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Tax Reform: Impact on U.S. Energy Policy

Philip R. Sharp

Prepared for the U.S. Senate Committee
on Finance

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Chairman Baucus, thank you for the opportunity to be here today. For the record, I am president of Resources for the Future (RFF), a 60-year-old research institution based in Washington, DC, that focuses on energy, environmental, and natural resource issues. RFF neither lobbies nor takes institutional positions on specific legislative or regulatory proposals.

I emphasize that my views today are my own, and not those of Resources for the Future. I have included in an appendix, however, some related key studies and forthcoming research from RFF.

My purpose today is simply to provide background on the status of national energy policy and not to advise you on the myriad decisions faced by your committee. Much of what I say will not be new to the members of this committee who for years have been engaged on energy issues.

In the United States, energy production, distribution, and consumption have major implications for our economic prosperity, our national security, and the health and safety of the environment on which our lives depend. Our energy markets are vital to our economic wellbeing; they are vast—some global in scope, creating major national security concerns—and they can create major risks to health and safety.

At the global level, energy markets face major challenges. Population growth and rapid economic growth in major developing economies add significantly to the global demand for more energy, to the scramble for resources, and to the degradation of the environment. These markets periodically face the threat of military or political disruption. And scientists tell us that human activities are at such a scale that we are collectively changing the chemistry of the oceans and atmosphere and indeed the earth's climate system.

U.S. Policymaking

Whenever the Congress undertakes major legislation on energy issues, it is besieged by groups arguing for proposals to advance a variety of goals, many of which conflict with one another. There is always a major clash of ideas, of values, and of economic interests. This is one of the committees where those clashes come home to roost as everyone here is painfully aware.

Invariably, major energy legislation is a collection of provisions—a package of compromises that are not necessarily consistent and not necessarily the most cost-effective means to advance intended goals. Indeed, some are undoubtedly

counterproductive. The results are always unsatisfying to many Americans and lead to the often heard claim that we “lack an energy policy.”

In truth, we have a host of energy policies, especially with the adoption of so-called comprehensive energy bills in 2005 and 2007 and the stimulus package of 2009. This committee certainly has played a major role in creating various policies.

I daresay, not since the 1970s has there been as much effort by the government to reshape our energy markets as there has been in this last decade.

It is worth noting, however, that there has remained for decades a core principle or cornerstone of U.S. policy: an overwhelming reliance on private capital to produce and distribute the energy we need. Many citizens participate in this investment through their pension plans and other investment activities.

Most energy policies, such as tax credits, are attempts to change the behavior of consumers and/or investors. The success of a policy at any given time depends upon many other influences facing consumers and investors, including, among the most important factors, the prices of our major fuel sources: coal, oil, and natural gas.

Given the major fiscal crisis this country faces, there is great pressure to rethink current tax and appropriations policies and little room for any new provisions that further cost the treasury. A major question that must always be asked about each provision is whether it generates new activity in the public interest or just picks up the tab for stuff that would have happened anyway.

In some areas, the law restricts actions or mandates the improvement of products or fuels with major effect—such as the renewable fuel standard, as well as CAFE and appliance standards. The continuing question is whether these measures are cost effective, as well as whether they might be better designed for greater effectiveness

At the end of the day, we need to periodically review the wide variety of incentives and mandates to assess whether they are cost-effectively achieving the intended results.

While tax provisions and appropriations certainly can be very important in the development of a new technology or a fuel struggling to gain a foothold in our competitive markets, they remain, on the whole, a small proportion of the annual sums invested in production and infrastructure. In short, when provisions are adopted, they are seldom guaranteed to be successful and often disappoint proponents in their effectiveness because of the vast array of consumer decisions and investor decisions that constitute the market. This is not to say that such provisions are not important.

Our Changing Energy Picture

In the last decade we have witnessed dramatic changes in America’s energy picture:

- A raft of new technologies has entered the marketplace in virtually every sector of production, distribution and use.
- Dramatic new supplies of natural gas—shale gas—are being produced.
- Our dependence on foreign oil has seen significant decline as a result of added oil production (primarily tight oil), improved vehicle efficiency, and a major increase in ethanol use. The expectation is for the decline to continue.
- Carbon dioxide emissions are in decline not only as a result of the economic slow-down but also because of heightened efficiency and a change in our fuel mix, especially in the electric sector. The expectation is that our emissions growth ahead will be modest.

These changes were driven by several factors:

- *The significant rise in the price of natural gas at the beginning of decade and of oil a few years later.* As with past price rises, consumers and investors find ways to produce more and use less of the higher-cost fuel, and governments respond with new efforts to advance alternatives to oil and improve efficiency.

We have witnessed major price swings several times over the last four decades and each time have seen major changes in consumer, investor, and government behavior.

Invariably, there are arguments over how the government might be able to prevent the big swings up, or even down.

Given the size of these markets, government policy is very unlikely to prevent such swings; certainly, our experience with oil and natural gas price controls was not a good one.

- *Entrepreneurial risk taking.* Incentivized by high prices and in some cases government policy, some entrepreneurs defied the conventional wisdom about what is possible. This was particularly the case with respect to shale gas development, but it also applies in many other areas of renewable energy and energy-efficiency technologies.
- *Decades of private and public research on a host of technologies,* including solar, wind, fuel efficiency, advanced vehicles, digitization of the electric grid, and advanced nuclear reactor designs to provide but a partial list.

- *A variety of state and federal policies that promoted market adoption of more efficient technologies and practices as well as renewable and alternative fuels.*

It is very important to recognize that many of these developments defy views that were widely held at the beginning of the decade: the dramatic rise in natural gas and oil prices, the development of shale gas, the marketing of hybrid vehicles, the reduction in oil imports, the decline in carbon emissions, the licensing of a nuclear plant, and so on.

During the last 40 years, we have witnessed a number of big developments not anticipated by industry, government, or academia, which is a major caution about grand plans by government or anyone else. And certainly these unanticipated developments are another reason that policies need serious reassessment periodically.

In many respects, these developments of the last decade are very positive. The picture, of course, is also marred by the terrible explosions at the Macondo well in the Gulf of Mexico and at the nuclear plants in Fukushima. These were painful reminders that the scale of our energy operations entails major risks. And with respect to global warming, neither our government nor much of the international community has yet found a strong path forward. But most of the major economies, including China, are actively engaged in some kind of efforts to reduce the projected growth in greenhouse gas emissions.

Challenges of the New Natural Gas Supply

Perhaps the singular most significant development of the last decade is the new natural gas supply. It has the potential to generate major economic benefits for the nation. At the same time, it generates a number of uncertainties and challenges:

- Industry and government must work through a number of issues—water, air, methane leakage—to assure responsible development. See the National Petroleum Study on Responsible Development in the appendix.

The public discussion has been exceedingly stormy, making it difficult for many citizens to sort out the real risks from imaginary ones. At RFF, we are currently conducting a widespread survey of knowledgeable people inside and outside of industry to ascertain how experts assess the relative risks of various stages of development and production of shale gas.

- How fast this major new resource will develop is not altogether clear, nor is what kind of price volatility to expect, given the limited experience with developing and marketing this resource. Already we see shrinkage in shale gas production as the excess supply has driven down gas prices and drillers have focused on more lucrative tight oil and gas wells with associated liquids.

- The new gas supply is creating major adjustments in the planning and investment for virtually all other major fuel sources.

The near term impact of lower natural gas supplies has been to change the way electric utilities are using their current generating capacity—using more gas and less coal. In the longer run, the supply picture is changing the calculations used by utility companies and state regulators to assess new facilities and the various tradeoffs among coal, nuclear, renewables, and natural gas.

- With respect to greenhouse gases, there is some dispute over how much methane leakage occurs in the course of current development activities and to what extent this can be mitigated.

The larger question is of its impact in replacing other fuels in our energy mix. To the extent, for example, that it replaces coal in our electric generation, it is clearly beneficial with regard to carbon dioxide emissions. To the extent it replaces nuclear or renewable sources, it is likely to increase, rather than decrease, the carbon intensity of our energy mix. It also has the potential to work well with renewables, helping solve the intermittency problem of wind and solar.

The Possibility of Significant Tax Reform

If this committee and the Congress (in the next session I presume) want to attempt a major overhaul of the tax code of the magnitude as great or greater than last achieved in 1986, the challenges are major, as you know better than most of us. How to address the critical need to get America's fiscal house in order? How to reshape the code to better support economic growth in a highly competitive world? How to address the conflicting views over what is fair?

Many reformers advocate simplification, elimination of most of the deductions or tax preferences, and rate reductions. On paper this may add up, but in practice it is obviously considerably more difficult.

To achieve significant reform that focuses on economic progress and efficiency, the committee may want to consider some version of a carbon tax with revenues dedicated to cutting other taxes that impede economic growth.

I need to repeat that RFF does not take a position on this or other issues, and I am not here to say that this is the only choice we have for addressing greenhouse gas emissions. But it is a choice that many economists believe is the most cost-effective way for the United States to address the carbon problem.

A carbon tax has several features that make it attractive from an economic perspective and, from the committee's point of view, maybe an avenue to enable the transformation of the tax code. Of course, the devil and the angels are in the details.

- It is a policy that fits well with market economics.
- It could generate revenue that, if recycled into the economy by cutting so called "distortionary taxes," has the potential for contributing to economic growth rather than being a depressant.
- It has many design options that make it possible to address a variety of the concerns expressed about carbon policy, such as the impact on trade-sensitive industries.
- It could begin modestly and rise over time, permitting adjustment.
- It could reduce the need for more extensive subsidies and regulations to address the climate problem.

However, I think it is obvious that a carbon tax proposal is not ready for prime time. Indeed, there is a clear need for greater analysis, more consideration of design options, and extensive vetting with various sectors of the economy.

At RFF, our scholars have spent a great deal of time assessing the costs and effectiveness, design options, as well as the regional impacts of major climate and energy policy proposals and actions at the state and federal levels, as well as those of foreign governments, including various cap-and-trade systems, alternative paths under the Clean Air Act, and clean energy standards. We are now doing the same type of analysis of carbon tax proposals.

Our folks stand ready to discuss this work with policymakers of all points of view.

Thank you again for the opportunity to speak today.

Appendix: Further Reading

America's Climate Choices | The National Research Council | The National Academies Press | 2011

http://www.nap.edu/catalog.php?record_id=12781

Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2010 | Energy Information Administration | July 2011

Energy Tax Policy: Historical Perspectives on and Current Status of Energy Tax Expenditures | Molly F. Sherlock | Congressional Research Service | May 2011

Energy Tax Policy: Issues in the 112th Congress | Molly F. Sherlock and Margot L. Crandall-Hollick | Congressional Research Service | March 2012

Estimates of Federal Tax Expenditures for Fiscal Year 2011-2015 | Joint Committee on Taxation | January 2012 |

<https://www.jct.gov/publications.html?func=startdown&id=4386>

Prudent Development: Realizing the Potential of North America | The National Petroleum Council | September 2011 | <http://www.npc.org/NARD-ExecSummVol.pdf>

Reforming US Energy Policy to Better Address Market Failures | Ian Parry and Dirk Heine | International Monetary Fund | Unpublished Manuscript

The Variability of Potential Revenue from a Tax on Carbon | Karen Palmer, Anthony Paul and Matt Woerman | Resources for the Future | May 2012

<http://www.rff.org/RFF/Documents/RFF-IB-12-03.pdf>

Toward a New National Energy Policy: Assessing the Options | Alan Krupnick, Ian Parry, Margaret Walls, Tony Knowles, and Kristin Hayes | Resources for the Future, National Energy Policy Institute | September 2010

http://www.rff.org/Documents/RFF-Rpt-NEPI%20Tech%20Manual_Final.pdf