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*CONGRESSIONAL TESTIMONY*

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**Subsidizing Natural-Gas  
Technology**

**Testimony before  
The Subcommittee on Select Revenue  
Measures and the Subcommittee on  
Oversight of the Committee on Ways and  
Means  
United States House of Representatives**

**Wednesday, August 3, 2011**

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Chairmen Tiberi and Boustany, Ranking Members Neal and Lewis, and other members of the committees, thank you for this opportunity to address you concerning economic consequences of subsidizing natural-gas technologies.

My name is David Kreutzer. I am Research Fellow in Energy Economics and Climate Change at The Heritage Foundation. For over 25 years before coming to Heritage I taught university-level economics including public finance. In addition, my writing on tax policy has appeared in *The National Tax Journal*, *The Journal of Political Economy*, and *Public Finance Quarterly*.

The views I express in this testimony are my own, and should not be construed as representing any official position of The Heritage Foundation.

The New Alternative Transportation to Give Americans Solutions Act (NAT GAS Act) proposes a variety of subsidies for natural-gas technology in transportation. If enacted we could expect:

- Preferential benefits for special interests,
- Increased burden on the federal budget, and
- Reductions in national income.

These subsidies in the NAT GAS Act have the effect of reducing the price of some technology below its real cost, which distorts the price signals on which markets depend for efficient operation. These resulting inefficiencies reduce the total value of economic output.

#### How Does the Act Create Subsidies?

Though the subsidies in the act are tax cuts in name, they are too narrowly defined and contrived to be a tax cut in any meaningful sense. For instance, Section 104 (a) reads:

**(a) Increase in Credit- Paragraph (2) of section 30B(e) (relating to applicable percentage) is amended to read as follows:**

**2) APPLICABLE PERCENTAGE- For purposes of paragraph (1), the applicable percentage with respect to any new qualified alternative fuel motor vehicle is--**

**(A) except as provided in subparagraphs (B) and (C)--**

**(i) 50 percent, plus**

**(ii) 30 percent, if such vehicle--**

**(I) has received a certificate of conformity under the Clean Air Act and meets or exceeds the most stringent standard available for certification under the Clean Air Act for that make and model year vehicle (other than a zero emission standard), or**

**(II) has received an order certifying the vehicle as meeting the same requirements as vehicles which may be sold or leased in California and meets or exceeds the most stringent standard available for certification under the State laws of California (enacted in accordance with a waiver granted under section 209(b) of the Clean Air Act) for that make and model year vehicle (other than a zero emission standard),**

**(B) 80 percent, in the case of dedicated vehicles that are only capable of operating on compressed or liquefied natural gas, dual-fuel vehicles that are only capable of operating on a mixture of no less than 90 percent compressed or liquefied natural gas, and a bi-fuel vehicle that is capable of operating a minimum of 85 percent of its total range on compressed or liquefied natural gas, and**

**(C) 50 percent, in the case of vehicles described subclause (II) or (III) of subsection (e)(4)(A)(i) and which are not otherwise described in subparagraph (B).**

**For purposes of the preceding sentence, in the case of any new qualified alternative fuel motor vehicle which weighs more than 14,000 pounds gross vehicle weight rating, the most stringent standard available shall be such standard available for certification on the date of the enactment of the Energy Tax Incentives Act of 2005.<sup>1</sup>**

A truly useful tax cut would reduce and simplify the marginal corporate tax rates, which currently bounce around between 25 percent and 39 percent depending on corporate income.

Just this past week the Oversight Subcommittee of the House Ways and Means Committee held hearings regarding paid tax preparers. In opening statements it was noted that a Government Accountability Office study found nearly all returns completed by paid preparers contained errors. The errors in one category were estimated to cost the

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<sup>1</sup>“H.R. 1380: New Alternative Transportation to Give Americans Solutions Act of 2011,” at <http://www.govtrack.us/congress/billtext.xpd?bill=h112-1380> (July 31, 2011).

federal government over \$100 billion. This finding is an indictment of the complexity of the tax code as much as it is an indictment of paid preparers. In any event, the NAT GAS Act adds to the complexity with amendments to the current (already too complex) tax code.

The amendments this act superimposes on the existing tax code will only make the job of those paid tax preparers even more difficult and prone to error. Again, the purpose of the complexity is to narrowly tailor benefits to select recipients. This is the hallmark of a subsidy.

### An Illustration

An example will illustrate how the act subsidizes certain technologies and distorts investment decisions.

Under the act, converting heavy-duty trucks from diesel to natural gas generates a tax credit of 80 percent for expenditures up to \$80,000 per truck. So, imagine a trucking company considers investing in either a brand new truck that would cost \$80,000 after trade-in or investing in an \$80,000 natural-gas retrofit of its old truck. Under the current tax system that would allow expensing those costs not subject to the tax credit and assuming a marginal tax rate of 35 percent, the decision to choose the natural-gas retrofit reduces the firm's tax liability by \$41,600 more than had it spent the exact same \$80,000 on a brand new truck. That is a subsidy for the natural-gas equipment.

The company spends \$80,000 in either case but receives the additional \$41,600 on its bottom line only when it chooses the natural-gas option. This \$41,600 tilting of the scales comes at the expense of taxpayers—either current payers if taxes are raised now, or future taxpayers if the government simply borrows to cover the lost revenue. Though the taxpayers bear the full cost, the trucking company is unlikely to actually receive the full \$41,600.

### Why Would the Subsidy Be Inefficient?

The need for the subsidy is a clear signal the natural-gas technology would not be able to compete on a level playing field. If the \$80,000 natural-gas retrofit were the better business choice, the trucking company would buy it without a subsidy. If, on the other hand, the before-subsidy profit of the new diesel truck (staying with the example above) were greater, then the subsidy of the natural-gas choice is partially offset by lower profit.

At the limit, the natural-gas retrofit could be \$41,599 less profitable without the subsidy but still be the choice with the subsidy. In this case, the taxpayers pay \$41,600 to provide a net gain to the trucking company of \$1. The \$41,599 difference is the net loss to the economy.

This loss is not redeemed by moving the analysis upstream to the supplier of the natural-gas technology. Yes, the supplier is receiving the full \$80,000 and hiring workers,

buying inputs, and paying dividends that will sum up to the \$80,000, but the same story would have been true for the diesel-truck manufacturer. The difference is that the diesel truck creates greater value for the trucking company.

### Cost-Effective Technology Does Not Need a Subsidy

Of course it would be possible to imagine a scenario where the natural-gas retrofit provides the greater profitability. If so, there is no need for the subsidy as it already makes better economic sense. Fuel purchases are the single largest component of a trucking company's operating expenses and there is ample incentive to switch to cost-saving technology.<sup>2</sup> Indeed, some companies track their fuel economy to the hundredths of a mile per gallon and thousands have already adopted a variety of fuel-saving technologies.<sup>3</sup>

### Will Low Natural Gas Prices Continue?

Of course the relative advantage of natural gas depends on its cost as well as the cost of petroleum-based fuel. The recent employment of hydraulic fracturing technology has dramatically expanded the economically viable unconventional reserves both in the U.S. and worldwide. This new technology is at least partially responsible for the recent reduction in natural gas prices. However, natural gas prices are susceptible to fluctuation and price spikes. Further, concern over the environmental impact of hydraulic fracturing and the relatively short experience with long-term production profiles of hydraulically fractured wells create uncertainty about the ability to produce these unconventional reserves at low prices.

The attached chart shows natural-gas spot prices since 1997. The price variability is evident. In February of 2003 there was a one-day spike that tripled the price of natural gas. The anomaly was so stunning that it precipitated investigations by the Commodities Futures Trading Commission and the Federal Energy Regulatory Commission.<sup>4</sup>

The conclusion of the investigations was that a cold front sweeping across the Northeast near the end of a cold winter taxed already depleted supplies. Though that spike was short-lived, the event highlights that natural gas is not immune to price fluctuations. Eyeballing the chart also gives little confidence that consistently low prices will hold for extended periods. The average price for the five years from 2004 to 2009 was 77 percent higher than the price has been since 2009.

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<sup>2</sup>American Transportation Research Institute, "An Analysis of the Operational Costs of Trucking: 2011 Update," at [http://www.atri-online.org/research/results/Op\\_Costs\\_2011\\_Update\\_one\\_page\\_summary.pdf](http://www.atri-online.org/research/results/Op_Costs_2011_Update_one_page_summary.pdf) (August 1, 2011).

<sup>3</sup>Peter Christopher, "SmartWay Helps Fleets Quantify Savings of Emissions, Fuel," *Transport Topics*, August 3, 2009, at <http://www.ttnews.com/articles/printnews.aspx?storyid=22464> (August 1, 2011).

<sup>4</sup>Lee-Ken Choo *et al.*, "Report on the Natural Gas Price Spike of February 2003," Federal Energy Regulatory Commission, July 23, 2003, at <http://www.ferc.gov/legal/maj-ord-reg/land-docs/The-Price-Spike-Report-07-23-03.pdf> (July 31, 2011).

Perhaps there is little risk that hydraulic fracturing will be blocked by local or federal regulations, or that unconventional reserves will prove more costly to exploit than has been anticipated. There is reason to be optimistic, but there are no guarantees. In any event, this risk is best evaluated by those consumers and producers who bear it.

### NAT GAS Act is a Poor Anti-Terror Plan

Virtually every energy plan promises to reduce revenues to foreign regimes hostile to the U.S. Some supporters of the NAT GAS Act claim that it will reduce oil imports by 1.5 million barrels per day some decades hence. Reducing imports makes sense, only as long as the replacement costs less than the imports. Expanding drilling, both onshore and off, meets this criterion and no subsidies are needed to promote expanded drilling.

Whether or not cutting imports saves money is important for our economy, but whether we cut imports by 1.5 million barrels is not that important when it comes to defunding unfriendly foreign actors. The reason is that there are many other consuming countries that buy significant amounts of petroleum and who would buy up at least some of the barrels we would save.

If the goal is to cut imports, increasing domestic production is an option that requires no preferential tax treatment or burden on the federal budget. Opening access for additional production in domestic onshore and offshore areas that are known to have significant petroleum reserves could achieve the 1.5 million-barrel-per-day reduction in imports more quickly than the subsidies in the NAT GAS Act and the additional domestic production would create government revenue to help balance the budget.

The second chart shows the impact of cutting in half our oil imports in 2035 from the EIA projected level of 8 million barrels per day to 4 million barrels per day. This 4 million-barrel-consumption cut would reduce price by about 10 percent. For illustration, the chart lists total revenue for OPEC and its members.<sup>5</sup> Without cutting U.S. imports, OPEC revenue is projected to be about \$2.3 trillion per year in 2035. By cutting our imports in half this revenue would fall to \$2.1 trillion. Though \$200 billion per year is a significant amount of money, oil exporters would still have huge revenues to use as they want.

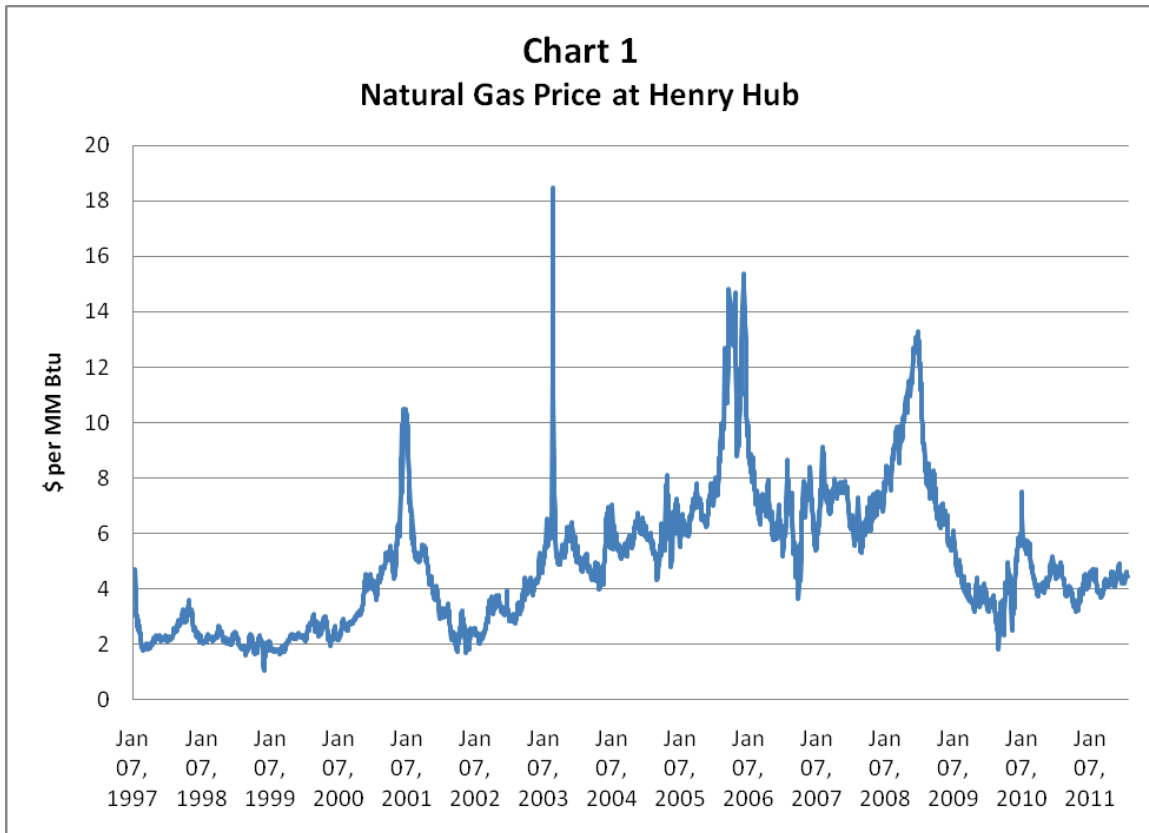
It should be noted that whatever costs the U.S. incurs to cut the imports also cuts revenues to friendly democratic exporters of petroleum and provides reduced costs to other importers. For instance, China's oil import bill, for an unchanged level of imports, could drop by more than \$50 billion per year in 2035 if we cut our imports in half.

### Conclusion

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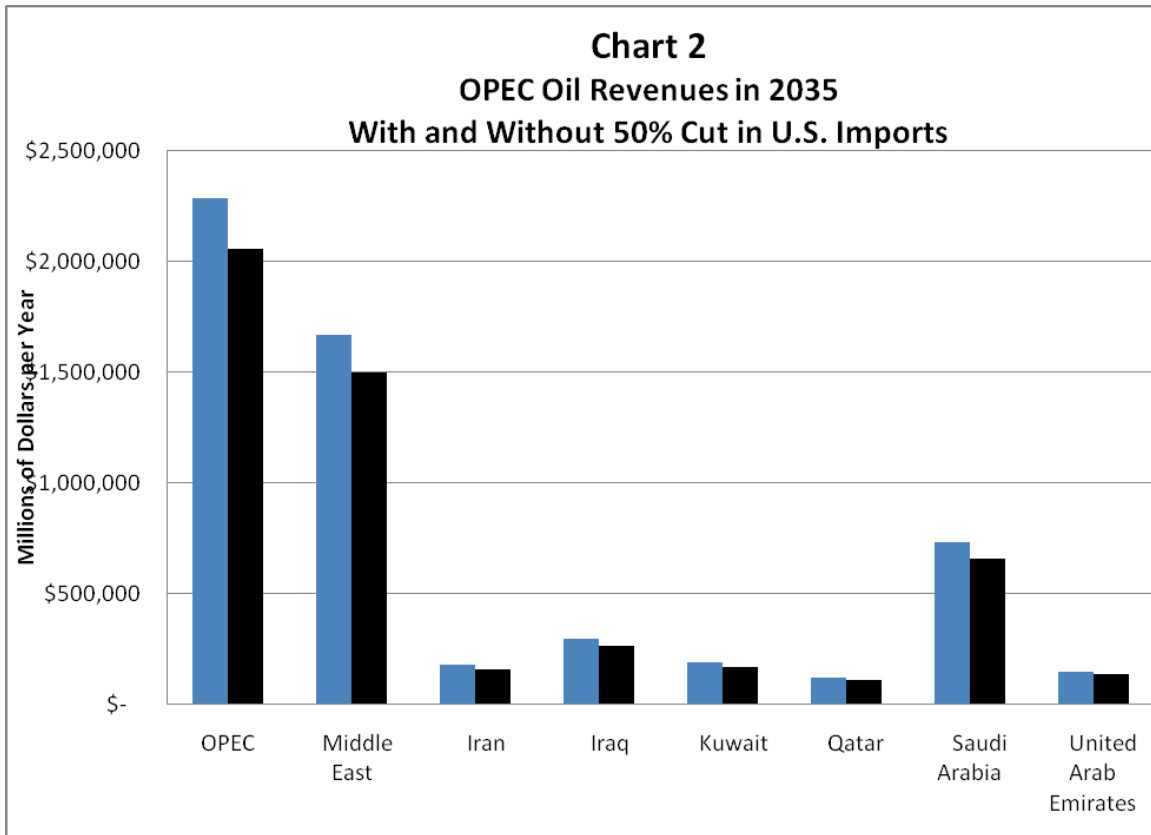
<sup>5</sup>No judgment is made here regarding the relative friendliness of OPEC or any of its individual members. OPEC is chosen because of its high profile in the petroleum market.

With narrowly targeted amendments to the tax code, the NAT GAS Act creates subsidies for selected technologies. These subsidies promise preferential benefits for special interests, greater burdens on the federal budget, and less economic output. The NAT GAS Act would not significantly cut funding for hostile foreign regimes.



Data from the United States Energy Information Administration, at <http://www.eia.gov/dnav/ng/hist/rngwhhdd.htm> (July 31, 2011).





Data from the United States Energy Information Administration, *International Energy Outlook 2010*, at <http://www.eia.gov/oiaf/ieo/index.html> (July 11, 2011). Calculations by the Author.

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