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## Kyoto is Nearing Ratification: Carbon Storage Opportunity?

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# Cornhusker Economics

## Cooperative Extension

Institute of Agriculture & Natural Resources  
Department of Agricultural Economics  
University of Nebraska – Lincoln

### Kyoto is Nearing Ratification: Carbon Storage Opportunity?

According to a recent Washington Post article, Senators McCain (R-Arizona) and Lieberman (D-Connecticut) plan to hold a hearing early on in the new Senate proceedings about proposed legislation that would be introduced later this year to establish a “cap-and-trade” system for greenhouse gas emissions in the United States. Several other countries are already involved in developing cap-and-trade systems, generally trading in carbon equivalents. Somewhat ironically, in that the current Bush Administration has opposed any kind of mandatory caps (although it has encouraged voluntary trading), the model for such a system is the U.S. sulfur emissions allowances market that was initiated during the previous Bush Administration. The U.S. sulfur emissions trading market is arguably the most successful public policy experiment on the planet earth to use markets to enhance environmental quality. Will we see this kind of system put in place for greenhouse gases in the U.S. anytime soon? Will there be agricultural opportunities to store carbon? In order to speculate in a reasonable way, we need to place this in a world-wide context.

First, we have to understand that the Kyoto Protocol which caps emissions of greenhouse gases in all the countries who sign-on, is very near ratification. The minimum number of 55 signees has been exceeded, with 100 countries now having ratified. Also, the requirement that at least 55 percent of emissions in developed countries be covered by the countries who sign has almost been met. All the largest emitters in the per capita sense (see “Emissions Check”) from Mexico to Canada, along with a number of other smaller industrialized countries (e.g., New Zealand) have signed, which puts the total at 43.7 percent. The 17.4 percent in Russia, with expectations Russia will sign in early 2003, will bring the Kyoto Protocol into effect. Among developed nations, only Australia and the United States have declared they will not ratify.<sup>1</sup>

Second, as noted, several countries have already taken

Market Report	Yr Ago	4 Wks Ago	1/10/03
<b><u>Livestock and Products,</u></b>			
<b><u>Average Prices for Week Ending</u></b>			
Slaughter Steers, Ch. 204, 1100-1300 lb			
Omaha, cwt	\$66.07	\$72.19	\$77.69
Feeder Steers, Med. Frame, 600-650 lb			
Dodge City, KS, cwt	89.36	86.49	88.71
Feeder Steers, Med. Frame 600-650 lb, Nebraska Auction Wght. Avg	93.01	89.79	89.04
Carcass Price, Ch. 1-3, 550-700 lb			
Cent. US, Equiv. Index Value, cwt	102.79	111.96	119.52
Hogs, US 1-2, 220-230 lb			
Sioux Falls, SD, cwt	37.50	30.50	*
Feeder Pigs, US 1-2, 40-45 lb			
Sioux Falls, SD, hd	*	*	*
Vacuum Packed Pork Loins, Wholesale, 13-19 lb, 1/4" Trim, Cent. US, cwt	103.70	92.78	85.47
Slaughter Lambs, Ch. & Pr., 115-125 lb			
Sioux Falls, SD, cwt	60.95	*	86.75
Carcass Lambs, Ch. & Pr., 1-4, 55-65 lb FOB Midwest, cwt	130.27	164.39	164.83
<b><u>Crops,</u></b>			
<b><u>Cash Truck Prices for Date Shown</u></b>			
Wheat, No. 1, H.W.			
Omaha, bu	3.13	4.06	3.52
Corn, No. 2, Yellow			
Omaha, bu	1.93	2.26	2.21
Soybeans, No. 1, Yellow			
Omaha, bu	4.24	5.46	5.35
Grain Sorghum, No. 2, Yellow			
Kansas City, cwt	3.66	4.61	4.43
Oats, No. 2, Heavy			
Minneapolis, MN, bu	2.19	2.14	2.32
<b><u>Hay,</u></b>			
<b><u>First Day of Week Pile Prices</u></b>			
Alfalfa, Sm. Square, RFV 150 or better			
Platte Valley, ton	115.00	150.00	150.00
Alfalfa, Lg. Round, Good			
Northeast Nebraska, ton	75.00	80.00	80.00
Prairie, Sm. Square, Good			
Northeast Nebraska, ton	105.00	117.50	117.50
* No market.			



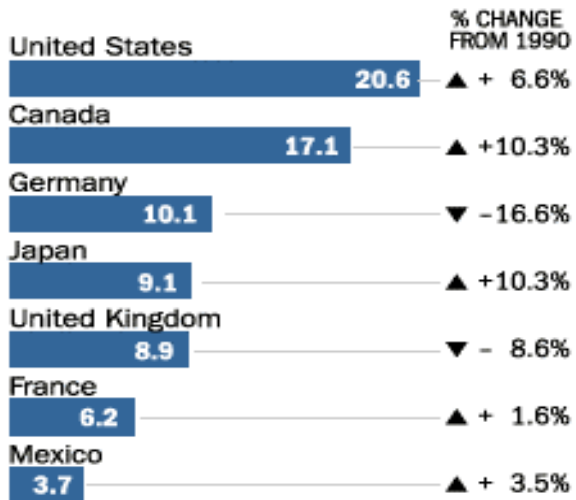
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## EMISSIONS CHECK

The U.S. continues to lead the world in emissions of CO<sub>2</sub>, the gas widely cited as the primary cause of global warming. Metric tons of CO<sub>2</sub> emitted per capita:



Source: International Energy Agency

steps toward emissions trading. Denmark and the United Kingdom (UK) already have limited trading in progress. Trades have been typically revealing values of around \$7 to \$20 per metric ton in the UK. The European Union (EU) has announced that emissions trading will be operating throughout the region by 2005. Each company in the EU will be given a quota reflecting a cutback in emissions of up to 45 percent below the 1990 base and each will have until 2008 to fully engage the new market, at which time participation becomes mandatory. Starting in 2008, fines of \$100 will be paid for each metric ton not covered by either original quota or by purchases of quota from some other company. The Tokyo Stock Exchange is planning to implement trading in greenhouse gas allowances as early as 2005.

Third, the Bush Administration plan issued in February of 2002 is asking for reductions in U.S. greenhouse gas emissions, but relatively rather than absolutely. The focus is on reducing the ratio of greenhouse gas emissions per unit of gross national product by 18 percent by 2012. This would allow net overall emissions to grow, but each sector would be asked to cut emissions per dollar produced. Also, the Administration is posturing itself to encourage greenhouse gas allowance trading in the U.S. to help achieve this reduction. Within hours of the close of the most recent meeting of the United Nations Framework Convention Conference of the Parties (COP6) in early November, 2002, the Administration announced that a new system for measuring greenhouse gas emissions in the U.S. would be introduced soon. Accurate measurement of emissions will be essential to a well-functioning market in emission allowances and offsets (storage included). The Business

Roundtable (a consortium of U.S. business firms) announced at the same time that voluntary trading would be started soon. Intriguingly, several U.S. companies including Alcoa, Boeing, BP, Shell, American Electric Power and DuPont through the Pew Center on Global Climate Change have had a hand in the drafting of the McCain-Lieberman legislation currently in the U.S. Senate.<sup>2</sup> Also, the U.S. Department of Agriculture is holding two meetings this month on the development of accounting rules to measure carbon offsets for carbon stored in U.S. agricultural and forestry lands. Assistant Secretary of Agriculture Moseley noted at a climate change conference late last year that while companies will likely be looking for offsets, the “demand for greenhouse gas offsets, especially early on, is likely to be modest.”<sup>3</sup> As long as there are no mandatory caps on emissions, even this modest proclamation is perhaps even an overstatement.

So, how soon? Will we soon see an increased demand for carbon storage in agricultural land? The McCain-Lieberman proposal bears close watching. If it does somehow make it through the legislative process especially in light of expected opposition by the Bush Administration, we could clearly see a market with the efficiency of the sulfur market evolving over the next dozen years or so. Even if not, however, one needs to keep a close watch on international developments and opportunities; industrial sectors and individual firms in other countries will likely be looking for ways to offset their emissions. Keep checking <http://www.carbon.unl.edu> for the latest developments.

Resources:

<sup>1</sup> <http://unfccc.int/press/prel2002/pressrel181202.pdf>

<sup>2</sup> <http://www.washingtonpost.com/wp-dyn/articles/A15015-2003Jan5.html>

<sup>3</sup> <http://www.usda.gov/news/releases/2002/11/0482.htm>

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