



December 23, 2025

VIA ELECTRONIC FILING

Matthew Homsher, Secretary
Pennsylvania Public Utility Commission
400 North Street
Harrisburg, Pennsylvania 17120

Re: National Fuel Gas Distribution Corporation
Delta Fund for Research and Development Projects Report

Dear Secretary Homsher;

Pursuant to R-00061493 Settlement paragraph 18 A.3, "Distribution will file with the Commission and serve upon other Parties on or before December 31 an annual report for the preceding twelve-month period ended September 30, setting forth revenues for the Delta Fund for research and development projects and expenditures for such projects. In addition, Distribution will describe in the annual report projects that have been funded". The enclosed report is submitted under this settlement agreement.

Very truly yours,

A handwritten signature in black ink that reads "Erik M. Solomon".

Erik M. Solomon
Senior Director
Energy Services Department

Encl.

Cc: Office of Special Assistants (E-Mail)
Office of Consumer Advocate (E-Mail)
Office of Small Business Advocate (E-Mail)

I. INTRODUCTION/BACKGROUND

The provisions of R-00061493 Settlement paragraph 18 A.3 were adopted on November 30, 2006, and effective January 1, 2007. Paragraph 18 A.3 states:

“3. The Joint Petitioners agree to \$526,466 to fund the Delta research and development program pursuant to the Statement of Scott E. Swartzfager No. 14. The deferral treatment and review process outlined in R-00049656 will continue. The company will not expend these dollars on additional customer outreach for enhanced energy efficiency.

Distribution will be permitted to record a regulatory asset or liability for differences between the annual rate allowance and annual expenditures. However, Distribution will not be permitted to retroactively recover in a future proceeding any expenditures in excess of the annual rate allowance and any deferred balance from the previous year’s Delta funding. Distribution will provide for review of research projects as described in its testimony. In order to implement this Settlement, the Joint Petitioners request that the Commission’s Final Order in this proceeding include the following language to allow Distribution to qualify for deferred accounting under SFAS 71:

“National Fuel Gas Distribution Corporation’s accounting policies conform to the Statement of Financial Accounting Standards No. 71 ‘Accounting for the Effect of Certain Type of Regulations’ which are in accordance with the accounting requirements and ratemaking practices of regulatory authorities. The application of these accounting policies allows the Company to defer expenses and income on the balance sheet as regulatory assets and liabilities when it is probable that those expenses and income will be allowed in the rate-setting process in a period different from the period in which they would have been reflected in the income statement by an unregulated Company.

“Because research and development projects often require a commitment over multiple years and because the expenditures for such projects may not match on an annual basis revenue for funding of research and development projects, deferred accounting is appropriate and is approved. The regulatory deferral treatment sought for the Research and Development expenditures and rate relief requested in the case are in accordance with SFAS No. 71.

“The Company will manage the costs of the Research and Development expenditures to match revenues deferred pursuant to this Order to eliminate any differences between deferred costs and deferred revenues at the end of a five-year period commencing on the day after the R-00049656 Order was entered.”

Distribution will file with the Commission and serve upon other Parties on or before December 31 an annual report for the preceding twelve-month period ended September 30, setting

forth revenues for the Delta Fund for research and development projects and expenditures for such projects. In addition, Distribution will describe in the annual report projects that have been funded.”

The provisions of R-00049656 Settlement paragraph 44 were adopted on March 23, 2005, and effective April 15, 2005. Paragraph 44 states:

"44. Distribution's proposal to fund the Delta research and development program pursuant to the Supplemental Statement of Ruth Friedrich-Alf No. 102 S2 is approved. Increased rates in this proceeding provide for recovery of \$526,466 in Delta research funds. Distribution will be permitted to record a regulatory asset or liability for differences between the annual rate allowance and annual expenditures. However, Distribution will not be permitted to retroactively recover in a future proceeding any expenditures in excess of the annual rate allowance and any deferred balance from the previous year's Delta funding. Distribution will provide for review of research projects as described in its testimony. In order to implement this agreement, the Parties request that the Commission's Final Order in this proceeding include the following language to allow Distribution to qualify for deferred accounting under SFAS 71:

'National Fuel Gas Distribution Corporation's accounting policies conform to the Statement of Financial Accounting Standards No. 71 'Accounting for the Effect of Certain Type of Regulations' which are in accordance with the accounting requirements and ratemaking practices of regulatory authorities. The application of these accounting policies allows the Company to defer expenses and income on the balance sheet as regulatory assets and liabilities when it is probable that those expenses and income will be allowed in the rate-setting process in a period different from the period in which they would have been reflected in the income statement by an unregulated Company.

'Because research and development projects often require a commitment over multiple years and because the expenditures for such projects may not match on an annual basis revenue for funding of research and development projects, deferred accounting is appropriate and is approved. The regulatory deferral treatment sought for the Research and Development expenditures and rate relief requested in the case are in accordance with SFAS No. 71.

'The Company will manage the costs of the Research and Development expenditures to match revenues deferred pursuant to this Order to eliminate any differences between deferred costs and deferred revenues at the end of a five-year period commencing on the day after this Order is entered.'

Distribution will file with the Commission and serve upon other Parties on or before December 31 an annual report for the preceding twelve-month period ended September 30, setting forth

revenues for the Delta Fund for research and development projects and expenditures for such projects. In addition, Distribution will describe in the annual report projects that have been funded."

As presented in R-00049656 Statement No. 102 (page 15).

"On an annual basis coming off of September 30, a reconciliation of revenues and expenditures with a description of projects funded will be on file on or before December 31 with the Office of Trial Staff, Office of Consumer Advocate and the office of Small Business Advocate. At the fifth reconciliation, Distribution will file a five-year report."

As presented in R-00049656 Statement No. 102 S2 (page 7)

"Annual revenues will be deferred to offset the costs of the Research and Development expenditures (expenses) to both the Gas Technology Institute ("GTI") fund and local projects.

The Company will manage the cost of the Research and Development expenditures to match revenues deferred pursuant to this Order to eliminate any differences between deferred costs and deferred revenues at the end of a five-year period commencing on the day after this Order is entered."

It is under these guidelines and agreements that Distribution files the following report for the period ended September 30, 2025.

National Fuel Gas Distribution Corporation
Pennsylvania Division

**II. Annual Filing of Delta Fund Revenues and Expenditures
For the period ended September 30, 2025**

Year Ended	Annual		Cumulative		Balance
	Expenditures	Revenues	Expenditures	Revenues	
Sept. 2005	\$92,300	\$113,927	\$92,300	\$113,927	(\$21,627)
Sept. 2006	\$376,800	\$526,466	\$469,100	\$640,393	(\$171,293)
Sept. 2007	\$596,800	\$526,466	\$1,065,900	\$1,166,859	(\$100,959)
Sept. 2008	\$526,493	\$526,466	\$1,592,393	\$1,693,325	(\$100,932)
Sept. 2009	\$376,368	\$526,466	\$1,968,761	\$2,219,791	(\$251,030)
Sept. 2010	\$455,911	\$526,466	\$2,424,672	\$2,746,257	(\$321,585)
Sept. 2011	\$721,800	\$526,466	\$3,146,472	\$3,272,723	(\$126,251)
Sept. 2012	\$280,300	\$526,466	\$3,426,772	\$3,799,189	(\$372,417)
Sept. 2013	\$626,800	\$526,466	\$4,053,572	\$4,325,655	(\$272,083)
Sept. 2014	\$278,891	\$526,466	\$4,332,463	\$4,852,121	(\$519,658)
Sept. 2015	\$276,800	\$526,466	\$4,609,263	\$5,378,587	(\$769,325)
Sept. 2016	\$458,404	\$526,466	\$5,067,667	\$5,905,053	(\$837,386)
Sept. 2017	\$500,530	\$526,466	\$5,568,197	\$6,431,519	(\$863,322)
Sept. 2018	\$362,547	\$526,466	\$5,930,744	\$6,957,985	(\$1,027,241)
Sept. 2019	\$445,438	\$526,466	\$6,376,182	\$7,484,451	(\$1,108,269)
Sept. 2020	\$452,883	\$526,466	\$6,829,065	\$8,010,917	(\$1,181,852)
Sept. 2021	\$468,422	\$526,466	\$7,297,487	\$8,537,383	(\$1,239,896)
Sept. 2022	\$865,588	\$526,466	\$8,163,075	\$9,063,849	(\$900,774)
Sept. 2023	\$517,264	\$526,466	\$8,680,339	\$9,590,315	(\$909,976)
Sept. 2024	\$587,533	\$526,466	\$9,267,872	\$10,116,781	(\$848,909)
Sept. 2025	\$380,292	\$526,466	\$9,648,164	\$10,643,247	(\$995,083)

Note 1: Rates were effective April 15, 2005, therefore the report ended September 30, 2005, does not represent a 12 month period of revenue collection.

III. DESCRIPTION OF ACTUAL EXPENDITURES - PERIOD ENDED SEPTEMBER 2025

A. GTI Utilization Technology Development Program

\$129,500 was submitted to Utilization Technology Development, NFP (UTD) for the April 1, 2025, through March 31, 2026, dues. \$125,817.02 has been allocated to specific projects as listed below.

UTD Payments, Fees, Credits, Carryover	
Payments to UTD	129,500.00
Administration Fees	-12,950.00
Carryover of Unallocated Funds from Prior Year	3,220.30
Funds Available for Allocation	119,770.30
Large Commercial and Industrial Customers	

2.21.A.2 High Hydrogen Burner for Commercial and Industrial Applications - Phase 2	-3,700.00
2.22.D.2 High Performance Adjustable Port Burner - Phase 2	-3,330.00
2.22.E.2 Mitigating Methane Emissions from Large Comm. and Industrial End Use Eqpt. - Phase 2	-2,775.00
2.22.F.2 Tecogen Hybrid Gas/Electric Chiller Laboratory Evaluation - Phase 2: Field Validation	-1,850.00
2.23.A Decarbonizing Large Comm. and Industrial Eqpt. with Hydrogen	-2,682.50
2.23.A.2 Decarbonizing Large Comm. and Industrial Eqpt. with Hydrogen - Phase 2: Boiler Focus	-3,700.00
2.23.B Mobile Modular Resilient Gas-fired Power Generation	-555.00
2.24.C Lumiflex H2 High Efficiency, Fuel-Flexible, Ultra-Low NOx Regenerative Burner	-3,330.00
2.24.D Noble Thermodynamics Zero Emission CHP System	-1,665.00
2.24.E Fuel-flexible, Ultra-low NOx, Cross-cutting Omnivore Combustion System	-666.00
2.24.H Hydrogen-blending at Asphalt Plants - Field Tests	-2,960.00
2.24.I Carbon Capture Technologies for Large Commercial and Industrial Systems	-1,872.94
2.25.A Mainspring Clean, Fast, Dispatchable Onsite Power Generation with Heat Recovery	-2,590.00
2.25.B High Efficiency, High Temperature Industrial Energy Recovery Heat Exchanger	-2,960.00
2.25.C Modular FlexCHP with Integrated Absorption Chiller	-629.00
2.25.D Direct Carbon Conversion to Syngas through Bi-Reforming	-2,960.00
Food Preparation and Service Customers	
1.17.H.6 Residential Cooking Pollutants and IAQ - Phase 6	-2,590.00
1.17.H.7 Residential Cooking Pollutants and IAQ - Phase 7	-1,480.00
1.19.A.3 High Efficiency Smart Convection Oven - Phase 3	-740.00
1.20.K.2 Field Evaluation of Indoor Air Quality in Residential Kitchens - Phase 2	-955.71
1.20.K.3 Field Evaluation of IAQ in Residential Kitchens – Phase 3: Demand-Controlled Hood	-1,110.00
1.21.G.5 Technical Support to Address Gas Foodservice Technologies - Phase 5	-2,590.00
1.23.N.3 Next Generation Commercial and Residential Range Top Burner - Phase 3	-222.00
1.24.M Mitigating Methane Emissions from Kitchen Ranges and Rangetops	-1,480.00
1.25.M CFS Technology to Enhance Energy Efficiency, Carbon Reduction and Cooking Performance	-370.00
1.25.N Ventless System for Gas-Fired CFS Appliances	-1,480.00
Residential and Light Commercial Customers	
1.16.H.6 EnergyPlus Models for Advanced Fuel-Fired and Hybrid Systems - Phase 6: Hybrid Systems	-2,960.00
1.17.B.4 Thermoelectric Generator for Self-Powered Water Heater - Phase 4	-632.33
1.17.F.3 Thermolift Combined Heating/Cooling System Technical Support - Phase 3: Load-Based Testing	-3,700.00
1.18.C.3 Advanced Nozzle Burner for Commercial Water Heaters - Phase 3: Beta Prototype Refinement	-1,887.00
1.18.F.4 Mitigating Methane Emissions from ResCom End Use Equipment – Phase 4: H2 Impacts	-666.00
1.18.F.5 Mitigating Methane Emissions from ResCom End Use Equipment - Phase 5: Whole Building Analysis	-3,330.00
1.19.C.3 Integrated, Self-Powered, High-Efficiency Burner System - Phase 3	-1,850.00
1.20.I.2 Membrane-Based Ionic Liquid Absorption Heat Pump for Commercial HVAC - Phase 2: Field Demo	-2,220.00
1.21.B.5 Technical Support for ResCom Gas Equipment Testing, Perf, and Safety - Phase 5	-3,700.00
1.21.C.2 CleanO2 CarbinX Carbon Capture - Phase 2	-2,220.00

1.22.G.2 Safe Use of Hydrogen in Buildings - Phase 2	-2,163.02
1.22.H.2 Hybrid Fuel-Fired and Elec-Driven Rescom HVAC Systems – Phase 2: Prototype Furnace+EHP	-2,960.00
1.22.P.3 Emerging Distributed Methane Pyrolysis Technologies - Phase 3	-2,960.00
1.23.B Blue Frontier RTU AC system with Integrated mCHP - Laboratory Evaluation	-888.00
1.24.A High-Efficiency Thermally-driven Liquid-Liquid Separation Cooling Systems	-1,258.00
1.24.B Non-Intrusive Building Envelope Air Infiltration Detection Tools	-2,037.59
1.24.C Maximizing Efficiency of Gas Absorption Heat Pumps coupled with Commercial Boilers	-2,354.68
1.24.E Tour Engine ENABLE Microgrid mCHP System	-1,110.00
1.24.I Modern Interchangeability Indices for Hydrogen-Enriched Natural Gas	-2,263.66
1.24.N Cool Adsorption Gas Heat Pump	-1,071.15
1.24.Q CarbonQuest End-Use Carbon Capture	-1,681.65
1.24.R Impact of Trace Constituents in Renewable Natural Gas on Appliances	-986.79
1.25.A Advanced Attic Insulation Retrofit Tools Using Robotics and AI-Enhanced Diagnostics	-3,330.00
1.25.B EC Power's PowerHeatPump System – Laboratory Evaluation	-2,960.00
1.25.C Sandbox Carbon End-Use Carbon Capture Dumpster	-1,850.00
1.25.D Emerging Smart Controllers and Battery Backup for Gas and Hybrid Heating Systems	-7,622.00
1.25.E Hybrid Electric Monobloc ATW Heat Pumps with Gas Backup for Affordability and High Efficiency	-1,184.00
1.25.G Weil McLain ECO Hybrid Dual Fuel Electric Heat Pump and Gas Boiler Hydronic System	-2,590.00
1.25.H Integrating Gas Absorption and Electric Heat Pumps to Efficiently Provide High Supply Temps	-1,887.00
1.25.I Vacuum Insulated Panel Building Envelope Advancements to Reduce Energy Demand	-2,035.00
1.25.L Yanmar Gas Engine Heat Pump VRF Commercial RTU	-1,443.00
Clean Transportation and Advanced Energy System Customers	
2.20.G.3 Smart CNG Station Field Demonstration - Phase 3	-370.00
2.21.G.3 Distributed RNG/Biogas Production and Cleanup – Phase 3	-1,850.00
2.21.I.5 Technical Support for Clean Transportation Testing, Performance, and Safety - Phase 5	-1,850.00
Memberships/Other	
1.23.P.3 UTD Program Technology Transfer Communication - Phase 3	-703.00
Adjustments and Miscellaneous Refunds	
Refund - 1.21.E Gas Engine Heat Pump Modeling, Testing and Implementation	714.47
Refund - 1.23.F Integrating Hybrid Fuel-fired and Elec-driven ResCom HVAC with PV in Generac Nanogrid	40.70
Board Designated Net Assets 2025	8,852.27
Funds Allocated to Projects	-125,817.02
Unallocated Funds	3,560.72

B. GTI Operations Technology Development Program

\$184,500 was submitted to Operations Technology Development, NFP (OTD) for the 2025 membership fee. \$205,493.19 has been allocated to specific projects as listed below.

Payments to OTD, Fees, Carryover	
Payments to OTD	184,500.00
Administration Fees	-13,837.50
Carryover of Unallocated Funds from Prior Year	45,235.97
Funds Available for Allocation	215,898.47
Allocations to Projects	
(1), (2) and (4) Historic Projects	
2.10.b.2 Refund In-Service Field Evaluation of Polyurea Coating Systems – Phase 2	308.97
(5) Construction/ Infrastructure Techniques	
5.16.d.3 REMS Phase 3: Development of Field-Ready Prototype	-5,511.02
5.17.g.3 Material-Supplier Quality Assurance Program Phase 3	-7,380.00
5.19.a PE Squeeze Tool Gap Stop Validation	-88.93
5.19.f.2 Purging Gas Pipes into Service without Venting Gas to Atmosphere - PHASE 2 of OTD 5.19.f	-738.00
5.20.a Refund Subsurface Multi-Utility Asset Location Detection	1,176.39
5.20.k.2 Refund LPWAN Network Roadmap	10.50
5.20.m.3 Product Performance and Validation Program Phase 3	-7,380.00
5.21.e Evaluation of the CoSMiC Eye Satellite Based Pipeline Right-of-Way Monitoring System	-135.05
5.21.e.2 Development and Evaluation of the CoSMiC Eye Satellite Based Pipeline Monitoring System Phase 2 -Pipeline Right-of-Way Monitoring for Class Location Designation	-838.37
5.21.j Hydrogen Blending Impact on Aldyl-A nad HDPE Pipes	-1,018.81
5.22.i Gas Engineer Training Program Development	-1,945.74
5.22.j.4 Testing of New Pietro Fiorentini Gas Service Regulators	-144.65
5.22.t Market Study of 100% H2 Compatible Distribution Equipment	-83.39
5.23.j Material Inspection and Testing Training Program	-1,401.09
5.23.n.2 Developing Acceptance Criteria for Mechanical Tapping Tee Anomalies – Phase 2	-32,281.97
5.24.f Product Standards for Plastic Tapping Tees	-1,800.72
5.24.h Hydrogen Blending Pilot Gas Quality Evaluation and System Modeling	-1,135.41
5.24.w Community Geothermal Systems Opportunities for LDCs to Consider	-6,663.03
5.24.z SUSTAIN H2 Storage	-18,450.00
5.25.i Evaluation of Overpipe	-3,690.00
5.25.m Inside Methane Detectors Pilots in Operations	-5,535.00
(6) Memberships/Other	

6.14.a Quality Audit Program	-7,380.00
6.25.a Enhanced Communications Initiative to Support Technology Transfer	-1,845.00
(7) Methane Emissions/Detection and Gas Quality	
7.16.e.3 Biomethane On-Line Monitoring Phase III	-603.32
7.22.h Veritas Gas Measurement and Verification Initiative	-18,450.00
7.22.i 2025-2026 Open Hydrogen Initiative 2025-2026	-18,450.00
7.23.g Investigate Feasibility of Pipeline Thermographic Internal Inspection for Leak Detection	-64.21
7.23.i Net-Zero Infrastructure Program	-18,450.00
7.23.n Satellite Methane Detection for Distribution Applications	-407.38
7.23.q Workshops on Decarbonization Pathways that leverage the Natural Gas Infrastructure for non-utility stakeholders	-146.12
7.24.k Comparison of a Correlative Calorimeter to Online GCs	-6,257.13
7.24.o Met Collaborative Program	-9,225.00
7.24.r Impact of Trace Constituents in Renewable Natural Gas on Appliances	-2,460.12
(8) Intelligent Utilities	
8.20.m Refund 3D Visualization Software for Mapping Underground Pipelines and Improving Pipeline Asset Management	2,316.60
8.22.c.2 Automation of Digital MTR Processing Pilots	-6,105.84
8.24.k Evaluation of One Call Damage Prevention Software	-3,346.46
8.25.m Meta NZ 2.0 Characterizing the Enduring Role of Gas Across Leading U.S Economy Wide Decarbonization Studies	-7,380.00
8.25.o Predictive Model for Cross Bore Risk	-3,690.00
(9) Risk and Decision Analysis/Model	
9.24.a Natural Gas Ban Effects on Local Gas Distribution Companies	-8,823.90
Adjustments and Miscellaneous Refunds	
Board Designated Net Assets 2025	17,089.80
G&A Refund	0
Funds Allocated to Projects	-205,493.19
Unallocated Funds	27,495.08

C. SUMMARY OF ACTUAL EXPENDITURES PERIOD ENDED 2025

Utilization Technology Development (UTD) Program - GTI	\$ 129,500
Operations Technology Development Program (OTD) - GTI	\$ 184,500
Emerging Technology Program (ETP) - GTI	\$ 11,100
North American Gas Heat Pump Collaborative – RI LLC	\$ 9,250
Hybrid Heating and Cold Climate Heat Pump- Demos	\$ 27,442
Dynamic Risk	\$ 18,500
Total Pennsylvania Delta Funds Program Expenditures	\$ 380,292

IV. PROJECTED EXPENDITURES - PERIOD ENDING SEPTEMBER 2026

Expenditures for National Fuel Gas Distribution Corporation's ("National Fuel") Pennsylvania Delta Funds RD&D Program are projected to be between \$450,000 and \$970,000 of which \$526,466 is collected on an annual basis. The balance will be covered by unutilized funds from prior years. In 2025 the following planned charges are projected:

1. **Utilization Technology Development (UTD)** membership fees of approximately \$129,500. Specific projects to be determined.
2. **Operations Technology Development (OTD)** membership fees of approximately \$184,500. Specific projects to be determined.
3. **Emerging Technology Program (ETP)** membership fees of approximately \$11,100.
4. **Local Opportunity Projects** spending estimate of approximately \$350,000 (see below). Funds not used for the development of qualified local technology projects in National Fuel territory may be allocated to the national GTI programs described above.
 - 1) \$250,000 – Gas Heat Pump Demonstration
 - 2) \$75,000 - Ingevity School Bus Program
 - 3) \$25,000 – Hybrid Tool - GTI ETP

SUMMARY OF PROJECTED EXPENDITURES - PERIOD ENDED 2026

Utilization Technology Development Program - GTI	\$ 129,500	Planned
Operations Technology Development Program - GTI	\$ 184,500	Planned
Emerging Technology Program – GTI	\$ 11,100	Planned
Gas Heat Pump Demonstration	\$ 250,000	Planned
Ingevity School Bus Program	\$ 75,000	Potential
Hybrid Tool – GTI ETP	\$ 25,000	Paid
Total Pennsylvania Delta Funds Program Expenditures	\$ 575,100	Planned
Total Pennsylvania Delta Funds Program Expenditures	\$ 100,000	Potential/Paid
Total Pennsylvania Delta Funds Program Expenditures	\$ 675,100	Planned, Potential/Paid

V. STATUS UPDATE OF LOCAL OPPORTUNITY PROJECTS – 2025

Funding of gas industry research through GTI, as an example, returns many benefits, including ensuring continued improvement and availability of energy-efficient, low emissions and cost-effective gas technologies, while leveraging the funding resources of gas utilities across North America. The Local Opportunity Projects portion of this program intends to identify projects for direct local support offering equal, or better, benefits than GTI. This is challenging, but National Fuel endeavors to identify and develop these opportunities. Funds available through this portion of the program, beyond the minimum commitments to GTI, may be used for qualified local projects. Funds not used locally are sent to GTI to be allocated to suitable projects, as shown in the previous supported project listings.

Summaries for Local Opportunity Projects active or completed in 2025 are provided below.

1. **Hybrid Heating and Cold Climate Air Source Heat Pump Demonstrations**

National Fuel successfully completed two demonstration projects in its Pennsylvania service territory.

- **Hybrid Heating Demonstrations:** Twelve (12) hybrid systems were installed to evaluate operating costs and the impact on greenhouse gas (GHG) emissions associated with using an electric Air Source Heat Pump (ASHP) in combination with a high-efficiency natural gas furnace for heating and cooling, compared to a traditional gas furnace and central electric air conditioning.
- **Cold Climate Air Source Heat Pump Demonstrations:** Two (2) cold climate air source heat pumps (ccASHP) were installed to study monthly energy cost and usage changes, cold climate equipment performance, and GHG emissions when utilizing a ccASHP as the sole energy source for heating and cooling.

Both projects have been completed, and a comprehensive final report summarizing findings, performance data, and key insights on energy efficiency and emissions reduction has been prepared.

2. **Venancio Genesis Stove Study**

National Fuel undertook a year-long study from 2024 to 2025 to assess the energy usage of the Venancio Genesis stove. This stove, produced by a Brazilian manufacturer, was marketed with claims of delivering a 33% reduction in energy consumption compared to other commercial stoves. The project's objective was to test these claims in real-world restaurant environments, with the broader goal of determining whether such technology could enhance profit margins and promote energy efficiency for commercial kitchens using natural gas. The study concluded that the Venancio Genesis stove did not deliver significant energy savings or operational advantages in actual restaurant settings.

3. **NGV Technology Demonstration.** National Fuel implemented a demonstration project involving four (4) Ford F-250 pickup trucks modified with Adsorbed Natural Gas (ANG) technology. ANG enables low-pressure fueling (900 psi vs. traditional 3,600 psi), allowing for convenient, private daily refueling using compact, low-cost devices installed at locations with natural gas access. This approach eliminates the need for expensive, high-pressure fast-fill stations. Funding for the vehicle modifications and fueling devices was shared between National Fuel and the Alternative Fuels Incentive Grant (AFIG), with fueling devices installed at Oil City, Sharon, and Erie Service Centers. The trucks are distributed as follows: one in Oil City, one in Sharon, and two in Erie. AFIG and Delta funds supported two trucks and fueling devices, while National Fuel's Operations group purchased the remaining two trucks.

Project Results:

Performance data from Q3 2022 through Q4 2024 demonstrates the environmental and economic benefits of ANG technology across Oil City and Erie:

- **Renewable Natural Gas (RNG) Usage:**
 - Oil City: 1,656 GGE (Q3 2022) to 141 GGE (Q4 2024)
 - Erie: 1,506 GGE (Q3 2022) to 170 GGE (Q4 2024)
 - Cumulative (All Vehicles): 3,162 GGE by Q4 2024
- **CO₂ Reduction:**
 - Oil City: 15.17 metric tons (Q3 2022) to 1.31 metric tons (Q4 2024)
 - Erie: 13.92 metric tons (Q3 2022) to 1.59 metric tons (Q4 2024)
 - Cumulative: 29.1 metric tons by Q4 2024
- **Fuel Cost Savings:**
 - Oil City: \$3,870 (Q3 2022) to \$292 (Q4 2024)
 - Erie: \$3,428 (Q3 2022) to \$358 (Q4 2024)
 - Cumulative: \$7,298 by Q4 2024
- **Environmental Impact (Trees Planted Equivalent):**
 - Oil City: 252 (Q3 2022) to 22 (Q4 2024)
 - Erie: 231 (Q3 2022) to 26 (Q4 2024)
 - Cumulative: 483 trees by Q4 2024

Conclusion:

The NGV Technology Demonstration successfully showcased the operational feasibility and benefits of ANG-equipped vehicles. The project resulted in measurable reductions in greenhouse gas emissions, significant fuel cost savings, and a positive environmental impact equivalent to planting hundreds of trees. These results support the continued adoption of ANG technology for fleet vehicles and highlight its potential for broader implementation.

VI. PROSPECTIVE LOCAL OPPORTUNITY PROJECTS – 2026

1. **Hybrid Dual Fuel Hydronic Boiler** - a demonstration consisting of an electric air-to-water heat pump and a hydronic high efficiency boiler, offering energy efficiencies greater than 120%. The Company, in collaboration with GTI Energy, installed one system in our Pennsylvania service territory, with full monitoring to test the capabilities and performance of this product, over two winter heating seasons. Emissions reductions are expected to be around 40 - 50% with yearly costs remaining the same or slightly higher than a traditional boiler without jeopardizing customer heating performance reliability.
2. **Digital Tools and Robotics for Enhanced Envelope Retrofits** – uses robotic arms and digital tools with computer vision to automate the execution of exterior wall weatherization measures on large buildings. It anticipates that this technology will streamline air sealing, cut installation costs, improve quality control, and solve challenges with traditional, labor-intensive methods.
3. **Hybrid Heating System Software Tool and Calculator** – Provides users with a cost and emission comparison of various residential hybrid or dual-fuel heat pump system configurations. With user-friendly input, it provides clear annual heating cost and greenhouse gas emissions estimates for each configuration.
4. **Gas Heat Pump (“GHP”) demonstration project** - will assess adding GHP systems to existing hydronic heating systems (and possibly combi systems) common in the Northeast, such as baseboard fin tube, radiant floor, and radiator configurations. This approach offers comparative insights across hydronic and forced-air systems.

Although actual expenditures in 2025 were lower than projected, this discrepancy is attributable to the timing of fund disbursement for various projects rather than a reduced need or commitment. Several significant research, development, and demonstration (RD&D) initiatives experienced delays due to the complexity of contractual negotiations involving technology providers, project participants, and EM&V consultants. These agreements were finalized after the conclusion of the fiscal year, and the corresponding work is now in progress. National Fuel remains committed to identifying and developing additional beneficial Local Opportunity Projects that may deliver direct value to Pennsylvania consumers, businesses, and industries.