



25x'25 Carbon Work Group
Summary of Recent Cost Impact Data
American Clean Energy Security Act of 2009
August 1, 2009

Introduction

The United States Congress is considering a national cap and trade system to assist the country in its move to a low-carbon future. All paths to a low-carbon future represent the potential for significant change for all sectors of the economy. The costs of energy intensive goods and services will likely rise but new revenue opportunities for businesses capable of delivering greenhouse gas emission reduction services will also likely emerge. The 25x'25 Carbon Work Group has concluded that the U.S. agricultural and forestry sectors are uniquely positioned to participate in this emerging low-carbon economy and deliver clean energy solutions and greenhouse gas reductions with real value in the marketplace.

Objective independent studies now emerging on the American Clean Energy Security Act of 2009 suggest that the costs to the agriculture and forestry sectors from its cap and trade provisions are, on net, modest. At the same time, it is also apparent that the costs and benefits will not be distributed uniformly across all sector members and that much about the ultimate outcomes remains unknown.

25x'25 has developed this brief cost perspective piece to help our Alliance members sort through the numerous and often conflicting claims and statements being put forth by a variety of interest groups with a variety of motivations. While a number of economic analyses of climate policy have been produced in recent months, only the last three have assessed the climate legislation passed by the House of Representatives in June. A synopsis of each follows. (References to these three and all of the studies in the tables which follow can be found in the References section at the end of this report).

1) A Preliminary Analysis of the Effects of HR 2454 on U.S. Agriculture; USDA Office of Chief Economist, U.S. Department of Agriculture July 22, 2009. This is the first relatively robust attempt to assess the overall impacts of this specific legislation on the entire sector.

This study found “that the economic opportunities for farmers and ranchers can potentially outpace – perhaps significantly – the costs from climate legislation. The economic benefits to agriculture from the cap and trade legislation will likely outweigh the costs in the short term, and the economic benefits from the offsets markets will easily outpace increased input costs over the long run.”

These preliminary conclusions include the impacts from the higher expected energy costs and are quite conservative in that no attempt has been yet made to assess the beneficial outcomes resulting from bioenergy demand shifts, technological change, or alteration of inputs in agriculture.

2) The Food and Agricultural Policy Research Institute (FAPRI) of the University of Missouri reported in July 2009 on The Effect of Higher Energy Prices from H.R. 2454 on Missouri Crop Production Costs. The researchers analyzed how the Waxman-Markey legislation as passed affects Missouri crop production costs. This is not a study of the full effects on Missouri Crop producers.

The study found, based upon a specific set of energy price increase assumptions from CRA International, that Missouri crop operating costs for dryland corn, irrigated corn, soybeans, and wheat would rise by 2%-4% by 2020, and 4%-10% by 2050, as a result of Waxman-Markey.

3) Bruce Babcock of Iowa State, Director of the Center for Agricultural and Rural Development, in the Summer 2009 Iowa Ag Review, reported findings which support the conclusion that the Waxman-Markey legislation will have a relatively small impact on corn and soybean farms. This work finds that production costs per acre would rise by about 1-2% by 2020, and that the potential revenues from offset markets can more than compensate for these increased costs. While this respected academic source sheds important light on the issues, the author's conclusions are not derived from comprehensive modeling of the outcomes, only a limited assessment of the first-order change affects.

25x'25 SUMMARY CONCLUSIONS FOR FORWARD ACTION

- The potential costs of inaction warrant action.
- All sectors face cost changes associated with the move to a low-carbon future under a cap and trade system. At the present time we can only estimate the net outcomes for specific sectors.
- According to independent academic and government reports, the consequences of energy cost increases resulting from HR 2454 will be modest.
- Agriculture and forestry are the largest potential beneficiaries of a cap and trade offset program.
- There is no single impact answer applicable to all subsectors or even to all within a single subsector.

PATH FORWARD

25x'25 and the University of Tennessee Bio-Energy Analysis Group are conducting a new independent assessment of the economic consequences to agriculture and forestry under various climate change policy scenarios. The goal of the study is to provide an improved perspective on the farm and forest impacts of climate change legislation on a sector by sector basis. Initial results are expected in September 2009.

SUMMARY TABLES

Even for specialists with expertise in economic modeling and forecasting, it is difficult to interpret and compare statistical claims and statements that climate change advocates and opponents are attributing to cap and trade legislation. Two simple perspectives can potentially help.

First, the assumptions underlying any quantitative analysis define much of the ultimate outcome. To understand the results of any given study, one needs to carefully review the underlying assumptions behind the study and compare them with other sources who may be reporting different findings. Second, it is important to pay attention to the source of the reports. As a general rule, academic sources and government agencies have historically produced the most unbiased work. Policy organizations and stakeholder groups conducting or commissioning work may have predisposed opinions on the outcomes of studies they are commissioning, and potentially may have less rigorous standards for independent review and analysis.

The following two tables are intended to provide an overview of the differing sources of analysis about the effects of cap and trade legislation.

TABLE ONE: MACROECONOMIC STUDIES

Summarizes macroeconomic studies on cap and trade impacts

25x'25 CLIMATE CHANGE POLICY - SUMMARY OF COST STUDIES - MACROECONOMIC FINDINGS	
STUDY	SIGNIFICANT FINDINGS
EPA economic impact of WM. FEDERAL GOVERNMENT	The 5 and 10 year average household growth under W-M is .1 percentage points lower for 2015 and 2020 compared to baseline.
Congressional Budget Office (CBO) Cost estimate of H.R. 2454. FEDERAL GOVERNMENT	Estimates that the net annual economy-wide costs in 2020 would be about \$175 per household. Over 2010-2019 period enacting H.R. 2454 would reduce budget deficit by \$24 billion.
MIT Joint Program on the Science and Policy of Global Change. ACADEMIC	The report estimates the average annual cost per family of a carbon cap and trade program to be about \$340.
CRA International study of economic impacts of H.R. 2454. POLICY ADVOCATE	Report suggests H.R. 2454 will reduce GDP by \$350 Billion below baseline level, cut 2.5 million jobs per year, and reduce earnings for the average U.S. worker for \$390 per year.
Brooking's Fact Sheet of consequences of cap and trade. POLICY ADVOCATE	Finds total personal consumption reduced by .3% to .5%; reduced level of U.S. GDP by around 2.5% relative to what it would of been in 2050; and reduce employment by .5% across sectors
Environmental Defense Fund estimates of economic costs of cap and trade. ENVIRONMENTAL NON-PROFIT	The median projected impact of climate change policy in the U.S. is less than one-half of one percent of GDP for the period 2010-2030 and below three quarters of one percent of GDP through the middle of the century.

TABLE TWO: AG AND FORESTRY SECTOR STUDIES

Summarizes sector specific (agriculture and forestry) studies on impacts

CLIMATE CHANGE POLICY - SUMMARY OF SECTOR SPECIFIC FINDINGS	
STUDY	SIGNIFICANT FINDINGS
Agriculture Secretary Vilsack releases study that shows economic benefit from H.R. 2454. FEDERAL GOVERNMENT	USDA's economic analysis shows that "H.R 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
Iowa State University analysis of impact of climate legislation. ACADEMIC	The report projects an increased production cost of \$4.52/acre or 1.5 percent increase by 2002 for Iowa's corn and soybean farmers as a result of legislation. However, there are also benefits from legislation, primarily from carbon offsets. They estimated that no-till practices, on average, could make \$8/acre from selling soil carbon sequestration offsets (based on .4 MT per acre and \$20 per MT).
Food and Agricultural Policy Research Institute (FAPRI) estimates effects on Missouri crop prices.	Using CRA International's estimates of energy costs, FAPRI finds: Dryland corn increase by \$10.03 per acre in 2020 or increase of 3.2 percent, and \$25.44 per acre or 8.1 percent by 2050. Soybean operating costs rise by \$8.01 per acre in 2050 or 4.4. percent.
Doanne Advisory Services estimates economic impact on agriculture sector. STAKEHOLDERS	Study shows that higher prices for energy, as a result of legislation, will raise production costs for the major U.S. crops. "One scenario indicated energy price increases around 25 percent to 35 percent by 2020. Another measured the energy impact of the legislation at around 35 percent to 50 percent."
Nicholas Institute's independent response by McCarl and Murray to Doanne study. ACADEMIC	Doanne misleading because: 1. used Lieberman-Warner Bill larger energy sector impacts; 2. study uses a simple crop budget rather than a full structural economic model; and 3. study ignores potential positive factors including higher farm prices received by farmers, biofuels related income, and offsets as income.
Heritage Foundation cost estimates of H.R. 2454 to agriculture sector. POLICY ADVOCATES	The Heritage Foundation argues that as a result of higher diesel fuel, electricity costs, and other inputs, farm profits are expected to decline by 28 percent in 2012 and will be an average of 57 percent lower from 2012-2035.
PEW Center on Global Climate Change analysis of economic impacts resulting from Cap and Trade.	Finds that while energy intensive industries like manufacturing feel the greatest impact, agriculture and forestry sectors on the production side of the economy are expected to experience a positive output as a result of mitigation.

REFERENCES:

- Babcock, B.A. (Summer, 2009). Costs and Benefits to Agriculture from Climate Change Policy. Iowa Ag Review, vol. 15 No. 3. Retrieved on July 23, 2009 from http://www.card.iastate.edu/iowa_ag_review/summer_09/IAR.pdf
- Brookings Institute. (2009). Fact Sheet Consequences of Cap and Trade. Retrieved on July 25, 2009 from http://www.brookings.edu/~media/Files/events/2009/0608_climate_change_economy/20090608_cap_trade.pdf
- Congressional Budget Office Estimate (CBO). (2009). H.R. 2454 American Clean Energy and Security Act of 2009. Washington D.C.
- CRA International. (2009). Impact of the Economy of the American Clean Energy and Security Act of 2009 (H.R. 2454). Washington D.C.
- Dean, C. (2009). Survey Shows Gap Between Scientists and Public. NY Times July 9th, 2009. Retrieved on July 25, 2009 from <http://www.nytimes.com/2009/07/10/science/10survey.html>
- Doanne Advisory Services. (2008). An Analysis of the Relationship Between Energy Prices and Crop Production Costs. St. Louis, MO.
- Food and Agricultural Policy Research Institute of U. of Missouri (FAPRI). (2009). The Effect of Higher Energy Prices from H.R. 2454 on Missouri Crop Production Costs. FAPRI-MU Report #05-09.
- Heritage Foundation. (2009). Waxman-Markey: Homeowners, Small Businesses, and Farmers hit the Hardest. Retrieved on July 23, 2009 from <http://www.heritage.org/Research/EnergyandEnvironment/wm2553.cfm>
- Intergovernmental Panel on Climate Change (IPCC). (2007). *Climate Change 2007: Synthesis Report*. Cambridge, U.K.
- Jorgenson, D., Goettle, R., Wilcoxon, P., Sing Ho., M. (2008). *The Economic Costs of Market-based Climate Policy*. Washington D.C.: PEW Center on Global Climate Change.
- Keohane, N. (2008). *What will it Cost to Protect Ourselves from Global Warming?* Washington D.C.: Environmental Defense Fund.
- Murray, B.C. (2009). Commentary on Impacts of Carbon Prices and Energy Costs on Returns to Agriculture Producers. Nicholas Institute for Environmental Policy Solutions.
- Paltsev, S., J.M. Reilly, H.D. Jacoby and J.F. Morri (2009). The Cost of Climate Policy in the United States. MIT Joint Program on the Science and Policy of Global Change Report No. 173.
- PEW Center on Global Climate Change. (2009). Voters Support Congressional Action on Comprehensive Energy and Global Warming Legislation. Retrieved on July 25, 2009 from http://www.pewglobalwarming.org/newsroom/release_14may2009.html
- Reilly, J. (2009). Letter to John Boehner, Office of the House Republican Leader. Global Science Policy Change MIT. Retrieved on July 25, 2009 from <http://thinkprogress.org/wp-content/uploads/2009/04/republican.pdf>
- United States Climate Change Science Program (USCCSP). (2008). The Effects of Climate Change on Agriculture, Land Resources, Water Resources, and Biodiversity. Washington D.C.: United States Department of Agriculture and United States Climate Change Science Program
- US. Department of Agriculture (USDA) Press Release. (July, 2009). Agriculture Secretary Vilsack Releases Study Showing Economic Benefit to Farmers and Ranchers from Climate Change Legislation. Retrieved from <http://www.usda.gov/wps/portal?contentidonly=true&contentid=2009/07/0331.xml>
- U.S. EPA. (2009) Analysis of Clean Energy and Security Act of 2009 (H.R. 2454). Washington D.C.
- United States Global Change Research Program. (2009). Global Climate Change Impacts in the United States. Washington D.C.