Washington Gas appreciates the opportunity to provide the following performance metrics to immediately reduce the concentration of greenhouse gases generated in the greater Washington DC metropolitan region. These recommendations are based on current circumstances. Changes in Federal legislation and regional regulations could alter the economics and efficacy of the recommendations.

These recommendations incorporate the effects of ***both*** fuel supply and appliance efficiency in assessing the carbon intensity of various residential and commercial energy applications. In order to measurably reduce our region's output of greenhouse gases, source-to-site full-fuel-cycle efficiency must be considered. The recommendations provided below offer both environmental and economic benefits – they can reduce regional GHG emissions and lower regional energy costs.

- Institute a region-wide lbs/square foot CO2 equivalent standard for new home construction of <6 lbs. of CO2e per square foot that would cover emissions from space heating, water heating, cooking, and clothes drying. [metric derived from carbon calculator developed by ICF International for the Energy Solutions Center.]

  Benefits:

  - A non-prescriptive, technology-neutral standard enables builders and home buyers to make choices to meet their needs and preferences.

- Establish pilot Energy Conservation and Disclosure Programs, similar to the City of Austin, for home listings that require the disclosure of energy efficiency information to potential buyers of existing homes. This would include the C02e emissions from fuels consumed, as well as information on appliances and home envelope upgrades.

  Benefits:

  - Provide transparency on both CO2e footprint and operating costs
  - Monetize energy efficiency investment in sale price
  - Market-based rewards drive homeowner efficiency actions
  - Drive green job growth – disclosure program require energy audits
  - Makes home ownership more affordable; lowers operating costs

- Establish regional ordinances in all jurisdictions that prohibit electric resistance heat as the primary source of water heat in new construction where alternate energy sources are readily available.

  Benefits:

  - Reduce home energy costs. An average household with an electric water heater spends about 25% of its home energy costs on water heating. Gas water heating is approximately twice as efficient, costs approximately half as much annually, and results in a carbon footprint that is less than half that of an electric resistance hot water heating system.

- Significantly reduces associated carbon footprint; a gas water heater has less than half the carbon footprint of an electric resistance heater.
- Makes home ownership more affordable; lowers operating costs
- Reduces transmission grid strain; avoids incremental fossil generation

- Create pilot natural gas conversion program, emphasizing hot water heating, for low-income and other home-owners utilizing energy efficiency block grant funds

  Benefits:

  - Reduce the amount of home energy costs.
  - Makes home ownership more affordable; lowers operating costs
  - Reduce carbon footprint

- Support the development of scale combined heat and power (CHP) distributed generation in Maryland, Virginia, and the District of Columbia

  Benefits:

  - CHP with co-generation can be 90% efficient with the ability to substantially reduce greenhouse gas emissions
  - Energy security and reliability – facilities are highly reliable and store energy (e.g., steam); in the event of an outage, unlike large scale generating units, they can be restarted very quickly
  - Reduces demand on transmission grid and fossil generating assets