

**House-Senate Energy Bill Savings Estimates**

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

Annual Energy Savings Estimates			2010						2020						2030										
Title	Subtitle	Section	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (BCF) (6)	Indirect Natural Gas (BCF) (5)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (BCF)	Indirect Natural Gas (BCF) (5)	Oil Savings (Million barrels per day)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (BCF)	Indirect Natural Gas (BCF) (5)	Oil Savings (Million barrels per day)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Carbon Dioxide (MMT)	Net Consumer Savings (Billion 2005\$) (10)	
Title I - Energy Security Through Improved Vehicle Fuel Economy	Subtitle A - Increased Corporate Average Fuel Economy (CAFE) Standards	Sec. 102 CAFÉ	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	
		Heavy duty vehicles	N/A	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	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 (2)	Sec. 422 Zero Net Energy Commercial Building Initiative	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 (8)	Sec. 542 Energy Efficiency and Conservation Block Grant Program (8)	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	-	1.3	0.00	0.06	31.8	10,215	-	160.9	N/A	0.331	6.3	31.8	10,215	7	155	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	
<b>Subtotal</b>			<b>46.1</b>	<b>12,450.6</b>	<b>231.3</b>	<b>233.3</b>	<b>0.7</b>	<b>13.2</b>	<b>232</b>	<b>54,824</b>	<b>448</b>	<b>1,175</b>	<b>1.1</b>	<b>5.0</b>	<b>103</b>	<b>324</b>	<b>78,157</b>	<b>635</b>	<b>1,605</b>	<b>3</b>	<b>9</b>	<b>204</b>	<b>747</b>	<b>81</b>	
Tax Credits		Appliances	0.5	123	14.3	2.31	0.02	0.31	2.2	601	69.7	11.28	N/A	0.09	1.50	1.0	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	2,577	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 (9)	0.0	(3)	N/A	(0.06)	0.00	(0.00)	-1.4	(383)	N/A	(7.19)	N/A	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	-31.5	39.93	0.05	1.21	39.4	10,643	-157.7	200	N/A	N/A	0.253	6.06	39.4	10,643	-158	199.67	N/A	0.24	5.5	20.3	\$ 0.96
<b>Tax Credits Subtotal</b>			<b>12.3</b>	<b>3316.2</b>	<b>6.2</b>	<b>62.2</b>	<b>0.1</b>	<b>2.7</b>	<b>70.4</b>	<b>19,019</b>	<b>19.6</b>	<b>356.8</b>	<b>0.0</b>	<b>0.8</b>	<b>15.2</b>	<b>66.9</b>	<b>18,073</b>	<b>-21.5</b>	<b>339</b>	<b>0.0</b>	<b>0.65</b>	<b>13.0</b>	<b>48</b>	<b>84.0</b>	
<b>TOTAL</b>			<b>58</b>	<b>15,767</b>	<b>237</b>	<b>296</b>	<b>0.9</b>	<b>15.9</b>	<b>303</b>	<b>73,843</b>	<b>467</b>	<b>1,532</b>	<b>1</b>	<b>5.8</b>	<b>118</b>	<b>391</b>	<b>96,230</b>	<b>614</b>	<b>1,944</b>	<b>2.8</b>	<b>10.0</b>	<b>217</b>	<b>795</b>	<b>\$ 165</b>	

Cumulative Energy Savings Estimates			2010					2020					2030										
Subtitle/Part	Section	Electricity (TWh)	Direct Natural Gas (BCF)	Indirect Natural Gas (BCF) (5)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Electricity (TWh)	Direct Natural Gas (BCF)	Indirect Natural Gas (BCF) (5)	Oil Savings (Gigabarrels)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Electricity (TWh)	Direct Natural Gas (BCF)	Indirect Natural Gas (BCF) (5)	Oil Savings (Gigabarrels)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Carbon Dioxide (MMT)	Economic Impacts (Billion 2005\$)			
Title I - Energy Security Through Improved Vehicle Fuel Economy	Subtitle A - Increased Corporate Average Fuel Economy (CAFE) Standards	Sec. 102 CAFÉ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.51	7.86	188	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	N/A	0.05	0.24	5.8	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	N/A	55	N/A	N/A	0.57	10.9	113	N/A	N/A	N/A	1.13	22.5	82.4	\$ 4.45			
		Sec. 303 Residential boilers	N/A	N/A	N/A	N/A	N/A	N/A	38	N/A	0.04	0.56	N/A	N/A	163	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	N/A	23	N/A	0.24	4.7	118	N/A	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	N/A	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	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	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	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	N/A	469	N/A	0.97	19.1	70.2	\$ 3.79	
		Subtitle B - Lighting Energy Efficiency	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. 324 Metal halide fixture standard	2.13	N/A	10.8	0.02	0.5	54	N/A	274	N/A	0.56	10.8	172	N/A	840	N/A	1.73	34.2	125.7	\$ 6.79		
		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	N/A	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	N/A	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 (8)	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 V - Energy Savings in Government and Public	Subtitle E - Energy Efficiency and Conservation Block Grants	0.3	-	1	0.00	0.06	1.6	467	8	N/A	0.48	7.2	319	-	1,617	N/A	3.2	63.6	234	\$ 12.61		
Title XIV - Renewable Electricity Standard	Sec. 1541 Tax Exempt Bonds	2	11	9	0.03	0.56	25	155	127	N/A	0.13	7.3	40	249	203	N/A	0.68	11.6	43	\$ 2.52			
Tax Credits	Subtotal	Appliances	83	457	419	1	24	1,513	4,553	7,664	2	28	565	4,351	9,633	21,475	9.3	103	2,168	7,956	\$ 424		
		HVAC	0.9	28.6	5	0.04	0.61	14.6	456	74	N/A	0.87	9.6	31	993	158	N/A	1.3	20.8	76	\$ 4.98		
		Commercial Bldgs	2.5	3.5	12	0.03	0.57	71.5	121	362	N/A	1.37	16.0	190	336	965	N/A	2.3	42.9	157	\$ 8.79		
		Existing Homes	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		
		Plug-in Hybrids (9)	1.4	29.5	7	0.03	0.72	9.0	196	46	N/A	0.18	4.7	17.1	371	87	N/A	0.4	8.9	33	\$ 2.07		
		CHP	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)		
		Subtotal	11.8	-47.3	60	0.08	1.82	296	-1183	1498	N/A	1.50	41.5	690	-2759	3,494	N/A	4.66	96.9	356	\$ 16.85		
		Subtotal	20.8	31.8	105.4	0.2	4.9	2021.2	4,704	10,238	2	33	674	1175	19	5953	0	13	249	913	\$ 29.65		
		TOTAL	104	-	488	525	2	29	3,534	-	9,257	17,901	3	61	1,239	5,526	9,652	27,428	9.30	116	2,416	8,868	\$ 454

- Notes:
- Appliance efficiency assessments were prepared based on an analysis by Andrew Delaski of ASAP. Section 321 lighting efficiency assessments were prepared based on an analysis by ASE and ACEEE.
  - Commercial building initiative savings depend on level of authorized funding. We assume 10% 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.
  - Primary savings from Plug-in Hybrid tax credits represent oil savings.
  - Net consumer savings are preliminary estimates assuming AEO 2007 projected energy prices.