Consumer Federation of America

1620 I Street, N.W., Suite 200 * Washington, DC 20006

TECHNOLOGY, COST AND TIMING

An Analysis of Competing Congressional Proposals to Raise Fuel Economy Standards

By
Mark Cooper
Director of Research

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INTRODUCTION

In May of 2006, the Consumer Federation of America (CFA) published an analysis entitled *50 by 2030*,[1] which concluded that it is technologically feasible and economically beneficial for consumers to double the fuel economy of the vehicle fleet by 2030.

> "A price of $3.00 per gallon has a dramatic impact, so much so, that consumer, economic and societal cost-benefit analyses support a recommendation that all the new light duty vehicles (cars, SUVs and light trucks) sold in the U.S. achieve an average fuel efficiency of 50 miles per gallon (mpg) by 2030 – ***50 BY 2030***. This would be a major accomplishment, doubling the average fuel efficiency for new light duty vehicles from the approximately 25 miles per gallon they get today." [2]

Last week, the National Petroleum Council (NPC) reached the same conclusion recommending that the fuel economy of vehicles be doubled by 2030:

> Technically, there appears to be a potential for improving the efficiency of new light duty vehicles (fuel used per unit travel) by about 50 percent, using technology improvements in several areas: energy efficiency; body improvements; driveline changes; accessory modifications; and hybrid technology use. A 50 percent reduction in fuel used per mile of travel (efficiency) is mathematically equivalent to a doubling of mpg, or a 100 percent increase. It is assumed that if the total 100 percent improvement in new vehicle fuel economy is implemented by the year 2030, the potential impact appears to lower light duty vehicle fuel consumption by 3 to 5 million barrels per day relative to a future with no improvement in vehicle fuel economy.[3]

The increasingly widespread support for this ambitious but achievable goal comes at a critical moment in the national energy policy debate. The United States Senate has passed legislation to increase the corporate average fuel economy (CAFE) standards of new vehicles by 10 miles per gallon (mpg), from 25 mpg to 35 mpg by 2020. The U.S. House of Representatives is about to take up national energy legislation, including several CAFE proposals. After two decades in which the fuel economy of new vehicles and the vehicle fleet has not improved, the question is no longer whether to raise the fuel economy standard but how much and how quickly.

POLICY ALTERNATIVES

This paper evaluates the alternatives currently before the House of Representatives (as well as the President's proposal in his State of the Union address) against the goal identified by both CFA and the NPC of doubling the fuel economy of the vehicle fleet by 2030. Five alternatives are examined:

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[1] Mark Cooper, *50 by 2030* (Consumer Federation of America, May 2006).
[2] Id, p. 1.
[3] National Petroleum Council, *Facing the Hard Truths about Energy: A Comprehensive View to 2030 of Global Oil and Natural Gas,* July 18, 2007, pp. 10-11.

- The President's proposal in his 2007 State of the Union address to increase fuel economy by 4 percent per year until 2017;
- The Markey-Platts bill in the House, which targets 35 miles per gallon by 2018 and 4 percent per year improvements thereafter;
- The Senate Energy Bill, which targets 35 miles per gallon by 2020 and maximum feasible improvements thereafter;
- The Hill-Terry bill, which sets a range of 32-35 miles per gallon in 2022 and caps mileage at 35 miles per gallon;
- The Barton-Hastert bill, which sets a target of 27.5 miles per gallon for trucks and 35 for cars by 2022, which works out to about 31 miles per gallon at today's vehicle mix.

These proposals differ along three critical dimensions: targets, timing, and flexible fuel vehicle credit (see Exhibit 1).

Exhibit 1: Policy Alternatives

	TARGET	TIMING	FLEXIBLE FUEL VEHICLE CREDIT EXPIRATION
President 4%			
Primary target	4%/year	2017	2010
Subsequent progress	na		
Markey-Platts			
Primary target	35 mpg	2018	2010
Subsequent progress	4%/year	after 2018	
Senate Energy			
Primary target	35mpg	2020	2010
Subsequent progress	Maximum Feasible	after 2020	
Hill-Terry			
Primary target	32 minimum 35 maximum	2022	2020
Subsequent progress	Capped at 35mpg		
Barton-Hastert			
Primary target	~ 31 (35 cars 27.5 27.5 trucks)	2022	2010
Subsequent progress	na		

The differences between the policies are obvious. The Hill-Terry and Barton-Hastert proposals, which have much lower targets and take a much longer time to reach them, are supported by the auto industry. Hill-Terry also extends the flexible fuel vehicle (FFV) credit,

which significantly lowers actual fuel savings because a significant number of flexible fuel vehicles are not actually running on alternative fuels but are counted as saving gasoline. Barton-Hastert sets standards for cars and trucks separately, which could have the effect of shifting the vehicle mix toward the less efficient vehicles. For purposes of this analysis, we assume today's mix of 50 percent cars and 50 percent trucks, which likely overestimates the fuel savings that would be achieved under Barton-Hastert.

This analysis evaluates each legislative proposal against the long term goal of doubling the fuel economy of the vehicle fleet by 2030 and finds that the President's 4% and the Markey-Platts proposals are right on target to achieve this goal – reducing national oil consumption by approximately 5 million barrels per day by 2030. The Senate energy bill achieves about three-quarters of the goal. In contrast, the industry-sponsored bills introduced by Hill-Terry and Barton-Hastert fall far short, likely achieving one-quarter, or less of the goal.

The paper is divided into four sections:

1) The technological and economic feasibility of doubling fuel economy;

2) The national economic, security and environmental benefits of doubling the fuel economy of the vehicle fleet;

3) The importance of immediately starting on a path to accomplish the long-term goal;

4) Analysis of policy alternatives being considered as tools to achieve the goal.

THE ECONOMIC AND TECHNOLOGICAL FEASIBILITY FOR DOUBLING VEHICLE FLEET FUEL ECONOMY

The conclusion that fuel economy can be doubled over a couple of decades has its origin in a 2002 study by the National Research Council (NRC) of the National Academy of Sciences (NAS).[4] According to the 2002 National Research Council report, there is existing technology (or very nearly so) that could dramatically raise the fuel economy of the vehicle fleet without compromising the size or safety of vehicles (see Exhibit 2). In other words, no technological breakthroughs are necessary.

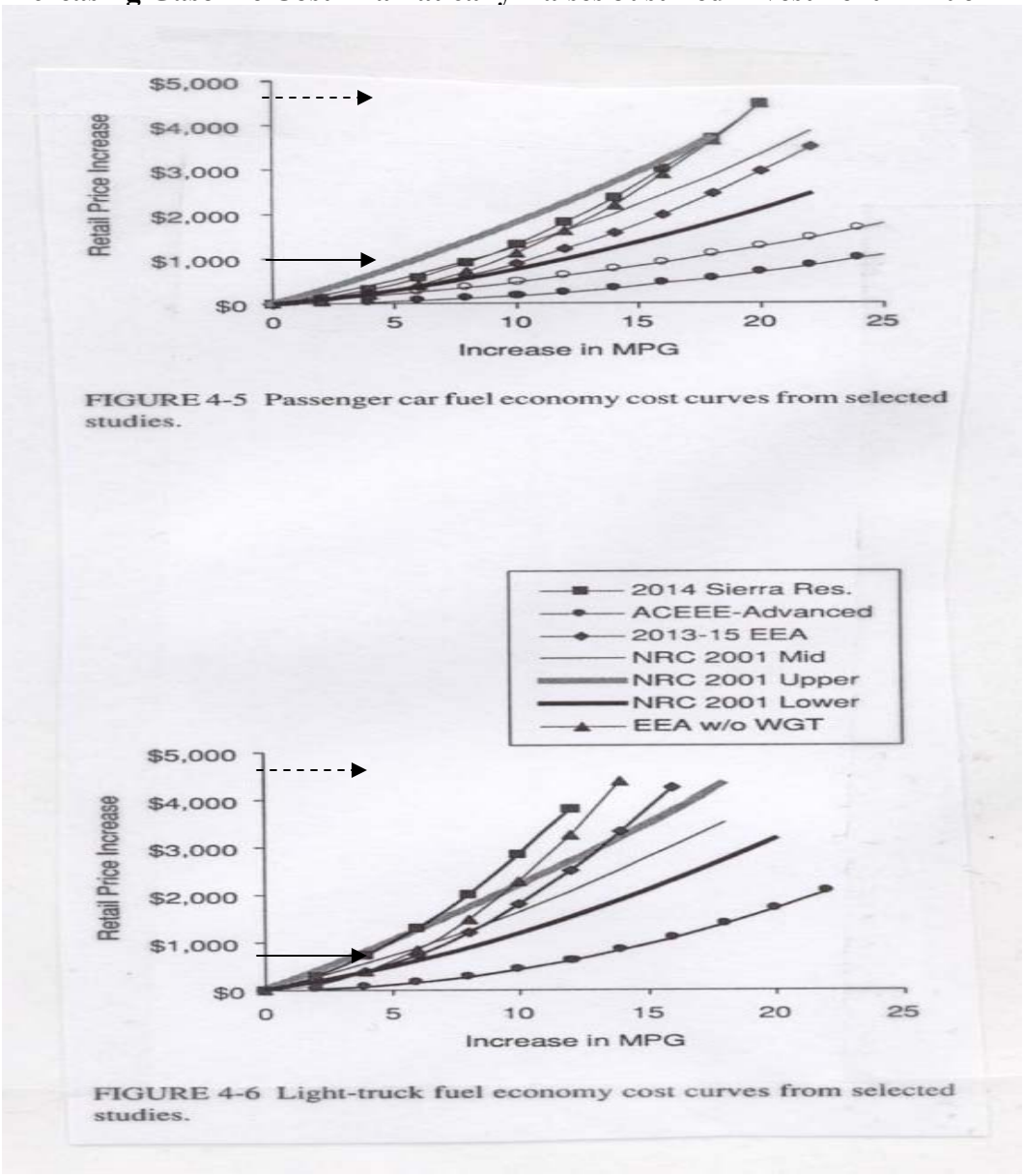
Exhibit 2 from the NRC study shows a variety of cost curves for improving the fuel economy of the vehicle fleet. It separates cars from trucks. Based on these cost estimates, the NRC concluded that a fleet average of 37 miles per gallon was technologically and economically feasible.

At that time, the NRC analysis was constrained by economics, not technology. The NRC scenarios were modeled at an assumed price of gasoline of $1.50 per gallon (in 1999 dollars). Under that constraint, none of its scenarios invested more than $1500 per vehicle to improve fuel economy. More than half the technologies in existence then were left out of their analysis because of cost. However, with the current price of gasoline at $3.00 per gallon, which is about

[4] National Research Council, *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards* (Washington: National Academy Press, 2002).

$2.50 in 1999 dollars, a larger investment in fuel saving technology becomes justified. With the benefits of fuel efficiency technology increased by two-thirds to three quarters, the economic analysis pulls more of those technologies off the shelf and into the fleet. In Exhibit 2, we identify investments that together cost up to $5,000 per vehicle. In addition, the NRC did not consider hybrids.

Exhibit 2:
Increasing Gasoline Cost Dramatically Raises Justified Investment In Fuel Efficiency



→ NRC max; at $1.5 - - - - - - - ▸ Max at $3.00/gallon

Source: National Research Council, *Effectiveness and Impact of Corporate Average Fuel Economy (CAFÉ) Standards* (Washington: National Academy Press, 2002).

Given the costs identified by the NRC and the increase in the value of the benefits, we find that the doubling of fuel economy of the vehicle fleet passes both a consumer pocketbook test and a national cost-benefit test with flying colors (see Exhibit 3).[5] The investments pay for themselves in the sense that the increase in cost paid for higher fuel economy vehicles is less than the fuel savings. The monthly cost of owning and operating the more fuel efficient vehicle is lower. We have tested this proposition for "average" vehicles, rural households, who tend to drive more than urban households, and for owners of pickup trucks,[6] which tend to get much lower gasoline mileage today. We have examined the consumer impact at the mid-point fuel economies (35 mpg) as well as the longer term goal (50 mpg).

Exhibit 3:
Consumer Analysis of Reformed CAFE (35 MPG All Vehicles, 30 mpg Pickups)

	All Households		Rural Households		Pickup Trucks	
	$2.50	**$3.00**	**$2.50**	**$3.00**	**$2.50**	**$3.00**
Loan Payment Increase	$1909	$1909	$1909	$1909	$3565	$3565
Life of Loan						
Fuel Cost Savings	2073	2487	2488	2984	4740	5688
Net Savings	164	578	579	1075	1175	2123
Life of Vehicle						
Fuel Cost Savings	2900	3480	3480	4176	9552	11463
Net Savings	991	1571	1175	2123	5957	7898

Source *Too Little, Too Late: Why The Auto Industry Proposal To Go Low And Slow On Fuel Economy Improvements Is Not In The Consumer Or National Interest* (Consumer Federation of America, July 2007)

NATIONAL INTERESTS IN DOUBLING THE FUEL ECONOMY OF THE U.S. VEHICLE FLEET

Our consumer pocketbook test could be considered more demanding than the national cost benefit analysis because it does not take into account the national economic and security benefits of reduced oil consumption nor does it factor in the environmental benefits. We

[5] The NRC also used a more severe economic criterion – three year payback – than our five year cash flow criterion. The three year payback vastly exceeds the investment opportunities available to most consumers. The implicit or revealed preference on which the 3 year payback period rests does not suggest rational behavior on the part of consumers. We suspect that the "revealed" preference is being misinterpreted. It may involve many factors, like imperfect information, an inability to project prices and do life cycle cost calculations, marketing by auto manufacturers, etc.

[6] Mark Cooper, *Too Little, Too Late: Why The Auto Industry Proposal To Go Low And Slow On Fuel Economy Improvements Is Not In The Consumer Or National Interest* (Consumer Federation of America, July 2007), p. 13; Mark Cooper, *Rural Households Benefit More From Increases in Fuel Economy* (Consumer Federation of America, June 2007).

conclude that the consumer should favor a policy that promotes fuel economy on the basis of the monthly cost of owning and operating more fuel efficient vehicles.

The fact that doubling the fuel economy of the vehicle fleet is technically feasible and economically justified from the consumer point of view should be enough to move the nation in the direction of greater fuel economy. But three other factors make this movement urgent -- the national security, economic vulnerability and global warming impacts of our nation's "addiction to oil."

In his 2007 State of the Union address, President Bush proposed increasing our vehicle fleet fuel economy by 4 percent annually because of the twofold dangers of our oil dependency and global warming. He declared that dependence on oil leaves us vulnerable to hostile regimes and terrorists.[7] Prominent military leaders across the country have echoed his warning. Retired Vice Admiral Dennis McGinn recently told Congress "By enriching the coffers of fundamentalist regimes with our gasoline purchases, we are inadvertently financing, but directly enabling, the spread of a flawed and deadly brand of Islam that is tilting key regions in a more intolerant and dangerous direction."[8] He says our continued dependence on oil is a "clear and present danger – economically, militarily, diplomatically and environmentally."

Economically, the U.S. is exposed on a daily basis to oil price shocks and supply disruptions. Regardless of the cause – whether by global market dynamics, natural disasters, terrorist attacks, or politically motivated oil embargoes – if we continue business as usual, allowing our demand for oil to grow unchecked, those price shocks will become much more frequent, more deeply felt and longer lasting. Economists across our country strongly support government intervention in the transition away from fossil fuels, according to a survey by the Wall Street Journal. When asked to pick the greater geopolitical threat to the economy, by nearly a 3-to-1 margin, the economists chose a disruption in crude oil supplies caused by tensions in the Mideast over the impact on spending and confidence that could follow a major terrorist attack. [9]

Environmentally, the impacts of global warming, largely caused by burning fossil fuels, pose "a serious threat to America's national security," according to senior retired military leaders. [10] A report from the Center for Naval Analysis states that global warming acts as a "threat multiplier for instability" in some of the world's most volatile regions, adding tension to stable regions, worsening terrorism and likely dragging the U.S. into fights over water and other resource shortages. On the simplest level, it has the potential to create sustained natural and humanitarian disasters on a scale far beyond those we see today. The consequences will likely foster political instability where societal demands exceed the capacity of governments to cope.

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[7] President Bush's State of the Union address, January 23, 2007.
[8] Statement of Vice Admiral Dennis McGinn, USN, Retired Senate Commerce Committee Hearing on CAFE legislation, Washington, DC, May 3, 2007.
[9] IZZO, PHIL. "Is It Time for a New Tax on Energy? /Economists Say Government Should Foster/Alternatives – But Not How Bush Proposes." *Wall Street Journal* (Feb. 9, 2007); May, Clifford D. "Diversity Can Pave the Road Toward Energy Security." *Scripps Howard News Service* (Jan. 25, 2007).
[10] CNA Report on "National Security and the Threat of Climate Change" http://securityandclimate.cna.org/report/National%20Security%20and%20the%20Threat%20of%20Climate%20Change.pdf (April 16, 2007).

The United Nations' Intergovernmental Panel on Climate Change (IPPCC) composed of the world's leading scientists has warned that to avert the worst consequences of global warming, we need to reduce global warming emissions to 80 percent below 1990 levels by 2050.[11] The United States will emit about 20 percent more greenhouse gases by 2020 than it did in 2000, according to a draft report that the Bush administration was scheduled to submit to the United Nations a year ago[12] By mid-century, the world's vehicle population is expected to reach 2 billion, almost triple the current figure. To limit global vehicle emissions to 50 percent more than today's levels, the average fuel economy of cars and trucks on the road would have to rise to about 60 mpg in 50 years or less, according to calculations by the Carbon Mitigation Initiative at Princeton University, a research effort funded, in part, by Ford.[13] Because it takes a decade or two for new technology to make it into every car on the road, all new vehicles within 35 years or less would need to reach 60 mpg.

Strong fuel economy standards represent the "sweet spot" of a serious national energy policy to address all of our most vexing global challenges. [14] When Congress passed the first CAFE standards in 1975, automakers doubled the fuel economy of passenger cars in less than ten years, cutting our oil imports in half, even when the price of oil fell. Because Congress failed to continue raising standards, today our passenger cars and trucks account for over 40 percent of our nation's oil consumption, and over 20 percent of our global warming emissions. Raising CAFE standards is not only an effective means of reducing national oil consumption; it is the only proven means. No credible national energy policy can exist without it.

The recognition of externalities or social costs of oil consumption, including national economic and security costs, as well as global warming impacts, has grown sharply over the past few years. Estimating the dollar value of these externalities is difficult, however. Retired Air Force General Charles Wald estimates that if the true cost of military security were incorporated into the price of gasoline, we would be paying between $6.50 and $7 a gallon.[15] The IPCC put the global warming cost of carbon dioxide emission at the equivalent of $1 per gallon.

Our review of the literature shows that an extremely conservative estimate of these social costs would place their value at a level of at least $1 to $2 per gallon.[16] As a consequence, the

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[11] UN Intergovernmental Panel on Climate Change http://www.ipcc.ch/SPM6avr07.pdf
James Kanter and Andrew C. Revkin
<http://topics.nytimes.com/top/reference/timestopics/people/r/andrew_c_revkin/index.html?inline=nyt-per> .
"Scientists Detail Climate Changes, Poles to Tropics." *New York Times* (April 7, 2007).
Jolis, Anne and Alex MacDonald. "U.N. Panel Reaches Agreement On Climate-Change Report." *Wall Street Journal* (Apr. 6, 2007).

[12] Andrew, Revkin "U.S. Predicting Steady Increase for Emissions." *New York Times* (March 3, 2007).

[13] Harry Stoffer. "The heat is on/How global warming is closing in on the U.S. auto industry." *Automotive News* (February 5, 2007). The 60 mpg figure was presented in a list of options and was the one which received the least resistance at the *Sixth Annual Meeting of the Carbon Mitigation Initiative,* February 21-22, 2007.

[14] CNA Report on "National Security and the Threat of Climate Change"
http://securityandclimate.cna.org/report/National%20Security%20and%20the%20Threat%20of%20Climate%20Change.pdf (April 16, 2007).

[15] Statement at the *25 by 25 Summit,* March 21, 2007, available at http://64.130.50.222/blog/?p=7

[16] See 50 by 2030, citing International Center for Technology Assessment, The Real Price of Gasoline, 1997, Gasoline Cost Externalities Associated with Global Climate Change, September 29, 2004; Gasoline Cost Externalities: Security and Protection Services, January 25, 2005; Lovins, Amory, et al., Winning the Oil Endgame

social rate of return on even the most aggressive proposals on the table – i.e. the President's plan and the Markey-Platts bill – is extremely high (see Exhibit 4).

Exhibit 4:
National Cost-Benefit Analysis of the 4% Scenario Under Various Assumptions about Gasoline Prices, Externality Adders, Discount Rates and Rebound Effects

	NHTSA	ALTERNATIVE ASSUMPTIONS							
Price of Gasoline	$1.50	$2.50	$3.00	$2.50	$3.00	$2.50	$3.00	$2.50	$3.00
Value of Externalities	.11	0	0	1.00	2.00	0	0	1.00	2.00
Total Social Cost of Gasoline	1.61	2.50	3.00	3.50	5.00	2.50	3.00	3.50	5.00
Rebound Effect	20%	20%	20%	20%	20%	10%	10%	10%	10%
Value of Gasoline Savings (billion $)									
Discount Rate 3%	na	173	208	243	347	192	2311	270	385
7%	120	145	161	203	290	161	179	225	322
Benefit Cost Ratio									
Discount Rate 3%	na	1.52	1.82	2.13	3.04	1.69	2.02	2.37	3.38
7%	1.05	1.29	1.41	1.78	2.54	1.43	1.57	1.98	2.82

Source: see Mark Cooper *A Consumer Pocketbook and National Cost-Benefit Analysis of "10 in 10": Increasing CAFE Standards 10 Miles Per Gallon Over Ten Years Will Save Consumers Money and Help Cure the National Oil Addiction* (Consumer Federation of America, June 2007), pp. 13-14.

The shift in the value of savings has a dramatic impact on whether investment in fuel saving technology is justified. As the price of gas rises, more investment is justified. The increase in gasoline prices over the past five years (from $1.50 to $2.50/$3.00), increases the cost-benefit ratio by one-fifth to one-third. Adding even a modest estimate of $1 for external costs to the value of gasoline increases the benefit cost ratio by another two-fifth to two-thirds. In short, a dramatic increase in fuel economy and the investment necessary to achieve it is cost justified. And with more investment, technological progress, in all likelihood, will be more dramatic, especially with new public policies to promote fuel efficiency. In short, technology is not the constraint here.

The constraint is time: how long it takes for the auto manufacturing industry to retool, the vehicle fleet to turn over, and consumers to embrace more fuel-efficient vehicles.

(Rocky Mountain Institute, 2004); Greene, David L., and Sanjana Ahmad, Costs of U.S. Oil Dependence: 2005 Update (Oak Ridge National Laboratory: Tennessee, February 2005).

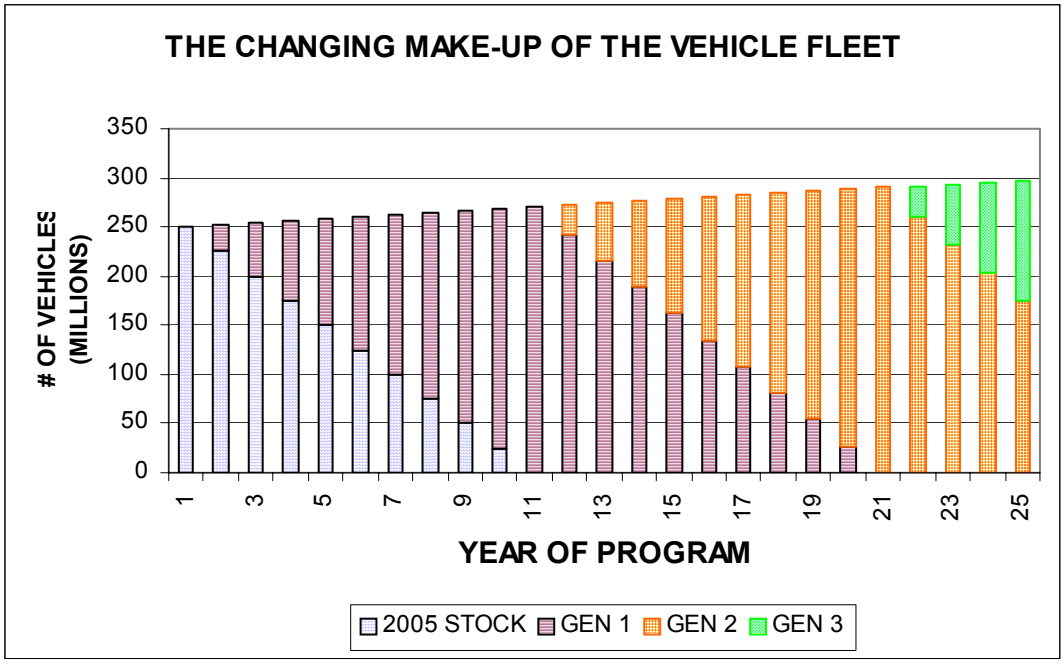
THE IMPACT OF TIMING ON IMPROVING VEHICLE FLEET FUEL ECONOMY

The challenge of increasing fuel economy stems from the fact that there are a large number of vehicles in use – almost 250 million[17] – and the vehicle stock changes slowly. The average vehicle stays on the road for about a decade.[18] The auto industry also needs time to retool to incorporate new technologies into vehicles. Accomplishing a long-term goal requires an immediate start and steady progress.

Having concluded much greater fuel efficiency of the vehicle fleet is justified, we examined the impact of a program to increase fuel efficiency by roughly one mile per gallon per year after a short ramp up period.[19] We used the Energy Information Administration (EIA) 2006 long-term forecast as the baseline. We assumed that the automobile industry needs lead time to make substantial changes, so we focused on the twenty years in which the program will be in full effect. The heart of the program would cover 2010 to 2030.

The effort to increase fuel efficiency would focus on new vehicles. This is the way the CAFE program works. The analysis started with a 250 million-vehicle fleet (see Exhibit 5). We

Exhibit 5:



Source: Calculated by author Mark Cooper, *50 by 2030* (Consumer Federation of America, May 2006), p. 16.

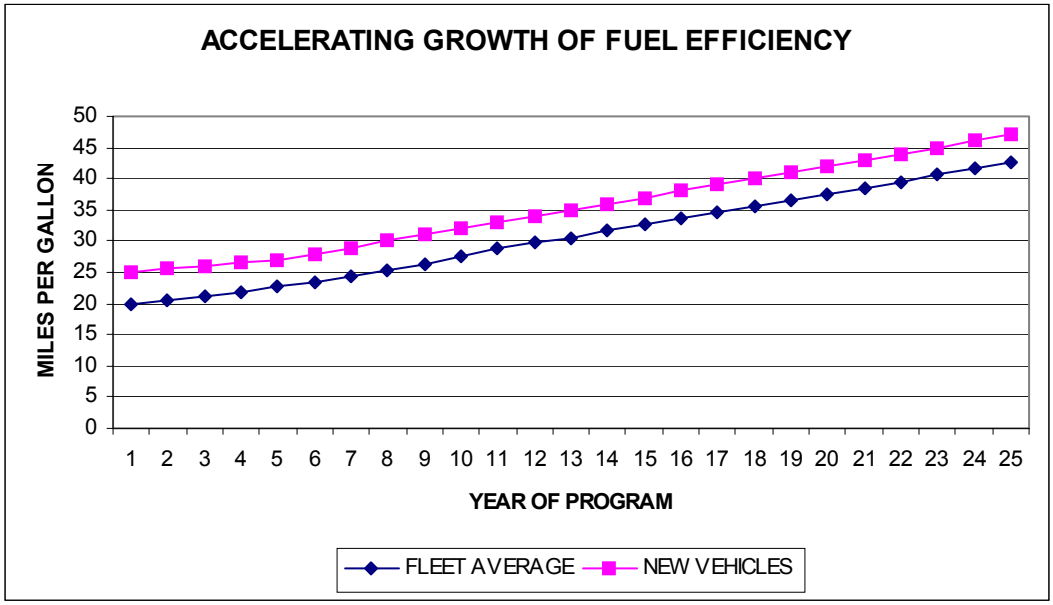
[17] U.S. Census Bureau, *Statistical Abstract of the United States: 2007,* Table 1074, shows 237 million registered vehicles for 2004 and an annual growth rate in the previous four years of almost 2 percent per year. Therefore, 2007 registered vehicles would be approximately 250 million.
[18] Office of Highway Policy Information, U.S. Department of Transportation, *Attributes of the U.S. Vehicle Fleet.*
[19] Hirsh, Robert L., Roger Bezdek and Robert Wendling, *Peaking of World Oil Production: Impact, Mitigation & Risk Management,* February 2005, p. 77, allow three years for an aggressive program. Hirsh allows three years.

assume that 25 million vehicles of the current stock are retired every year (a 10 year life). Each year is a cohort; the number of vehicles in use increases by 2 million per year for each new cohort. A generation is the set of cohorts of new vehicles needed to retire the entire current fleet. Thus, all the cars on the road today are assumed to be retired by Generation 1 over ten years. Generation 2 is the set of cohorts needed to retire Generation 1, etc. Over 25 years, the program only gets into the first couple of cohorts of the third generation.

The program fits comfortably into the consumer economic analysis (see Exhibit 6). That is, we arrive at 42 mpg for the fleet and 47 mpg for new vehicles, which was easily cost justified in the consumer economic and societal cost-benefit analysis.

The impact of achieving this level of improvement in fuel economy would be substantial. Compared to the 2006 EIA projection of the average fuel economy of the light duty fleet and the resulting level of gasoline consumption, fuel economy doubles and consumption declines by over five million barrels a day. This is a reduction of just under 20 percent of total consumption and over 30 percent of imports.

Exhibit 6:



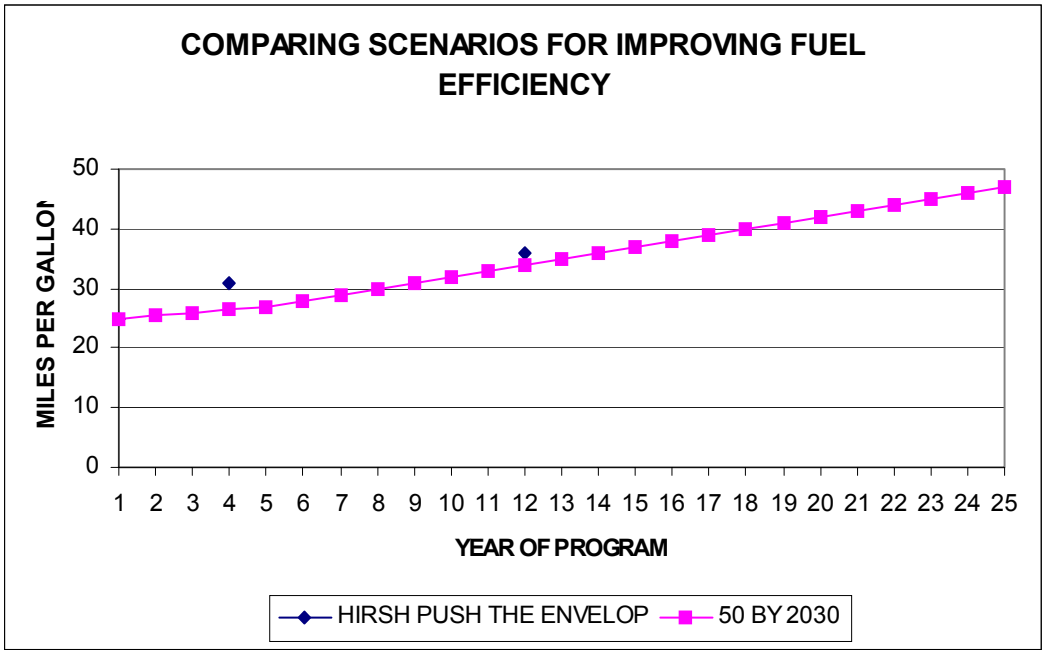
Source: **Mark Cooper, *50 by 2030* (Consumer Federation of America, May 2006), p. 17**

To assess the near term achievability of the goal of doubling the fuel economy of the vehicle fleet, we compared the results of the scenarios created above to NRC's most aggressive case, which has been rendered as a "push the envelope" proposal by Hirsh, Bezdek and Wendling in their study of peak oil production.[20] Their approach projects an increase in fuel

[20] Hirsh, Robert L., Roger Bezdek and Robert Wendling, *Peaking of World Oil Production: Impact, Mitigation & Risk Management,* February 2005.

efficiency by 45 percent in a relatively short period (see Exhibit 7). Our scenario fits beneath the "push the envelope" scenario.

Exhibit 7:



Source: *50 by 2030* calculated by author. Hirsh, Robert L., Roger Bezdek and Robert Wendling, *Peaking of World Oil Production: Impact, Mitigation & Risk Management,* February 2005, p. 77.

In summary, technology and costs are not the barriers to doubling the fuel economy of our nation's vehicles. Rather, it is the lag time between the production of fuel efficient vehicles and fleet turnover that poses the most serious challenge to this goal. The technology is there and consumers will pay for it – the key is pushing manufacturers to implement it on a timeline that overcomes the lag time challenge.

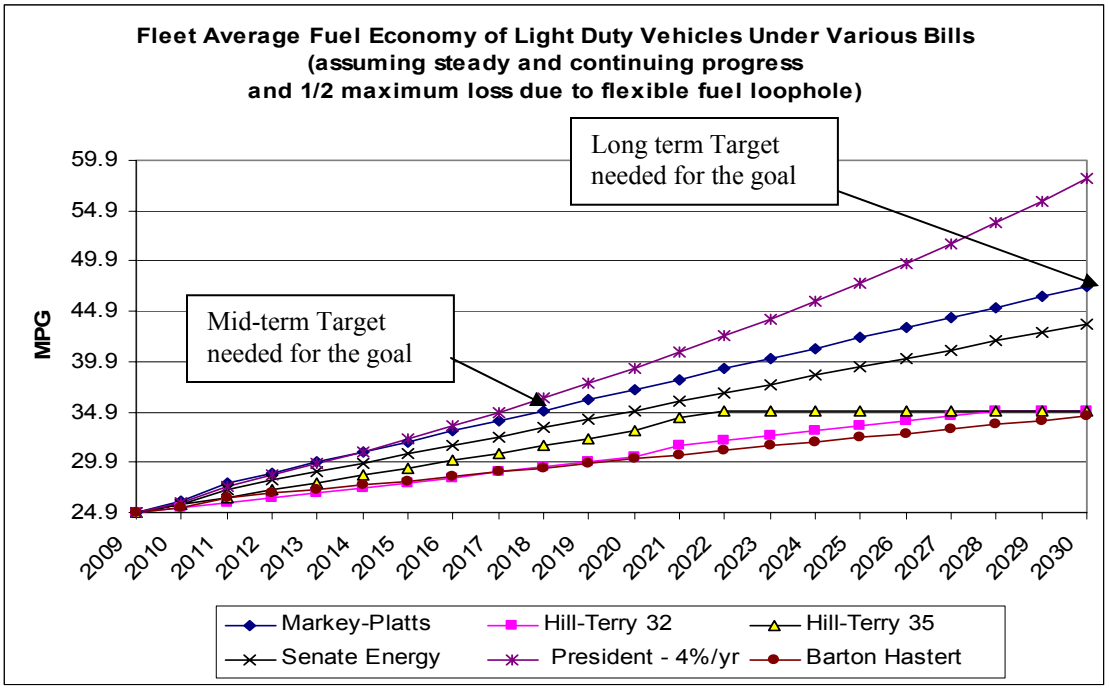
Our proposal is to stay on course for a full quarter of a century. The challenge comes in the second half of the program, when technological progress can play a larger part. Having considered the consumer economics and the dynamics of fleet replacement, we suggest a target of *50 by 2030*. This would anticipate a modest acceleration of technology over a quarter of a century. Since we show that the consumer is very likely to break even by buying more efficiency, the large societal benefits argue strongly for a vigorous effort to move new vehicles to 50 miles per gallon by 2030. There is no doubt that *50 by 2030* is an aggressive goal, but, given the dramatic increase in gasoline prices and the growing concern about the externalities associated with oil consumption, it is not overly ambitious.

ANALYSIS OF CURRENT LEGISLATIVE FUEL ECONOMY PROPOSALS

The analysis in the previous section shows the path the nation must take to double vehicle fleet fuel economy between 2010 and 2030. It also shows that the first half of the period, including an early ramp up, is consistent with the NRC evaluation of available technologies. The key benchmarks in the current policy proposals fall in the next 10 to 15 years – the period ranging from 2017-2022. We need to be at 35 miles per gallon early in that period and to continue progress thereafter at a steady rate.

Exhibit 9 shows the fuel economy improvement paths for the major policy proposals that are being considered by the House of Representatives. Different proposals allow different wiggle room in the regulatory process, and some of the proposals create incentives to change the vehicle mix, which would affect the actual savings (lower it in the case of Barton-Hastert), but a consistent basis for comparing the proposals should assume that steady progress is made toward the stated goals of the proposal, as depicted in Exhibit 9.

Exhibit 9: Key Mid-Term and Long Term Target to Double Mileage by 2030



As Exhibit 9 shows, the Hill-Terry and Barton-Hastert proposals fall far short of reaching the mid-term target of 35 mpg in about a decade (after a ramp up for retooling in the auto industry) and continue to fall farther behind over the second decade. Not only does the Hill-Terry bill fall short at the key benchmark, but it caps fuel economy standards at 35 mpg. In essence, Hill-Terry and Barton-Hastert lag more than two decades behind the science, setting a substantially lower goal in 2030 than the goal NRC identified as achievable in 2002.

Both Hill-Terry and Barton-Hastert establish such a low rate of improvement that even if they were not capped and progress continued at a constant rate until 2030, they would still fall far short of the long term goal for new vehicles (50 mpg) necessary for doubling the fuel economy of the vehicle fleet. Exhibit 9 shows that the Markey-Platts proposal is right on target for achieving the goal of doubling the fuel economy of the vehicle fleet.

CONCLUSION

Given the national imperative to address the interrelated challenges of consumer cost, oil dependency and global warming, raising fuel economy standards for American cars and trucks is not a choice, it is a necessity. The question is by how much and by when.

This analysis makes it clear that the President's plan and Markey-Platts put the U.S. on the right path. The Senate energy legislation achieves about three-quarters of the goal. The auto industry proposals (Hill-Terry and Barton-Hastert) would be irresponsibly low, making it virtually impossible to come close the long term goal. Not only do the two industry-sponsored alternatives deliver less than we need later than we need it, passing either of these alternatives would give policymakers a false sense of accomplishment that would delay future improvements vital not just to the national security and public health of America, but to the economic wellbeing of all American consumers.