

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Vectren	)	
Energy Delivery of Ohio, Inc. for Approval	)	Case No. 18-0298-GA-AIR
of an Increase in Gas Rates	)	

In the Matter of the Application of Vectren	)	
Energy Delivery of Ohio, Inc., for Approval	)	Case No. 18-0299-GA-ALT
of an Alternative Rate Plan	)	

**DIRECT TESTIMONY OF
K. CHASE KELLEY
ON BEHALF OF
VECTREN ENERGY DELIVERY OF OHIO, INC.**

<u> </u>	Management policies, practices, and organization
<u> </u>	Operating income
<u> </u>	Rate base
<u> </u>	Allocations
<u> </u>	Rate of return
<u> </u>	Rates and tariffs
<u> X </u>	Other (Alternative Rate Plan: Multi-Family Housing Pilot Program)

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**Direct Testimony of
K. Chase Kelley**

I. BACKGROUND AND QUALIFICATIONS

Q1. Please state your name and business address.

A. My name is K. Chase Kelley, and my business address is One Vectren Square,
Evansville, Indiana 47708.

Q2. By whom are you employed and in what capacity?

A. I am employed by Vectren Utility Holdings, Inc. (VUHI), the immediate parent company
of Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of
Indiana, Inc. (Vectren South or Company), Indiana Gas Company, Inc. d/b/a Vectren
Energy Delivery of Indiana, Inc. (Vectren North) and Vectren Energy Delivery of Ohio,
Inc. (VEDO or the Company). I am Vice President, Marketing and Communications for
VUHI.

Q3. What is your educational background?

A. I received a Bachelor's degree in Organizational Communication from Murray State
University in 1998. I received a Master's of Mass Communication degree in 1999 from
the University of South Carolina.

Q4. Please describe your business experience.

A. I have more than 15 years of experience in the utility industry. I have worked at VUHI
and its predecessor companies since 2002 in a variety of positions including Manager of
External & Conservation Communications, Director of Corporate Communications and
Vice President of Corporate Communications. I was named a vice president in 2014 was
promoted to my current position effective June 2015.

1 **Q5. What are your present duties and responsibilities as Vice President, Marketing and**
2 **Communications?**

3 A. I oversee five departments, including Energy Efficiency, Corporate Communications,
4 Residential & Commercial Sales, Customer Relations & Process Improvement, and the
5 New Service Contact Center for VUHI's utilities.

6 **II. SUMMARY**

7 **Q6. What is the purpose and scope of your testimony in this proceeding?**

8 A. My testimony will provide an overview of the Multi-Family Housing Pilot Program (the
9 Pilot or the Pilot Program), proposed as part of VEDO's Alternative Rate Plan. I will
10 discuss the Program's design and related tariff provisions; the need for the Program; and
11 the benefits both to new customers and existing customers. I am also sponsoring those
12 portions of Schedule E-3 and the Alternative Rate Plan exhibits that pertain to the Pilot
13 Program, which were prepared by me or under my supervision.

14 **III. PROGRAM DESIGN AND TARIFF PROVISIONS**

15 **Q7. Please provide an overview of VEDO's request.**

16 A. VEDO requests authority to conduct a seven-year Pilot Program that will better enable
17 builders and developers to offer natural gas service to multi-family units. Specifically,
18 VEDO proposes providing builders and developers of multi-family apartments and
19 condominiums a contribution toward the installation of gas piping and venting for
20 individually metered units. The residents of the multi-family units will be allowed the
21 opportunity to receive the many benefits natural gas heating provides, including lower-
22 priced bills from a more efficient, cleaner energy source that is produced in the state of
23 Ohio. Likewise, VEDO's existing natural gas customers will benefit from more stable
24 rates as the utility's fixed costs will be spread across a larger customer base.

Q8. What financial contribution does VEDO propose?

A. Under VEDO's proposed tariff, "The amount of Company's financial contribution shall be limited to the lesser of the actual cost of installing the required piping and venting for all dwelling units within a project, or \$2,000 per dwelling unit." In other words, the contribution is capped at \$2,000 per unit, and could be less depending on the developer's actual costs. To qualify for the contribution, the developer will be required to consult with Company staff in advance of the project construction and submit actual costs of the venting and indoor piping work to ensure financial incentives are paid appropriately. VEDO proposes to cap the annual contribution amount at \$1 million per year; to exceed this amount, the Company would need to receive additional authority from the PUCO.

Q9. Why does VEDO propose setting the maximum contribution at this amount?

A. The \$2,000-per-unit contribution approximates the cost of the service line provided to new residents of single-family homes under VEDO's tariff. Under VEDO's existing and proposed tariff, all service lines for new construction are installed by and at the expense of the Company. (Sheet No. 65.) Likewise, if the new customer requires a main extension, the Company is required to make a main extension of one hundred (100) feet or less without cost to the customer. (Sheet No. 68.) As such, for new residential or small commercial customers, there is typically no charge to connect to VEDO's system and receive natural gas service, even if the customer is not located on an existing gas main.

In VEDO's experience, the average cost of installing a service line is typically around \$2,000, although the actual cost in any given case will depend upon project-specific factors. These installation costs are capitalized and included in rate base. Given VEDO's straight fixed variable rate design for residential customers, an investment of \$2,000 per customer pays for itself (from a simple payback perspective) in far less than

1 ten years regardless of consumption levels in the home. In other words, the non-gas-cost
2 revenues received from the customer surpass the infrastructure costs needed to serve the
3 customer in a matter of a few years.

4 **Q10. Please describe what projects will be eligible for the Program.**

- 5 A. For the purposes of the Pilot Program, a multi-family project is defined as four or more
6 separately metered units served in a single building. The Program will also be available
7 for existing multi-family buildings whose units are not currently served on an
8 individually metered basis but are being converted to individually metered units.

9 The developer and/or building owner of any multi-family project served under the
10 Program will be responsible for installation, ownership and maintenance of all piping
11 beyond the Company's meter, which is today's standard practice. Developers will also be
12 required to comply with any application and other informational requirements established
13 by the Company.

14 **Q11. Please describe the proposed length of the Pilot Program and VEDO's reporting**
15 **plans**

- 16 A. The Company proposes that the Pilot Program be in effect for seven years, beginning
17 with the date that the rates approved in VEDO's base-rate case are implemented. Due to
18 the considerable lead time on multi-family projects, the Company proposes an extensive
19 period to evaluate whether the Program is worthwhile for continuation as it will take
20 months, and even years, to educate local builders, developers, architects and engineering
21 firms all of which have designed multi-family buildings for decades as all-electric
22 complexes.

23 Every year, the Company will provide a formal update to the Commission on the
24 Program, including successful projects and incentives offered, no later than February 1.

1 Upon completion of the seven-year term, VEDO will make a recommendation for
2 whether to extend or modify the Program, including whether to establish it as a
3 permanent offering.

4 **Q12. How will Program costs be treated?**

5 A. The Company proposes to treat these costs like standard capital expenditures for other
6 New Business capital expenditures, which average around \$10 million per year. VEDO
7 will account for the incentives in the same manner, and include the aggregate
8 contributions in rate base in subsequent rate cases.

9 **Q13. Are there any limits on the amount of contributions?**

10 A. Yes. In addition to the annual Program limits discussed previously, the incentive is
11 capped at the *lesser* of \$2,000 per unit or the developer's actual costs for each project. If
12 the actual costs are more than \$2,000 per unit, the developer would remain responsible
13 for the difference between the maximum incentive and the actual costs.

14 **IV. NEED FOR THE PROGRAM**

15 **Q14. Why does VEDO believe that the Program is necessary?**

16 A. Although single-family home owners can readily utilize natural gas through new
17 construction and/or conversion at their existing residence, those who own or rent multi-
18 family units, especially those in multi-story complexes, are not generally afforded the
19 opportunity to benefit from natural gas service.

20 **Q15. Why does VEDO believe that residential renters are not typically able to benefit**
21 **from natural gas service?**

22 A. The primary impediment is the relatively high up-front costs to install gas piping and
23 facilities (indoor) to all of the units in a multi-family complex. Space- and water-heating
24 appliances that use natural gas require the installation of special venting and related

1 changes in architectural design when compared to an all-electric complex. Developers of
2 multi-family building projects do not generally stand to directly gain from the longer-
3 term price and efficiency benefits of natural gas, so the additional up-front costs have
4 often deterred them from choosing natural gas.

5 The Company's proposal will effectively remove that cost barrier. VEDO's
6 proposal provides a cost-effective opportunity for developers and owner/operators of
7 multi-family buildings to install infrastructure needed to offer natural gas service to the
8 residents. At the same time (as discussed in greater detail below), the level of the
9 incentive, coupled with the fact it will increase the number of new customers, if
10 successful, ensures that the Program will economically benefit existing customers.

11 **Q16. What sort of financial challenges are posed to the multi-family developer when**
12 **considering natural gas service?**

13 A. Extending natural gas service to a multi-family complex is relatively simple. Each
14 building in the planned complex would typically have one larger service line. The service
15 line would connect to a meter bank, typically located near a building wall or parking area.
16 At this point, installation is more complex. The fuel lines for those meters are run into
17 and through the building, by the developer's selected contractor and at the developer's
18 expense, to deliver natural gas service to each unit within the building. The developer
19 must also pick up the additional cost for the required venting for any appliance.

20 These additional costs of piping each unit and venting each appliance often
21 economically preclude the installation of gas. These indoor fuel-line and venting costs
22 have deterred developers from including natural gas equipment in their multi-family
23 complexes beyond common space areas. Multi-family developers have explained to
24 Company staff that incremental natural-gas-installation costs can range anywhere from

\$1,100 per unit to \$3,500 per unit (depending upon whether the complex is new construction or being retro-fitted).

Q17. Please provide an illustration of this cost differential in choosing natural gas appliances for space and water heating versus installing electric appliances.

A. Below is an illustration of costs that would be incurred to install a hydronic system in a 50-unit, two-story apartment complex. Costs are estimates developed in conjunction with a water heater manufacturer and a multi-family developer operating in Vectren's service area. A hydronic system uses a natural gas tankless water heater and an air handler to provide water heating and space heating. This newer technology is less expensive and more efficient than a traditional natural gas tank water heater and furnace combination. Furthermore, using a hydronic system only requires one vent, and the equipment is smaller in size compared to a traditional gas furnace and tank water heater, which is an added benefit for multi-family construction that is often challenged for adequate square footage.

Water heating costs

- Tankless gas water heater (and air handler) = \$50,000 or \$1,000 per unit
- Electric water heater, 50-gallon = \$17,500 or \$350 per unit
 - o Cost differential: \$32,500

Labor and material costs (flue installation, PVC piping, fittings, valves, etc.)

- Flue installation labor: \$16,000
- Incremental labor costs for installing a tankless water heating and air handler versus a traditional tank water heater and electric heating system: \$16,500
- PVC, fittings, valves, flanges and caulk: \$32,000
 - o Cost differential: \$64,500

Electric heating and air-conditioning (A/C) costs

- \$65,000 to install 50 heat pumps or approximately \$1,300 per unit (serves as heat and A/C source)
- If developer chooses the gas hydronic system, the developer only needs to install an A/C unit, which reduces the out-of-pocket spend from \$65,000 to \$25,000–\$30,000; i.e., the A/C costs \$500 to \$600 per unit

Total cost differential

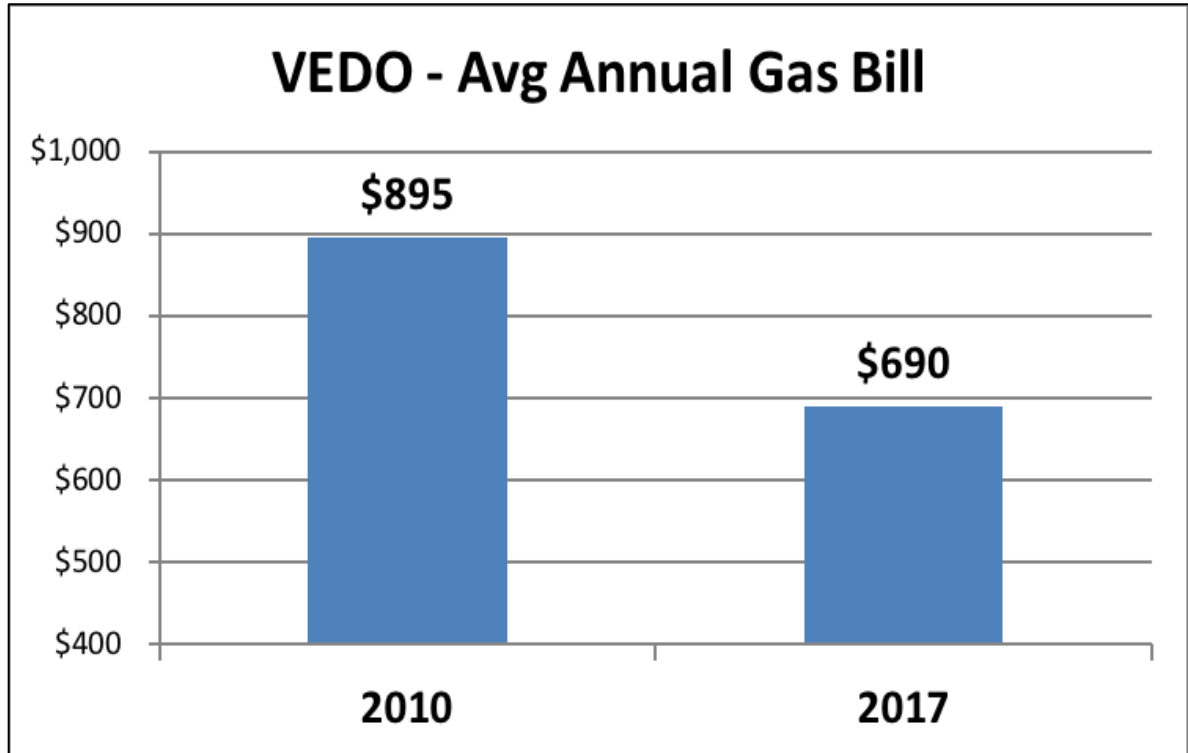
- (\$32,500) for gas appliances
- (\$64,500) for material and labor to install gas appliances
- \$35,000 to \$40,000 credit for using a hydronic system (which uses a gas tankless water and air handler for water and space heating needs)
 - Equals an additional \$57,000 to \$62,000 to install a natural gas hydronic system over a heat pump and electric tank water heater

V. BENEFITS OF NATURAL GAS FOR MULTI-FAMILY RESIDENTS

Q18. What are the benefits of using natural gas in the residential sector?

A. Natural gas is a low-carbon, affordable energy source that is the overwhelming choice for home and water heating in the Midwest. For example, more than 90 percent of new home builders for single-family dwellings in the Midwest chose natural gas according to an American Gas Association (AGA) energy analysis group report in 2012. This matches VEDO's experience, as more than 90 percent of the high-volume builders in new construction for single-family dwellings have chosen natural gas due to its efficiency and accessibility over the past five years. Over the past several years, natural gas bills have fallen significantly whereby bills of today are nearly 25 percent lower than a nearly a decade ago. The following chart illustrates a 12-month bill for the typical VEDO

1 customer.



2

3 **Q19. For home heating purposes, how does natural gas compare to other fuel sources?**

4 Natural gas is the most affordable source of fuel for home heating when compared to fuel

5 oil, propane, and electricity. According to the AGA's Full-Fuel-Cycle Energy Efficiency

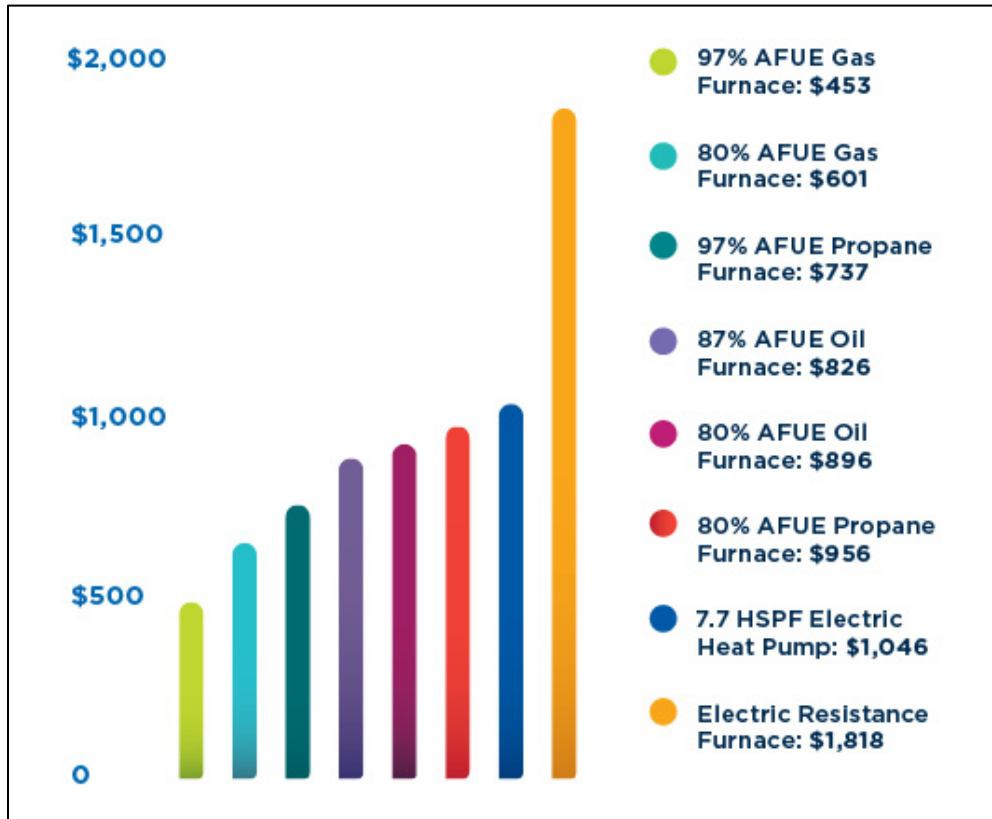
6 Standards report from 2017, a household with natural gas appliances consumes 33

7 percent less energy than a household using all electric appliances. The chart below

8 illustrates national average heating costs by fuel type according to data from the U.S.

9 Department of Energy, Office of Energy Efficiency and Renewable Energy (as published

1 in the 2017 AGA Playbook).



2

3 **Q20. Is this true for a customer in VEDO's service area?**

4 Yes. A customer in VEDO's service area using a high-efficiency natural gas furnace can
5 save between \$225 and \$850 per year when choosing a gas unit over an electric space
6 heating unit, which is often the choice for multi-family complexes. In fact, in many
7 multi-family facilities, an electric resistance furnace is installed, which costs less up

front, but results in the resident paying much higher amounts over time for space heating.

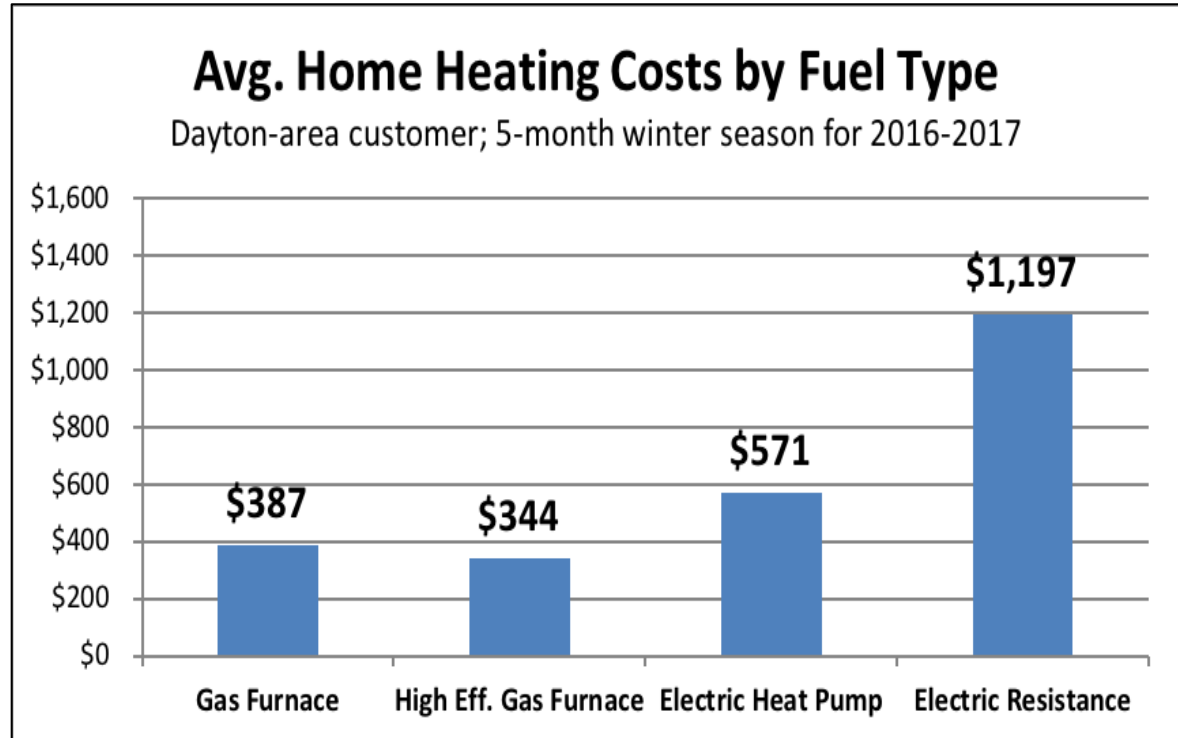


Chart footnotes:

- Gas: Assumes winter consumption of 515 units of gas and 85 unit savings per year from 80 percent efficient to 92 percent efficient gas furnace.
- Electric: Electric rates are those of Dayton Power & Light at www.waytogo.com/rate_tariff/d18.pdf.

Q21. Are there other benefits besides space heating that a multi-family customer could receive if given the opportunity to use natural gas in their home?

A. Yes. Natural gas is also a more efficient, affordable fuel for water heating. Natural gas water heaters are less expensive to operate, last longer and take less time to recover/re-heat water after usage. Furthermore, multi-family complexes can utilize a hydronic water and space heating system that relies on a tankless gas water heater, which offers even more savings. Because tankless units don't produce the standby energy losses associated with storage water heaters, they can be significantly more energy efficient, according to the U.S. Department of Energy.

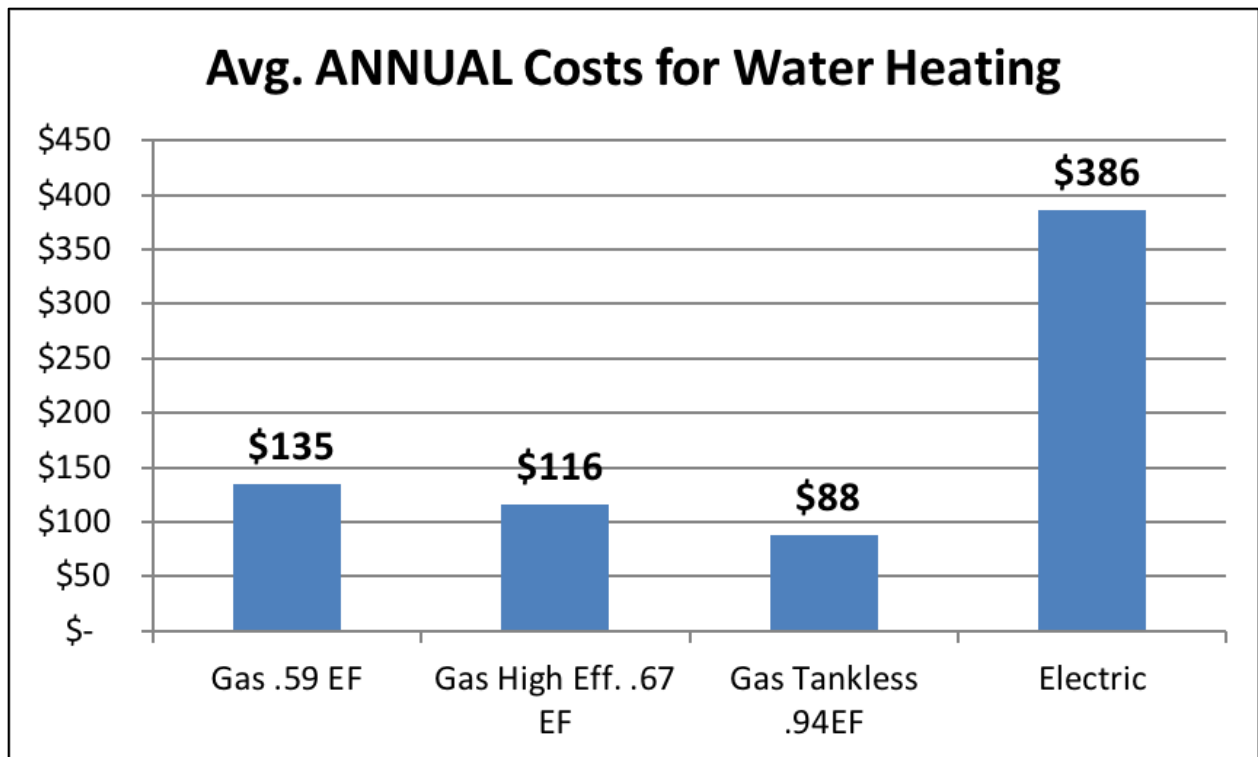


Chart footnotes:

- Vectren's Energy Efficiency market potential study indicates that going from a .59 to a .67 will save about 26 units of gas; the tankless unit saves approximately 63 units.
- Electric water heater (tank) usage is assumed to be 156 kWh per month.
- Electric rates are those of Dayton Power & Light at www.waytogo.com/rate_tariff/d18.pdf.

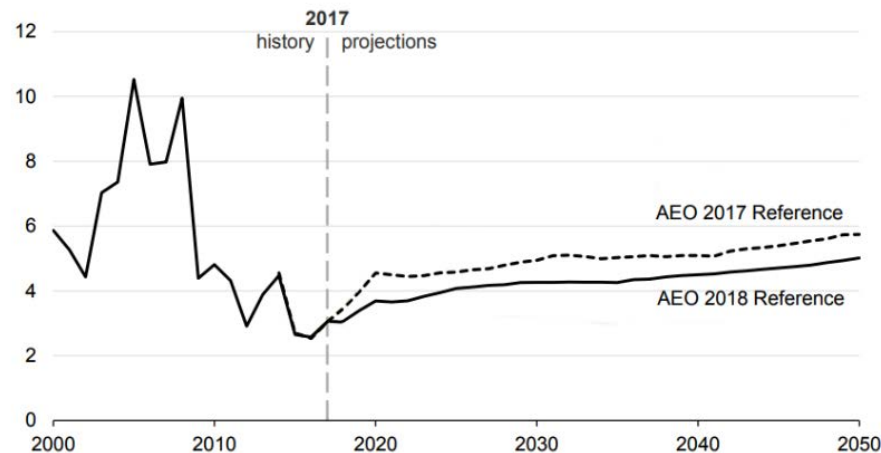
Q22. What are the long-term price forecasts for natural gas?

A. Natural gas pricing forecasts demonstrate natural gas prices will remain low and stable thanks to America's abundant domestic supply, including the state of Ohio where natural gas is produced in the Utica shale region. As the following Energy Information Administration (EIA) presentation from February of 2018 illustrates, the long-term

forecasted price remains very favorable for consumers.

Natural gas prices remain relatively low compared to historic values

Natural gas spot price at Henry Hub
2017 dollars per million British thermal units



VI. BENEFITS TO EXISTING CUSTOMERS

Q23. Has VEDO considered the impact of the Program on existing customers?

A. Yes. VEDO believes that the Program, by adding new customers in a cost-effective manner, will benefit existing customers.

Q24. How will existing customers benefit from additional gas customers?

A. VEDO gross customer additions have averaged less than 1,400 annually over the past five years from the residential (new construction) segment. Robust customer growth allows fixed costs to be spread among a larger base. All else equal, this would tend to result in lower natural gas rates - over time - than with a stagnant or declining customer base. Through the Program, as discussed below, an additional 325 to 600 customers per year will now be afforded the opportunity to become VEDO customers, a substantial increase over the residential-customer growth recently experienced by the Company.

Q25. Has the Company considered the potential rate impact related to the Program?

A. Yes. VEDO expects any customer rate impact to be negligible and, in the long-term, positive. Even if incentives were fully utilized at \$1 million per year for all seven years of the pilot (which VEDO does not expect), the Program's immediate, short-term rate impact would be approximately \$0.17 per month. In reality, however, the corresponding expansion of the customer base (by several hundred customers per year) would tend to offset this impact, and in a matter of a few years, the incentives would have paid for themselves.

Q26. Does VEDO believe that these rate impacts are reasonable?

A. Yes. The incentive will have the same rate impact and the same corresponding benefits as a new residential service line. Any rate impact associated with the Pilot Program should thus be considered reasonable.

Q27. What is the forecast for multi-family growth in the VEDO area?

A. According to Moody's Analytics—a leading-edge software, advisory services and research for credit and economic analysis and financial risk management firm—permits for new multi-family construction are expected to range from approximately 325 to 550 units per year in the greater Dayton area. Alteryx, which provides a leading platform for self-service data analytics, lists a more aggressive forecast for the region with growth of 600 units per year over the next five years.

Q28. How does VEDO interpret these forecasts?

A. These forecasts suggest that there will be growth in the development and construction of multi-family housing projects and opportunities to market the Program. But regardless of whether such growth comes about, there is no risk under the Program. If new facilities are not built, or do not avail themselves of contributions, incentives will not be paid.

1 **VII. CONCLUSION**

2 **Q29. Does this conclude your prepared direct testimony?**

3 **A. Yes, it does.**

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Summary: Exhibit 8.0 - Direct Testimony of K. Chase Kelley electronically filed by Ms. Rebekah J. Glover on behalf of Vectren Energy Delivery of Ohio, Inc.