

Energy Bill Savings Estimates as passed by the Senate

ACEEE's assessment of the potential energy, carbon, and economic savings
14-Dec-07

NOTE: Strikethrough sections are those removed from the house-passed bill and are not included in the totals.

Annual Energy Savings Estimates			2010						2020						2030										
Title	Subtitle	Section	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (BCF) (4)	Indirect Natural Gas (BCF) (3)	Primary Energy Savings (Quads)	Carbon (MMT) (3.5)	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (BCF) (4)	Indirect Natural Gas (BCF) (3)	Oil Savings (Million barrels per day)	Primary Energy Savings (Quads)	Carbon (MMT) (3.5)	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (BCF) (4)	Indirect Natural Gas (BCF) (3)	Oil Savings (Million barrels per day)	Primary Energy Savings (Quads)	Carbon (MMT) (5.7)	Carbon Dioxide (MMT) (3.5)	Net Consumer Savings (Billion 2005\$) (7)	
Title I - Energy Security Through Improved Vehicle Fuel Economy	Subtitle A - Increased Corporate Average Fuel Economy (CAFE) Standards	Sec. 102 CAFÉ Heavy duty vehicles	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.03	2.0	46.9	N/A	N/A	N/A	N/A	2.4	4.6	110	404	\$ 56	
			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.06	0.2	2.6	N/A	N/A	N/A	N/A	0.4	0.8	19	71	\$ 10	
Title III - Energy Savings Through Improved Standards for Appliance and Lighting	Subtitle A - Appliance Energy Efficiency (1)	Sec. 301 External power supply efficiency standards	2.17	585	N/A	11	0.02	0.5	5.8	1561	N/A	29	N/A	0.06	1.2	5.8	1,561	N/A	28	N/A	0.06	1.2	4.2	\$ 0.23	
		Sec. 303 Residential boilers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.6	N/A	N/A	N/A	0.01	0.11	N/A	N/A	16.5	N/A	0.02	0.24	0.9	\$ 0.06	
		Sec. 304 Furnace fan standard process	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.2	1404	N/A	26	N/A	0.05	1.0	13	3,510	N/A	64	N/A	0.13	2.6	9.5	\$ 0.51
		Sec. 306 Regional heating and cooling standards	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.5	670	77	13	N/A	0.10	1.6	7.4	2,011	162	36	N/A	0.24	3.9	14.2	\$ 0.90
		Sec. 310 Standby mode	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.5	407	N/A	8	N/A	0.02	0.3	3.0	814	N/A	15	N/A	0.03	0.6	2.2	\$ 0.12
		Sec. 311 Energy standards for home appliances	N/A	N/A	N/A	N/A	N/A	N/A	N/A	23	6,298	N/A	118	N/A	0.24	4.6	46.65	12,596	N/A	228	N/A	0.47	9.3	34.1	\$ 1.84
		Sec. 312 Walk-in coolers and freezers	0.60	162	N/A	N/A	3	0.01	0.1	4.5	1215	N/A	23	N/A	0.05	0.9	4.7	1,269	N/A	23	N/A	0.05	0.9	3.4	\$ 0.19
		Sec. 313 Electric motor efficiency standards	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.5	1221	N/A	22.9	N/A	0.05	0.9	8	2,160	N/A	39.1	N/A	0.08	1.6	5.9	\$ 0.32
		Sec. 321 Efficient Light Bulbs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58.6563	7,215	N/A	297	N/A	0.61	11.7	69.25	8,518	N/A	338	N/A	0.70	13.8	50.7	\$ 2.74
		Sec. 322 Incandescent reflector lamps	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.8	713	N/A	29	N/A	0.06	1.2	5.8	713	N/A	28	N/A	0.06	1.2	4.2	\$ 0.23
Sec. 324 Metal halide fixture standard	1.41	381	N/A	N/A	7	0.01	0.3	8.3	2241	N/A	42	N/A	0.09	1.7	14.4	3,888	N/A	70	N/A	0.14	2.9	10.5	\$ 0.57		
Title IV - Energy Savings in Buildings and Industry (B)	Subtitle A - Residential Building Efficiency	Sec. 411 Weatherization Assistance	0.86	232	2.07	4.3	0.01	0.21	1.4	386	10.4	7	N/A	0.03	0.4	N/A	N/A	N/A	N/A	N/A	N/A	-	-	\$ -	
		Sec. 413 Manufactured Housing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.8	747	6.8	14	N/A	0.04	0.7	5.2	1,404	12.6	25	N/A	0.06	1.2	4	\$ 0.25
	Subtitle B - High-Performance Commercial Buildings	Sec. 422 Zero Net Energy Commercial Building Initiative (2)	4.9	1,311	12.0	24.60	0.06	1.21	29.1	7,867	71.8	148	N/A	0.39	7.24	53	14,424	132	271	N/A	0.71	12.58	46	\$ 2.61	
		Sec. 431-434. Efficiency in Federal Buildings	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.6	1,504	20.4	28	N/A	0.09	1.4	10.5	2,846	27.2	53	N/A	0.14	2.5	9	\$ 0.52
	Subtitle D - Industrial Energy Efficiency	Sec. 451 Industrial Energy Efficiency	4.0	1,080	6.8	20	0.05	0.95	3.3	900	5.7	17	N/A	0.04	0.79	3.3	900	5.7	17	N/A	0.04	0.75	3	\$ 0.15	
		Sec. 452 Energy-intensive industries program	30	8,100	198	152	0.52	9.28	35	9,450	232	177	N/A	0.61	10.4	40	10,800	266	203	N/A	0.67	11.9	44	\$ 2.58	
Subtitle F - Institutional Entities	Sec. 471 Energy sustainability and efficiency grants and loans for institutions	0.3	84	2.5	2	0.01	0.10	0.8	210	2.5	4	N/A	0.01	0.2	0.8	210	6.2	4	N/A	0.01	0.2	1	\$ 0.05		
Title V - Energy Savings in Government and Public Institutions	Subtitle E - Energy Efficiency and Conservation Block Grant Program (6)	Sec. 542 Energy Efficiency and Conservation Block Grant Program (6)	0.38	101	2.33	1.9	0.01	0.11	0.25	68	1.56	1.3	N/A	0.004	0.1	-	-	N/A	0	N/A	-	-	-	\$ -	
Title XIV - Renewable Electricity Standard	--	Sec. 1401 Renewable electricity standard	0.3	85		4.3	0.00	0.06	31.8	10,215		460.9	N/A	0.331	6.3	31.8	10,215		455	N/A	0.32	6.3	23.2	\$ 1.25	
		Sec. 1541 Tax Exempt Bonds	1.2	329	7.6	6.17	0.02	0.37	2.0	533	12.3	10.00	N/A	0.033	0.60	1.2	319	7	5.99	N/A	0.02	0.3	1.3	\$ 0.07	
Subtotal			44.6	12,036	224	226	0.7	12.8	198	44,075	435	1,005	1.1	4.7	96	291	67,622	628	1,443	3	9	197	722	\$ 80	
Tax Credits		Appliances	0.5	123	14.3	2.31	0.02	0.31	2.2	604	69.7	11.28	N/A	0.09	1.50	4.0	271	33.2	5.08	N/A	0.04	0.7	2.5	\$ 0.16	
		HVAC	1.2	331	1.7	6.21	0.01	0.29	13.1	3,525	22.8	66.12	N/A	0.16	3.11	9.5	2,677	18.1	48.34	N/A	0.12	2.2	8.0	\$ 0.45	
		Commercial Bldgs	2.1	576	8.8	10.80	0.03	0.58	16.4	4,415	67.2	82.82	N/A	0.22	4.46	16.4	4,415	67.2	82.82	N/A	0.22	4.2	15.6	\$ 0.90	
		Existing Homes	0.6	161	12.9	3.01	0.01	0.32	0.8	218	17.5	4.09	N/A	0.02	0.43	0.8	218	17.5	4.09	N/A	0.02	0.4	1.5	\$ 0.10	
		Plug-in Hybrids (7)	0.0	(3)	N/A	(0.06)	0.00	(0.00)	-1.4	(383)	N/A	(7.19)	N/A	0.04	(0.30)	-0.2	(51)	N/A	(0.96)	N/A	0.01	(0.0)	(0.1)	\$ (0.01)	
		CHP	7.9	2,129	34.5	39.93	0.05	1.21	39.4	10,643	157.7	200	N/A	0.253	6.06	39.4	10,643	158	199.67	N/A	0.24	5.5	20.3	\$ 0.96	
		Tax Credits Subtotal			12.3	3316.2	6.2	62.2	0.1	2.7	70.4	19,019	19.6	356.8	0.0	0.8	15.2	66.9	18,073	21.5	339	0.0	0.65	13.0	48
TOTAL			45	12,036	224	226	1	13	198	44,075	435	1,005	1.1	4.7	96	291	67,622	628	1,443	2.8	9.0	197	722	\$ 80	

Cumulative Energy Savings Estimates			2010					2020					2030					Net Consumer Savings (Billion 2005\$) (7)			
Subtitle/Part	Section	Electricity (TWh)	Direct Natural Gas (BCF) (4)	Indirect Natural Gas (BCF) (3)	Primary Energy Savings (Quads)	Carbon (MMT) (3.5)	Electricity (TWh)	Direct Natural Gas (BCF) (4)	Indirect Natural Gas (BCF) (3)	Oil Savings (Gigabarrels)	Primary Energy Savings (Quads)	Carbon (MMT) (3.5)	Electricity (TWh)	Direct Natural Gas (BCF) (4)	Indirect Natural Gas (BCF) (3)	Oil Savings (Gigabarrels)	Primary Energy Savings (Quads)	Carbon (MMT) (5.7)	Carbon Dioxide (MMT) (3.5)	Net Consumer Savings (Billion 2005\$) (7)	
Title I - Energy Security Through Improved Vehicle Fuel Economy	Subtitle A - Increased Corporate Average Fuel Economy (CAFE) Standards	Sec. 102 CAFE	N/A	N/A	N/A	N/A	N/A	N/A	1.51	7.86	188	N/A	N/A	N/A	N/A	8.39	44	1,046	3,838	\$ 195	
		Heavy Duty vehicles	N/A	N/A	N/A	N/A	N/A	N/A	0.05	0.24	5.8	N/A	N/A	N/A	N/A	0.91	5	113	416	\$ 21	
Title III - Energy Savings Through Improved Standards for Appliance and Lighting	Subtitle A - Appliance Energy Efficiency	Sec. 301 External power supply efficiency standards	N/A	N/A	N/A	N/A	55	N/A	278	N/A	0.57	10.9	113	N/A	551	N/A	1.13	22.5	82.4	\$ 4.45	
		Sec. 303 Residential boilers	N/A	N/A	N/A	N/A	N/A	38	N/A	N/A	0.04	0.56	N/A	163	N/A	N/A	0.16	2.39	8.8	\$ 0.61	
		Sec. 304 Furnace fan standard process	N/A	N/A	N/A	N/A	N/A	23	N/A	119	N/A	0.24	4.7	118	N/A	578	N/A	1.19	23.6	86.5	\$ 4.67
		Sec. 306 Regional heating and cooling standards	N/A	N/A	N/A	N/A	N/A	7.4	N/A	384	N/A	0.46	7.1	60	1,620	291	N/A	2.22	35.7	131.0	\$ 8.46
		Sec. 310 Standby mode	N/A	N/A	N/A	N/A	N/A	8	N/A	42	N/A	0.09	1.7	32	N/A	155	N/A	0.32	6.3	23.1	\$ 1.25
		Sec. 311 Energy standards for home appliances	N/A	N/A	N/A	N/A	N/A	128	N/A	650	N/A	1.34	25.6	490	N/A	2,393	N/A	4.93	97.6	358.3	\$ 19.35
		Sec. 312 Walk-in coolers and freezers	0.80	N/A	4.1	0.01	0.2	28	N/A	143	N/A	0.29	5.6	75	N/A	368	N/A	0.76	15.0	55.0	\$ 2.97
		Sec. 313 Electric motor efficiency standards	N/A	N/A	N/A	N/A	N/A	32	N/A	160.3	N/A	0.33	6.3	96	N/A	469	N/A	0.97	19.1	70.2	\$ 3.79
		Sec. 321 Efficient Light Bulbs	N/A	N/A	N/A	N/A	N/A	386	N/A	1956	N/A	4.03	77.0	1,031	N/A	5,038	N/A	10.37	205.5	754	\$ 40.73
		Sec. 322 Incandescent reflector lamps	N/A	N/A	N/A	N/A	N/A	49	N/A	249	N/A	0.51	9.8	107	N/A	523	N/A	1.08	21.3	78.3	\$ 4.23
Title IV - Energy Savings in Buildings and Industry (8)	Subtitle A - Residential Building Efficiency	Sec. 411 Weatherization Assistance	1.72	12.44	8.7	0.03	0.5	15.7	114	80	N/A	0.28	4.8	21.5	156	105	N/A	0.39	6.6	24.1	\$ 1.43
		Sec. 413 Manufactured Housing	N/A	N/A	N/A	N/A	N/A	18	45	93	N/A	0.24	4.3	60	145	292	N/A	0.75	14.0	51	\$ 2.90
	Subtitle B - High-Performance Commercial Buildings	Sec. 422 Zero Net Energy Commercial Building Initiative (2)	7.3	18.0	36.9	0.10	1.8	189	467	959.3	N/A	2.50	47.1	614	1,514	3,112	N/A	8.12	144.7	531	\$ 29.98
		Sec. 431-434. Efficiency in Federal Buildings	N/A	N/A	N/A	N/A	N/A	47.5	151	241	N/A	0.65	11.7	141	428	713	N/A	1.80	34.3	126	\$ 7.17
	Subtitle D - Industrial Energy Efficiency	Sec. 451 Industrial Energy Efficiency	8	14	41	0.10	2	42.7	73	216	N/A	0.52	10	76	130	385	N/A	0.95	17.1	63	\$ 3.49
		Sec. 452 Energy-intensive industries program	60	393	301	1.03	18	387	2,560	1,960	N/A	6.59	115	765	5,067	3,736	N/A	13.29	227	832	\$ 49.30
	Subtitle F - Institutional Entities	Sec. 471 Energy sustainability and efficiency grants and loans for institutions	0.5	3.7	2	0.01	0.15	7.8	62	39	N/A	0.15	2.5	15.5	124.2	76	N/A	0.28	4.9	18	\$ 1.08
		Sec. 542 Energy Efficiency and Conservation Block Grant Program (6)	0.8	4.67	4	0.01	0.23	6.1	38.10	31	N/A	0.10	1.8	6.3	38.88	32	N/A	0.10	1.8	6.7	\$ 0.39
	Title XIV - Renewable Electricity Standard	—	—	—	4	—	—	—	—	467	8	—	—	—	—	1,647	N/A	—	—	234	\$ —12.64
	Sec. 1544 Tax Exempt Bonds		2	—	0	0.03	0.56	25	—	156	127	N/A	—	—	—	—	—	—	—	—	—
Subtotal		81	445	408	1	24	1,486	3,930	7,529	2	28	550	3,992	9,384	19,655	9	99	2,092	7,679	\$ 409	
Tax Credits	Appliances	0.9	28.6	6	0.04	0.64	14.6	456	74	N/A	0.87	9.6	31	993	168	N/A	1.3	20.8	76	\$ 4.98	
	HVAC	2.6	3.5	42	0.03	0.67	71.5	424	362	N/A	1.37	16.0	490	336	965	N/A	2.3	42.9	157	\$ 8.79	
	Commercial Bldgs	4.3	17.5	22	0.06	1.16	98.7	406	500	N/A	0.62	25.6	262	1078	1,328	N/A	3.6	68.1	250	\$ 14.42	
	Existing Homes	1.4	29.5	7	0.03	0.72	9.0	196	46	N/A	0.18	4.7	17.1	374	87	N/A	0.4	8.0	33	\$ 2.07	
	Plug-in Hybrids (9)	0.0	0.0	0	0.00	0.01	6.3	0	32	N/A	—	4.86	15.6	0	(79)	N/A	0.5	11.1	41	\$ (0.62)	
	CHP	14.8	47.3	60	0.08	1.82	296	1,193	1,498	N/A	1.50	41.5	630	2,750	3,494	N/A	4.66	96.9	356	\$ 16.95	
	Subtotal	20.8	31.8	106.4	0.2	4.9	1994.6	4,982	10,103	2	32	660	1,176	18	6,663	0	13	240	913	\$ 30	
TOTAL		81	445	408	1	24	1,486	3,930	7,529	2	28	550	3,992	9,384	19,655	9	99	2,092	7,679	\$ 409	

- Notes:
- Appliance efficiency assessments were prepared based on an analysis by Andrew Delaski of ASAP.
 - Commercial building initiative savings depend on level of authorized funding. We assume 20% of total savings potential as the budget-constrained scenario. It is this scenario that is included in the total.
 - Indirect gas is the gas avoided in electric power generation. Indirect gas and electric carbon emissions reductions are based on national average fuel mix and heat rate as projected in AEO 2005.
 - Direct gas represents the natural gas saved directly by the measures
 - Carbon savings estimates do not include direct coal savings, which result from displaced steam generation.
 - Savings from the block grant program depend on the level of funding. This scenario assumes funding of \$100 million per year from 2008-2012.
 - Net consumer savings are preliminary estimates assuming AEO 2007 projected energy prices.