

STATE OF MARYLAND
BEFORE THE
PUBLIC SERVICE COMMISSION OF MARYLAND

IN RE:

PETITION OF THE OFFICE OF	)	
PEOPLE’S COUNSEL FOR NEAR-	)	
TERM, PRIORITY ACTIONS AND	)	CASE NO. 9707
COMPREHENSIVE, LONG-TERM	)	
PLANNING FOR MARYLAND’S	)	
GAS COMPANIES		

REBUTTAL TESTIMONY OF MICHAEL WALSH

ON BEHALF OF
THE SIERRA CLUB

JULY 13, 2026

1 **I. INTRODUCTION AND PURPOSE**

2 **Q. Please state for the record your name and business address.**

3 A. My name is Michael J. Walsh. I am the Managing Partner of Groundwork Data. My
4 business address is 51 Lockeland Ave, Arlington, Massachusetts 02476.

5 **Q. Are you the same Michael Walsh who filed Direct Testimony in this proceeding on**
6 **May 4, 2026?**

7 A. Yes.

8 **Q. What is the purpose of your Rebuttal Testimony?**

9 A. The purpose of my Rebuttal Testimony is to respond to the Direct Testimonies of two
10 witnesses for the Staff of the Public Service Commission of Maryland (“Commission”):
11 Alden Manka and John J. Clementson. Witness Manka recommends that the Commission
12 continue to approve cost recovery for Certified Natural Gas (“CNG”) and Renewable
13 Natural Gas (“RNG”) in Purchased Gas Adjustment (“PGA”) cases when those purchases
14 are “within the market price range” of conventional gas.¹ Witness Clementson addresses
15 whether alternative fuels—namely, RNG, hydrogen, and CNG—can “realistically and
16 affordably” help achieve the State’s climate goals through the existing gas system, in
17 response to Issue Number (7) in Order No. 91791.^{2,3} Below, I explain why the Staff
18 testimony does not alter the conclusions and recommendations in my Direct Testimony.⁴

19

¹ Direct Testimony of Alden Manka at 3 (May 4, 2026) [hereinafter “Manka Direct”].

² Direct Testimony and Exhibits of John J. Clementson at 7 (May 4, 2026) [hereinafter “Clementson Direct”].

³ Order No. 91791 at 7 (Aug. 20, 2025).

⁴ Direct Testimony of Michael Walsh (May 4, 2026) [hereinafter “Walsh Direct”].

1 **Q. Please summarize your rebuttal.**

2 A. Witnesses Manka and Clementson attempted to build a case for the consideration of RNG
3 in response to Issue Number (7). However, neither witness conducted an independent
4 supply, scale, or affordability analysis, and on close reading, both largely concede the
5 central points made in my Direct Testimony. Witness Manka's support for RNG is
6 conditioned on its being priced within the market range of conventional gas—a condition
7 that the record shows RNG cannot meet at meaningful scale, and which is satisfied today
8 only because the environmental attributes that give RNG its claimed value are stripped
9 away and sold into other markets. Witness Clementson's affordability discussion rests on
10 a \$20 per Metric Million British Thermal Units (MMBtu) RNG cost figure that is
11 unsupported by the record and contradicted by the gas companies' own discovery
12 responses, and his testimony itself catalogues the physical and economic obstacles that
13 make hydrogen unviable for building heat.

14 **II. RESPONSE TO STAFF WITNESS MANKA**

15 ***A. Certified Natural Gas Does Not Address the Emissions Subject to Maryland's Climate***
16 ***Targets.***

17 **Q. Witness Manka recommends continued cost recovery for CNG as “an economical**
18 **way to mitigate”⁵ greenhouse gas emissions. Do you agree?**

19 A. No. As Witness Manka acknowledges, CNG “is chemically no different than regular
20 natural gas,” and “the customer's end use combustion of CNG produces the same amount

⁵ Manka Direct at 3.

1 of GHG emissions as regular natural gas.”⁶ Certification addresses only upstream
2 production emissions—i.e., methane released during extraction, processing, and
3 transport—which, for gas consumed in Maryland, occur almost entirely out of state. It
4 has no effect on the in-state, end-use combustion emissions that Maryland’s Climate
5 Solutions Now Act targets. Treating CNG as a measure to “mitigat[e] GHG emissions
6 from the natural gas system”⁷ therefore overstates its relevance to the State’s climate
7 goals. This is consistent with both my Direct Testimony and the Direct Testimony of UGI
8 Utilities, Inc. (“UGI”) Witness Jessica Rogers, who states that certified gas “is in all
9 material molecular and transportation respects identical to traditional geologic gas.”⁸

10 **Q. Are the gas companies overselling the claimed benefits of CNG?**

11 A. Yes. The low-methane production practices that CNG certifies are increasingly becoming
12 a baseline expectation rather than a distinguishing feature, both through residual federal
13 methane standards and through voluntary industry commitments, such as the Oil & Gas
14 Decarbonization Charter.⁹ As these practices become standard, paying a premium for
15 “certified” molecules delivers progressively less additional benefit—while still doing
16 nothing to achieve the Maryland end-use emission reductions that actually count toward
17 the State’s targets.

⁶ *Id.* at 4.

⁷ *Id.* at 2.

⁸ Direct Testimony of Jessica Rogers at 34 (Feb. 9, 2026) [hereinafter “Rogers Direct”]; *see also* Walsh Direct, Section II.

⁹ Oil & Gas Decarbonization Charter, *2025 Status Report: Implementing Action* (Nov. 2025), www.ogdc.org. Charter signatories represent roughly 40% of global oil and gas production and have pledged near-zero upstream methane emissions and an end to routine flaring by 2030.

1 ***B. The Claim That Captured Methane “Would Enter the Atmosphere Regardless” Is***
2 ***Incorrect.***

3 **Q. Witness Manka states that “[i]f there were no RNG production facilities, the**
4 **methane from those landfills or farms would enter into the atmosphere regardless,”**
5 **so diverting it into the gas system reduces net emissions.¹⁰ Is that correct?**

6 **A.** No. This reasoning is a version of the “avoided methane” or “carbon-negative” claim that
7 I addressed at length in my Direct Testimony, and it is incorrect for several reasons.

8 First, avoiding a methane emission is not the same as removing greenhouse gas
9 from the atmosphere; it is, at most, a reduction relative to an assumed alternative.
10 Whether any avoided-methane benefit exists depends entirely on the counterfactual—i.e.,
11 what would have happened to the feedstock absent the RNG project—and that
12 counterfactual is assumption-dependent and frequently overstated.

13 Second, the premise is false as a general matter. For landfill gas, regulations
14 generally require that methane be collected and destroyed, so it would not “enter the
15 atmosphere regardless” and earns no avoided-emissions credit. For agricultural waste, the
16 large avoided-methane values claimed in the industry rest on the assumption that the
17 default practice is methane-intensive open-lagoon storage. However, this practice of
18 “lagooning,” while common, is not universal, and lower-emission practices such as
19 composting, solid storage, and daily spread are widely available and often cheaper.¹¹

¹⁰ Manka Direct at 5.

¹¹ Walsh Direct, Section IV.B.

1 Third, the regulators and modelers responsible for the avoided-methane
2 framework have walked it back. The California Air Resources Board announced in
3 November 2024 that it would phase out avoided-methane crediting under its Low Carbon
4 Fuel Standard, and in November 2025 the U.S. Department of Energy updated its
5 Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies (“GREET”)
6 model to reflect more realistic manure-management counterfactuals, substantially
7 reducing the avoided emissions attributable to RNG.¹²

8 Fourth, even where capturing methane is beneficial, RNG is not the only—or the
9 best—way to obtain that benefit. The same feedstock can be directed to higher-value
10 uses, such as liquid fuels or load-following electricity generation, that are more
11 competitive than pipeline RNG and deliver greater system value. Witness Manka’s
12 framing presents a false binary between RNG and atmospheric release, ignoring this
13 range of alternatives.

14 ***C. RNG Appears “Cost-Competitive” Only Because Its Environmental Attributes Are Stripped***
15 ***and Sold Elsewhere.***

16 **Q. Witness Manka recommends approving RNG purchases “as long as” they are**
17 **within the market price range of conventional gas and cites several existing**
18 **arrangements as examples. Do those examples support his recommendation?¹³**

19 **A.** No, these examples actually undercut his recommendation. Each example Witness Manka
20 cites is priced at or below the conventional gas index precisely because the RNG
21 producer retains and separately monetizes the valuable environmental attributes. He notes

¹² Walsh Direct, Section IV.B and accompanying authorities.

¹³ Manka Direct at 3, 6–7.

1 that Baltimore Gas & Electric (“BGE”) purchases RNG at 90 percent of the City Gate
2 Index, that Chesapeake Utilities of Maryland, Inc. purchases at 80 percent of the lowest
3 Inside FERC index, and that UGI sells the Renewable Identification Numbers (“RINs”)
4 associated with its RNG.¹⁴ As I explained in my Direct Testimony, BGE’s 90 percent
5 price is a Buyer of Last Resort backstop established with no supporting analysis, and
6 BGE “does not purchase any renewable attributes of RNG... these purchases are for the
7 physical gas only.”¹⁵

8 **Q. Why does that matter for evaluating Witness Manka’s recommendation?**

9 A. These facts are relevant because the two halves of his argument cannot both be true at
10 once. RNG can be delivered to Maryland customers within the market price range of
11 conventional gas—but only when its environmental attributes have been severed and sold
12 into transportation fuel-credit markets, leaving Maryland ratepayers with ordinary
13 methane and no emissions benefit. Conversely, if the attributes were retained so that the
14 gas actually reduced Maryland’s emissions, the price would not be within the market
15 range—the record shows that the costs of delivered RNG are *four to seventeen times*
16 those of conventional gas.¹⁶ Witness Manka’s “within market price range” condition thus
17 describes a product that provides no in-state environmental benefit, and the *de minimis*
18 examples he cites—such as UGI’s \$0.08 per customer per month—reflect trivial volumes
19 that cannot be scaled without abandoning the price condition he recommends.¹⁷

¹⁴ *Id.* at 6–7.

¹⁵ Walsh Direct, Section III.B; BGE Resp. to Sierra Club Data Request 1-34.

¹⁶ Walsh Direct, Section IV.C.

¹⁷ Manka Direct at 7.

1 **III. RESPONSE TO STAFF WITNESS CLEMENTSON**

2 *A. The \$20 per MMBtu RNG Cost Figure Is Unsupported and Contradicted by the Record.*

3 **Q. Witness Clementson states that RNG “could be produced for a median of \$20 per**
4 **MMBtu”¹⁸ and treats RNG as economical. Is that figure accurate?**

5 A. No, there are three reasons why that estimate is inaccurate.

6 First, the source is not a cost or supply analysis. The \$20 figure comes from an
7 American Gas Association news release—an industry advocacy document, not an
8 independent or record-based estimate of delivered cost.¹⁹

9 Second, it is contradicted by the most transparent cost data in this proceeding. As
10 I noted in my Direct Testimony, UGI Witness Rogers testified that landfill RNG is
11 currently priced from \$9 to \$51 per dekatherm, with manure-based RNG ranging up to
12 \$170 per dekatherm. A \$20 figure sits near the low end of that range and reflects only the
13 commodity supply cost—it excludes interconnection costs, the cost of the environmental
14 attributes when they are bundled with the gas, and the well-documented escalation in
15 costs as production scales beyond the cheapest available feedstocks.²⁰

16 Third, even taken entirely at face value, the \$20 per MMBtu value does not
17 establish affordability. Conventional gas was traded at roughly \$3 to \$4 per dekatherm
18 over the same period, so \$20 RNG is still four to seven times more expensive. Witness
19 Clementson’s own conclusion is only that “CNG and RNG are more economical...

¹⁸ Clementson Direct at 8, 11.

¹⁹ *Id.* at 8, Ex. JJC-2 (New Study: Renewable Natural Gas is a Cost-Effective, Scalable Tool for U.S. Decarbonization and Energy Sector, AGA (July 10, 2025)).

²⁰ Walsh Direct, Section IV.C; Rogers Direct at 38–39.

1 compared to hydrogen”²¹—which is a comparison to the most expensive option on the
2 table, not a demonstration that RNG is affordable relative to conventional gas or to
3 electrification. As my Direct Testimony quantifies, full RNG substitution would cost
4 Maryland ratepayers approximately \$4 billion per year, or roughly \$30,000 per household
5 over fifteen years.²²

6 ***B. Hydrogen Is Not Viable for Building Heat, as Witness Clementson’s Own Testimony***
7 ***Demonstrates.***

8 **Q. Does Witness Clementson’s testimony support treating hydrogen as a fuel that can**
9 **affordably and realistically assist in meeting the State’s climate goals?**

10 A. No. To the contrary, his testimony catalogues the very obstacles that make hydrogen
11 unviable for building heat, and he concedes that hydrogen “is still in the testing phase.”²³
12 His own testimony, my Direct Testimony, and the independent literature all point in the
13 same direction.

14 **Q. What are the principal problems with Witness Clementson’s statements?**

15 A. These problems fall into several categories:

16 • Physical integrity and safety. As Witness Clementson acknowledges, hydrogen
17 causes “hydrogen embrittlement” of steel, leaks more readily than methane because
18 of its smaller molecules, and cannot replace natural gas without “replacing or

²¹ Clementson Direct at 11.

²² Walsh Direct, Sections IV.C and VI.

²³ Clementson Direct at 7.

1 extensively modifying pipes, compressors, and end-user appliances.” These risks are
2 most acute in older distribution systems.²⁴

- 3 • Minimal carbon benefit per unit of disruption. Because hydrogen has roughly one-
4 third the energy per unit volume of methane, a 20 percent hydrogen blend by volume
5 reduces carbon emissions by only about 6 to 7 percent by energy. BGE has
6 acknowledged that using even a 20 percent hydrogen blend would require replacing
7 all of its cast iron distribution piping—a very large capital cost for a very small
8 emissions benefit.²⁵
- 9 • Inefficient use of clean energy. Producing low-carbon (“green”) hydrogen by
10 electrolysis and then combusting it for heat delivers only a fraction of the useful heat
11 the same clean electricity would provide through a heat pump operating at a
12 coefficient of performance of around three. Using clean electrons directly—for
13 example, to power electric appliances—is several times more efficient than
14 converting them to hydrogen and burning them in the gas system.
- 15 • The “color” problem and cost. The hydrogen available today is overwhelmingly
16 carbon-intensive “grey” hydrogen produced by steam methane reforming; Witness
17 Clementson’s own figures place green hydrogen at a very costly \$75 to \$115 per
18 MMBtu. BGE’s hydrogen pilot uses grey hydrogen and is not yet operational.²⁶
- 19 • No supply, no programs, and contrary expert consensus. No Maryland utility has an
20 operational hydrogen program or committed supply of hydrogen. A 2024 meta-

²⁴ *Id.* at 9–10.

²⁵ Walsh Direct, Section V.

²⁶ Clementson Direct at 11; Walsh Direct, Section V.

1 review of 54 independent studies found that hydrogen has no significant role in
2 building space or water heating and is more costly than electric heat pumps or district
3 heating; the U.S. Department of Energy classifies building heat as a low priority for
4 hydrogen; and notably, UGI Witness Rogers recommends against Commission
5 encouragement of hydrogen blending at this time.²⁷

6 **IV. CONCLUSIONS AND RECOMMENDATIONS**

7 **Q. Does the Staff testimony change the conclusions in your Direct Testimony?**

8 A. No. Neither Staff witness conducted an independent supply, scale, or affordability
9 analysis for the alternative fuels they promote, and both pieces of testimony ultimately
10 reinforce my conclusions: Witness Manka would allow RNG only on a price condition
11 that forecloses procurement at a meaningful scale, and Witness Clementson concedes the
12 obstacles to hydrogen usage, while resting his claim of RNG's affordability on an
13 unsupported figure.

14 **Q. What are the broader risks of relying on RNG or hydrogen as a decarbonization**
15 **strategy?**

16 A. Treating RNG or hydrogen as Maryland's path to compliance with its climate laws would
17 create four compounding risks:

- 18 • High and persistent costs. As discussed above and in my Direct Testimony, these
19 fuels cost several times—and in hydrogen's case, an order of magnitude—more than
20 conventional gas, with no offsetting benefits to the customer beyond a larger bill.

²⁷ Walsh Direct, Section V and accompanying authorities.

- 1 • Limited and contested supply. There is essentially no operational RNG-for-heat or
2 hydrogen supply in Maryland, the available supply studies do not withstand scrutiny,
3 and the limited sustainable feedstock that does exist has higher-value competing uses.
4 Building a compliance strategy on a fuel that may not materialize at scale is
5 imprudent.
- 6 • Lock-in and path dependency. Once ratepayers fund RNG or hydrogen infrastructure
7 and procurement, institutional and financial pressure to continue the program
8 regardless of results can lock the State into an expensive and inferior pathway,
9 crowding out more effective investments in emission reduction mechanisms such as
10 electrification.
- 11 • Customer confusion. Marketing molecularly identical or attribute-stripped gas as
12 “renewable,” “carbon-negative,” or “clean” risks misleading customers about what
13 they are paying for and what emissions reductions, if any, they actually receive.

14 **Q. Is there a preferable approach if the Commission wishes to capture any emissions**
15 **value associated with these fuels?**

16 A. Yes. Rather than directing ratepayer funds into high-cost, low-certainty fuel procurement,
17 the Commission and the State would be better served by a compliance-fee approach:
18 where a gas utility cannot cost-effectively reduce the emissions attributable to its system,
19 it should pay a compliance fee, and the resulting revenue should be directed to the most
20 cost-effective in-state mitigation strategies—such as building efficiency and
21 electrification—as determined by the Maryland Department of the Environment
22 (“MDE”) within the State’s broader climate policy framework. This keeps ratepayer
23 dollars working on measures that deliver verifiable, local benefits and reduce gas

1 demand, rather than spending ratepayer dollars on premiums that send money out of state
2 without improving customers' quality of life.

3 **Q. What do you recommend instead of taking the approach advocated by Staff**
4 **witnesses?**

5 A. I reaffirm the recommendations in my Direct Testimony: (1) the Commission should find
6 that RNG cannot “realistically and affordably” assist in complying with Maryland’s
7 climate laws through the existing gas system; and (2) the Commission should find that
8 neither hydrogen nor a hydrogen–natural gas blend can do so. I further recommend that,
9 to the extent the Commission addresses cost recovery, it should decline to authorize
10 ratepayer-funded RNG or hydrogen procurement and instead consider a compliance-fee
11 mechanism whose revenue supports cost-effective, MDE-directed emission reductions.

12 **Q. Does this conclude your Rebuttal Testimony?**

13 A. Yes.