



NEWS RELEASE

REPORT FINDS NEW U.S. GAS SUPPLIES A BRIDGE TO LOW-CARBON FUTURE, BUT ONLY WHEN COMBINED WITH CLIMATE POLICIES

Full report of *Natural Gas: A Bridge to a Low-Carbon Future?* available at www.rff.org/naturalgasreport

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WASHINGTON – Abundant new natural gas supplies can help the United States achieve low-carbon goals, but only if coupled with effective climate policies, according to a new study from Resources for the Future.

In the absence of policies to restrict CO₂ emissions, greater natural gas supplies could hinder development of other low-carbon energy sources and undercut efforts to reduce emissions, the report's authors conclude.

Without a new climate framework, abundant natural gas could have other consequences, such as boosting overall energy consumption and displacing projected gains in nuclear and renewable energy sources for electric power generation. As a result, the authors find "projected CO₂ emissions are almost one percent higher" than if the new supplies did not exist at all.

Combined with market-based policies – such as cap-and-trade or carbon taxes – however, the latter effects are avoided. The authors conclude that under such policies, "greater natural gas supplies contribute to achieving carbon-reduction goals."

In *Natural Gas: A Bridge to a Low-Carbon Future?*, authors Stephen P. A. Brown, Alan J. Krupnick, and Margaret A. Walls compare four scenarios – running through 2030 and reflecting different perspectives on gas supply and climate policy – using the NEMS-RFF model, an energy-market modeling system based on the Energy Information Administration's NEMS model as modified by Resources for the Future in collaboration with OnLocation, Inc. The scenarios contrast the effects of shale gas resource estimates from the Energy Information Administration's 2009 Annual Energy Outlook and from the Potential Gas Committee. The report is available on the RFF website at <http://www.rff.org/naturalgasreport>.

The report notes that "because natural gas use yields CO₂ emissions that are about 45 percent lower per Btu than coal and 30 percent lower than oil," the use of natural gas provides an opportunity to reduce CO₂ emissions. However, seizing that opportunity depends greatly upon future U.S. climate policy.

Through use of new drilling technologies, the U.S. may now have recoverable gas resources trapped in shale deposits that could supply less expensive energy for many decades, the study notes. With these enhanced natural gas supplies and carbon pricing policy, the costs of meeting targets for reduced CO₂ emissions are lowered. The price of a carbon allowance falls slightly and costs to society fall by about \$1 billion between 2010 and 2030. It is this ability to lower costs that allows abundant natural gas to ease the transition a low-carbon future.

If the use of nuclear and renewable energy for electric power generation develops more slowly than is projected, “natural gas is likely to prove a more important bridge fuel to a low-carbon future,” the report finds.

On the other hand, the authors note that previous research has shown how the use of narrow mandates – such as renewable portfolio standards – could interfere with market outcomes. The interplay between such policies, the use of natural gas, and the cost of reducing CO₂ emissions will be the subject of future RFF modeling and research.

Taking a broader perspective, the analysis finds that the most cost-effective means for reducing CO₂ emissions depend greatly on projected resource availability and technology changes – both of which are highly uncertain. “If policymakers are to develop meaningful and cost-effective policies for controlling CO₂ emissions, they must develop policies that are robust across different projected futures,” the authors write. “Because cap-and-trade systems and carbon taxes provide prices for CO₂ emissions, they will unleash market incentives that will yield the most cost-effective means for reducing CO₂ emissions – regardless of how technology evolves or how much natural gas or other energy resources are available.”

Natural Gas: A Bridge to a Low-Carbon Future? is based on research conducted as part of a joint Resources for the Future / National Energy Policy Institute (NEPI) project entitled *Toward a New National Energy Policy: Assessing the Options*. Funding for this project is provided by the George Kaiser Family Foundation, through a grant to NEPI. The full project report – covering costs and effectiveness of a range of energy policy options – will be available in early 2010.

Founded in 1952, Resources for the Future is an independent and nonpartisan institution devoted to research and publishing about critical issues in environmental and natural resource policy.

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