



# Summer Gas Prices: Beating the Heat with Clean Cars



# Summer Gas Prices: Beating the Heat with Clean Cars



By: John Cross, Environment America Research & Policy Center  
Elizabeth Riddlington, Frontier Group

May 2011

## Acknowledgments

The authors wish to thank Nathan Willcox and Anna Aurilio of Environment America for their editorial support and guidance, as well as Ann Mesnikoff and Jesse Prentice-Dunn of the Sierra Club and Brendan Bell of the Union of Concerned Scientists for their editorial assistance.

Environment America Research & Policy Center thanks the Energy Foundation and the New York Community Trust for making this report possible.

© 2011 Environment America Research & Policy Center

The authors bear responsibility for any factual errors. The recommendations are those of Environment America Research & Policy Center. The views expressed in this report are those of the authors and do not necessarily reflect the views of our funders or of those who provided review.

Environment America Research & Policy Center is a 501(c)3 organization. We are dedicated to protecting America's air, water and open spaces. We investigate problems, craft solutions, educate the public and decision makers, and help Americans make their voices heard in local, state and national debates over the quality of our environment and our lives. For more information about Environment America Research & Policy Center or for additional copies of this report, please visit [www.environmentamerica.org/center](http://www.environmentamerica.org/center).

Frontier Group conducts independent research and policy analysis to support a cleaner, healthier and more democratic society. Our mission is to inject accurate information and compelling ideas into public policy debates at the local, state and federal levels. For more information about Frontier Group, please visit [www.frontiergroup.org](http://www.frontiergroup.org).

Cover Photos: Top image: High gas prices, accessed at <http://www.blogcdn.com/www.autoblog.com/media/2011/03/high-gas-prices.jpg>, 04/29/11. Bottom image: Traffic jam, accessed at <http://blog.lib.umn.edu/ulric085/architecture/images/traffic%20jam.jpg>, 04/29/11.

# Table of Contents

Executive Summary.....	4
The United States Needs to Get off Oil.....	6
60 mpg – We Have the Technology to Get There.....	6
Efficient Vehicles will Save Consumers Money at the Pump.....	7
Clean Cars will Cut Oil Consumption.....	8
Moving Clean Cars into the Fast Lane.....	9
Conclusion.....	10
Methodology.....	11
Appendices.....	12
Notes.....	17

# Executive Summary

Rapidly rising gas prices across the country are shining a spotlight on the dire consequences of America's dependence on oil. Our continued use of oil puts our environment, our health, and our national security at risk, and with prices across the country exceeding \$4 per gallon, it is putting an incredible burden on our economy and on American families. Whether we consider these prices at the pump, the scars left by the oil spill disaster in the Gulf, the billion dollars that we send overseas every day, or the nearly 2 billion metric tons of global warming pollution that our oil consumption pumps into the air each year<sup>1</sup>, it has become clear that we must break our dependence on oil.

The transportation sector accounts for nearly two-thirds of the more than 19 million barrels of oil consumed each day in the United States.<sup>2</sup> The largest percentage is consumed by passenger cars and light duty trucks, such as SUVs, vans, and pickup trucks.<sup>3</sup> Requiring automobile manufacturers to meet strong global warming pollution and fuel efficiency standards represents the greatest opportunity to cut America's oil consumption, reduce global warming pollution from the transportation sector, and deliver important economic benefits to both consumers and businesses - including saving Americans billions of dollars at the pump.

The summer travel season is the most popular time of the year for driving, which means it's also when Americans

most feel the most economic pain of our dependence on oil. Americans are expected to spend more than \$130 billion at the gas pump this summer.

Our analysis found that if our cars and trucks today met a 60 mpg standard, **Americans would save \$67 billion at the gas pump and cut gasoline consumption by 17 billion gallons this summer.** The average American family would save \$513 in just three months. Not only could you afford to drive out to the beach, but now you could book a hotel there and stick around for a week. While families in all 50 states would experience similar savings, those in California, Texas, Pennsylvania, Florida and New York would see the largest overall consumer savings and the largest reductions in gasoline consumption.

American ingenuity has provided the technology to make our current vehicle fleet much cleaner and more fuel efficient. Automakers have developed plug-in hybrid cars that can travel 100 miles on a gallon of gas and U.S. auto dealers are selling electric cars that can go more than 200 miles on one charge.<sup>4</sup> Additionally, several techniques are already being used to make conventional internal combustion engine vehicles more efficient.

Recognizing this, the Obama administration is currently developing new fleet-wide fuel efficiency and global warming pollution standards for cars and light trucks through 2025. In October,

The administration released an analysis that automakers can cost-effectively turn a 60 mile per gallon standard into a reality.<sup>5</sup> By requiring the average cars and light trucks to achieve a standard of at least 60 miles per gallon by 2025, the administration would save Americans \$101 billion at the gas pump each year and cut our oil consumption by nearly 3 million barrels of oil per day by 2030—nearly three times the amount of oil we currently import from Saudi Arabia.<sup>6</sup>

It is clear that America has the workforce and the technology to build cleaner, more fuel efficient cars that help break our dangerous dependence on oil. Ending this dependence that threatens our economy, our environment, and our national security will require our leaders to put American ingenuity to work to move us beyond oil. The Obama administration should move clean cars into the fast lane by setting standards that require new cars and light trucks to meet a standard of 60 miles per gallon by 2025.

# The United States Needs to Get off Oil

America's dangerous dependence on oil harms our environment and threatens our economy. Our dependence on this dirty energy source devastates our shores as we have sadly seen along the Gulf Coast, forces American families and businesses to send hundreds of billions of dollars overseas each year, and exacerbates the threat posed by global warming by spewing nearly 2 billion metric tons of carbon pollution into our air, or nearly one third of the global warming pollution we emit.<sup>7</sup>

Getting Americans from point A to point B consumes nearly two-thirds of the more than 19 million barrels of oil consumed each day in the United States.<sup>8</sup> 8.5 million of those barrels of oil directly fuel passenger cars and light duty trucks such as SUVs, vans, and pickup trucks,<sup>9</sup> which means reducing our dependence on oil requires building cars and trucks that are much cleaner and more fuel efficient.

## 60 mpg – We Have the Technology to Get There

By requiring automobile manufacturers to meet strong global warming pollution and fuel-efficiency standards, America can save billions of dollars at the pump,

reduce global warming pollution from cars and trucks, and significantly cut our dangerous dependence on oil.

American ingenuity has given us the technology today that could make cars and trucks achieve a 60 mpg fleet-wide standard. By applying existing and emerging fuel saving technologies to conventional internal combustion engine vehicles, while ramping up production of hybrids and plug-in electric vehicles, automakers can deliver a full range of cars and trucks that use less oil and emit less global warming pollution.<sup>10</sup>

**Conventional internal combustion engine vehicles** can be made much more efficient by applying fuel-saving techniques such as downsized turbocharged engines, enhanced aerodynamic designs, high-strength lightweight materials, six-speed and seven-speed transmissions and more climate-friendly air conditioning systems.<sup>11</sup> While a growing number of automakers are already using some of these techniques, applying the full range of these technologies will significantly increase fuel efficiency.

A 60 mpg standard will also help bring **more hybrid-electric vehicles** into the marketplace. These vehicles can significantly improve fuel efficiency and lower global warming pollution emissions by combining an efficient gasoline engine with an electric motor.<sup>12</sup> Automakers are additionally beginning to introduce **plug-in hybrids and battery electric vehicles** that will require no gasoline at all. Electric vehicles like the Chevrolet Volt and Nissan Leaf have recently begun to roll into dealerships, and more models will follow with a strong standard.

# Efficient Vehicles Will Save Consumers Money at the Pump

America's inefficient vehicle fleet combined with rising gasoline prices are costing consumers more money at the pump. Throughout the summer travel season, Americans are expected to spend over \$130 billion at the gas pump.

**If the vehicle fleet met a 60 mpg standard, Americans would save almost \$67 billion at the gas pump this summer.** California, Texas, Pennsylvania, Florida and New York would see the largest overall savings due to large travel volume and high gas prices.

## Top 10 States for Savings at the Pump

Rank:	State:	Savings at the Pump (\$)
1	California	\$7,859,373,529
2	Texas	\$5,097,962,086
3	Florida	\$4,155,837,648
4	New York	\$3,203,815,576
5	Pennsylvania	\$2,497,544,961
6	Ohio	\$2,429,784,815
7	Illinois	\$2,423,956,693
8	Georgia	\$2,244,211,677
9	Michigan	\$2,227,547,268
10	North Carolina	\$2,220,598,126

Perhaps more importantly, individual families across the country would stand to save hundreds of dollars this summer. **The average American family, over the summer months, would save about \$513.** Not only could they afford a roadtrip to the beach, but they could book a hotel there for the week with the money they've saved. In some of the states where families drive the most, they stand to gain hundreds more than that:

## Top 10 States for Savings at the Pump per Household

Rank:	State:	Savings per household
1	Wyoming	\$863
2	Mississippi	\$719
3	Oklahoma	\$662
4	Montana	\$656

5	North Dakota	\$649
6	South Dakota	\$638
7	New Mexico	\$634
8	Missouri	\$595
9	Alabama	\$589
10	Nebraska	\$584
10	Vermont	\$584

## Clean Cars Will Cut Oil Consumption

The benefits of reducing our dependence on oil don't end with the consumer savings we would see.

Given that the majority of the oil consumed in the United States goes toward filling the gas tanks of our cars and light trucks, strong clean car standards represent the best and most

immediate opportunity to lock in significant reductions in our oil use. If our fleet of vehicles met a 60 mpg standard, Americans would use roughly 17 billion fewer gallons of gasoline during the summer this year—**that's more than a 50 percent drop from expected oil consumption.**

While these reductions in oil use are significant for just the summer, their effect over time would have truly profound benefits for our nation's energy security, our environment, and our health.

## Top 10 States for Gasoline and Global Warming Emission Savings

Rank:	State:	Gas Savings (gal)	Global Warming Emissions Avoided (MMTCO <sub>2</sub> )
1	California	1,843,625,036	17,388,594
2	Texas	1,338,047,791	12,620,121
3	Florida	1,072,474,232	10,115,299
4	New York	778,191,784	7,339,704
5	Pennsylvania	630,374,801	5,945,532
6	Ohio	616,227,445	5,812,098
7	Illinois	615,529,886	5,805,519
8	Georgia	582,156,077	5,490,745
9	North Carolina	576,030,642	5,432,972
10	Michigan	565,654,461	5,335,106

# Moving Clean Cars into the Fast Lane

The foundation for strong federal clean vehicle standards comes from momentum built in states across the country. California began the movement toward cleaner cars in 2002 by passing a landmark clean cars law that targeted reductions in global warming pollution spewing from tailpipes. The District of Columbia and thirteen other states (Arizona, Connecticut, Maine, Maryland, Massachusetts, New Jersey, New Mexico, New York, Oregon, Pennsylvania, Rhode Island, Vermont and Washington) adopted California's historic clean car standards.<sup>13</sup>

President Obama took action to build on these rulings in early 2010, calling for new federal light duty clean car standards for model years 2012-2016 that would increase fuel efficiency to 35.5 mpg. This represented the largest increase in fuel economy in more than 30 years and set the first ever federal tailpipe global warming pollution standards. While these standards will provide significant benefits for America's economy and environment, still greater improvements in fuel economy are necessary to truly get America off oil.

Just over a month after finalizing the

2012-2016 standards, President Obama announced that his administration would work with California to strengthen emissions and fuel efficiency standards for cars and light trucks through 2025. In October 2010, the administration released a technical analysis that demonstrates that automakers can cost-effectively make clean cars the norm and not the exception to the rule. By reducing greenhouse gas emissions by 6 percent per year and making new cars and light trucks meet at least a 60 mpg standard by 2025, the administration would save Americans \$101 billion at the gas pump<sup>14</sup> and cut our oil consumption by nearly 3 million barrels of oil per day in 2030—nearly three times the amount of oil we currently import from Saudi Arabia.<sup>15</sup>

Strong clean cars standards enjoy overwhelming public support. More than 74 percent of likely voters favor increasing the average fuel efficiency standard for cars and light trucks to 60 mpg by 2025, making it clear that Americans are eager to reap the benefits of cleaner, more fuel efficient cars. Furthermore, Americans overwhelmingly support cutting pollution and saving oil even if it would increase retail prices. 83 percent of voters support a 60 mpg standard when they are informed that fuel-saving technologies would pay for themselves with savings at the pump within four years.<sup>16</sup>

# Conclusion

It is abundantly clear that we are spending too much money at the pump, and jeopardizing our economy, environment, and energy security through our dependence on oil. Setting the strongest possible standard requiring cars and trucks to emit less global warming pollution and use less gas would save drivers billions of dollars annually. The Obama administration should move clean cars into the fast lane by setting standards that require new cars and light trucks to average 60 miles per gallon by 2025.

# Methodology

We obtained state-by-state data on total vehicle miles travelled (VMT) for June, July and August of 2009 from U.S. Department of Transportation, Federal Highway Administration, *Traffic Volume Trends* for July, August and September 2009. We adjusted this total VMT figure to reflect the fact that, nationally, light-duty vehicles account for approximately 89 percent of miles driven, per U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2009, Table VM-1*, April 2011.

We calculated state-by-state gasoline consumption that would result from current fuel economy standards in comparison to a scenario in which light-duty vehicles had to meet a standard of 60 mpg. We applied the on-road fuel economy of the current mixed fleet of light duty vehicles, per the Energy Information Administration *Annual Energy Outlook 2011*, 25 April 2011. We based the on-road fuel economy of vehicles adhering to a 60 mpg standard on an analysis performed by the Union of Concerned Scientists, *The ABCs of GHGs and MPGs*, pre-publication draft. The difference in the amount of fuel consumed under the two different fuel economy standards represents the savings that could be obtained from higher standards.

We estimated what this would mean in terms of reduced global warming pollution by converting gasoline savings to an equivalent amount of carbon

dioxide. We also assumed that the fuel economy standard modeled here would be paired with a strong global warming tailpipe emission standard that would cause automakers to reduce emissions from air conditioners by 15 grams per mile. We assume a gallon of gasoline to contain 19.4 pounds of carbon dioxide, per U.S. Environmental Protection Agency, *Emissions Facts: Average Carbon Dioxide Emissions Resulting from Gasoline and Diesel Fuel*, February 2005. This figure does not account for non-combustion emissions from gasoline, such as those inherent in its extraction and delivery.

We calculated state-by-state cost savings using current gasoline prices, on a regional or, where available, state level, from U.S. Department of Energy, Energy Information Administration, *Weekly Retail Gasoline and Diesel Prices*, 25 April 2011.

To know what this would mean for individual consumers, we assumed that every household in a state is responsible for an equal share of statewide VMT, and so we estimated savings on a household basis. We calculated the number of households in every state using population figures and average household size data from U.S. Census Bureau, Population Estimates Program, *2009 Population Estimates*, 20 July 2010, available at [factfinder.census.gov/home/en/official\\_estimates\\_2009.html](http://factfinder.census.gov/home/en/official_estimates_2009.html). We divided our statewide gasoline cost savings by the number of households to derive a per-household savings figure.

Appendix A. Gasoline and global warming emission savings by state.

<b>Rank:</b>	<b>State:</b>	<b>Gas Savings (gal)</b>	<b>Global Warming Emissions Avoided (MMTCO2)</b>
1	California	1,843,625,036	17,388,594
2	Texas	1,338,047,791	12,620,121
3	Florida	1,072,474,232	10,115,299
4	New York	778,191,784	7,339,704
5	Pennsylvania	630,374,801	5,945,532
6	Ohio	616,227,445	5,812,098
7	Illinois	615,529,886	5,805,519
8	Georgia	582,156,077	5,490,745
9	North Carolina	576,030,642	5,432,972
10	Michigan	565,654,461	5,335,106
11	Virginia	466,840,955	4,403,123
12	New Jersey	409,117,998	3,858,695
13	Missouri	405,499,414	3,824,566
14	Indiana	392,725,376	3,704,084
15	Tennessee	391,352,058	3,691,131
16	Wisconsin	349,345,963	3,294,941
17	Washington	344,768,236	3,251,765
18	Alabama	339,928,925	3,206,122
19	Arizona	330,097,711	3,113,396
20	Maryland	328,811,588	3,101,266
21	Minnesota	321,269,238	3,030,128
22	Massachusetts	314,686,030	2,968,037
23	South Carolina	280,919,844	2,649,563
24	Oklahoma	278,936,163	2,630,854
25	Louisiana	273,987,858	2,584,183
26	Kentucky	269,257,540	2,539,567
27	Colorado	266,532,703	2,513,867
28	Mississippi	242,728,522	2,289,353
29	Oregon	207,807,005	1,959,982
30	Arkansas	193,310,870	1,823,258
31	Iowa	181,735,760	1,714,085
32	Connecticut	180,798,416	1,705,244
33	Kansas	169,288,703	1,596,687
34	Utah	150,607,217	1,420,488
35	New Mexico	148,034,970	1,396,228
36	West Virginia	118,039,959	1,113,322

37	Nebraska	117,669,382	1,109,827
38	Nevada	113,702,018	1,072,408
39	Idaho	92,971,455	876,883
40	Maine	86,061,267	811,708
41	New Hampshire	79,085,683	745,916
42	Montana	78,911,293	744,271
43	Delaware	59,793,834	563,960
44	South Dakota	59,205,269	558,409
45	Wyoming	59,139,873	557,792
46	Rhode Island	53,973,581	509,065
47	Hawaii	53,624,802	505,775
48	North Dakota	52,098,893	491,383
49	Vermont	45,951,659	433,404
50	Alaska	31,782,504	299,764
51	District of Columbia	20,185,596	190,385
Total:	United States	16,978,898,285	160,140,575

Appendix B. Total savings at the pump, by state.

Rank:	State:	Savings at the Pump (\$)
1	California	\$7,859,373,529
2	Texas	\$5,097,962,086
3	Florida	\$4,155,837,648
4	New York	\$3,203,815,576
5	Pennsylvania	\$2,497,544,961
6	Ohio	\$2,429,784,815
7	Illinois	\$2,423,956,693
8	Georgia	\$2,244,211,677
9	Michigan	\$2,227,547,268
10	North Carolina	\$2,220,598,126
11	Virginia	\$1,799,671,882
12	New Jersey	\$1,620,925,508
13	Missouri	\$1,596,856,691
14	Indiana	\$1,546,552,530
15	Tennessee	\$1,541,144,403
16	Washington	\$1,385,968,309
17	Wisconsin	\$1,375,724,403
18	Arizona	\$1,301,245,177

19	Alabama	\$1,285,271,265
20	Maryland	\$1,267,568,671
21	Minnesota	\$1,258,732,873
22	Massachusetts	\$1,228,534,263
23	Oklahoma	\$1,098,450,609
24	South Carolina	\$1,082,946,000
25	Kentucky	\$1,060,336,193
26	Louisiana	\$1,035,948,091
27	Colorado	\$976,309,289
28	Mississippi	\$917,756,543
29	Oregon	\$819,175,215
30	Arkansas	\$730,908,399
31	Connecticut	\$721,024,084
32	Iowa	\$715,675,424
33	Kansas	\$666,658,911
34	New Mexico	\$559,720,223
35	Utah	\$554,686,380
36	Nebraska	\$463,382,025
37	West Virginia	\$455,044,044
38	Nevada	\$448,213,356
39	Maine	\$343,212,332
40	Idaho	\$342,413,868
41	New Hampshire	\$315,393,703
42	Montana	\$290,630,293
43	South Dakota	\$233,150,348
44	Delaware	\$230,505,228
45	Wyoming	\$217,812,151
46	Rhode Island	\$215,246,640
47	Hawaii	\$211,388,968
48	North Dakota	\$205,165,439
49	Vermont	\$183,255,217
50	Alaska	\$125,286,632
51	District of Columbia	\$77,815,473
Total:	United States	\$66,866,339,429

Appendix C. Savings at the pump, per household by state.

<b>Rank:</b>	<b>State:</b>	<b>Savings per household</b>
1	Wyoming	\$863
2	Mississippi	\$719
3	Oklahoma	\$662
4	Montana	\$656
5	North Dakota	\$649
6	South Dakota	\$638
7	New Mexico	\$634
8	Missouri	\$595
9	Alabama	\$589
10	Nebraska	\$584
11	Vermont	\$584
12	California	\$582
13	Delaware	\$580
14	Utah	\$576
15	Arkansas	\$557
16	Tennessee	\$553
17	Indiana	\$550
18	Georgia	\$549
19	Kentucky	\$547
20	Maryland	\$541
21	Virginia	\$539
22	Kansas	\$539
23	Minnesota	\$538
24	Iowa	\$532
25	Wisconsin	\$532
26	Louisiana	\$530
27	New Hampshire	\$528
28	Idaho	\$527
29	North Carolina	\$521
30	Texas	\$521
31	South Carolina	\$519
32	West Virginia	\$509
33	Connecticut	\$498
34	Oregon	\$497
35	Michigan	\$493
36	Maine	\$490

37	Washington	\$489
38	Ohio	\$477
39	Rhode Island	\$474
40	Arizona	\$471
41	Florida	\$469
42	New Jersey	\$459
43	Illinois	\$457
44	Pennsylvania	\$452
45	Colorado	\$446
46	Massachusetts	\$445
47	Alaska	\$438
48	Hawaii	\$412
49	New York	\$400
50	Nevada	\$395
51	District of Columbia	\$268
Total:	United States	\$513

## Notes

1 Center for America Progress, Oil Dependence Is a Dangerous Habit: Imports Threaten Our Security, Our Environment, and Our Economy, January 2010.

2 U.S. Department of Energy, Energy Information Administration, *Petroleum Navigator: Product Supplied*, August 2010, downloaded from <http://tonto.eia.doe.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=mttupus2&f=m>.

3 U.S. Department of Energy, Energy Information Administration, *State Energy Data 2008*, downloaded from [http://www.eia.gov/emeu/states/\\_seds.html](http://www.eia.gov/emeu/states/_seds.html).

4 Environment America Research and Policy Center and Frontier Group, *Plug In Cars: Powering America Toward a Cleaner Future*, January 2010.

5 Environmental Protection Agency and Department of Transportation, *2017 and Later Model Year Light Duty Vehicle GHG Emissions and CAFE Standards; Notice of Intent*. Federal Register, Vol. 75, No. 197, 13 October 2010.

6 Union of Concerned Scientists and Natural Resources Defense Council, *Saving Money at the Gas Pump: State-by-State Consumer Savings from Stronger Fuel Efficiency and Carbon Pollution Standards*, September 2010.

7 World Resources Institute, *Reducing Greenhouse Gas Emissions in the United States: Using Existing Federal Authorities and State Action*, July 2010.

8 See note 2.

9 See note 3.

10 Union of Concerned Scientists and Natural Resources Defense Council, *The Road Ahead: The Benefits of Strong Fuel Efficiency and Pollution Standards for New Cars and Trucks*, September 2010.

11 Ibid.

12 Ibid.

13 Environment America Research and Policy Center and Frontier Group, *State Leadership and the National Clean Cars Program: Reducing Oil Dependence and Cutting Global Warming Pollution*, March 2010.

14 See note 6.

15 Ibid.

16 The Mellman Group, *Poll: Voters Overwhelmingly Support Stricter Fuel Efficiency Standards*, 15 September 2010.