The Kyoto Protocol penalizes developed countries, while allowing developing countries unfettered growth.

TERMS OF KYOTO

Concerned about global warming, 38 industrial countries negotiated the Kyoto Protocol in Kyoto, Japan in 1997. The treaty calls for:

- A 7 percent cut in U.S. greenhouse gas emissions — mostly carbon dioxide — below 1990 levels
- Carbon permit fees tied to fuel use to accomplish the 7 percent goal

Fuels are targeted because carbon-containing fuels release carbon dioxide when they are used or burned. Some scientists believe this is a major cause of global warming.

Under Kyoto, carbon permit fees would be applied to fuel users in developed countries from 2008 through 2012. Estimates of the fees range from $100 to $265 per metric ton (mt) of carbon.

FARMS AND FUEL

Across America, family farms would feel the full force of Kyoto. Farms of every type depend on fuel.

Fuels and lubricants keep machinery running and get products to market. Electricity — generated by burning fossil fuels — dries grain and warms livestock. Irrigation is made possible by electrical- and diesel-powered pumps. Fuels power the manufacture of fertilizer and pesticides, the costs of which are passed on to farmers.

The impact of carbon permit fees would vary from farm to farm. But individual farmers everywhere — and their state farm economies — would bear the price of the international agreement.

From turkeys and pigs to corn, soybeans, wheat, and potatoes, farm products need fuel. Through fuel-related fees, farmers would pay the high price of Kyoto.

U.S. economic impacts would be severe. The cost of doing business would rise nationwide, driven up by fees based on fuel use.

ECONOMIC IMPACTS

In theory, fees applied to fuel use would slow fuel consumption. That might happen. But the real slowdown would be in U.S. economic growth.

If ratified by the Senate, or enacted by executive order or regulation, Kyoto would hamper all U.S. fuel-consuming businesses. Some businesses would not survive. For all, prices would rise.

All sectors of the economy — manufacturing, farming, retail, education, government, housing — would suffer.

BETTER ANSWERS

Scientists disagree about the causes of global warming and the need for the Kyoto Protocol. Less drastic, longer term measures may be more appropriate:

- Expand voluntary emission reductions
- Support research and education on climate change
- Develop and deploy new technologies to reduce greenhouse emissions

Voluntary emission reductions, research, education, and new technologies may be far better answers than the Kyoto Protocol.

LIGNITE RESEARCH COUNCIL
Bismarck, North Dakota

For more information, contact:

Clifford R. Porter
Director & Technical Advisor
Lignite Research Council
1016 E. Owens Avenue, Suite 200
P.O. Box 2277
Bismarck, North Dakota 58502

Ph: (701) 258-7117
Fax: (701) 258-2755
Web: www.lignite-energy-council.org
E-mail: cporter@btigate.com

This publication summarizes three 1999 reports on state farm energy use and the Kyoto Protocol, and a three-state summary document, all researched for the Lignite Research Council by Douglas Tiffany and Dwight Aakre. Tiffany is a research fellow in the Department of Applied Economics at the University of Minnesota. Aakre is a farm management specialist in the Department of Agricultural Economics at North Dakota State University. Contact the Lignite Research Council for more information or for copies of the original documents.

Energy and Agriculture

The Kyoto Protocol

and Its High Cost to Farmers

A Primer on the Kyoto Protocol
and Its Impact on Farms
in Minnesota and the Dakotas

LIGNITE RESEARCH COUNCIL
Bismarck, North Dakota

The Kyoto Protocol would significantly reduce farm income in Minnesota and the Dakotas.[1,2]

Carbon permit fees would cut total state farm income by up to 6 percent in Minnesota and South Dakota and up to 9.5 percent in North Dakota.

Farmers in the three states would pay maximum annual fees totalling more than $1.1 billion. More than 150,000 farm families would be affected.

Some farms would pay more, some less, based on commodity energy use. But every farm would pay.

Minnesota farmers would pay almost half the annual three-state fee total — up to $529 million. North Dakota farmers, on their large acreages, would pay the most per farm, on average. Statewide impacts would be most severe in the two Dakotas, where farms account for a higher percent of the gross state product.

1. All state information in this brochure is based on 1996 data.
2. All ranges of impacts/costs are based on estimated minimum carbon permit fees of $100/mt and maximum of $265/mt (mt = metric ton of carbon).

Carbon Permit Fee Impacts

MINNESOTA

TYPICAL ANNUAL PER-FARM FEES

South Central (Swine Farrow-Finish): *$12,900-$34,100*

Central (Dairy): *$7,400-$19,500*

TOP FEE-PAYING COMMODITIES

Based on Total Annual Fees:

Corn: *$88.4-$234.2 million*

Soybeans: *$20.8-$55.0 million*

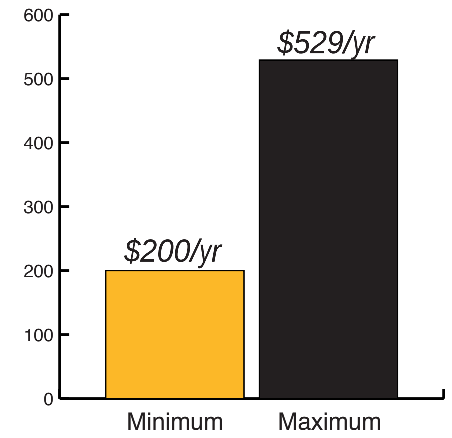
Based on Annual Fees Per Unit of Production:

Irrigated Potatoes: *$36.10-$95.60/acre*

Milk: *$26.80-$72.60/head*

ANNUAL REDUCTION IN TOTAL FARM INCOME

(MILLION $)



NORTH DAKOTA

TYPICAL ANNUAL PER-FARM FEES

Red River Valley (Cash Crops): *$10,500-$27,800*

Central (Irrigated Potatoes): *$5,100-$13,400/pivot*

TOP FEE-PAYING COMMODITIES

Based on Total Annual Fees:

Wheat: *$60.0-$159.1 million*

Barley: *$13.4-$35.6 million*

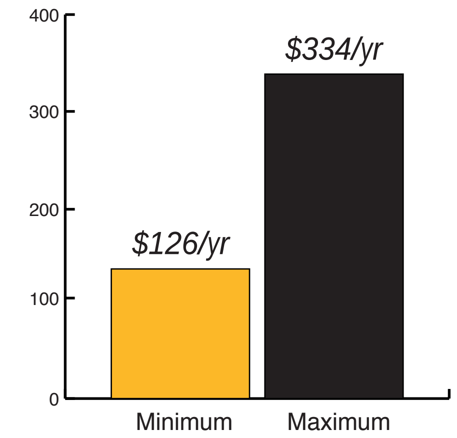
Based on Annual Fees Per Unit of Production:

Sugarbeets: *$17.80-$47.20/acre*

Irrigated Potatoes: *$39.00-$103.30/acre*

ANNUAL REDUCTION IN TOTAL FARM INCOME

(MILLION $)



SOUTH DAKOTA

TYPICAL ANNUAL PER-FARM FEES

Eastern (Beef Cattle Finishing): *$5,900-$15,700*

Central (Cash Crops): *$5,800-$15,500*

TOP FEE-PAYING COMMODITIES

Based on Total Annual Fees:

Corn: *$30.2-$80.0 million*

Wheat: *$19.8-$52.6 million*

Based on Annual Fees Per Unit of Production:

Corn: *$8.20-$21.60/acre*

Sunflowers: *$5.23-$13.85/acre*

ANNUAL REDUCTION IN TOTAL FARM INCOME

(MILLION $)