



AMERICAN PUBLIC GAS ASSOCIATION

The Honorable Henry Waxman
Co-Chair
Bicameral Task Force on Climate Change
Ranking Member,
House Energy and Commerce Committee
United States House of Representatives
Washington, DC 20515

The Honorable Sheldon Whitehouse
Co-Chair
Bicameral Task Force on Climate Change
Chairman, Subcommittee on Oversight
Senate Committee on Public Works
United States Senate
Washington, DC 20510

Dear Congressman Waxman and Senator Whitehouse:

Thank you for your January 31st letter requesting the American Public Gas Association's (APGA) views on potential federal actions that can be taken to address greenhouse gas (GHG) emissions. APGA appreciates this opportunity to submit our views.

APGA is the national, non-profit association of publicly-owned natural gas distribution systems. APGA was formed in 1961 as a non-profit, non-partisan organization, and currently has some 700 members in 36 states. Municipally-owned systems serve more than five million residential and commercial meters. There are approximately 1,250 local natural gas distribution systems (LDCs) in the United States, and nearly 1,000 of these systems are publically-owned not-for-profit systems responsible to the citizens they serve, not corporate shareholders.

APGA appreciates the opportunity to provide comments for consideration in this discussion.

I. What actions or policies could federal agencies adopt, using existing authorities, to reduce emission of heat-trapping pollution?

- **Encourage the Direct Use of Natural Gas.** Optimizing how the U.S. uses energy has the potential to reduce CO₂ emissions by 370-600 million metric tons/year.¹ Natural gas is the cleanest, safest, and most useful of all fossil fuels. The inherent cleanliness of natural gas compared to other fossil fuels, an abundant domestic supply and superior efficiency of natural gas appliances, means that substituting natural gas for other fuels will reduce GHG emissions. The increased direct-use of natural gas in homes and businesses should be a component of any policy plan because switching from electric to gas appliances will reduce emissions. The direct use of natural gas is 92% efficient, losing only about 8% of its usable energy traveling from wellhead to burner tip. Converting natural gas or any other fossil fuel into electricity to power comparable electric end-use products and appliances in the home or business results in the loss of 68% of its usable energy and the release of greater emissions. Policies that encourage the deployment of increased-efficiency natural gas equipment in our nation's homes, offices, and industries can achieve substantial CO₂ savings, with most of the costs offset by energy efficiency gains. Simply put, increasing the direct-use of natural gas is the surest, quickest, and most cost-effective avenue to achieve significant reductions in GHG emissions.

¹ *Report: A Lower-Cost Option for Substantial CO₂ Emission Reductions*, Gas Technology Institute, February 2008

- **Use Full-Fuel Cycle Metrics for Measuring Energy Efficiency.** A full fuel cycle (or source) analysis examines all impacts associated with energy use, including those from extraction/production, conversion/generation, transmission, distribution, and ultimate energy consumption. Using full fuel cycle metrics is more appropriate when measuring emissions and efficiency gains. Conversely, the more common site (or point-of-use) measurement fails to account for the energy losses expended from the point of energy extraction through delivery to the point of final consumption, when comparing energy use intensity of optional fuels. Site-based measurement can be linked to increased efficiency, but only related to the efficiency of the appliances themselves. While site-based measurement may have sufficed in the past, given our relative indifference to climate change issues, that is simply no longer the case. The goal of energy efficiency must be to maximize the productivity of available resources; and full-fuel-cycle-based standards do just that, whereas site-based standards do not. In 2011, the Department of Energy (DOE) issued a Statement of Policy announcing its plans to adopt full-fuel-cycle analyses into its Energy Conservation Standards Program, based on recommendations to that effect by The National Academies of Sciences. DOE should now fulfill its commitment to using full-fuel cycle metrics going forward, and other federal agencies should be required to do the same when developing energy efficiency or emission reduction policies.

- **Promote Increased Use of Natural Gas Vehicles.** Natural gas vehicles (NGVs) offer opportunities to significantly reduce CO₂ emissions, provide fuel savings for consumers and businesses, stimulate U.S. economic growth, and promote energy independence. The use of NGVs as a replacement for all classes of gasoline-powered vehicles could make an immediate impact by reducing harmful GHGs and other air pollutants. The replacement of an older in-use gasoline vehicle with a new NGV could reduce emissions of Carbon Dioxide by 20%-30%, Nitrogen Oxide by 75%-95%, Non-Methane Organic Gas by 50%-75%, and Carbon Monoxide by 70%-90%.²
 - **Streamline Existing NGV Funding Opportunities.** All existing grant and loan programs for alternative fuel vehicles and infrastructure (including NGVs) should undergo a thorough review and streamlining process to ensure that these incentives actually reach the marketplace in an expeditious fashion. Currently, the grant and loan programs operated by DOE, EPA, and DOT are time-intensive and costly for applicants, thereby deterring broader public participation. Streamlining these programs, while maintaining effective oversight and due diligence, would be a simple, cost-effective means of incenting the deployment of NGVs and achieving the resulting emissions benefits.

II. What actions or policies could federal agencies adopt, using existing authorities, to make our nation more resilient to the effects of climate change?

- **Encourage the Deployment of Combined Heat and Power (CHP).** CHP takes the heat from a boiler or an industrial process and uses it to keep buildings warm or generate electricity. Affordable natural gas has made it increasingly cost-effective for industrial plants to draw their heat and electricity from gas-burning boilers. These operations are also highly efficient -- putting as much as

² http://www.ngvamerica.org/about_ngv/index.html

80 % of the energy in their fuel to use. Many large facilities, such as hospitals, universities and military bases, also use the technique to meet their substantial energy needs. But many more facilities and institutions could take advantage of CHP technology. President Obama signed an executive order in August 2012 setting a goal of adding 40 gigawatts of new CHP capacity by 2020, a 50 % increase from today. Studies by the Oak Ridge National Laboratory and DOE have concluded that the combined heat and power and waste heat recovery could produce an additional 85 GW of power, or 20% of the nation's electricity supply, by 2030. These studies estimate that doubling industrial efficiency could create nearly one million skilled jobs, generate \$234 billion in investment, and reduce emissions by 848 million metric tons.

- **Encourage Investment in Natural Gas and Renewable Energy Synergies.** Natural gas can be used in a range of efficient, flexible, and scalable technologies, making it a natural partner for variable renewable energy sources such as wind and solar power. Because these renewable resources vary by the season, day, and even hour, wind and solar power plants cannot always generate electricity when it is needed, as other types of power plants can. On a smaller scale, in closed systems, natural gas water heaters and furnaces can be combined with solar panels to create systems that alternate between natural gas and solar energy as sunlight varies.

III. What legislation would you recommend Congress enact to strengthen the ability of federal agencies to prevent and respond to the effects of climate change?

- **Credit Direct Use Natural Gas as a Clean Energy Source.** From a full-fuel-cycle perspective, direct use of natural gas is dramatically more efficient at 92% system efficiency than electricity, which only reaches 27% system efficiency. As Clean Energy Standard legislation is developed, utilities meeting load demand with direct use natural gas should be credited in the same a manner, as credit would be given for utilizing clean and/or renewable energy sources for electricity generation. This approach would recognize and take full advantage of the benefits that the direct-use of natural gas provides in terms of efficiency and reduced greenhouse gas emissions. Moreover, it would help reduce the need for additional electricity generation and provide electric/gas utilities with more flexibility while meeting future load requirements. The U.S. Energy Information Agency released its 2012 Annual Energy Outlook on January 23, 2012, indicating that there are 2140 trillion cubic feet of technically recoverable natural gas reserves within the United States (many analysts believe this number is understated). Federal policy should seek to maximize utilization of this abundant domestic and low-carbon fuel by encouraging greater direct use in our homes and businesses for heating and cooking and other appropriate uses.
- **Repeal and Replace Section 433.** Section 433 of the Energy Independence and Security Act of 2007 mandates the elimination of all fossil fuel-generated energy from federal buildings by the year 2030. Section 433 is at odds with both the Obama Administration’s policies and with energy efficiency and emissions reduction goals. The Administration has articulated an “all of the above” approach to energy resources and has issued an executive order encouraging energy efficiency retrofits in federal buildings. By excluding natural gas, and restricting the use of high-efficiency natural gas technologies such as combined heat and power, Section 433 increases the costs and difficulty of compliance with sustainability goals. Preventing federal agencies from using natural gas to increase energy efficiency will result in many agencies not undertaking retrofits at all. Furthermore, by focusing only on fossil fuels, and ignoring efficiency, Section 433 discourages

energy savings efforts. Congress should develop new guidelines for federal buildings that will enable federal energy manager's greater compliance flexibility, reduce costs, and create a level playing field for all clean energy solutions.

- **Implement Full Fuel Cycle Metrics through Legislation.** As Congress considers the most effective way to move America toward a more energy efficient, low-carbon future, it should use full fuel cycle metrics in evaluating and setting energy efficiency policies. The National Academies of Science (NAS) found full-fuel-cycle measurement to be the most appropriate method to accurately capture energy consumption and environmental impact. Giving consumers accurate information is critical to creating the changes in energy use necessary for achieving the nation's goal of reducing GHGs and conserving precious energy resources. Legislative implementation of the NAS recommendations is the first step in ensuring that consumers have the information needed to make smarter energy choices. Site-based measurement of energy use does not account for energy lost in the production, generation, and transportation of energy to the point of end use. Site measurement also fails to provide a basis for calculation of the potential carbon footprint of appliances and other impacts. However, a full fuel cycle approach examines all impacts associated with energy use, including those from extraction/ production, conversion/generation, transmission, distribution, and ultimate energy consumption and is most appropriate when comparing energy efficiency across applications.
- **Parity for Renewable Gas:** Renewable gas is comprised of methane that is produced and released naturally from the decomposition of organic materials found in places like swamps, manure bins, and landfills, among others. Pipeline quality gas from biomass including forest residues and agricultural wastes can be produced at efficiencies ranging from 60-70%. This compares to biomass-to-liquids fuels efficiencies of 45-60% and biomass-to-electricity efficiencies of 20% to 35%. Once purified and upgraded, renewable gas can be distributed using the existing gas pipeline system and used in the same manner as traditional natural gas. Renewable gas provides tremendous emissions benefits. When captured for conversion, methane that otherwise would have entered directly into Earth's atmosphere is instead combusted as renewable gas. This results in the release of greenhouse gases that are approximately 21 times less potent than methane released directly into the atmosphere. Renewable gas that is used for electricity generation receives a production tax credit, but there are no incentives for renewable gas for direct use. Renewable natural gas should compete on a level playing field with other renewable sources of energy. Congress should expand the energy sources for the Investment Tax Credit (ITC) to include renewable gas.
- **Require the Evaluation of Regional Impacts in Efficiency Standards.** Energy needs and uses vary dramatically from region to region in our country. The heating and cooling needs in Bangor, Maine differ severely from those in Mesa, Arizona. DOE has the authority under the Energy Independence and Security Act of 2007 to establish regional standards for certain heating and cooling appliances. However, DOE is under no obligation to consider regional impacts when developing efficiency standards. Energy savings and emissions reductions could be achieved through tailoring appliance standards to the varying climate regions, rather than allowing DOE to impose a one-size fits all standard that applies from Minnesota to New Mexico. Ignoring differences in the regional impacts of efficiency standards inadvertently undermines energy efficiency goals. For

example, setting a national minimum efficiency standard for gas furnaces, without considering regional impacts, will cause consumers to shift to less efficient, non-gas burning appliances. A 90% efficient furnace may make economic sense in the very coldest areas because of the annual operating cost savings, despite the added expense of installing such a furnace. This increased cost will not be justified in warmer regions due to much lower energy cost savings. Thus, consumers in warmer climates will turn to electric appliances, which are cheaper but much less efficient on a full fuel cycle basis than gas appliances (27% efficient compared to 92% for natural gas appliances). To promote the use of the most efficient, most appropriate appliances, Congress should pass legislation requiring DOE to consider regional impacts when setting appliance efficiency standards.

- **Statutory Authority to Separate the New and Replacement Markets.** Under current law, DOE does not believe it has the statutory authority to set different minimum appliance efficiency standards for appliances going into new homes (the “new market”) and appliances going into existing homes to replace a previous appliance (the “replacement market”). Congress should give DOE the authority to issue separate appliance efficiency standards for the new market and the replacement market. Currently, DOE relies on average numbers even though there is no such thing as an average customer – customers are either in the new market or replacement market – and thus use of “averages” distorts the impact of new standards in *both* markets. This is especially true for low-income customers in the replacement market, who simply cannot afford the type of upgrades that are associated with new standards that are premised on “average” data. Congress needs to ensure that new appliance standards are not just appropriate for the region in question (see prior bullet) but also for the class of the affected customers, and Congress can achieve that (along with substantial fuel savings) by mandating that DOE set appropriate fuel efficiency standards for the new market and the replacement market separately, based on the unique characteristics of each, including economic feasibility.

I thank you in advance for your consideration of our views and look forward to working with you on these and other issues of importance to natural gas consumers.

Sincerely,



Bert Kalisch

President & CEO