

Energy Efficiency in Climate Legislation Promotes Jobs and the Economy

September 9, 2009

The *American Clean Energy and Security Act of 2009* (“ACES” or “H.R. 2454”) includes many important energy efficiency provisions that have been largely overlooked in discussions and analyses of the bill thus far. The bill requires utilities to obtain 20% of their energy through a combination of renewable energy and energy efficiency by 2020, with energy efficiency allowed to meet up to 8% of the 20% goal. Other energy efficiency provisions facilitate savings through improved building codes and retrofits, and appliance standards, and within the transportation and industrial sectors.

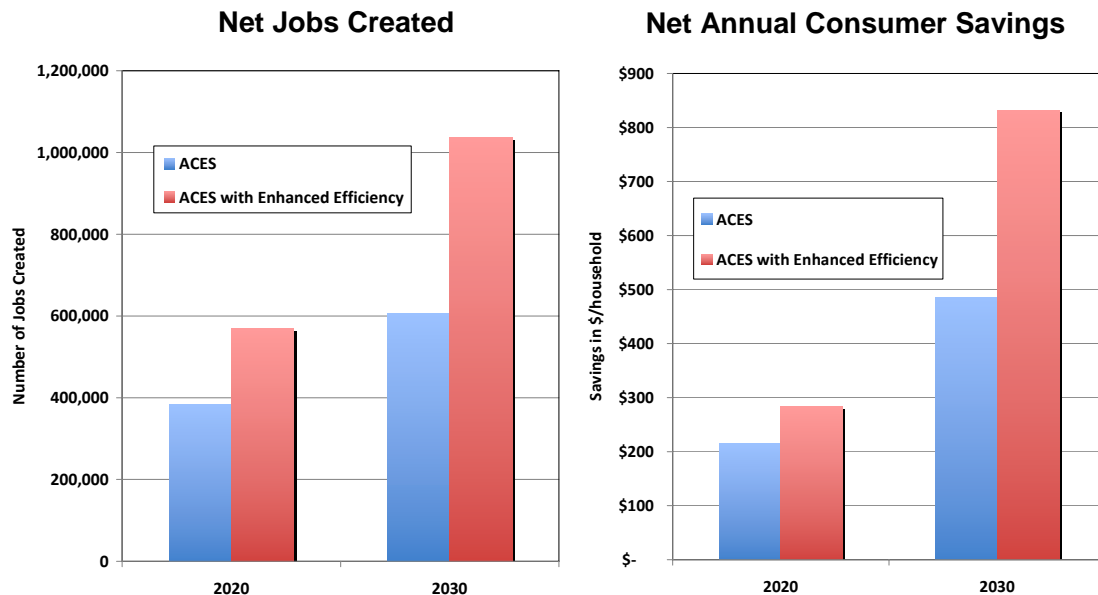
ACEEE has analyzed the benefits of the existing energy efficiency provisions and has also evaluated enhancements to three provisions to improve the energy efficiency in the legislation; including a stand-alone energy efficiency resource standard (EERS) requiring 10% cumulative savings by 2020; directing one-third of electric local distribution company allowances to energy efficiency; and sustaining State Energy and Environmental Development (SEED) funding at 9.5% of allowance revenue through 2030.

In 2030, the ACES energy efficiency provisions with these enhancements would:

- save American consumers an average of over \$830 per household
- create more than 1 million jobs
- reduce carbon dioxide emissions by over 900 MMT

This level of consumer household savings would more than offset the cost of cap and trade legislation as estimated by the Congressional Budget Office.¹

The energy efficiency enhancements to ACES would result in the creation of 71% more jobs nationwide and an additional 70% in net consumer savings per household in 2030 compared to ACES, as seen below.



Detailed impacts by provision and fuel relative to the EIA’s *2009 Annual Energy Outlook* are on the next page and a copy of the full report can be downloaded at <http://www.aceee.org/energy/national/50states.htm>.

¹ Congressional Budget Office. 2009. *Congressional Budget Office Cost Estimate: H.R. 2454 American Clean Energy Security Act of 2009*. <http://www.cbo.gov/ftpdocs/103xx/doc10327/06-19-CapTradeCosts.htm>. Washington, D.C.: Congressional Budget Office.

Savings Estimates for H.R. 2454 (American Clean Energy and Security Act, ACESA)

ACEEE's assessment of the potential energy, carbon, and economic savings

9-Sep-09

Annual Energy Savings Estimates			2020									
Title	Subtitle	Section	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (TBTU) (1)	Oil Savings (Million barrels per day)	Primary Energy Savings (Quads)	Avoided Emissions (MMT CO2)	Cumulative Federal Investments (billion 2007 \$) (3,7)	Annualized Consumer Costs (billion 2007 \$)	Gross Annual Consumer Savings (billion 2007 \$) (4)	Net Annual Consumer Savings (Billion 2007 \$)
Title I - Clean Energy	Subtitle A - Combined Efficiency and Renewable Electricity Standard	Sec. 101. Combined Efficiency and Renewable Electricity Standard	98.5	31,689	0.0	N/A	1.03	73	N/A	4.44	9.40	\$ 4.95
	Subtitle C - Clean Transportation	Sec. 124 Investment in Clean Vehicles	N/A	N/A	N/A	0.100	0.21	16	14.02	2.74	5.48	\$ 2.74
	Subtitle E - Smart Grid Advancement	Sec. 142 Smart grid in Energy Star	N/A	896	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Subtitle H - Centers	Sec. 144 Smart grid peak demand reduction	0.0	0	N/A	N/A	0.00	0.0	N/A	N/A	0.00	N/A
Title II - Energy Efficiency	Subtitle A - Building Energy Efficiency	Sec. 171 Energy Innovation Hubs/ Sec. 172 Advanced Energy Research	6.2	1,667	75.43	0.039	0.22	13.80	2.91	2.92	3.04	\$ 0.12
		Sec. 173 Building Assessment Centers	0.4	104	0.71	0.00004	0.005	0.06	0.40	0.01	0.04	\$ 0.03
		Sec 201 Building Codes	37.7	10,168	235	0	0.63	34.9	3.15	2.87	5.76	\$ 2.90
		Sec 202 Building retrofit program	51.7	13,963	64	0.0034	0.61	34.4	4.29	1.45	4.88	\$ 3.43
	Subtitle B - Lighting and Appliance Energy Efficiency Programs	Sec. 203 Manufactured homes	3.2	859	7	0.0004	0.04	2.3	3.85	2.69	0.34	\$ (2.35)
		Sec. 204 Building Labeling program	1.3	360	3	0.0002	0.02	1.0	0.67	0.03	0.14	\$ 0.12
		Sec 211 Lighting efficiency standards	25.2	6,797	262	0	0.52	28.8	0.00	0.61	5.12	\$ 4.51
	Subtitle C - Transportation Efficiency	Sec 212 Other appliance standards	0.7	202	29	0	0.04	2.0	0.00	0.04	0.41	\$ 0.37
		Sec. 213 Determinations and procedures	3.9	1,057	50	0	0.09	5.0	0.00	0.17	0.91	\$ 0.74
		Sec. 214 Best-In-Class Appliance Deployment	8.8	4,755	5	0.0002	0.10	5.6	1.80	0.67	0.75	\$ 0.09
Title VII - Global Warming Pollution Reduction Program	Allowance Revenue devoted to Energy Efficiency	Sec 821. Emissions standards for mobile sources (5)	N/A	N/A	N/A	0.28	0.60	44.7	0.00	N/A	15.51	\$ 5.93
		Sec. 841. Transportation planning (6)	N/A	N/A	N/A	0.12	0.22	18.3	4.58	N/A	6.37	\$ 2.12
		Sec. 245 Motor efficiency rebate program	8.8	2,370	N/A	N/A	0.09	5	0.35	0.08	0.69	\$ 0.61
		Sec. 782 (a) Electricity Consumers	3.1	850	N/A	N/A	0.03	2.3	0.79	0.09	0.25	\$ 0.16
Total, H.R. 2454			250	75789	1009	0.60	4.9	312	52	20	63	\$ 30
Allowance Revenue			137.4	37,093			1.43	82.4	0.08	7.04	10.78	\$ 3.75
Enhanced SEED			58.8	15881.8	42.9	0.0	0.7	37.5	0.0	0.8	5.2	4.3
Enhanced EERS			176.4	56,739			1.84	129.0			17.38	\$ 4.34
Total, H.R. 2454 with Enhanced Efficiency (8)			523.8	153,814	1051.6	0.7	7.9	496.5	57.5	23.3	90.4	\$ 38.1

Savings Estimates for H.R. 2454 (American Clean Energy and Security Act, ACESA)

ACEEE's assessment of the potential energy, carbon, and economic savings

9-Sep-09

Annual Energy Savings Estimates			2030									
Title	Subtitle	Section	Electricity (TWh)	Avoided Peak Demand (MW)	Direct Natural Gas (TBTU) (1)	Oil Savings (Million barrels per day)	Primary Energy Savings (Quads)	Avoided Emissions (MMT CO2)	Cumulative Federal Investments (billion 2007 \$) (3,7)	Annualized Consumer Costs (billion 2007 \$)	Gross Annual Consumer Savings (Billion 2007 \$) (4)	Net Annual Consumer Savings (Billion 2007 \$)
Title I - Clean Energy	Subtitle A - Combined Efficiency and Renewable Electricity Standard	Sec. 101. Combined Efficiency and Renewable Electricity Standard	102.7	33,014	0.0	N/A	1.03	76	N/A	4.72	10.67	\$ 5.94
	Subtitle C - Clean Transportation	Sec. 124 Investment in Clean Vehicles	N/A	N/A	N/A	0.206	0.44	33	18.47	1.69	3.38	1.69
	Subtitle E - Smart Grid Advancement	Sec. 142 Smart grid in Energy Star	N/A	1,234	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	Subtitle H - Centers	Sec. 144 Smart grid peak demand reduction	0.0	0	N/A	N/A	0.00	0.0	N/A	N/A	\$ -	\$ -
Title II - Energy Efficiency	Subtitle A - Building Energy Efficiency	Sec. 171 Energy Innovation Hubs/ Sec. 172 Advanced Energy Research	22.1	5,966	259.37	0.134	0.76	26.7	7.18	8.39	\$ 10.85	\$ 2.46
		Sec. 173 Building Assessment Centers	0.5	131	1	0.00004	0.01	0.3	0.79	0.02	\$ 0.05	\$ 0.03
		Sec 201 Building Codes	96.7	26,098	632	0	1.60	90.4	12.20	9.73	\$ 16.64	\$ 6.91
		Sec 202 Building retrofit program	98.7	26,644	110	0.0051	1.11	64.2	4.29	2.17	\$ 9.92	\$ 7.75
	Subtitle B - Lighting and Appliance Energy Efficiency Programs	Sec. 203 Manufactured homes	7.3	1,975	17	0.0008	0.09	5.2	8.85	6.18	\$ 0.86	\$ (5.32)
		Sec. 204 Building Labeling program	5.2	1,396	11	0.0005	0.06	3.6	1.17	0.18	\$ 0.60	\$ 0.42
		Sec 211 Lighting efficiency standards	49.1	13,248	493	0	0.99	54.9	0.00	1.44	\$ 10.75	\$ 9.32
	Subtitle C - Transportation Efficiency	Sec 212 Other appliance standards	0.9	239	169	0	0.18	9.4	0.00	0.06	\$ 2.33	\$ 2.27
		Sec. 213 Determinations and procedures	7.0	1,903	92	0	0.16	9.0	0.00	0.33	\$ 1.82	\$ 1.49
		Sec. 214 Best-In-Class Appliance Deployment	17.9	9,651	0	0.0038	0.18	10.6	1.80	0.0	\$ 1.52	\$ 1.52
Title VII - Global Warming Pollution Reduction Program	Allowance Revenue devoted to Energy Efficiency	Sec 821. Emissions standards for mobile sources (5)	N/A	N/A	N/A	0.000	-	0	0.00	N/A	\$ -	\$ 6.13
		Sec. 841. Transportation planning (6)	N/A	N/A	N/A	0.57	1.10	91	8.84	N/A	\$ 29.27	\$ 9.76
		Sec. 245 Motor efficiency rebate program	8.8	2,370	N/A	N/A	0.09	5	0.35	0.08	\$ 0.74	\$ 0.67
		Sec. 782 (a) Electricity Consumers	6.3	1,705	N/A	N/A	0.06	3.7	1.58	0.1	\$ 0.54	\$ 0.42
Total, H.R. 2454			423	125642	2504	1.04	8.8	539	103	36	111	\$ 62
Allowance Revenue			426.1	115,060			4.29	252.4	152.37	13.7	\$ 36.13	\$ 22.45
Enhanced SEED			148.8	40174.9	169.5	0.0	1.7	97.0	0.0	4.1	14.8	10.7
Enhanced EERS			183.3	58,957			0.3	0.5	45.5	15.0	\$ 19.66	\$ 11.08
Total, H.R. 2454 with Enhanced Efficiency (8)			1078.9	306,820	2673.8	1.3	16.1	991.5	270.1	48.9	186.0	\$ 105.4

- Notes:
1. Direct gas represents the natural gas saved directly by the measures
 2. 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 2009.
 3. Where programs require substantial spending, we use funding authorizations, or in absence of a specific authorization, assume continuation of spending through 2020.
 4. Gross consumer savings are preliminary estimates assuming AEO 2009 projected energy prices.
 5. Savings estimated for heavy-duty vehicles only, and represent savings over EISA rqt.s.
 6. Transportation planning rqt.s. assumed to yield 10% of sectoral emissions reduction gap.
 7. The undiscounted sum of annual federal investments.
 8. Enhanced also includes all energy efficiency-related provisions from HR 2454.

Italicized rows are those provisions for which there is a significant amount of uncertainty in measuring energy savings.