

# **UJAE Summary**

## **The Impact of Meeting the Kyoto Protocol on Energy Markets And the Economy By Data Resources Inc.**

### **Background**

This study was conducted by Data Resources Inc., using their sophisticated computer model of the US economy. It was sponsored by the United Mine Workers of America and the Bituminous Coal Operators of America to forecast the economic effect of the Kyoto Protocol, negotiated by US and other countries under the auspices of the United Nations in December 1997.

The Kyoto Protocol, if put into force, would require the U.S. is to reduce emissions of carbon dioxide and other greenhouse gases 7 percent below the level of 1990 in the 2008-2010 period. Since population and economic growth mean higher emissions, the actual cut required is about 30 percent below the level that would take place in 2010. Some of that cut can be made through more efficient use of energy, but to achieve the full reduction, energy prices must rise, and Americans will have to cut back their energy use.

There is much uncertainty as to the burden on the American economy as a result of implementation of the Kyoto Protocol primarily because the emission permit trading system rules have not yet been worked out. A permit trading system would allow the US to purchase at least some emission rights from other countries rather than shifting the energy mix or reducing fossil fuel consumption.

DRI analyzed three cases, which differ with respect to the amount of reductions that must be achieved by either shifting the energy mix or curtailing fossil fuel usage.

- Case 1: 77% of U.S. CO<sub>2</sub> reductions must be achieved by either shifting the energy mix or curtailing fossil fuel usage.
- Case 2: 58% of U.S. CO<sub>2</sub> reductions must be achieved by either shifting the energy mix or curtailing fossil fuel usage
- Case 3: 30% of U.S. CO<sub>2</sub> reductions must be achieved by either shifting the energy mix or curtailing fossil fuel usage.

It is almost certain that some kind of emissions trading system will be negotiated. At this point, the European Union insists that trading be limited to prevent the US and other countries from buying permits rather than making the full reductions in emissions. The US, on the other hand, wants an unrestricted trading system.

The US is likely to be outvoted for two reasons. Environmentalists are very critical of the US position because they prefer domestic action over international trading. Since developing countries believe the burden of emission reductions should be fall on developed countries, they are likely to side with the EU for a more restrictive trading system.

The tables presented below are for the economic effect of the DRI Case 2, which requires the US to reduce meet 58 percent of their treaty reduction requirements, purchasing the rest from other countries. Carbon permits would cost \$113 in 2010.

**Effect of the Kyoto Protocol on the US Economy  
Treaty with Case 2 compared to Economy with No Treaty**

	2005	2010
Total production of goods and services (GDP)	Down \$111 billion	Down \$107 billion
Consumer buying	Down \$88 billion	Down \$100 billion
Light vehicle sales (number of vehicles)	Down 600,000	Down 500,000
<b>Employment (nonfarm)</b>	<b>Down 1.3 million</b>	<b>Down 1.1 million</b>
Federal Budget Surplus	Down \$21.3 billion	Down \$2.8 billion
Energy prices	Up 18%	Up 28%
Electricity Prices	Up 38%	Up 54%

**State-by-State Job Loss Caused by Implementation of the Kyoto Protocol  
(DRI Case 2)**

Rank	State	2005	2010	Rank	State	2005	2010
1	California	-111,827	-80,934	27	Iowa	-16,445	-13,028
2	Texas	-88,491	-110,350	28	Oregon	-16,414	-3,430
3	Florida	-72,165	-47,953	29	Nevada	-16,265	-18,890
4	North Carolina	-64,832	-61,667	30	Mississippi	-15,564	-16,326
5	New York	-61,334	-43,424	31	Arkansas	-12,523	-13,189
6	Illinois	-58,719	-53,170	32	Kansas	-12,522	-9,896
7	Ohio	-56,936	-49,852	33	West Virginia	-11,570	-12,717
8	Virginia	-54,926	-51,575	34	Oklahoma	-11,380	-12,413
9	Pennsylvania	-46,434	-40,842	35	Nebraska	-10,016	-8,182
10	Georgia	-44,084	-40,508	36	Utah	-8,273	-3,713
11	Tennessee	-37,923	-43,268	37	Connecticut	-7,878	110
12	Michigan	-33,845	-21,968	38	New Mexico	-7,507	-6,965
13	Indiana	-33,754	-30,960	39	Idaho	-7,291	-6,271
14	Kentucky	-33,341	-38,408	40	New Hampshire	-6,532	-6,469
15	Maryland	-31,584	-29,509	41	North Dakota	-5,138	-5,971
16	Alabama	-30,616	-37,509	42	Wyoming	-5,023	-6,464
17	New Jersey	-26,424	-26,612	43	Montana	-4,987	-4,134
18	Minnesota	-25,883	-20,367	44	South Dakota	-4,647	-4,764
19	South Carolina	-25,711	-31,039	45	Delaware	-4,341	-4,216
20	Wisconsin	-25,501	-21,262	46	Hawaii	-4,277	-3,010
21	Massachusetts	-23,839	-15,719	47	Maine	-3,534	-268
22	Washington	-22,438	-4,608	48	Rhode Island	-3,458	-2,430
23	Missouri	-21,727	-16,631	49	Vermont	-2,593	-2,493
24	Arizona	-19,698	-13,326	50	DC	-2,570	216
25	Colorado	-17,689	-12,654	51	Alaska	-1,089	-1,026
26	Louisiana	-17,274	-25,791		<b>Total</b>	<b>-1,288,832</b>	<b>-1,135,845</b>