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COMMITTEE: EDUCATION, ENERGY, AND THE ENVIRONMENT

TESTIMONY ON: SB474 – CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND RELATED APPROVALS – DEFINITION OF GENERATING STATION (CRITICAL INFRASTRUCTURE STREAMLINING ACT OF 2024).

POSITION: SUPPORT

HEARING DATE: FEBRUARY 22, 2024

Washington Gas respectfully submits this statement in **SUPPORT** of **Senate Bill 474 – Certificate of Public Convenience and Necessity and Related Approvals – Definition of Generating Station (Critical Infrastructure Streamlining Act of 2024)**.

Washington Gas (“the Company”) was founded in 1848 by Congressional Charter and is marking its 175th year of providing affordable, safe, and reliable natural gas service. Washington Gas currently serves more than 500,000 Maryland customers in Montgomery, Prince George’s, Charles, St. Mary’s, Frederick, and Calvert Counties and over 1.2 million customers across its entire service area. The Company employs over 400 people within Maryland, including contractors, plumbers, union workers, and other skilled tradespeople. The Company strives to improve the quality of life in our communities by maintaining a diverse workforce, working with suppliers that represent and reflect the communities we serve, and giving back through our charitable contributions and employee volunteer activities.

The Company is supportive of the Governor’s mission to bring more data centers to Maryland. The data center industry can offer several benefits to the State, including increasing the State’s GDP and creating jobs.¹ Senate Bill 474 would streamline the regulatory approval process for critical infrastructure, such as data centers, that require backup generators and make Maryland a more attractive place for those facilities. Data centers require backup generation to ensure 99.999% uptime of operations, and diesel generators are typically used to provide this service. Replacing diesel fuel with hydrogen or natural gas can reduce the amount of greenhouse gases and other harmful materials that are released into the atmosphere when diesel generators are used.^{2 3}

¹ The Data Center Coalition. [Economic, Environmental, and Social Impacts of Data Centers in the United States](#) (Sep. 2023)

² GenServe. [Comparing Diesel vs. Natural Gas Industrial Generators](#)

³ DOE. [Fuel Cells](#)

Additionally, natural gas technologies like combined heat and power (CHP) systems and natural gas fuel cells can provide primary power to data centers more reliably than the electric grid, helping to meet the industry's stringent performance requirements. Less than 1% of all natural gas customers are expected to experience an outage each year.⁴ In contrast, a 2020 survey of over 800 data centers using grid-provided power found that 78% experienced at least one outage in the prior three (3) years, with over 50% of data centers incurring costs greater than \$100,000 due to power interruptions.⁵

As the data center industry grows in Maryland, Washington Gas looks forward to working with the industry to explore how the Company can provide primary or backup power to help align data center projects with the State's climate goals. Conventional natural gas, renewable natural gas, and other lower carbon fuels, including hydrogen, can present a practical path to support the energy and reliability needs of these facilities.

For the above reasons Washington Gas respectfully requests a favorable vote on Senate Bill 474. Thank you for your consideration of this information.

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⁴ AGA. [Natural Gas is Reliable](#)

⁵ CHP Alliance. [Combined Heat and Power Potential in Data Centers](#)



Natural Gas and Lower-Carbon Fuels at Data Centers



A data center is a facility that houses IT infrastructure used for the storage, processing, and distribution of data.¹ Data centers use a lot of energy, consuming on average ~10x the power of a typical American home per square meter.² Maryland is currently home to 24 data centers³, and as the industry grows, conventional natural gas, renewable natural gas (RNG), and other lower-carbon fuels, including hydrogen, can present a practical and reliable path to accommodate the large energy needs of these facilities.

What are the Benefits of using Natural Gas and Lower-Carbon Fuels at Data Centers?



REDUCES STRAIN ON THE GRID

Data centers place a large strain on the electric grid, and utilities and grid operators are struggling to keep up. Dominion Energy could halt power delivery for new data center developments in Virginia due to insufficient electric grid infrastructure.⁴ Energy solutions that leverage molecules like natural gas and hydrogen can help mitigate these issues because they rely on infrastructure that is independent of the electric grid.



DISPLACES DIESEL GENERATORS

Replacing diesel with hydrogen and natural gas for backup power can reduce the amount of greenhouse gases and other harmful materials from being released into the atmosphere.^{5,6} The use of RNG offers further emissions benefits and can have a net-negative carbon intensity.⁷



RELIABILITY AND RESILIENCY

Natural gas technologies like combined heat and power (CHP) systems and fuel cells can reliably provide primary power to data centers even when the electric grid is unable to. Less than 1% of all natural gas customers, not just data centers, are expected to experience an outage each year.⁸ In contrast, a 2020 survey of over 800 data centers using grid power found that 78% experienced at least one outage in the prior three (3) years, with over 50% of data centers incurring costs greater than \$100,000.⁹ Additionally, natural gas backup generators and hydrogen fuel cells can provide the uninterrupted power supply needed to ensure 99.999% uptime of operations.

Natural Gas and Lower-Carbon Fuels Deserve Legislative Consideration in Maryland

On 10/10/2023, the Maryland Public Service Commission denied Aligned Data Centers' proposal to install 168 backup diesel generators at the Quantum Frederick data center community in Frederick County.¹⁰ Governor Wes Moore expressed his disappointment with this decision and that he "will work with the legislature to address the [data center] industry's needs and ensure the industry has a bright future in Maryland."¹¹ Leveraging natural gas and hydrogen solutions to provide primary and backup power to data centers can help to facilitate a resilient future in Maryland.

Washington Gas, a wholly owned subsidiary of AltaGas Ltd, is a regulated natural gas utility that provides safe, reliable natural gas service to more than 1.2 million customers in the District of Columbia, Maryland and Virginia. The company has been providing energy to residential, commercial and industrial customers for more than 174 years.

Economic Benefits the Data Center Industry can bring to Maryland

Increase in State GDP

From 2017–2021, the data center industry added ~\$2.1 trillion to the United States Gross Domestic Product (GDP) from direct, indirect, and induced impacts¹², which was ~2% of overall U.S. GDP over that same period.¹³ At the state-level, data centers can provide a boost to the economy. In Virginia, data centers, through direct, indirect, and induced impacts, added \$13.5 billion to its GDP in 2021.¹²

Job Creation

The data center industry in the United States supported 3.5 million jobs in 2021 and preliminary government data shows that the industry supported 4.2 million jobs in 2022, constituting a 20% increase. This includes direct, indirect, and induced job growth since each direct job in the data center industry supports more than six (6) jobs elsewhere in the US economy.¹²

Use Cases for Natural Gas and Lower-Carbon Fuels at Data Centers



COGENERATION / TRIGENERATION

CHP systems use natural gas to both generate electricity and produce thermal energy and can be over 80% efficient. They can also be paired with chillers to provide cooling.¹⁴

Syracuse University installed a 780kW CHP system to provide power, heating, and cooling to its Green Data Center. The facility houses the campus' main computer data system, as well as critical electrical and mechanical equipment. This installation has helped the university meet their emissions reduction targets.¹⁵



NATURAL GAS FUEL CELLS

Natural gas fuel cells convert natural gas into electricity via a chemical reaction with oxygen, not using combustion or any moving parts.¹⁶

Amazon selected natural gas fuel cells to provide primary power to three (3) proposed data center sites¹⁷ in Oregon after learning that the local utility could not add capacity in time. This has the potential to reduce smog-forming pollutants by 99%.¹⁸



NATURAL GAS / RNG BACKUP

Natural gas generators can be used as a backup power source for when the electric grid experiences an outage.

Microsoft plans to use natural gas generators to provide back-up power to its San Jose, CA data center. The generators will be fueled by renewable natural gas and are projected to reduce local emissions by up to 96% compared to alternatives like diesel.¹⁹



HYDROGEN FUEL CELL BACKUP

Hydrogen fuel cells convert hydrogen into electricity via a chemical reaction with oxygen, with the only byproducts being water and heat.²⁰

In 2022, Microsoft successfully demonstrated that a 3 MW hydrogen fuel cell system could replace their current backup diesel generators at a large data center. After this achievement, Microsoft's director of datacenter research said that "We have a generator that produces no emissions."²¹

References

- 1: IBM. What is a Data Center? <https://www.ibm.com/topics/data-centers>
- 2: C&C Technology Group. Understanding Data Center Energy Consumption <https://cc-techgroup.com/data-center-energy-consumption/>
- 3: Data Center Map. Maryland Data Centers <https://www.datacentermap.com/usa/maryland/>
- 4: Data Center Dynamics. Dominion Energy admits it can't meet data center power demands in Virginia <https://www.datacenterdynamics.com/en/news/dominion-energy-admits-it-cant-meet-data-center-power-demands-in-virginia/>
- 5: GenServe. Comparing Diesel vs. Natural Gas Industrial Generators <https://genserveinc.com/2022/07/03/comparing-diesel-vs-natural-gas-industrial-generators/>
- 6: DOE. Fuel Cells <https://www.energy.gov/eere/fuelcells/fuel-cells>
- 7: World Resources Institute. 7 Things To Know About Renewable Natural Gas (Dec. 18, 2020). <https://www.wri.org/insights/7-things-know-about-renewable-natural-gas>
- 8: AGA. Natural Gas is Reliable <https://playbook.aga.org/reliable/>
- 9: CHP Alliance. Combined Heat and Power Potential in Data Centers <https://chpalliance.org/resources/publications/combined-heat-and-power-potential-in-data-centers/>
- 10: Aligned Data Centers. Re: ML No. 302893 – Letter Rejecting Provisional Order (Oct. 25, 2023) <https://conduitstreet.mdcounties.org/wp-content/uploads/PSC-Letter-of-Withdrawal-ERRATA-10.25.23.pdf>
- 11: Conduit Street. Maryland Association of Counties. <https://conduitstreet.mdcounties.org/2023/11/03/governor-moore-disappointed-in-psc-data-center-decision-working-on-legislative-remedy/>
- 12: The Data Center Coalition. Economic, Environmental, and Social Impacts of Data Centers in the United States (Sep. 2023) <https://static1.squarespace.com/static/63a4849eab1c756a1d3e97b17/65037be19e1dbf4493d54c6e/1694727143662/DCC-PwC-Impact+Study.pdf>
- Total GDP Impact was calculated from table E-1 (page 6) by summing the Total Impact on GDP for each year, from 2017–2021.

- 13: Macrotrends. U.S. GDP 1960–2023. <https://www.macrotrends.net/countries/USA/united-states/gdp-gross-domestic-product>
- Total U.S. GDP from 2017–2021 was calculated by summing the GDP for each year.
- 14: EPA. What is CHP? (May 12, 2023). <https://www.epa.gov/chp/what-chp>
- 15: CHP Alliance. COMBINED HEAT AND POWER POTENTIAL IN DATA CENTERS Fact Sheet <https://chpalliance.org/wp-content/uploads/2019/08/CHPA-Data-Center-Factsheet.pdf>
- 16: Eversource. Natural Gas-Powered Fuel Cells <https://www.eversource.com/content/business/services/connect-to-gas/natural-gas-powered-fuel-cells>
- 17: Data Center Dynamics. AWS looks to deploy Bloom fuel cells at Oregon data centers as primary fuel source (Feb. 7, 2023) <https://www.datacenterdynamics.com/en/news/aws-looks-to-deploy-bloom-fuel-cells-at-oregon-data-centers-as-primary-fuel-source/>
- 18: Bloom Energy. Data centers and fuel cells <https://www.bloomenergy.com/blog/data-centers-and-fuel-cells/>
- 19: Enchanted Rock. Enchanted Rock to Develop California's Largest Renewable Microgrid to Ensure Resiliency of Microsoft Data Center (Jun. 15, 2022) <https://enchantedrock.com/enchanted-rock-to-develop-californias-largest-renewable-microgrid-to-ensure-resiliency-of-microsoft-data-center/>
- 20: DOE. Fuel Cells <https://www.energy.gov/eere/fuelcells/fuel-cells>
- 21: Microsoft. Hydrogen fuel cells could provide emission free backup power at datacenters, Microsoft says <https://news.microsoft.com/source/features/sustainability/hydrogen-fuel-cells-could-provide-emission-free-backup-power-at-datacenters-microsoft-says/>

