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Summary Impacts of Selected Provisions of the Conference Energy Bill

Table 1. Comparison of Selected Energy Measures, *AEO2004* and CEB Case

	2002	2010		2015		2025	
		AEO2004	CEB	AEO2004	CEB	AEO2004	CEB
Primary Energy Consumption (quadrillion Btu)	97.7	111.8	111.8	119.7	119.8	136.5	136.1
Petroleum Consumption	38.1	44.2	44.1	48.3	48.0	55.0	54.7
Natural Gas Consumption	23.4	26.8	26.6	28.7	28.6	32.2	32.3
Coal Consumption	22.2	25.2	24.8	26.3	26.1	31.7	30.9
Nuclear Power	8.2	8.3	8.3	8.5	8.9	8.5	9.0
Renewable Energy	5.8	7.2	7.9	7.8	8.1	9.0	9.1
Other	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Net Imports (quadrillion Btu)							
Petroleum	22.6	28.1	27.9	33.2	33.1	41.7	41.3
Natural Gas	3.6	5.6	5.1	6.4	6.3	7.4	7.3
Electricity Price (2002 cents per kilowatthour)	7.2	6.6	6.6	6.8	6.7	6.9	6.8
Average Wellhead Natural Gas Price (2002 dollars per thousand cubic feet)	2.95	3.40	3.41	4.19	4.10	4.40	4.40
Domestic Natural Gas Production (quadrillion Btu)	19.56	21.05	21.41	22.20	22.23	24.64	24.90
Carbon Dioxide Emissions (million metric tons)	5729	6559	6501	7028	6969	8142	8046

Note: Totals may not add due to rounding.
Sources: National Energy Modeling System, date codes aeo2004.d101703e and nrgbill00.d011304d.

Table 2. Unconventional Natural Gas Projections, *AEO2004* and CEB Case

	2004		2006		2009		2015		2025	
	AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB
Total Wells Drilled	10,274	11,716	8,770	10,372	7,481	7,185	7,665	7,507	5,959	6,191
Successful Wells Drilled	8,807	10,072	7,505	8,891	6,414	6,148	6,508	6,358	4,946	5,135
Average EUR[a] per Successful Well (billion cubic feet per well)	1.222	1.146	1.331	1.28	1.425	1.482	1.373	1.404	1.580	1.586
Reserve Additions (trillion cubic feet)	10.75	11.54	9.98	11.38	9.13	9.11	8.93	8.93	7.81	8.15
Production (trillion cubic feet)	6.12	6.12	6.45	6.68	7.24	7.45	8.67	8.74	9.17	9.46
Average Wellhead Price (2002 dollars per thousand cubic feet)	3.88	3.87	3.48	3.31	3.47	3.43	4.19	4.10	4.40	4.40

[a]Estimated Ultimate Recovery.
Sources: National Energy Modeling System date codes aeo2004.d101703e and nrgbill00.d011304d.

Table 3. Natural Gas and Oil Supply Impacts, *AEO2004* and CEB Case

	2002	2010		2015		2025	
		AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB
Lower 48 Average Wellhead Gas Price (2002 dollars per thousand cubic feet)	2.95	3.40	3.41	4.19	4.10	4.40	4.40
Natural Gas Production (trillion cubic feet)							
Lower 48 Production	18.62	19.90	20.25	20.98	21.01	21.29	21.54
Onshore Conventional	7.83	7.20	7.16	7.44	7.37	7.09	7.13
Onshore Unconventional	5.93	7.28	7.51	8.67	8.74	9.16	9.46
Offshore	4.86	5.41	5.57	4.87	4.91	5.03	4.96
Alaska Production	0.43	0.60	0.60	0.64	0.64	2.71	2.71
Net Natural Gas Imports(trillion cubic feet)	3.49	5.50	4.94	6.24	6.11	7.24	7.11
Pipeline	3.33	3.34	3.25	3.02	2.97	2.44	2.35
Liquefied Natural Gas	0.17	2.16	1.69	3.22	3.14	4.80	4.76
Natural Gas Consumption (trillion cubic feet)	22.78	26.15	25.94	28.03	27.92	31.41	31.54
Lower 48 Dry Gas Reserves (trillion cubic feet)	180.03	201.2	203.03	203.74	204.66	193.51	194.50
Lower 48 Offshore Crude Oil Production (million barrels per day)	1.53	2.40	2.42	2.21	2.20	2.06	2.09

Sources: National Energy Modeling System date codes aeo2004.d101703e and nrgbill00.d011304d.

Table 4. Oil Production, Net Petroleum Imports, and Gasoline Prices, *AEO2004* and CEB Case

	2002	2010		2015		2025	
		AEO2004	CEB	AEO2004	CEB	AEO2004	CEB
Ethanol Consumption (billion gallons per year)	2.04	3.49	4.35	3.76	5.57	4.26	6.22
Renewable Fuels Consumption[a] (billion gallons per year)	2.06	3.53	4.39	3.81	5.61	4.32	6.28
Domestic Crude Oil Production (million barrels per day)	5.62	5.93	5.95	5.53	5.52	4.61	4.65
Net Petroleum Imports[b] (million barrels per day)	10.54	13.16	13.06	15.52	15.47	19.68	19.45
Average Gasoline Price Differential (2002 cents per gallon)							
CEB Case over *AEO2004* Reference Case			0.3		3.0		2.9
Impact of Termination of Ethanol Tax Credit[c]			0.0		1.2		0.9
Net Impact of RFS and MTBE Ban			0.3		1.8		2.0
Average RFG Price Differential (2002 cents per gallon)							
CEB Case over *AEO2004* Reference Case			0.4		8.1		7.5
Impact of Termination of Ethanol Tax Credit			0.0		2.7		2.0
Net Impact of RFS and MTBE Ban			0.4		5.4		5.5

a. Renewable fuels consumption includes both ethanol and biodiesel. For the CEB Case, the total renewable fuels consumption is slightly less than the 4.4 billion gallons specified for 2010 because of a small amount of biomass ethanol, which accounts for 1.5 gallons of renewable fuel for each gallon of biomass ethanol produced.

b. Net petroleum imports include both net crude and net product imports.

c. The impact of the ethanol tax credit declines over time because it is specified in nominal terms.

Sources: National Energy Modeling System date codes aeo2004.d101703e and nrgbill00.d011304d.

Table 5. Nonhydroelectric Renewable Generation and Capacity, *AEO2004* and CEB Case

	2003	2008		2010		2015		2025	
		AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB
Renewable Generation (billion kilowatthours)									
Geothermal	13.82	19.14	19.14	23.25	23.10	32.31	32.52	46.66	45.66
Municipal Solid Waste	25.58	27.81	28.56	28.11	28.68	28.18	28.73	28.50	28.83
Wood and Other Biomass	15.74	21.64	99.23	23.53	63.75	25.07	28.53	29.16	30.74
Dedicated Plants	10.75	12.56	13.95	13.26	14.00	14.03	14.13	22.90	21.69
Cofiring	4.99	9.07	85.27	10.26	49.74	11.05	14.40	6.25	9.05
Solar Thermal	0.52	0.82	0.82	0.84	0.84	0.97	0.97	1.11	1.11
Solar Photovoltaic	0.08	0.28	0.28	0.36	0.36	0.57	0.57	1.02	1.02
Wind	17.38	22.46	32.31	24.07	50.64	32.95	56.55	53.16	60.39
Renewable Capacity (gigawatts)									
Geothermal	2.90	3.51	3.51	4.01	3.99	5.11	5.14	6.84	6.72
Municipal Solid Waste	3.61	3.89	3.98	3.92	3.99	3.92	3.99	3.95	3.99
Wood and Other Biomass	1.85	2.09	2.09	2.20	2.14	2.32	2.37	3.74	3.60
Solar Thermal	0.33	0.43	0.43	0.43	0.43	0.47	0.47	0.52	0.52
Solar Photovoltaic	0.04	0.12	0.12	0.15	0.15	0.24	0.24	0.41	0.41
Wind	6.5	7.6	10.39	8.01	15.41	10.48	16.99	15.99	18.02

Sources: National Energy Modeling System date codes aeo2004.d101703e, nrgbill00.d011304d.

Table 6. Electric Power Sector Results, *AEO2004* and CEB Case

	2002	2010		2015		2025	
		AEO2004	CEB	AEO2004	CEB	AEO2004	CEB
Electricity Price (2002 cents per kilowatthour)	7.24	6.64	6.60	6.82	6.72	6.91	6.84
Electricity Sales (billion kilowatthours)	3,492	4,055	4,051	4,429	4,424	5,207	5,198
Electric Generating Capacity (gigawatts)							
Pulverized Coal	310.4	309.8	307.5	321.0	315.8	405.5	374.5
Advanced Coal	0.5	0.5	3.7	0.5	4.7	6.8	28.3
Oil/Gas	373.0	402.6	400.3	452.5	444.0	512.2	513.6
Nuclear	98.7	100.6	100.6	102.1	108.1	102.6	108.6
Renewable	91.7	97.4	104.6	101.2	107.9	110.1	111.9
Other[a]	20.2	20.8	20.9	22.8	23.3	32.7	33.8
Total	894.5	931.7	937.7	1,000.2	1,003.8	1,169.9	1,170.7
Generation (billion kilowatthours)							
Coal	1,907	2,235	2,200	2,352	2,331	3,008	2,942
Oil/Gas	683	880	839	1,087	1,038	1,197	1,203
Nuclear	780	794	799	812	854	816	864
Renewable	309	405	472	425	452	464	473
Other[a]	-9	-9	-9	-8	-8	-4	-4
Total	3,670	4,304	4,300	4,667	4,666	5,482	5,478

[a]Other includes pump storage and distributed generation.

Sources: National Energy Modeling System date codes aeo2004.d101703e and nrgbill00.d011304d.

Table 7. Residential Sector Results, *AEO2004* and CEB Case

	2002	2010		2015		2025	
		AEO2004	CEB	AEO2004	CEB	AEO2004	CEB
Delivered Energy Consumption (quadrillion Btu)	11.28	12.58	12.56	13.06	13.06	14.17	14.15
Average Energy Prices (2002 dollars per million Btu)	14.73	14.21	14.16	14.93	14.75	15.38	15.28
Energy Expenditures (2002 dollars per household)	1,454	1,444	1,436	1,499	1,480	1,536	1,524

Sources: National Energy Modeling System date codes aeo2004.d101703e and nrgbill00.d011304d.

Table 8. Commercial Sector Results, *AEO2004* and CEB Case

	2002	2010		2015		2025	
		AEO2004	CEB	AEO2004	CEB	AEO2004	CEB
Delivered Energy Consumption (quadrillion Btu)	8.25	9.74	9.74	10.51	10.52	12.19	12.19
Average Energy Prices (2002 dollars per million Btu)	$14.68	$13.77	$13.69	$14.62	$14.40	$15.28	$15.14
Energy Expenditures (2002 dollars per thousand square feet)	$1,660	$1,583	$1,575	$1,692	$1,669	$1,815	$1,797

Sources: National Energy Modeling System date codes aeo2004.d101703e and nrgbill00.d011304d.

Table 9. Industrial Sector and End-Use CHP Results, *AEO2004* and CEB Case

	2002	2006		2010		2015		2025	
		AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB
Delivered Energy Consumption (quadrillion Btu)	24.94	26.15	26.18	27.53	27.57	29.32	29.30	33.35	33.29
Average Energy Price (2002 dollars per million Btu)	6.31	6.36	6.28	6.44	6.42	6.96	6.89	7.42	7.37
Energy Expenditures (billion 2002 dollars)	121.0	126.2	124.7	132.7	132.5	152.5	150.9	185.6	184.3
End-Use CHP (gigawatts)	25.5	28.5	28.6	31.7	31.8	35.8	35.8	45.3	44.9

Sources: National Energy Modeling System date codes aeo2004.d101703e and nrgbill00.d011304d.

Table 10. Light-Duty Vehicle Energy Use and Fuel Expenditures, *AEO2004* and CEB Case

		2010		2015		2025	
	2002	AEO 2004	CEB	AEO 2004	CEB	AEO 2004	CEB
Gasoline Price (2002 dollars per gallon)	1.381	1.469	1.472	1.468	1.498	1.492	1.521
Energy Use (million barrels per day)	8.51	10.32	10.31	11.31	11.30	13.23	13.17
Fuel Expenditures (billions of 2002 dollars)	178.6	230.3	230.6	252.6	257.0	300.5	304.6

Sources: National Energy Modeling System date codes aeo2004.d101703e and nrgbill00.d011304d.