



## Agriculture, Climate Change & New Markets

### **How can agriculture be a part of the solution to climate change?**

Agricultural practices like soil carbon sequestration, livestock manure management or methane digesters, and efficient fertilizer application have the potential to reduce or “offset” emissions of greenhouse gases.

Plants naturally take up carbon dioxide (a primary greenhouse gas) and give off oxygen. In this process, they also store or “sequester” carbon in the soil through their roots; however, most of that carbon is released when farmers plow up the field to plant a crop. If farmers were to use direct seeding or no-till practices to plant crops, they would keep all that stored carbon in the soil. Since greenhouse gases accumulate in the atmosphere from emissions worldwide, carbon reductions can come from anywhere.

In order to create a national market for carbon credits, Congress would have to adopt a policy that caps greenhouse gas emissions and allows offsets to be purchased in place of allowances (cap-and-trade). Agricultural carbon offsets can reduce the overall cost of greenhouse gas reductions to the economy while lowering the level of emissions. With the adoption of a cap-and-trade market that includes agricultural offsets, it has been estimated that 30% of greenhouse gas (GHG) offsets could be met with agricultural offsets annually over the next 50 years.<sup>1</sup>

### **What does this mean for farming income and land use?**

Depending on how offsets are credited, farmers could increase their net profits under a cap and trade system (*after* taking costs into account). A recent survey of several studies on the costs and benefits of cap-and-trade found that, overall, agriculture has more to gain than lose from cap-and-trade with agricultural offset markets.<sup>2</sup> The survey also found that agricultural costs would be expected to increase under cap-and-trade, but the size of the increase is relatively small.<sup>3</sup>

Some studies have suggested that cap-and-trade could result in land use change like planting trees on pasture and croplands to earn carbon credits. While farmers may plant trees on marginal lands to earn carbon credits, the design of the cap-and-trade system is important to ensure that offset credits on working lands receive carbon credits just like other practices like forestry.

### **What are the policy options?**

So far, the American Clean Energy and Security Act of 2009 (ACES) has passed the House of Representatives, which included the Peterson Amendment that contains opportunities for American agriculture to participate in an offset market. The Senate is involved in ongoing discussion of climate legislation, but Senator Stabenow and six key co-sponsors have introduced the Clean Energy Partnerships Act of 2009 (CEPA) which makes America’s agriculture and manufacturing part of the solution in the debate over climate and clean energy. CEPA includes an offset program to earn carbon credits and a list of initial eligible agricultural projects.

Alternately, the EPA is moving forward with regulation under the Clean Air Act. EPA action would limit greenhouse gas emissions from utilities and industry, but would not create offset markets for agriculture. EPA regulation would be more costly for agriculture and would not create offset markets or revenue.

It is likely that some type of climate policy, whether from Congress or EPA, will be implemented in the United States in the near-term. Whether agriculture gains or loses from climate change depends on the details of those policies. It is important to stay engaged in the discussion to learn how these policies and climate change could affect agriculture. For more information, visit [www.agcarbonmarkets.com](http://www.agcarbonmarkets.com) or email [aginfo@clarkgroupplc.com](mailto:aginfo@clarkgroupplc.com).

<sup>1</sup> US Environmental Protection Agency, 2005, *Greenhouse Gas Mitigation Potential in U.S. Forestry and Agriculture*, EPA 430-R-05-006.

<sup>2</sup> Golden, B. et al. Kansas State University. 08 Dec 2009. A Comparison of Select Cost-Benefit Studies on the Impacts of HR 2454 on the Agriculture Sector of the Economy.

<sup>3</sup> Ibid.