

Table 35. Light-Duty Vehicle Energy Consumption by Technology Type and Fuel Type  
(trillion Btu)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Light-Duty Consumption by Technology Type</b>														
<b>Conventional Vehicles 1/</b>														
Gasoline ICE Vehicles	15373.31	15605.59	15595.65	15632.70	15856.24	16019.99	16211.77	16417.93	16567.08	16696.99	16814.52	16947.47	17071.88	17186.22
TDI Diesel ICE	243.58	257.07	259.49	267.64	285.32	304.77	325.96	347.76	368.82	390.25	412.08	435.57	460.36	486.88
<b>Alternative-Fuel Vehicles</b>														
<b>Alcohol Fuel Technology</b>														
Methanol-Flex Fuel ICE	0.50	0.46	0.38	0.36	0.34	0.32	0.31	0.29	0.27	0.25	0.22	0.20	0.19	0.17
Methanol ICE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol-Flex Fuel ICE	297.62	364.88	425.84	477.17	553.34	627.50	701.83	775.70	845.08	910.54	972.08	1031.30	1086.37	1137.46
Ethanol ICE	0.29	0.32	0.35	0.39	0.43	0.47	0.52	0.56	0.61	0.65	0.70	0.74	0.79	0.84
Total Alcohol	298.41	365.66	426.57	477.92	554.11	628.30	702.65	776.55	845.95	911.44	973.00	1032.25	1087.34	1138.46
<b>Natural Gas Technology</b>														
Compressed Natural Gas ICE	0.20	0.22	0.23	0.25	0.27	0.29	0.30	0.32	0.34	0.36	0.37	0.39	0.40	0.41
Compressed Natural Gas Bi-fuel	25.34	30.17	34.79	37.27	40.16	42.82	45.47	48.13	50.84	53.32	55.60	57.76	59.74	61.61
Liquefied Petroleum Gas ICE	0.25	0.29	0.32	0.34	0.39	0.46	0.57	0.68	0.80	0.94	1.07	1.21	1.37	1.63
Liquefied Petroleum Gas Bi-fuel	56.10	70.03	110.31	120.45	130.64	139.91	148.76	157.51	166.30	175.03	183.21	190.74	197.43	203.60
Total Natural Gas Technology	81.90	100.70	145.65	158.31	171.45	183.47	195.09	206.64	218.28	229.64	240.25	250.09	258.94	267.26
<b>Electric Technology</b>														
Electric Vehicle	2.54	3.08	3.50	3.68	3.81	3.91	4.02	4.14	4.28	4.43	4.57	4.70	4.82	4.93
Electric-Diesel Hybrid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09	0.29	0.55	0.87	1.20	1.51
Electric-Gasoline Hybrid	4.64	8.52	18.22	34.16	50.06	74.56	99.86	127.76	157.78	189.12	221.66	255.67	294.42	335.24
Total Electricity	7.18	11.60	21.72	37.84	53.87	78.47	103.87	131.95	162.15	193.83	226.78	261.24	300.44	341.68
<b>Fuel Cell Technology</b>														
Fuel Cell Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Cell Methanol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fuel Cell Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.06	0.11	0.16	0.20	0.31	0.43
Total Fuel Cell	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.06	0.11	0.16	0.20	0.31	0.43
<b>Light-Duty Consumption by Fuel Type 1/</b>														
Motor Gasoline	15622.82	15907.10	15955.14	16065.22	16389.00	16659.45	16958.92	17273.85	17527.50	17759.60	17976.75	18208.12	18432.10	18642.83
Distillate (diesel)	243.58	257.07	259.49	267.64	285.32	304.77	325.96	347.76	368.82	390.25	412.08	435.57	460.36	486.88
Methanol	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol	1.10	1.15	1.69	1.90	2.08	2.22	2.40	2.50	2.74	3.09	3.30	3.48	3.73	3.87
Compressed Natural Gas	17.75	21.06	24.20	25.92	27.95	29.82	31.69	33.56	35.45	37.18	38.77	40.27	41.64	42.95
Liquefied Petroleum Gas	14.03	20.97	33.29	34.93	38.19	41.01	43.74	48.04	50.80	53.55	56.13	58.52	58.71	60.75
Electricity	2.54	3.08	3.50	3.68	3.81	3.91	4.02	4.14	4.28	4.43	4.57	4.70	4.82	4.93
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.06	0.11	0.16	0.20	0.31	0.43

Table 35. Light-Duty Vehicle Energy Consumption by Technology Type and Fuel Type  
(trillion Btu)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
<b>Light-Duty Consumption by Technology Type</b>															
<b>Conventional Vehicles 1/</b>															
Gasoline ICE Vehicles	17317.86	17464.38	17595.56	17716.71	17826.52	17934.22	18050.17	18167.22	18289.38	18417.88	18550.20	18677.98	18805.49	18929.23	0.7%
TDI Diesel ICE	516.35	548.45	583.49	621.75	663.72	710.08	757.82	809.07	864.18	921.89	983.35	1047.52	1117.62	1190.02	6.1%
<b>Alternative-Fuel Vehicles</b>															
<b>Alcohol Fuel Technology</b>															
Methanol-Flex Fuel ICE	0.15	0.13	0.12	0.13	0.11	0.10	0.09	0.08	0.07	0.06	0.06	0.05	0.04	0.04	-9.1%
Methanol ICE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Ethanol-Flex Fuel ICE	1186.53	1233.74	1276.87	1316.27	1352.33	1385.63	1416.34	1445.21	1472.62	1498.94	1524.12	1547.57	1569.81	1590.76	5.8%
Ethanol ICE	0.89	0.94	0.99	1.04	1.09	1.13	1.19	1.24	1.29	1.34	1.39	1.44	1.49	1.53	6.2%
Total Alcohol	1187.56	1234.81	1277.98	1317.43	1353.53	1386.87	1417.62	1446.53	1473.98	1500.34	1525.57	1549.06	1571.33	1592.33	5.8%
<b>Natural Gas Technology</b>															
Compressed Natural Gas ICE	0.44	0.45	0.47	0.49	0.51	0.52	0.54	0.56	0.57	0.59	0.60	0.62	0.64	0.65	4.3%
Compressed Natural Gas Bi-fuel	63.42	65.23	66.92	68.56	70.14	71.68	73.13	74.56	76.01	77.47	78.94	80.39	81.85	83.29	4.0%
Liquefied Petroleum Gas ICE	1.99	2.35	2.67	3.00	3.26	3.49	3.70	3.88	4.04	4.19	4.34	4.48	4.60	4.73	11.4%
Liquefied Petroleum Gas Bi-fuel	209.58	215.44	220.93	226.33	231.75	237.23	242.39	247.48	252.51	257.33	262.03	266.64	271.17	275.61	5.4%
Total Natural Gas Technology	275.43	283.48	290.99	298.38	305.66	312.92	319.77	326.48	333.14	339.58	345.91	352.13	358.25	364.28	5.1%
<b>Electric Technology</b>															
Electric Vehicle	5.05	5.16	5.27	5.36	5.45	5.55	5.64	5.75	5.86	5.98	6.10	6.21	6.33	6.44	2.9%
Electric-Diesel Hybrid	1.89	2.25	2.59	2.96	3.30	3.63	3.92	4.18	4.41	4.60	4.75	4.87	4.97	5.02	N/A
Electric-Gasoline Hybrid	378.07	423.26	469.96	518.16	567.70	618.77	671.65	726.21	782.71	841.34	902.13	964.69	1029.40	1096.18	20.5%
Total Electricity	385.00	430.66	477.82	526.48	576.46	627.94	681.21	736.14	792.98	851.92	912.98	975.77	1040.70	1107.64	19.2%
<b>Fuel Cell Technology</b>															
Fuel Cell Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Fuel Cell Methanol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Fuel Cell Hydrogen	0.54	0.80	1.05	1.30	1.57	1.82	2.08	2.37	2.65	2.93	3.21	3.49	3.77	4.04	N/A
Total Fuel Cell	0.54	0.80	1.05	1.30	1.57	1.82	2.08	2.37	2.65	2.93	3.21	3.49	3.77	4.04	N/A
<b>Light-Duty Consumption by Fuel Type 1/</b>															
Motor Gasoline	18870.50	19113.13	19337.49	19549.06	19746.10	19940.89	20142.89	20345.59	20553.60	20768.62	20988.03	21203.09	21418.51	21630.85	1.2%
Distillate (diesel)	516.35	548.45	583.49	621.75	663.72	710.08	757.82	809.07	864.18	921.89	983.35	1047.52	1117.62	1190.02	6.1%
Methanol	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-11.5%
Ethanol	4.11	4.26	4.39	4.74	4.88	5.02	5.17	5.29	5.39	5.42	5.64	5.59	5.71	5.81	6.4%
Compressed Natural Gas	44.22	45.47	46.65	47.81	48.91	49.99	51.00	52.00	53.01	54.02	55.05	56.06	57.08	58.08	4.0%
Liquefied Petroleum Gas	62.83	64.89	66.79	68.67	72.81	74.67	76.42	78.11	79.76	81.34	82.88	84.39	85.85	87.29	5.6%
Electricity	5.05	5.16	5.27	5.36	5.45	5.55	5.64	5.75	5.86	5.98	6.10	6.21	6.33	6.44	2.9%
Liquid Hydrogen	0.54	0.80	1.05	1.30	1.57	1.82	2.08	2.37	2.65	2.93	3.21	3.49	3.77	4.04	N/A

Table 35. Light-Duty Vehicle Energy Consumption by Technology Type and Fuel Type  
(trillion Btu)

1/ Includes personal vehicles and fleet vehicles. Includes both cars and trucks.

Btu = British thermal unit.

ICE = Internal combustion engine.

N/A = Not applicable.

Source: Energy Information Administration, AEO2006 National Energy Modeling System run aeo2006.d111905a.