

H.R. 3221 as Passed by the House
 ACEEE's assessment of the potential energy and carbon savings *REVISED*
 21-Aug-07

Annual Energy Savings Estimates		2010						2020						2030						
Subtitle/Part	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)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (BCF)	Indirect Natural Gas (BCF) (5)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Carbon Dioxide (MMT)
Subtitle A Part 1 - Appliance Effic. (1)	Sec. 9001 Energy Standards for home appliances	N/A	N/A	N/A	N/A	N/A	N/A	23	6297.75	N/A	118	0.24	4.6	46,665	12,596	N/A	228	0.47	9.3	34.1
	Sec. 9002 Motor Efficiency Standards	N/A	N/A	N/A	N/A	N/A	N/A	4.5	1221	N/A	22.9	0.05	0.9	8	2,160	N/A	39.1	0.08	1.6	5.9
	Sec. 9003 Residential Boilers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.6	N/A	0.01	0.11	N/A	N/A	16.5	N/A	0.02	0.24	0.9
	Sec. 9004 Regional Variations in heating or cooling standards	N/A	N/A	N/A	N/A	N/A	N/A	2.5	670	77	13	0.10	1.6	7.4	2,011	162	36	0.24	3.9	14.2
	Sec. 9011 Furnace Fan Standard Process	N/A	N/A	N/A	N/A	N/A	N/A	5.2	1404	N/A	26	0.05	1.0	13	3,510	N/A	64	0.13	2.6	9.5
	Sec. 9015 Standby power	N/A	N/A	N/A	N/A	N/A	N/A	1.5	407	N/A	8	0.02	0.3	3.0	814	N/A	15	0.03	0.6	2.2
	Sec. 9014 External Power Supply Efficiency Standards	2.17	585	N/A	11	0.02	0.5	5.8	1561	N/A	29	0.06	1.2	5.8	1,561	N/A	28	0.06	1.2	4.2
	Sec. 9017 Walk-in refrigerator/freezer standard	0.60	162	N/A	3	0.01	0.1	4.5	1215	N/A	23	0.05	0.9	4.7	1,269	N/A	23	0.05	0.9	3.4
	Sec. 9024 Metal halide fixture standard	1.41	381	N/A	7	0.01	0.3	8.3	2241	N/A	42	0.09	1.7	14.4	3,888	N/A	70	0.14	2.9	10.5
	Sec. 9021 Efficient Light Bulbs	N/A	N/A	N/A	N/A	N/A	N/A	80.96	9,958	N/A	410	0.84	16.1	142.8	17,564	N/A	698	1.44	28.5	104.4
Part 2 - Lighting Efficiency (1)	Sec. 9024 Incandescent Reflector Lamps	N/A	N/A	N/A	N/A	N/A	N/A	5.8	713	N/A	29	0.06	1.2	5.8	713	N/A	28	0.06	1.2	4.2
Part 3 - Residential Building Efficiency (2)	Sec. 9031 Encouraging Stronger Building Codes	-	-	-	0.0	-	-	50	13,529	414	254	0.97	16	153	41,397	1,268	749	2.97	47.0	172
	Sec. 9032 Manufactured Housing	N/A	N/A	N/A	N/A	N/A	N/A	2.8	747	6.8	14	0.04	0.7	5.2	1,404	12.6	25	0.06	1.2	4
Part 4 - Commercial and Federal Building Efficiency (8)	Sec. 9044 Commercial Building Initiative (budget constrained)	9.7	2,622	23.9	49.20	0.13	2.41	58.3	15,735	143.6	295	0.77	14.49	107	28,847	263	541	1.41	25.16	92
	Commercial Building Initiative with full authorization	48.6	13,112	718.1	245.98	1.24	20.86	291.4	78,674	718.1	1,476	3.85	72.43	534	144,236	1,317	2,706	7.06	125.82	462
Part 5 - Industrial Energy Efficiency (3)	Sec. 9046-9047. Efficiency in Federal Buildings	N/A	N/A	N/A	N/A	N/A	N/A	5.6	1,504	20.4	28	0.09	1.4	10.5	2,846	27.2	53	0.14	2.5	9
	Sec. 9061 - Incentives for Recovery, Utilization and Prevention of Industrial Waste Energy	40	10800	N/A	203	0.43	8.5	20.0	5,400	N/A	101.3	0.21	4.0	20.0	5,400	N/A	101.3	0.20	4.0	14.6
Part 6 - Energy Efficiency of Public Institutions (4)	Secs. 9075 Energy Efficiency in Public Institutions	3.6	978.5	22.1	18.4	0.06	1.1	8.0	2,153	47.3	40.4	0.13	2.2	15.3	4,120	89	77	0.24	4.3	15.9
	Public Institutions	2.4	649	14.6	12.2	0.04	0.72	5.3	1,426	31	26.7	0.09	1.4	10	2,728	59	51	0.16	2.9	10.6
Part 9 - Energy Efficiency Block Grant Program (10)	Public Schools	1.2	330.5	7.5	6.2	0.02	0.4	2.7	727	16.0	13.6	0.04	0.7	5.2	1,391	30	26	0.08	1.5	5.4
	Block Grant Program (budget constrained)	0.38	101	2.33	1.9	0.01	0.11	0.25	68	1.56	1.3	0.004	0.1	-	-	N/A	0	-	-	-
Subtitle G	Block Grant Program (full funding)	7.50	2025	46.66	38.0	0.13	2.28	5.0	1350	31.10	25.3	0.083	1.5	-	-	N/A	0	-	-	-
	Efficiency component of Renewable Energy Standard	0.3	85	-	1.3	0.00	0.06	31.8	10,215	160.9	0.331	6.3	31.8	10,215	155	0.32	6.3	23.2	83	
Ways and Means	Tax Exempt Bonds	2.4	658	15.2	12.35	0.04	0.74	3.9	1,066	24.6	20.00	0.07	1.20	2.4	638	14.7	11.98	0.04	0.7	2.5
	Appliances	0.5	144	16.6	2.70	0.02	0.36	2.6	701	81.0	13.16	0.11	1.74	1.2	316	39.9	5.93	0.05	0.8	3.0
Tax Credits	Commercial Buildings	1.7	461	5.6	8.64	0.02	0.44	13.1	3,532	43.0	66.26	0.18	3.41	13.08	3,532	43.0	66.26	0.18	3.2	11.9
	Plug-In Hybrids (11)	(0.01)	(3)	N/A	(0.06)	0.00	0.01	(1.4)	(383)	N/A	(7.19)	0.04	1.10	(0.19)	(51)	N/A	(0.96)	0.01	-	-
TOTAL		62.8	16,975.2	85.7	318.2	0.8	14.6	337.3	79,953.5	866.9	1,708.4	4.5	82.3	610.9	144,750	1,935.7	3,016	8.3	148	543

Cumulative Energy Savings Estimates		2010						2020						2030						
Subtitle/Part	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)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (BCF)	Indirect Natural Gas (BCF) (5)	Primary Energy Savings (Quads)	Carbon (MMT) (5,7)	Carbon Dioxide (MMT)
Subtitle A Part 1 - Appliance Effic. (1)	Sec. 9001 Energy Standards for home appliances	N/A	N/A	N/A	N/A	N/A	N/A	128	N/A	N/A	650	1.34	25.6	490	N/A	N/A	2,393	4.93	97.6	358.3
	Sec. 9002 Motor Efficiency Standards	N/A	N/A	N/A	N/A	N/A	N/A	32	N/A	N/A	160.3	0.33	6.3	96	N/A	N/A	469	0.97	19.1	70.2
	Sec. 9003 Residential Boilers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	38	N/A	0.04	0.56	N/A	163	N/A	469	0.16	2.39	8.8
	Sec. 9004 Regional Variations in heating or cooling standards	N/A	N/A	N/A	N/A	N/A	N/A	7.4	384	38	0.46	7.1	60	1,620	291	2.22	35.7	131.0		
	Sec. 9011 Furnace Fan Standard Process	N/A	N/A	N/A	N/A	N/A	N/A	23	N/A	N/A	119	0.24	4.7	118	N/A	N/A	578	1.19	23.6	86.5
	Sec. 9015 Standby power	N/A	N/A	N/A	N/A	N/A	N/A	8	N/A	N/A	42	0.09	1.7	32	N/A	N/A	155	0.32	6.3	23.1
	Sec. 9014 External Power Supply Efficiency Standards	N/A	N/A	N/A	N/A	N/A	N/A	55	N/A	N/A	278	0.57	10.9	113	N/A	N/A	551	1.13	22.5	82.4
	Sec. 9017 Walk-in refrigerator/freezer standard	0.80	213	N/A	4.1	0.01	0.2	28	N/A	N/A	143	0.29	5.6	75	N/A	N/A	368	0.76	15.0	55.0
	Sec. 9024 Metal halide fixture standard	2.13	549	N/A	10.8	0.02	0.5	54	N/A	N/A	274	0.56	10.8	172	N/A	N/A	840	1.73	34.2	125.7
	Sec. 9021 Efficient Light Bulbs	N/A	N/A	N/A	N/A	N/A	N/A	601	N/A	N/A	3044	6.26	119.8	2,029	N/A	N/A	9,914	20.40	404.4	1,484
Part 2 - Lighting Efficiency (9)	Sec. 9024 Incandescent Reflector Lamps	N/A	N/A	N/A	N/A	N/A	N/A	49	N/A	N/A	249	0.51	9.8	107	N/A	N/A	523	1.08	21.3	78.3
Part 3 - Residential Building Efficiency (2)	Sec. 9031 Encouraging Stronger Building Codes	-	-	-	0	-	0.0	247	2,043	1,252	4.78	79.3	1,331	11,003	6,502	25.7	408.0	1,497		
	Sec. 9032 Manufactured Housing	N/A	N/A	N/A	N/A	N/A	N/A	18	45	93	0.24	4.3	60	145	292	0.75	14.0	51		
Part 4 - Commercial and Federal Building Efficiency	Sec. 9044 Commercial Building Initiative (budget constrained)	14.6	35.9	73.8	0.19	3.6	379	934	19,187.7	5.01	94.2	1,229	3,028	6,223	16.24	289.4	1,062			
	Commercial Building Initiative with full authorization	72.8	179.5	368.98	0.96	18.11	1,894	4,667.8	9,593	25.03	470.82	6,143	15,140	31,117	81.19	1,446.87	5,310			
Part 5 - Industrial Energy Efficiency (3)	Sec. 9046-9047. Efficiency in Federal Buildings	N/A	N/A	N/A	N/A	N/A	N/A	47.5	151	241	0.65	11.7	141	428	713	1.80	34.3	126		
	Sec. 9061 - Incentives for Recovery, Utilization and Prevention of Industrial Waste Energy	100	N/A	N/A	507	1.08	21.2	340	N/A	1722	3.54	67.8	540	N/A	2,735	5.43	107.6	395		
Part 6 - Energy Efficiency of Public Institutions (4)	Secs. 9075 Energy Efficiency in Public Institutions	6.2	37.9	31.5	0.10	1.9	64.6	388.6	327.0	1.06	18.6	184.1	1,087	933	2.94	52.7	193.3			
	Public Institutions	4	25.1	20.8	0.07	1.2	43	257.32	216.6	0.70	12.3	121.9	719.8	617.6	1.95	34.9	128.0			
Part 9 - Energy Efficiency Block Grant Program (10)	Public Schools	2.1	12.8	10.6	0.04	0.6	21.8	131.2	110.5	0.36	6.3	62.2	367	315	0.99	17.8	65.3			
	Block Grant Program (budget constrained)	0.8	4.67	4	0.01	0.23	6.1	38.10	31	0.10	1.8	6.3	38.88	32	0.10	1.8	6.7			
Subtitle G	Block Grant Program (full funding)	15.0	93.31	76	0.25	4.56	122.5	762.05	620	2.04	35.6	125.0	777.60	633	2.03	36.3	133.4			
	Efficiency component of Renewable Energy Standard	0.3	-	1	0.00	0.06	1.6	934	8	0.95	14.0	319	-	1,617	3.2	63.6	234			
Ways and Means	Tax Exempt Bonds	3.7	22.9	18.7	0.06	1.1	50.0	310.8	253	0.83	14.5	80.1	498	391	1.30	23.3	85.4			
	Appliances	1.1	33.2	5.4	0.05	0.7	17.0	530	86	0.73	11.2	36.5	1,154	178	1.57	24.2	88.9			
Tax Credits	Commercial Buildings	3.4	11.2	17.3	0.05	0.9	79.0	259.8	400	1.09	19.6	209.8	690	1,025	2.87	52	190.7			
	Plug-In Hybrids (11)	(0)	(3)	N/A	(0.01)	0.00	0.01	(6.25)	N/A	(32)	0.18	4.9	(15.63)	N/A	(76)	0.51	11.1	40.6		
TOTAL		133	-	146	673	2	30	2,230	-	6,055	11,297	30	545	7,411	-	19,855	36,646	97	1,764	6,474

Notes:
 1. Appliance efficiency assessments were prepared based on an analysis by Andrew Delaski of ASAP. Section 121 lighting efficiency assessments were prepared based on an analysis by Jeff Harris of ASE.
 2. These estimates are based on an analysis prepared by the Alliance to save energy adapted by ACEEE. Assumes half of states adopt standards.
 3. These estimates were made by Neal Elliott assuming that 50% of the impact of the provision would come directly from incentivized project with the remainder resulting from the regulatory changes that make projects cost effective.
 4. These estimates were based on an detailed assessment of the provision by Mark Spurr of IDEA adapted by ACEEE
 5. 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.
 6. Direct gas represents the natural gas saved directly by the measures
 7. Carbon savings estimates do not include direct coal savings, which result from displaced steam generation.
 8. Commercial building initiative savings depend on level of authorized funding. We assume \$40 million in annual funding as the budget-constrained scenario. It is this scenario that is included in the total.
 9. Lighting estimates based on likely standards that could be implemented. Lower estimates reflected in totals. Double counting with Subtitle C and D are ignored.
 10. Savings from the block grant program depend on the level of funding. The budget-constrained scenario assumes funding of \$100 million per year from 2008-2012. It is this scenario that is included in the total.
 11. Primary savings from Plug-in Hybrid tax credits represent oil savings.