave a section of our Nation in the wake. We have an opportunity but we also have a responsibility. We must also remember that greenhouse gas emissions and climate change are global problems. The atmosphere recognizes no borders. For industries like steel, some emissions are an unavoidable part of the manufacturing process.

Currently neither science nor technology exists to mitigate them. And many in the country make their living as steel workers. Yet while the U.S. steel industry has become 33 percent more energy efficient since 1990, the Chinese steel industry emits as much carbon as the rest of the global steel industry combined. The production of a ton of steel in China generates anywhere between 2 and 4 times the carbon emissions of a ton of steel produced in the United States. Any increased cost imposed by climate change laws must not put domestic industries at a severe competitive disadvantage to industries that are not subject to similar environmental rules.

If we allow that to happen, it will work against the very

goals of environmental integrity that we seek to achieve. And as we put our Nation on a new course in energy policy, as I said, we must ensure that no region and no state is left behind.

Throughout my district, long established companies want to be a part of the solution and are transitioning to green technologies. Companies that have produced brakes for helicopters are now producing brakes for wind turbines. Companies that have manufactured bearings for the auto industry are now finding another market with renewable energy system. And there are several companies that are trying to start up during some of the most difficult economic times our country has ever seen. These companies are developing advanced waste heat recovery systems, biowaste electricity generation systems and algae-based biofuels. Recently, President Obama announced that the General Services Administration will accelerate its purchase of 17,600 new fuel efficient vehicles produced by American auto companies. The President's announcement about modernizing the fleet of a government is welcome news, and I share his commitment to shoring up jobs for American auto workers while improving our environment.

That is why I introduced the Consumer Assistance to Recycle and Save Act of 2009. The CARS Act will help consumers stimulate our economy, improve our environment, reduce our dependence on foreign oil and help our domestic auto and related industries. The President's announcement demonstrates that finding ways to achieve these multiple goals can be done. My colleagues,

Representative Steve Israel and Jay Inslee have introduced similar legislation. I look forward to continue a collaboration with them to enact a green vehicle purchase incentive program that will meet these multiple goals. And I look forward to working with Chairman Waxman and Markey and my colleagues to implement a balanced and effective measure to reduce greenhouse gas emissions and address global climate change.

The Chairman. I thank the gentlelady very much, and we look forward to working with her. And with the completion of your testimony, your opening statement, all time for opening statements from the members has now been completed. Tomorrow morning at 9:30 at that witness table we will have the Secretary of Energy Steven Chu, the Administrator of the Environmental Protection Agency, Lisa Jackson and the Secretary of Transportation, Ray LaHood. 9:30 tomorrow morning we begin to write history in the United States. With that, this hearing is adjourned.

[Whereupon, at 5:25 p.m., the committee was adjourned.]