

**U.S. House of Representatives Energy and Commerce Committee
Energy and Environment Subcommittee**

**Legislative Hearing on “The American Clean Energy and Security Act of 2009”
(March 31 Discussion Draft)**

April 22, 2009

**Testimony of David J. Manning
Executive Vice President, External Affairs, National Grid**

Chairman Waxman, Ranking Member Barton, Subcommittee Chairman Markey, Subcommittee Ranking Member Upton, and Members of the Committee and Subcommittee, thank you for including National Grid in this very important hearing on Green Jobs and the Economic Benefits under the American Clean Energy Security Act of 2009. I will focus my testimony on the economic benefits of energy efficiency programs.

National Grid is an international energy delivery company. In the U.S., National Grid delivers electricity to approximately 3.3 million customers in Massachusetts, New Hampshire, New York and Rhode Island and operates the electricity transmission and distribution network on Long Island, serving an additional 1.1 million customers. We are the largest distributor of natural gas in the northeastern U.S., serving approximately 3.4 million customers in Massachusetts, New Hampshire, New York, and Rhode Island. National Grid also owns and operates over 4,000 megawatts of electricity generation under contract with the Long Island Power Authority.

May I first congratulate you and your colleagues for your focus and success with important initiatives on energy efficiency, renewable energy, infrastructure such as smart grid, and other critical energy support in the American Recovery and Reinvestment Act (ARRA). The \$3.1 billion in state matching grants for energy efficiency, the funding for weatherization assistance, and the funding for efficiency improvements at affordable housing units are critical steps towards moving energy efficiency to the forefront of a comprehensive national energy policy.

As mentioned, our service territory includes Massachusetts, New York, Rhode Island and New Hampshire, and I want to take this opportunity to thank Representatives Markey, Towns, Engel, and Weiner for their longstanding leadership on energy issues.

Finally, I want to express my appreciation to Chairmen Waxman and Markey for your release of The American Clean Energy and Security Act of 2009. The bill represents an important step toward Congress enacting comprehensive federal climate change policy. National Grid has been a long time advocate of a federal climate change program, and as member of the Clean Energy Group, we believe that Congress should immediately enact mandatory, economy-wide legislation that slows, stops, and ultimately reverses

the growth of U.S. greenhouse gas emissions. In order to achieve this, National Grid's President, Tom King, recently testified before the subcommittee with the simple message – "we need it all." He explained that we need more expansive, robust energy efficiency programs as well as significant new sources of renewable energy: wind, solar, biomass and geothermal. We need a comprehensive strategy to address our transmission infrastructure, including policies that will enable us to bring renewable energy resources, which are often isolated, to dense urban areas and other load centers. We need smart grid technology and smart meters to maximize the potential of current and future energy efficiency technologies to automate the most efficient use of energy. When combined with clean, no- or low-emitting base-load power generation such as nuclear, hydroelectric, natural gas, and emerging clean coal technologies, these components will lower customers' bills and play an important role in an effective national energy policy that helps us meet our economic, national security, and environmental goals.

As the Administration and Congress work to develop a national energy policy and implement policies to stimulate economic recovery, investment in the "green energy" sector will not only create new jobs in a new industry but will result in a stronger, more efficient economy. Investment in this area, including energy efficiency, will reduce our dependence on carbon and imported fuels and ensure a meaningful impact on our carbon footprint and carbon dioxide emissions.

While a national energy strategy must be multifaceted, my comments today will focus on energy efficiency. National Grid stands with many other energy providers and the environmental community in recognizing that energy efficiency uniquely addresses many of our nation's core energy issues – it is more cost-effective than building new power plants, has the potential to dramatically lower greenhouse gas emissions, and provides consumers with long-term savings on their energy bills.

National Grid's Energy Efficiency Programs

National Grid's experience throughout the Northeast demonstrates that cost-effective energy efficiency measures are ready to be deployed today with the right mix of policies and incentives. We have decades of experience in delivering low-cost energy savings, which we believe can be replicated throughout the country. The certainty available from federal legislation, a state regulatory compact that encourages energy efficiency, the ability to rate base energy efficiency technologies in order to expedite and expand their market penetration, and tax policies and grant structures designed to stimulate investment will all assure the success of a concerted effort to use energy more efficiently.

National Grid has efficiency programs in place in our New England states that are saving customers over \$300 million annually, after an expenditure of more than \$1.5 billion on efficiency technologies. As a result of these programs, more than 4.7 million National Grid customer projects have been completed to date, often with a payback period of five years or less, and saving more than \$3.6 billion in energy costs. This

includes converting almost all of Boston's public schools from oil to natural gas, which helps cash strapped schools focus their limited resources on education, and includes residential boiler conversions, which reduce carbon dioxide and other emissions by up to 40 percent. In 2007 alone, our gas programs saved 4.6 million therms and avoided 27,000 tons of carbon dioxide. Our electricity program saved 380,000 megawatt hours, avoiding 218,000 tons of carbon dioxide. The total carbon emissions avoided equate to 48,000 cars off the road for a year.

We expect National Grid's efficiency programs to enjoy significant growth during the next several years as we expand our New England and downstate New York programs and develop new programs in upstate New York. Our spending on efficiency is forecast to more than double over the next five years, reaching approximately \$700 million in 2014. This increase reflects our commitment to energy efficiency, as well as the supportive regulatory environment in the states we serve. The Regional Greenhouse Gas Initiative signals the commitment of the northeastern states to address climate change and pursuing energy efficiency is a major component of meeting the new requirements. State legislation is also driving energy efficiency investment, with New York, Rhode Island, and Massachusetts all adopting groundbreaking energy efficiency policies and programs over the last few years, and New Hampshire continuing to build upon the efficiency goals of its comprehensive energy plan. These changes have enabled us to pursue new approaches, such as partnering in solar initiatives and offering efficiency programs, which integrate the delivery of electric and gas efficiency for the first time.

Independent Analysis of Energy Efficiency

To assess the costs and opportunities available now in energy efficiency, National Grid, together with Pacific Gas and Electric, Shell, DTE Energy, Honeywell, Environmental Defense Fund, and the Natural Resources Defense Council partnered with McKinsey and Co. and the Conference Board to produce the study "Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?". The McKinsey team worked with leading companies, industry experts, academics, and environmental non-governmental organizations to examine opportunities to reduce greenhouse gas emissions across the main carbon-emitting sectors of the U.S. economy. Analysis focused on options likely to yield greenhouse gas reductions at a cost of less than \$50 per ton of carbon dioxide equivalent. While McKinsey conducted the research and is solely responsible for its content, the work was critiqued by academics from leading universities including MIT, Princeton, Texas A&M, and U.C. Davis.

The study was over a year in the making, and its outcome is based on a detailed analysis of 250 opportunities for reducing emissions of carbon dioxide and other gases thought to contribute to global warming. It focused on five clusters of greenhouse gas abatement potential:

- improving energy efficiency of buildings and appliances;

- encouraging higher energy efficiency in vehicles while reducing the carbon intensity of transportation fuels;
- pursuing a range of targeted measures across energy intensive portions of the industrial sector;
- expanding and enhancing carbon sinks; and
- reducing carbon intensity of electric power production.

The report evaluated the potential to reduce manmade emissions within the U.S. by 2030. It shows reductions in the range of 3.0 to 4.5 gigatons in 2030 are achievable at manageable costs using proven and emerging high potential technologies, but only if the U.S. pursues a wide array of options and moves quickly to capture gains from energy efficiency. Almost 40 percent of the identified reductions come from options that more than pay for themselves over their lifetimes, thereby creating a net savings for the economy. For example, improving energy efficiency in buildings, appliances, and industry could yield net savings, while offsetting some 85 percent of projected increased demand for electricity in 2030.

The scenarios included in the report represented a significant shift in capital investment away from less efficient, higher emitting technologies to clean cost-effective energy solutions. Analysts who worked on the report assumed no technological breakthroughs – about 80 percent of the options reviewed rely on proven technology; the remaining 20 percent consisted of “high potential” technologies such as cellulosic bio-fuels and plug-in hybrid vehicles, which are being tested today. Moreover, everything in the analysis was predicated specifically on maintaining our standard of living. The fastest and most important measures all involve energy savings that translate directly into cost savings for businesses and consumers.

However, the report warned that private sector innovation and policy support would be necessary to unlock these opportunities. A McKinsey director at the time said “without forceful and coordinated action, it is unlikely that even the most beneficial options would realize their full potential”.

While the report did not promote specific policies, it did mention some possible solutions. For example, regulations for utilities could be rewritten to assure that companies would not have a disincentive to promote conservation when selling electricity. The study also indicated climate change programs might require emission limits and other government mandates as well as incentives like tax breaks to promote efficient buildings, cars, and appliances.

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Principal findings of the report included:

- Opportunities to reduce greenhouse gas emissions, including energy efficiency, are highly fragmented and widely spread across the economy. The largest single option – carbon capture and storage (CCS) for coal-fired power plants – offers less than 11 percent of total potential identified. The largest sector, power generation, accounts for less than one third of the total.
- Reducing emissions by 3 gigatons of carbon dioxide equivalent in 2030 would require \$1.1 trillion of additional capital spending, or roughly 1.5 percent of the \$77 trillion in real investment the U.S. economy is expected to make over this period.
- Investment would need to be higher in the early years and highly concentrated in the power and transportation sectors in order to capture energy efficiency gains at the lowest overall costs and accelerate the development of key technologies. If pursued, such investment would likely put upward pressure on electricity prices and vehicle costs. Policymakers would need to weigh these added costs against the energy efficiency savings, opportunities for technological advances, and other societal benefits.
- Five clusters of initiatives, pursued in unison, could create substantial progress toward the reductions targets included in several Congressional bills. From least to highest average cost, they are: improving energy efficiency in buildings and appliances (710 – 870 megatons); increasing fuel efficiency in vehicles and reducing carbon intensity of transportation fuels (340 to 660 megatons); pursuing various options across energy-intensive portions of the industrial sector, including energy efficiency (620 to 770 megatons); expanding and enhancing carbon sinks, such as forests (440 to 590 megatons); and reducing the carbon intensity of electric power production (800 to 1,570 megatons.)

The full report is available at:

www.mckinsey.com/mgi/publications/Curbing_Global_Energy/executive_summary.asp.

The McKinsey report as well as several other studies demonstrate that energy efficiency can cost as little as 3 cents per kWh saved, while electricity costs 6 to 12 cents per kWh. Thus, energy efficiency measures are often the most effective way to avoid unnecessary energy supply investments, and lower customers' energy bills on a sustainable basis. Despite the obvious advantages of energy efficiency, we spend about \$215 billion annually on the production of electricity, but invest only \$2.6 billion in securing electricity savings through efficiency programs. The savings are similar for natural gas, where efficiency costs \$1 to 2 per thousand cubic feet (mcf) compared to a typical market cost ranging from \$6 to 8 per mcf. Yet we spend approximately \$91 billion annually on natural gas supplies and only \$500 million on natural gas efficiency.

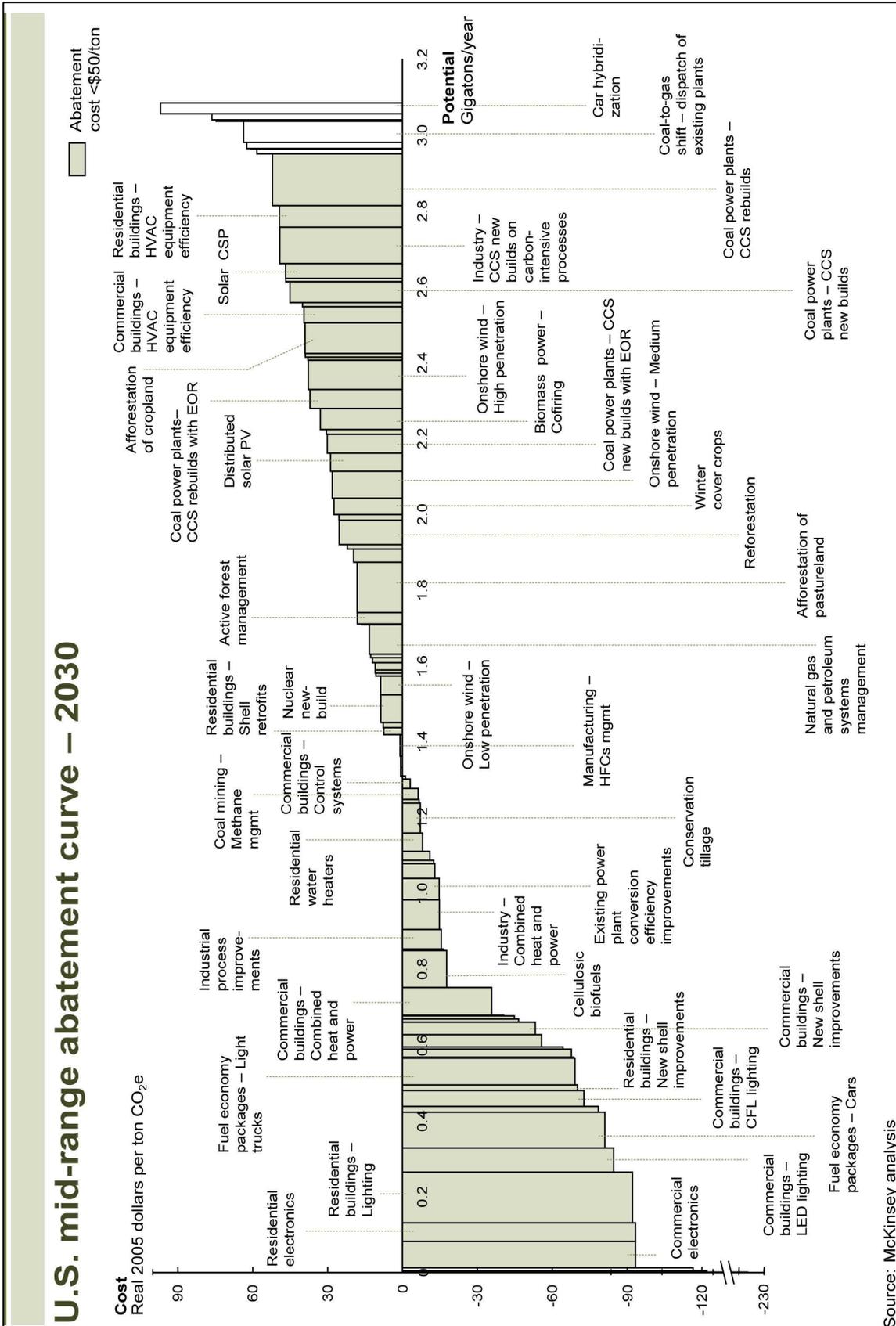
A recent study by the Electric Power and Research Institute (EPRI) shows the potential for realizing energy efficiency savings. By analyzing the impact of codes and standards, as well as market driven efficiency, the study shows measurable reductions in energy consumption. Opportunities in the EPRI study range from commercial lighting to massive reductions in consumption through residential appliances and standby wattage. The full EPRI study can be found at http://my.epri.com/portal/server.pt?Abstract_id=00000000001016987

Prioritizing Energy Efficiency

While spending on energy efficiency is increasing, it remains but a small fraction of what the total country spends on energy requirements, effectively leaving billions of dollars in potential savings on the table. This country must take better advantage of this opportunity and prioritize energy efficiency. National Grid supports the concept of federal energy efficiency resource standard legislation as one of the strategies that will pave the way towards a more energy efficient future.

Mr. Chairman and Members of the Committee, we believe the current economic downturn provides a real opportunity to respond to a multitude of challenges in our economy. Driving economic activity in the energy sector can create significant employment, all here at home, while reducing our dependence on foreign fuels and the release of harmful emissions into our atmosphere. Energy efficiency should act as a foundation of our national energy policy as we take other key steps to develop and implement innovative investments to ensure a reliable low carbon and efficient energy strategy for America. Importantly, these programs can be quickly expanded to provide much needed jobs and energy savings in the near term. The existing programs are not nearly sufficient, and we look forward to working with you on developing energy efficiency policies that will help us to reorder our economy for a greener future.

We commend your work and we thank you for the opportunity to answer your questions.



nationalgrid



David J. Manning, Q.C.

Current Title:

Executive Vice President, U.S. External Affairs

Date Joined: April 1999 (KeySpan)

Responsible for:

David leads National Grid's US External Affairs Team, with responsibility for federal relations and issues. He is also central to the company's US and UK teams, handling all issues and functions external to the company from climate change to communications.

Experience:

After several years in private law practice in Canada (awarded a Queen's Council designation), from 1988 to 1993 David was resident in New York, as Senior International Trade Counsel for the government of Alberta focusing on International trade and energy issues. Following an intense effort to achieve the

passage of the Canada - US trade agreement, David focused on efforts to significantly increase the flow of natural gas from resource rich Alberta to the underserved US Northeast.

Mr. Manning returned to Canada to be Deputy Minister of Energy for the Province of Alberta, Canada, the largest energy producing region in North America. He held this post from 1993 to 1995, a critical period in the development of Alberta's Oil Sands these deposits are the largest and most strategic resource available to the US and now the focus of significant environmental issues and initiatives.

Mr. Manning then was selected to lead the Canadian Association of Petroleum Producers, a national trade association representing all significant oil and gas producers nationally and internationally. CAPP moved early in climate change response, initiating the first voluntary action recognition program in Canada in the early 90's. Mr. Manning was a delegate to the Kyoto conference on climate change in that capacity, in 1997.

More recently, Mr. Manning has served as Executive Vice President and Chief Environmental Officer of KeySpan, New York State's largest power generator and one of the largest gas distributors in the U.S. In that capacity, he was central to a "system repowering" of the Ravenswood power station (New York's largest) with the addition of combined-cycle capacity. Following KeySpan's acquisition by National Grid, Mr. Manning joins as EVP a company which has already achieved a 37% reduction towards its Kyoto targets and has mandated an 80% reduction in CO₂ emissions by 2050.

Mr. Manning remains active in the communities served by National Grid, including: Past Chair, Brooklyn Chamber of Commerce, and sits on the Boards of the New York City Police Foundation, Audubon New York, Long Island Housing Partnership, Citizen Budget Commission, and the New York League of Conservation Voters.

Education:

David was educated in law and has Bachelor of Arts and Bachelor of Laws degrees from the University of Alberta. He did post-graduate study in international law at Australian National University as a Rotary Foundation Fellow. He is a member of the Law Society of Alberta, the Canadian Bar Association, and is eligible for admission to the New York Bar.

Personal:

Mr. Manning is married to Jacqueline Siben, a lawyer in New York, and they have four daughters.

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