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BEFORE THE SENATE AGRICULTURE COMMITTEE

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Mr. Chairman, Ranking Member Chambliss, and members of the Committee, I appreciate the opportunity to discuss with you today the role of agriculture and forestry in global warming legislation. I am pleased to be here today with Administrator Jackson and Dr. Holdren.

Climate change is one of the great challenges facing the United States and the world. The President believes it is important that America show international leadership on climate change. I want to commend the House of Representatives for taking a critical step towards the passage of comprehensive energy and climate legislation. The Administration looks forward to working with the Senate to craft legislation that creates jobs, reduces our dependence on oil, increases national security, and reduces the risks associated with climate change while also promoting economic growth.

Climate change has enormous implications for farmers, ranchers and forest landowners. Drought, more intense weather events, forest fires, and insect and disease outbreaks are just some of the potential effects of a warming climate that could subject landowners and rural communities to enormous potential costs. For example, the U.S. Climate Change Science Program and Subcommittee on Global Climate Change Research reported that forest landowners are already seeing the impacts of climate change on the health and productivity of our forests.

At the same time, farmers, ranchers and forest landowners have a very important role to play in addressing global warming. In fact, by effectively exploiting opportunities within the agriculture and forestry sectors, we can significantly reduce the cost of meeting our climate policy goals.

I believe there are significant opportunities for landowners in a cap and trade program that can help revitalize rural America through the creation of jobs and wealth. The production of low carbon energy from biomass, anaerobic digesters and wind will provide landowners with new sources of revenue that have significant value in a low-carbon economy. There are also options for landowners to reduce their energy expenditures. USDA is already working with landowners to reduce energy costs and improve profitability.

A robust carbon offsets market will also provide farmers, ranchers and forest landowners with the potential for new sources of income. Rural communities could in turn benefit from jobs created to implement conservation practices and measure and monitor carbon offset activities. To be effective in addressing climate change, the offsets market will need to accomplish two goals. First, the offsets market must be large, with thousands of

participating landowners. To get to scale, the market will require an infrastructure of people and agencies that can encourage landowner participation, provide information to landowners, manage data and resources, and maintain records and registries. Second, ensuring that agricultural and forest offsets provide real and verifiable greenhouse gas reductions is critical to not only addressing climate change but to maintaining public confidence in the carbon offset program as well.

Implementing an offsets market will require a partnership of several Federal agencies, including USDA, EPA, the Department of Interior and others. USDA has many assets that we can bring to bear, including a network of field staff across the country, and greenhouse gas management experience with croplands, rangelands, forests and livestock.

Even with these opportunities, many in the agricultural and forestry community are concerned about the potential costs of climate change legislation. At USDA, we hear these concerns loud and clear. And, I know all of you are hearing from the farmers, ranchers and forest landowners in your states about the potential costs of climate change legislation.

Although we realize there are a variety of specific approaches that can be used to achieve clean energy and climate goals, over the last several weeks, USDA has analyzed costs and benefits of the House-passed climate legislation for agriculture. Our analysis demonstrates that the economic opportunities for farmers and ranchers can potentially outpace – perhaps significantly – the costs from climate legislation.

Of course, any analysis of the implications of climate change legislation, including our analysis of HR 2454, shows that the farm sector will experience both costs and benefits. Agriculture is an energy intensive sector with row crop production particularly affected by energy price increases. For example, fertilizer and fuel costs account for 50 to 60 percent of variable costs of production for corn.

USDA's preliminary analysis of costs and benefits on the agricultural sector uses energy price and other information contained in EPA's recent analysis of HR 2454. Let's first look at the cost side. Increases in fuel prices are expected to raise overall annual average farm expenses by about $700 million between 2012 and 2018, or about 0.3%. Annual net farm income as a result of these higher energy prices is expected to fall by about 1 percent. These estimates assume that in the short term farmers are unable to make changes in input mix in response to higher fuel prices—so they likely overestimate the costs to farmers. Fertilizer prices will likely show little effect until 2025 because of the HR 2454's provision to help energy-intensive, trade exposed industries mitigate the burden that the emissions caps would impose.

The agriculture sector also will benefit directly from allowance revenues allocated to finance incentives for renewable energy and agricultural emissions reductions during the first five years of the HR 2454 cap and trade program. Funds for agricultural emissions

reductions are estimated to range from about $75 million to $100 million annually from 2012-2016.

To evaluate the potential impact on the agricultural sector further out in time, we first examine a simple case that allows producers to change the crops they grow but not how they produce them. This approach is conservative given the observation that energy per unit of output has drastically declined over the last several decades. Nevertheless, the estimated impact of the cap and trade provision of HR2454 implies a decline of annual net farm income of $2.4 billion, or 3.5%, in 2030 and $4.9 billion, or 7.2%, in 2048. These estimates are likely an upper bound on the costs, because they fail to account for farmer's proven ability to innovate in response to changes in market conditions.

Our analysis is also conservative because it doesn't account for revenues to farmers from biomass production for bioenergy. A number of studies have examined the effects of higher energy costs with models that allow for expected changes in production management practices and switching to bioenergy crops.[1] Based on the analysis of Schneider and McCarl, for example, allowing for changes in input mix and revenues from biomass production - but without accounting for income from offsets -, it is estimated that annual net farm income would increase in 2030 by about $0.6 billion or less than 1 percent. By 2045, annual net farm income is estimated to increase by more than $2 billion or 2.9%.

HR 2454's creation of an offset market will create opportunities for the agricultural sector. In particular, our analysis indicates that annual net returns to farmers range from about $1 billion per year in 2015-20 to almost $15-20 billion in 2040-50, not accounting for the costs of implementing offset practices. EPA has conducted its own analysis of returns from offsets that take into account the costs of implementing land management practices. EPA's analysis projects annual net returns to farmers of about $1-2 billion per year from 2012-18, rising to $20 billion per year in 2050. It's important to note that EPA's analysis includes revenue generated from forest management offsets while USDA's does not.

So, let me be clear about the implications of this analysis. In the short term, the economic benefits to agriculture from cap and trade legislation will likely outweigh the costs. In the long term, the economic benefits from offsets markets easily trump increased input costs from cap and trade legislation. Let me also note that we believe these figures are conservative because we aren't able to model the types of technological change that are very likely to help farmers produce more crops and livestock with fewer inputs. Second, the analysis doesn't take into account the higher commodity prices that farmers will very likely receive as a result of enhanced renewable energy markets and retirement of environmentally sensitive lands domestically and abroad. Of course, any economic analysis such as ours has limitations. But, again, we believe our analysis is conservative – it's quite possible farmers will actually do better.

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[1] For example, see Schneider, Uwe A. and Bruce A. McCarl. "Implications of a Carbon-Based Energy Tax for U.S. Agriculture." Agricultural and Resource Economics Review 34/2 (October 2005): 265-279.;

What does this mean for the individual farmer? A Northern Plains wheat producer, for example, might see an increase of $.80 per acre in costs of production by 2020 due to higher fuel prices. Based on a soil carbon sequestration rate of 0.4 tons per acre and a carbon price of $16 per ton, a producer could mitigate those expenses by adopting no-till practices and earning $6.40 per acre. So, this wheat farmer does better under the House passed climate legislation than without it. And, it's quite possible that this wheat farmer could do even better if technologies and markets progress in such a way that allows for the sale of wheat straw to make cellulosic ethanol.

We recognize that climate legislation will affect different landowners in different ways. This is an important point. USDA can help smooth this transition by using our Farm Bill conservation programs to assist landowners in adopting new technologies and stewardship practices. It is also worth noting that the House bill includes important provisions regarding how to adapt and increase resiliency to climate change impacts, which will be important for our nation's farmers, ranchers and forest landowners. Ensuring that landowners and communities have the tools and information they need to adapt to climate change is a priority for this Administration.

In conclusion, I want to thank this Committee for its interest and involvement in this issue. The leadership you provide will help farmers, ranchers and forest landowners participate in and benefit from climate legislation. The participation of rural landowners is, I believe, vitally important to the success of any cap and trade program. USDA looks forward to working with you as we move forward.