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TOWARD A NEW NATIONAL ENERGY POLICY: ASSESSING OPTIONS THAT CAN SUCCEED

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WASHINGTON – Resources for the Future and the National Energy Policy Institute (NEPI) today release a comprehensive economic analysis of more than 35 available policy options for reducing U.S. oil consumption and curbing carbon dioxide emissions through 2030.

Combining a standardized modeling approach and the judgments of top academic experts from around the country, *Toward a New National Energy Policy: Assessing the Options* provides a rigorous “apples-to apples” comparison of how different policies rank in terms of such quantitative measures as costs and ability to reduce CO₂ emissions and barrels of oil consumed.

A key finding of the study shows that policymakers currently have multiple tools in their arsenal for making a significant dent in U.S. greenhouse gas emissions and oil use at a relatively modest cost to the American households.

The research team adopted a benchmark target of reducing by four million barrels of U.S. oil usage per day by 2030 from 2007 levels, and a reduction of 12 gigatons of carbon dioxide emissions below a business-as-usual scenario by 2030. Policies examined range from pricing strategies such as oil taxes and cap-and-trade to regulatory approaches, including clean energy portfolio standards. The study also identifies a set of policy packages that meet or nearly meet the target reductions at an annual economic cost to the average household of \$153 to \$355 per year, although annual household expenditures on energy could be considerably different.

The report also highlights the promise of some lesser-known strategies such as policies to encourage the adoption of energy efficient technologies like geothermal heat pumps in housing, and liquefied natural gas (LNG) trucks for freight movement. Perhaps as importantly, it surfaces policies that are likely to be ineffective, costly, or redundant – including subsidies to encourage hybrid vehicles.

“We now challenge interested observers to participate in rationalizing and creating their own appropriate energy policy, using the information and interactions presented here to think strategically through the most effective and cost-effective options,” write Tony Knowles, President of NEPI, and Alan Krupnick, RFF Senior Fellow and Project Director, in the preface. Other principal

authors of the study include Ian W.H. Parry, the Allen Kneese Senior Fellow at RFF; Margaret Walls, the Thomas J. Klutznick Senior Fellow at RFF; and Kristin Hayes, RFF Research Associate.

“Reducing our reliance on oil while limiting greenhouse gas emissions is a challenging aspiration, particularly in the timeframe we set of 2010-2030,” said RFF President Phil Sharp in introducing the analysis. “However, the authors of this report find that success can be realized using the levers and tools that policymakers already have at their disposal – without having to rely on speculative technological breakthroughs.”

Modeling Combinations that Work

The report – which examines a range of energy policies, including those affecting transportation, carbon pricing, energy efficiency, nuclear power, and renewable fuels – examines four key cross-cutting policy combinations, designed to reduce both oil consumption and carbon dioxide emissions:

- Pure pricing policies
- Pricing combined with energy-efficiency policies
- A regulatory alternative to pricing
- A portfolio of policies blending both pricing and regulatory options.

Within these parameters, the study examined the effectiveness and costs of a variety of specific measures, including fuel and oil taxes, revised CAFE standards, “feebates” to spur more fuel-efficient cars, hybrid and liquefied natural gas vehicles, cap-and-trade policies, building construction codes, geothermal heat pumps, and clean energy portfolio standards, among many others.

Underpinning the report findings is a consistent analytical approach that uses a modified version of the National Energy Modeling System, referred to as NEMS-RFF. Use of the same model permits the scoring of different policies to make “apples-to-apples” comparisons using two effectiveness metrics – reduction in barrels of oil consumed and reduction in tons of CO₂ emitted – as well as the cost of each policy.

The Pricing Is Right

“Pricing policies that directly target oil use or CO₂ emissions have an advantage because they exploit all the ways in which oil and CO₂ can be reduced throughout the economy by conserving on the use of energy-intensive products, adoption of energy-saving technologies, and switching away from fossil fuels,” the authors state. “It is not surprising that they do well against our metrics.”

The report acknowledges that pricing policies through taxes alone may not be politically palatable, especially those that do not involve returning the tax revenue to the public (notably, most taxes considered in this study are “revenue neutral” in this fashion). However, the policy option that blends both pricing and regulatory strategies results in significant reductions in both CO₂ emissions and oil consumption.

In fact, the report notes, “this combination leads to the greatest reduction in oil of any policy or policy combination tested in this study” – largely because it combines a phased-in oil tax with the very effective mandate to convert heavy-duty trucks to LNG use.

Key Findings

The analysis emphasizes that while there is no that there is no single “silver bullet” to address energy security and climate concerns, several cross-cutting policy combinations are available now to reduce dependence on foreign oil while also ratcheting down carbon emissions. Other important findings include:

- *Single-policy instruments will not efficiently reduce both oil use and CO₂ emissions.*
- *Broad-based economic incentives for reducing CO₂ emissions and oil use – i.e., a carbon cap-and-trade program (or carbon tax) and a tax on all oil products – deliver the greatest bang for the buck.*
- *While several alternatives to cap-and-trade appear either reasonably cost-effective and/or capable of achieving substantial reductions in emissions, fewer options exist for reducing oil use.*
- *Our research findings speak to the efficacy of instruments that complement the oil and carbon pricing policies.*
- *The cost-effectiveness of energy efficiency policies depends critically on how we interpret observed market behavior.*

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Resources for the Future, founded in 1952, is an independent and nonpartisan institution devoted to research and publishing about critical issues in environmental and natural resource policy. The National Energy Policy Institute is a nonpartisan independent energy research organization, based at the University of Tulsa and funded by the George Kaiser Family Foundation.