

Statement of

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Before the
Committee on Environment and Public Works
United States Senate

October 27, 2009

Madame Chairwoman, Ranking Member Inhofe, and members of the Committee, I apologize for not being able to be with you today. Unfortunately, I am out of the country but I appreciate the opportunity to submit testimony today on the critical role of and potential impact on agriculture and forestry in climate change legislation.

The United States, along with the rest of the world, is facing a crisis. Climate change is a serious threat to our economy and national security. This legislation is an important opportunity for the US to show international leadership on climate change. I want to commend Senators Kerry and Boxer for the introduction of their legislation, which provides an important first step towards the passage of comprehensive energy and climate legislation in the Senate. The USDA looks forward to continuing to work with the Senate on this monumental challenge.

Farmers, ranchers, and forest landowners are at the crux of the climate change debate. 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. Drought, catastrophic weather events, and disease outbreaks are just some of the potential effects of a warming climate. In addition, there continues to be a growing concern that crop yields will suffer due to changing weather patterns. Clearly, the cost of inaction will have a significant effect on our farmers, ranchers, and rural communities.

While farmers, ranchers and forest landowners have a lot at stake if we fail to act, they also have much to gain if we address climate change quickly and wisely. I believe there are significant opportunities for landowners in a cap and trade program that can help revitalize rural America. Rural America has an unprecedented potential for economic development and job growth through new energy technologies. The anaerobic digesters and wind will provide landowners with new sources of revenue and wealth creation.

A robust carbon offsets market will provide farmers, ranchers and forest landowners with the potential for new sources of income. Rural communities may have new opportunities for growth and competitiveness as we enter a new 21st century economy. To be effective, 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. I believe that USDA, EPA, DOI, DOE, and other Federal agencies can meet this need. We must also ensure that agricultural and forest offsets provide real, additional, and verifiable greenhouse gas reductions. This is critical not only to addressing climate change but to maintaining public confidence in the carbon offset program, as well.

However, we understand the concerns of many in the agricultural and forestry community about the potential costs of climate change legislation. I know many of you are hearing the same concerns from the farmers, ranchers and forest landowners in your states.

In order to address these concerns, USDA has analyzed costs and benefits of the House-passed climate legislation for agriculture. While there are differences between the Waxman-Markey legislation and the Kerry-Boxer bill, it is our expectation that the impact in agriculture will be similar. Our preliminary analysis demonstrates that economic opportunities for farmers and ranchers can outpace – perhaps significantly – the costs from climate legislation.

Let's first look at the cost side. 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. While most of the direct energy price increases would be felt immediately by the agricultural sector, fertilizer costs would likely be unaffected until 2025 due to provisions in HR 2454 that would distribute specific quantities of emissions allowances to "energy- intensive, trade exposed entities" (EITE). In absence of the EITE provisions, higher fertilizer prices could lead to an average annual increase in crop production expenses of \$1.4 billion in real 2005 dollars over 2012-18.

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 are conservative, for example they 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. Over longer time frames, the estimated impacts of HR 2454 are modest and suggest 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 farmers' proven ability to innovate in response to changes in market conditions.

The medium to long term analyses are conservative given the observation that energy use per unit of output has declined significantly over the past several decades. Because of this, our estimates are likely an upper bound estimate on the costs because they fail to account for farmers' ability to fully respond 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%.

The creation of an offset market will create new opportunities for the agricultural sector. In particular, our analysis indicates that annual returns to farmers and ranchers 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. 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. None of this analysis includes the potential benefit arising from new energy jobs that will come from constructing, operating, and maintaining new infrastructure for renewable energy.

We recognize that climate legislation will affect different landowners in different ways. USDA can help smooth this transition by using our Farm Bill conservation and renewable energy programs to assist landowners in adopting new technologies and stewardship practices.

I want to thank the Committee for its interest and involvement on climate change. 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 in building a stronger rural America.