Illinois AFL-CIO
IBEW Local Unions 15, 51, 702 and 1306
United Mine Workers of America

What Does the Warner-Lieberman Bill (S.2191) Imply for the MGA Accords?

After four days of debate in June 2008, the U.S. Senate failed to adopt the Manager's Amendment to S. 2191, the Lieberman-Warner Climate Security Act of 2008. The emission targets and timetables in S. 2191 are very similar to those under consideration by the Midwest Governors Association (MGA) Accord process, including a 19% reduction of greenhouse gas emissions from 2005 levels by 2020.

S. 2191 incorporated an upstream allocation of allowances to oil and gas sources, with downstream allocations to electric utility and other stationary sources, states, and non-emitting sources. It also employed allowance auctions on a gradually increasing scale, using the proceeds to promote clean energy technologies, energy conservation and efficiency, and other causes.

The labor unions involved in the MGA process support enactment of comprehensive national climate change legislation, such as the bipartisan Bingaman-Specter bill. We are concerned that state or regional climate change "cap-and-trade" programs could duplicate prospective federal legislation, deter investments in new advanced clean coal technologies, and lead to large-scale switching from coal to natural gas.

DOE/EIA Analysis of S. 2191

U.S. DOE's Energy Information Administration released an analysis of the potential economic impacts of S. 2191 in April 2008.[1] This study estimates the GDP and industrial shipment losses expected in 2020 and 2030 under a "core" case and several alternative cases. DOE's study shows that S. 2191 would substantially reduce GDP and lead to significant net job losses due to the effects of higher energy prices and the absence of any "safety valve" to limit the costs of CO2 allowances.

S. 2191 offered bonus allowances to power generation facilities employing carbon capture and storage (CCS) technologies. However, due to the stringency of the 2020 deadline, and the inability to deploy CCS on a widespread basis by 2020, DOE concluded that S. 2191 would sharply reduce the use of coal across

[1] U.S. DOE, Energy Information Administration, "Energy Market and Economic Impacts of S. 2191, the Lieberman-Warner Climate Security Act of 2007 (April 2008).

the nation. The six MGA Accord signatory states (MN, IA, IL, KS, MI, WI) rely on coal for the majority of their electric generation.

Impacts on Fuel Diversity

EIA's analysis indicates that coal production for electric generation would be curtailed due to the minimal availability of CCS technology when the 2020 reductions are required. Similar impacts can be anticipated if the MGA Accord states adopt an aggressive emission reduction target for 2020.

The table below summarizes EIA's findings for electricity generated by coal and natural gas under its business-as-usual Reference Case, Core S. 2191 case, and "Limited Alternatives" case for 2020 and 2030. EIA's core case assumes that nuclear generation will triple by 2030. The limited alternatives case constrains coal-based CCS, new nuclear power, and renewables generation to reference case levels.

EIA S.2191 Projections of Coal and Natural Gas Electric Generation, 2020 and 2030
(Billions of Kilowatt-Hours and Pct. Chg. from 2006)

	2006	2020 Ref. Case	2020 Core Case	2020 Ltd. Alter.	2030 Ref. Case	2030 Core Case	2030 Ltd. Alter.
Coal	1,988	2,357 +19%	1,890 -5%	1,606 -19%	2,838 +20%	703 -65%	703 -65%
N.Gas	806	833 +3%	761 -6%	1,094 +36%	741 -8%	427 -47%	1,558 +93%

Source: DOE/EIA, n.1, Table ES2.

These findings, showing a 65% reduction in coal use in both the core and limited alternatives cases from 2006 levels, underscore our concerns about the potential impacts of the MGA Accord on fuel diversity. We note the potential for huge increases in the demand for natural gas in the limited alternatives case, with adverse implications for other industries and consumers dependent on scarce gas resources. If EIA's core case assumptions about a tripling of nuclear power generation prove unrealistic, utilities would have little choice but to switch from coal to natural gas or imported LNG on a massive, unprecedented scale.

Manufacturing and Other Industrial Impacts

Higher electricity and other fuel costs would depress demand for industrial output and result in job losses across the economy. EIA's analysis compares the reduction of the value of industrial shipments (excluding services) for S. 2191 and S. 1766 (Bingaman-Specter), as summarized below for the S. 2191 core and limited alternatives cases:

Impacts of S. 2191 and S. 1766 on Industrial Shipments, 2020 and 2030
(In billions of 2000 dollars and pct. change from reference case)

	2020 Core Case	2020 Ltd. Alter.	2030 Core Case	2030 Ltd. Alter.
S.2191	-$100 -1.4%	-$153 -2.1%	-$233 -2.9%	-$354 -4.4%
S.1766 Update	-$55 -0.8%	n.a.	-$139 -1.7%	n.a.

Source: DOE/EIA, n. 1, Table 4.

The adverse impacts of the more moderate Bingaman-Specter bill on industrial shipments (and by implication, on industrial employment) are roughly one-half those projected for the S. 2191 core case, and one-third those for the limited alternatives case.

At 2002 productivity rates, each U.S. manufacturing worker produced shipments or sales receipts of some $266,000 annually.[2] At this rate, one billion dollars of reduced manufacturing output translates to approximately 3,750 direct job losses. A loss of $354 billion of industrial shipments could represent the loss of 1.3 million jobs. Multiplier effects for indirect job losses are typically a factor of 2 to 3 times direct job losses, implying total potential job losses of 2.7 to 3.9 million American workers.

Applying DOE's Findings to the MGA Accord

While many details of the MGA Accord remain to be developed, it is now considering targets and timetables similar to those in S. 2191, and likely will employ a cap-and-trade system with allowance auctions for stationary sources. EIA's analysis of S. 2191 thus provides order-of-magnitude indications of the potential impacts of the Accord on participating states.

Appendix Table 1 contains an illustrative analysis of the potential economic impacts of the MGA Accord on the six signatory states and two observer states. Together, these eight states accounted for 18% of U.S. GDP in 2007. Due to their heavy reliance on coal, it is reasonable to apportion the results of the DOE/EIA study to the MGA states based on GDP. States with a high degree of dependence on coal generation are most vulnerable to major fuel displacement and increased energy costs. For this reason, a pro rata GDP allocation of EIA's results probably understates the impact of S. 2191 on the MGA region.

[2] U.S. Bureau of the Census, http://www.census.gov/econ/census02/data/ratios/index.htm

The following table summarizes the state GDP, industrial shipment and job losses in the six MGA Accord states plus the two observer states, based on a pro rata GDP allocation of EIA's analysis. The results are based on EIA's core and limited alternatives cases. Job losses are estimated based on 2002 manufacturing productivity of $266,000 gross output per worker.

GDP, industrial shipment and job losses potentially resulting from implementation of S.2191 in MGA Accord states, 2030
(GDP and industrial shipments in Bil. 2000 $)

	GDP		Indus.	shipments	Jobs	
	Core	Ltd Alt	Core	Ltd Alt	Core	Ltd Alt
MN	-$1.1	-$2.5	-$4.4	-$6.6	-16,400	-24,900
IA	-$0.6	-$1.3	-$2.2	-$3.3	-8,200	-12,400
IL	-$2.6	-$6.0	-$10.3	-$15.7	-38,800	-59,000
MI	-$1.7	-$3.9	-$6.7	-$10.2	-25,300	-38,400
WI	-$1.0	-$2.3	-$4.0	-$6.0	-14,900	-22,700
KS	-$0.5	-$1.1	-$2.0	-$3.0	-7,400	-11,200
Subtotal	-$7.5	-$17.2	-$29.5	-$44.9	-111,000	-168,600
IN	-$1.1	-$2.5	-$4.2	-$6.4	-15,900	-24,100
OH	-$2.0	-$4.6	-$7.9	-$12.0	-29,800	-45,300
Subtotal	-$3.1	-$7.1	-$12.1	-$18.5	-45.700	-69,400
Total	-$10.6	-$24.3	-$41.7	-$63.3	-156,700	-238,000

Source: Appendix table 1.

EIA's analysis implies that greenhouse gas emission reductions similar to S. 2191 imposed on the six MGA Accord states could result in GDP losses on the order of $7 to $17 billion by 2030, with reductions of industrial shipments ranging from $30 to $45 billion. Estimated job losses associated with reduced industrial output range from 111,000 to 168,600. Roughly one-third of these impacts occur in Illinois.

The prospective impacts on the economies of Indiana and Ohio are likewise substantial, with GDP reductions ranging from $3 to $7 billion, industrial shipment losses of $12 to $18 billion, and related industrial job losses of 44,000 to 69,000 workers.

Due to probable leakage effects, with power and jobs flowing out of MGA Accord states to other states without similar programs, the observer states likely would receive significant direct and indirect net economic benefits by remaining outside of the MGA Accord process. These states should pursue their own independent analyses of these impacts before committing to the MGA Accord.

Observations

The MGA Accord could result in substantial economic harm to the industrial Midwest, the region that already has experienced the largest job losses in the nation due to manufacturing dislocations. Pledges to adopt requirements more stringent than federal climate rules will not attract new investments and jobs to the region.

The MGA Accord process should focus on greenhouse gas emission reduction programs that are not likely to be covered by federal legislation, such as improved transportation infrastructure and a range of energy conservation and efficiency programs in the residential, commercial and industrial sectors. It should avoid potential overlap or duplication of prospective federal climate regulation of stationary sources. Any cap-and-trade program and auction requirements should sunset with the enactment of federal legislation. New York, for example, recently pledged to repeal or amend its RGGI auction program with enactment of federal climate legislation:

> A number of commenters recommend that a sunset provision be included that is contingent upon the enactment of a Federal cap and trade or other climate change program. The Department and the Authority anticipate that they will repeal or amend the regulations to comport with the Federal program, in the event such a program is established. NYS Register, May 7, 2008, at 30.

The labor participants in the MGA Accord process generally support the energy development goals of the MGA Platform, including new investments in CO2 pipelines, IGCC and CCS. We are concerned, however, that the implementation of the MGA Accord through a cap-and-trade program could chill needed investments in clean energy technologies by imposing unrealistic emission reduction targets and timetables that will lead energy firms to focus on reduced coal utilization and increased natural gas generation as their principal means for compliance. We look forward to the detailed economic modeling that ICF will provide to the MGA to guide further discussion.

APPENDIX TABLE 1

ANALYSIS OF ECONOMIC IMPACTS OF WARNER-LIEBERMAN CLIMATE BILL S.2191
ON MGA ACCORD STATES AND OBSERVERS, BASED ON US DOE/EIA
ANALYSES OF S.2191 (-19% REDUCTION BELOW 2005 EMISSIONS BY 2020)

MGA ACCORD STATES 2007 GDP AS PCT OF US GDP (REAL 2000 $)

STATE	GDP (BIL. $)	PCT OF US GDP
MGA ACCORD STATES:		
MN	$214.9	1.9%
IA	$107.0	0.9%
IL	$508.6	4.4%
MI	$330.8	2.9%
WI	$195.4	1.7%
KS	$96.5	0.8%
SUBTOTAL	$1,453.2	12.7%
MGA OBSERVERS:		
IN	$207.6	1.8%
OH	$390.3	3.4%
SUBTOTAL	$597.9	5.2%
TOTAL ACCORD/OBSERVERS	$2,051.1	17.9%
TOTAL US GDP 2007	$11,467.5	100.0%

US DOE/EIA ANALYSIS OF S.2191 IMPACTS ON US GDP AND INDUSTRIAL SHIPMENTS
UNDER CORE, HIGH COST, AND LIMITED ALTERNATIVES CASES

GDP IMPACTS OF S.2191
(IN BILLIONS OF 2000 $)

	2020	2030
CORE	($43.0)	($59.0)
HIGH COST	($63.0)	($120.0)
LTD ALTERNATIVES	($76.0)	($136.0)

INDUSTRIAL SHIPMENT IMPACTS OF S.2191
(IN BILLIONS OF 2000 $)

	2020	2030
CORE	($100.0)	($233.0)
HIGH COST	($130.0)	($313.0)
LTD ALTERNATIVES	($153.0)	($354.0)

IMPLIED IMPACTS OF S.2191 ON GDP OF MGA ACCORD
STATES BASED ON PRO RATA GDP ALLOCATION

GDP IMPACTS 2020 (BIL. 2000 $)

	CORE	HI COST	LTD ALT
MGA ACCORD STATES:			
MN	($0.8)	($1.2)	($1.4)
IA	($0.4)	($0.6)	($0.7)
IL	($1.9)	($2.8)	($3.4)
MI	($1.2)	($1.8)	($2.2)
WI	($0.7)	($1.1)	($1.3)
KS	($0.4)	($0.5)	($0.6)
SUBTOTAL	($5.4)	($8.0)	($9.6)
MGA OBSERVERS:			
IN	($0.8)	($1.1)	($1.4)
OH	($1.5)	($2.1)	($2.6)
SUBTOTAL	($2.2)	($3.3)	($4.0)
TOTAL ACCORD/OBSERVERS	($7.7)	($11.3)	($13.6)

GDP IMPACTS 2030 (BIL. 2000 $)

	CORE	HI COST	LTD ALT
MGA ACCORD STATES:			
MN	($1.1)	($2.2)	($2.5)
IA	($0.6)	($1.1)	($1.3)
IL	($2.6)	($5.3)	($6.0)
MI	($1.7)	($3.5)	($3.9)
WI	($1.0)	($2.0)	($2.3)
KS	($0.5)	($1.0)	($1.1)
SUBTOTAL	($7.5)	($15.2)	($17.2)
MGA OBSERVERS:			
IN	($1.1)	($2.2)	($2.5)
OH	($2.0)	($4.1)	($4.6)
SUBTOTAL	($3.1)	($6.3)	($7.1)
TOTAL ACCORD/OBSERVERS	($10.6)	($21.5)	($24.3)

IMPLIED IMPACTS OF S.2191 ON INDUSTRIAL SHIPMENTS
OF MGA ACCORD STATES BASED ON PRO RATA GDP ALLOCATION

	INDUS. SHIPMENT IMPACTS 2020 (BIL. 2000 $)		
	CORE	HI COST	LTD ALT
MGA ACCORD STATES:			
MN	($1.9)	($2.4)	($2.9)
IA	($0.9)	($1.2)	($1.4)
IL	($4.4)	($5.8)	($6.8)
MI	($2.9)	($3.8)	($4.4)
WI	($1.7)	($2.2)	($2.6)
KS	($0.8)	($1.1)	($1.3)
SUBTOTAL	($12.7)	($16.5)	($19.4)
MGA OBSERVERS:	$-0.0	$-0.0	$-0.0
IN	($1.8)	($2.4)	($2.8)
OH	($3.4)	($4.4)	($5.2)
SUBTOTAL	($5.2)	($6.8)	($8.0)
TOTAL ACCORD/OBSERVERS	($17.9)	($23.3)	($27.4)

	INDUS. SHIPMENT IMPACTS 2030 (BIL. 2000 $)		
	CORE	HI COST	LTD ALT
MGA ACCORD STATES:			
MN	($4.4)	($5.9)	($6.6)
IA	($2.2)	($2.9)	($3.3)
IL	($10.3)	($13.9)	($15.7)
MI	($6.7)	($9.0)	($10.2)
WI	($4.0)	($5.3)	($6.0)
KS	($2.0)	($2.6)	($3.0)
SUBTOTAL	($29.5)	($39.7)	($44.9)
MGA OBSERVERS:			
IN	($4.2)	($5.7)	($6.4)
OH	($7.9)	($10.7)	($12.0)
SUBTOTAL	($12.1)	($16.3)	($18.5)
TOTAL ACCORD/OBSERVERS	($41.7)	($56.0)	($63.3)

IMPLIED JOB LOSS IMPACTS OF S.2191 ON MGA ACCORD STATES BASED
ON PRO RATA ALLOCATION OF INDUSTRIAL SHIPMENT LOSSES AND
MANUFACTURING PRODUCTIVITY OF $266,000 GROSS OUTPUT PER JOB (2002 DATA)

	POTENTIAL JOB LOSSES 2020		
	CORE	HI COST	LTD ALT
MGA ACCORD STATES:			
MN	(7,045)	(9,159)	(10,779)
IA	(3,508)	(4,560)	(5,367)
IL	(16,673)	(21,676)	(25,510)
MI	(10,845)	(14,098)	(16,592)
WI	(6,406)	(8,328)	(9,801)
KS	(3,164)	(4,113)	(4,840)
SUBTOTAL	(47,640)	(61,932)	(72,890)
MGA OBSERVERS:			
IN	(6,806)	(8,847)	(10,413)
OH	(12,795)	(16,634)	(19,577)
SUBTOTAL	(19,601)	(25,481)	(29,990)
TOTAL ACCORD/OBSERVERS	(67,241)	(87,414)	(102,879)

	POTENTIAL JOB LOSSES 2030		
	CORE	HI COST	LTD ALT
MGA ACCORD STATES:			
MN	(16,415)	(22,051)	(24,940)
IA	(8,173)	(10,979)	(12,418)
IL	(38,849)	(52,188)	(59,024)
MI	(25,268)	(33,944)	(38,390)
WI	(14,926)	(20,050)	(22,677)
KS	(7,371)	(9,902)	(11,199)
SUBTOTAL	(111,002)	(149,114)	(168,647)
MGA OBSERVERS:			
IN	(15,857)	(21,302)	(24,092)
OH	(29,813)	(40,049)	(45,295)
SUBTOTAL	(45,670)	(61,351)	(69,388)
TOTAL ACCORD/OBSERVERS	(156,672)	(210,465)	(238,034)

SOURCE: U.S. DEPT OF ENERGY, ENERGY INFORMATION ADMINISTRATION,
ENERGY MARKET AND ECONOMIC IMPACTS OF S.2191 (APRIL 2008);
U.S. 2007 STATE GDP DATA FROM U.S. DEPT OF COMMERCE.
MANUFACTURING PRODUCTIVITY FROM U.S. DEPT OF COMMERCE,
BUREAU OF ECONOMIC ANALYSIS.