

Chesapeake Utilities

How Natural Gas can Support ESPCs

Case Study – Indian River Schools

Halloween, October 31 , 2018



Agenda

- Overview of Chesapeake Utilities
- How can Chesapeake support your project?
- Indian River Schools Case Study



Chesapeake Utilities has proudly served Delmarva for over 150 years!



LOCKERMAN STREET FROM POSTOFFICE—DOVER, DELAWARE.

1859: Dover Gas Light Company, a gas company located in Dover, Delaware, was started and would eventually become Chesapeake Utilities Corporation.

Serving Customers in Six States

Delaware and Maryland

Natural Gas Transmission, Distribution and Marketing
Propane Distribution

Virginia

Propane Distribution

Pennsylvania

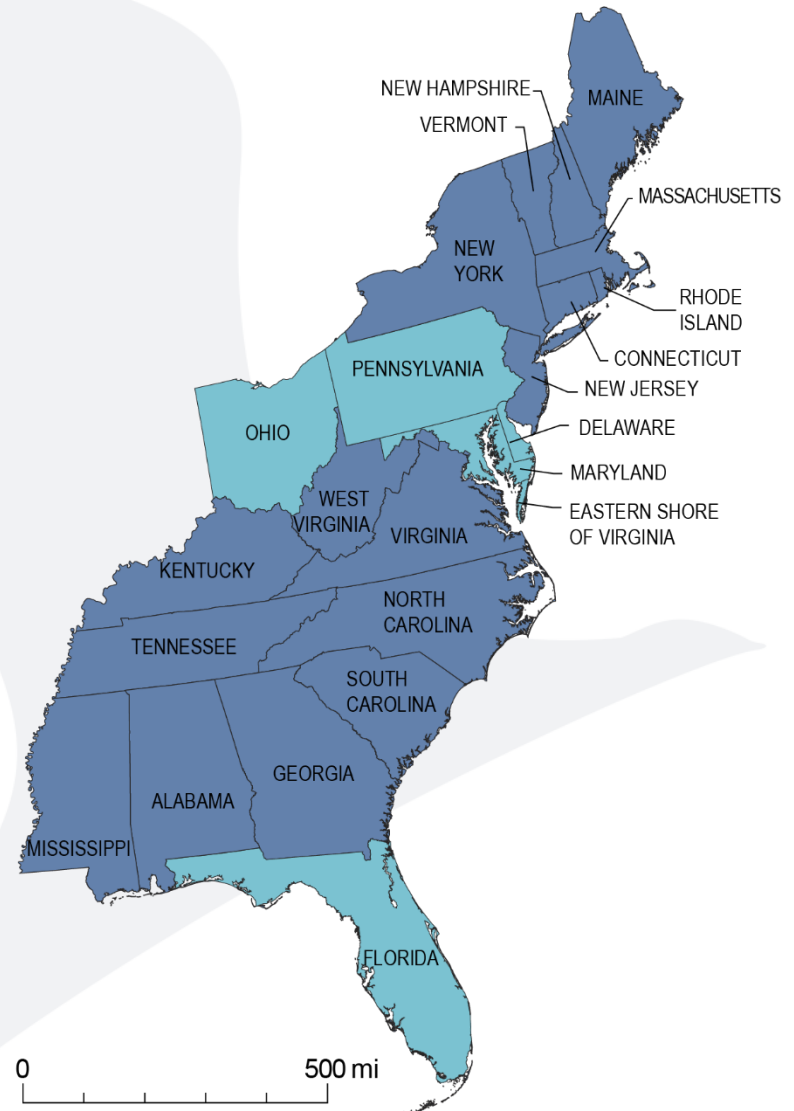
Natural Gas Transmission
Propane Distribution

Florida

Natural Gas Transmission, Distribution and Marketing
Electricity Distribution
Combined Heat and Power Plant
Propane Distribution

Ohio

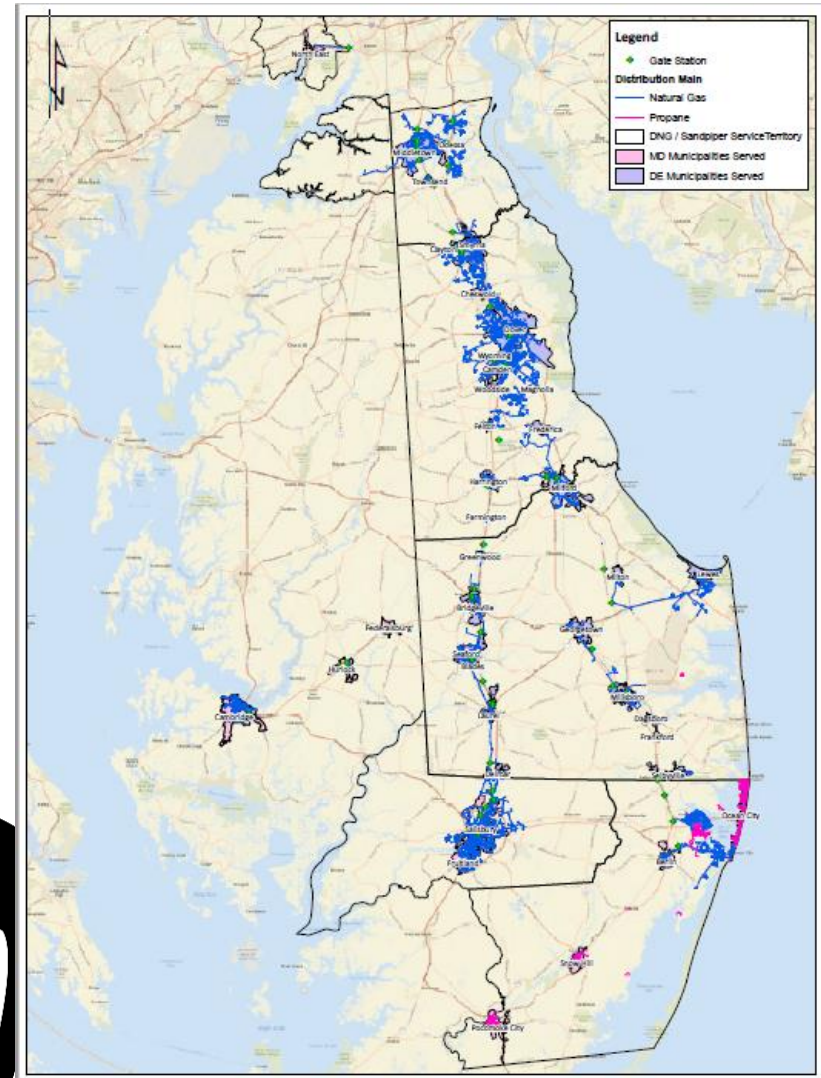
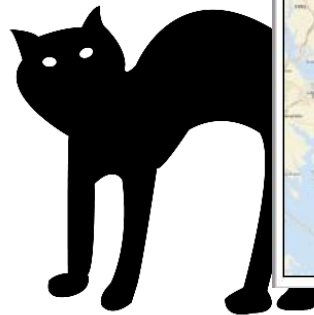
Natural Gas Gathering, Marketing, Liquids Processing
and Natural Gas Distribution



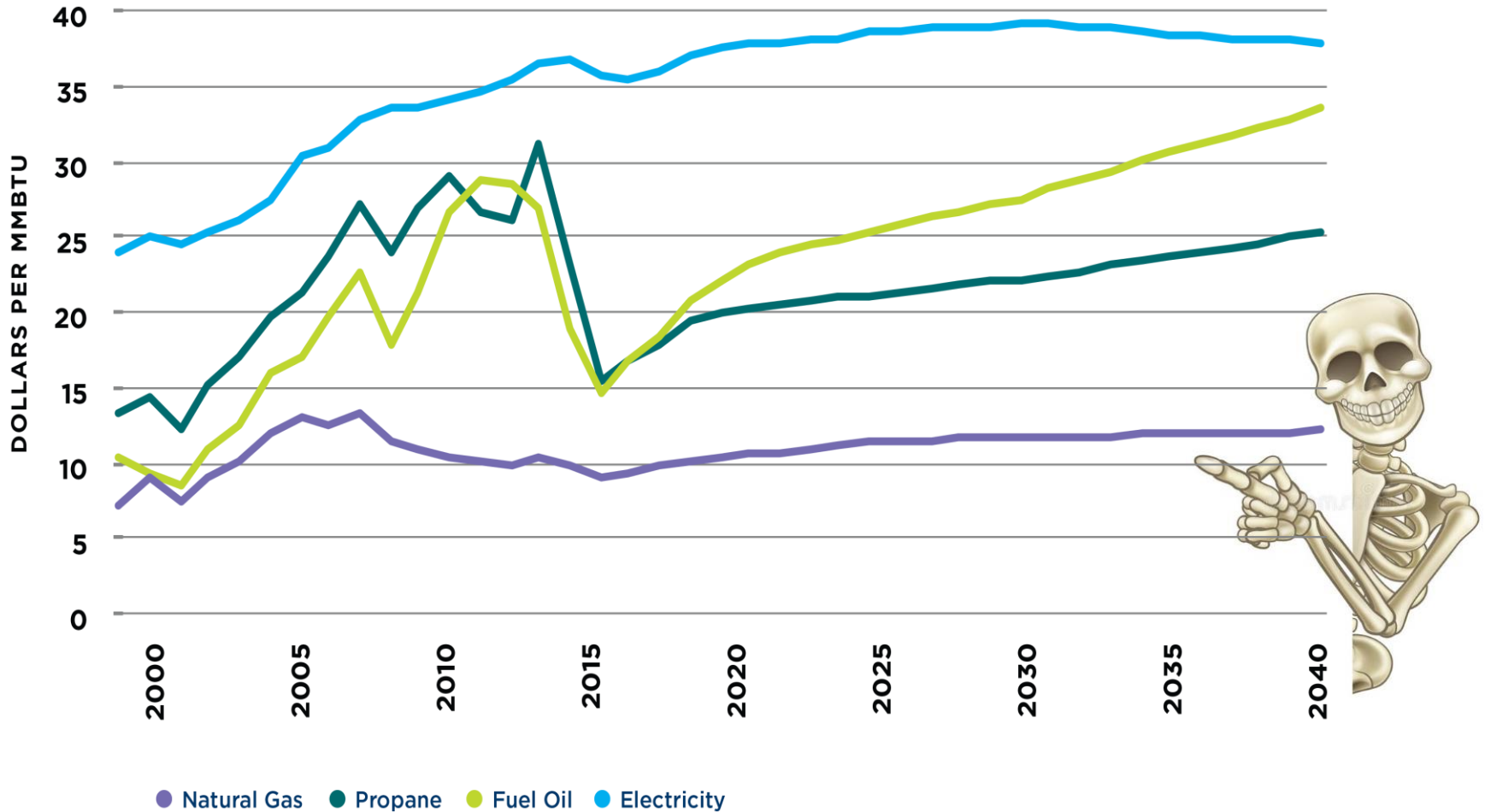
Chesapeake Utilities: The Delmarva Peninsula

Chesapeake Utilities' Delaware and Maryland Divisions and our subsidiary Sandpiper Energy, Inc. serve over 78,000 customers from Cecil County Maryland in the northwestern corner of our service territory to Worcester County in the southeastern corner.

We provide local distribution company (LDC) services to residential, commercial and industrial customers.



Low, Stable Natural Gas Prices Create Value and Incentivize Conversions



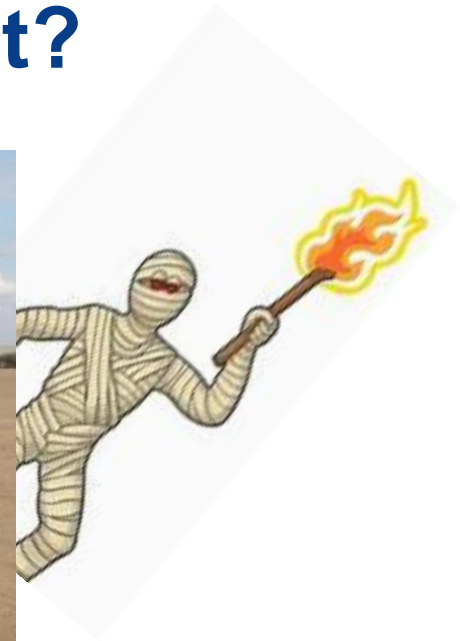
<https://www.aga.org/playbook>

C&I Conversions Improve the Environment

Fuel Source	Annual Gallons Displaced	Estimated Annual Energy Savings	Annual Avoided Tons CO ₂
No. 2 Fuel Oil	1,764,794	\$1,652,617	4,266
No. 4 Fuel Oil	622,225	\$712,114	1,707
No. 6 Fuel Oil	6,140,155	\$6,463,100	19,574
Propane	4,338,676	\$2,148,840	5,160
Total	12,865,850	\$10,976,671	*30,707

- *Carbon reduction equivalent to taking 5,276 cars off the road
- **No remaining large Industrial customers using oil in our service territory**
- Last remaining significant use of liquid fuel in our territory is in the transportation sector

How Can Chesapeake Get Natural Gas Service to your Project?



Service Lines and Main Extensions:

- New Service Lines up to 75' (from existing mains) installed at no cost.
- Service Lines over 75' subject to a six (6) times annual non-fuel revenue test.
- Main Extensions subject to the 6x annual non-fuel revenue test.
- **When the investment in gas facilities exceeds projected revenues, the customer can:**
 - Pay a CIAC (Contribution in Aid of Construction)
 - Provide a Customer Advance
 - Negotiate a Delivery Rate



Other Services

- Build, Own, Operate and Maintain (BOOM)
- Conversion Coordination
- Negotiated Contract Rates
 - Use to recover gas line installation and equipment conversion costs.
- Temporary Propane Service
- On-Bill Loan Servicing
- Multi-family Housing (DE only)
 - Use to offset interior gas piping and venting costs.
- Future Plans: “Virtual Pipeline”
 - Tube trailer delivery of CNG to off-main customers

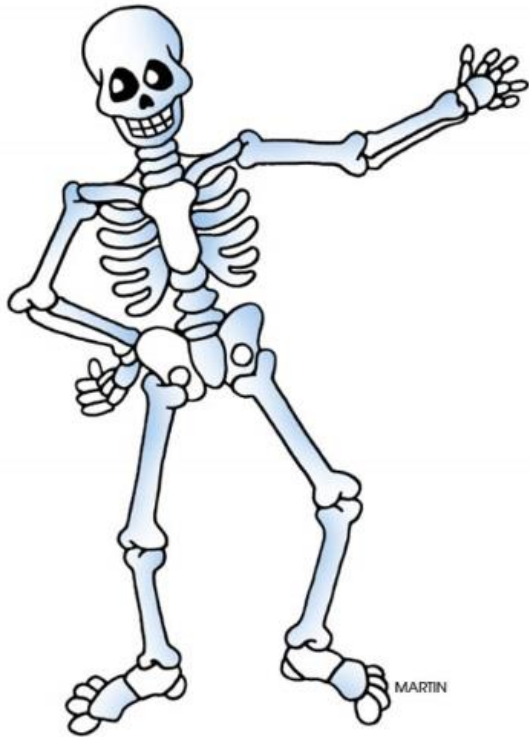


Technical Support

- Identify Project Potential.
 - Will Gas Technology work?
- Gas Pricing Scenarios.
 - Improved Rate Class Impact.
 - 3rd-Party Supply Savings.
- Initial Payback Analysis.
- Life-Cycle Cost Analysis support.
- Grant & Alternative funding help.
 - EEIF
 - SEU loans
- 3rd Party Gas Supply.
- Supportive Service Agreements.

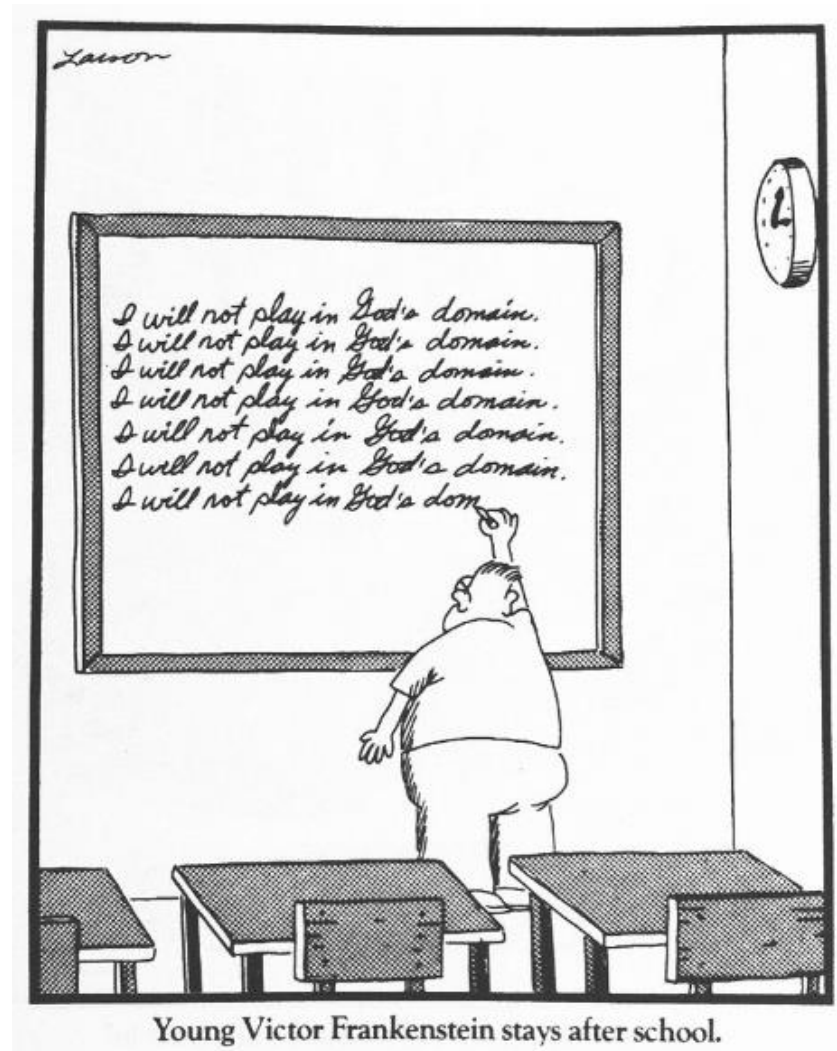


Natural Gas Infrastructure Expansion AND ESCO Projects



Is this a
Scary
Combination?

Chesapeake Utilities and the Indian River School District Project





INDIAN RIVER

School District

- Southeastern Sussex Co.
- Formed in 1969.
- 9,150 students (5th largest district Delaware).
- 600 teachers and 100 paraprofessionals.
- 7 elementary schools.
- 3 middle schools.
- 2 high schools.
- 2 special schools.
- Arts magnet school.
- Outdoor education center.





INDIAN RIVER
School District



- 1. Can “off-main” Indian River Schools be served with natural gas economically within a district-wide ESPC?**
- 2. Will there be enough fuel cost savings to make this work?**
- 3. How can Natural Gas support ESPC efforts?**

Questions/Tasks for Chesapeake Utilities:

1. Estimate gas consumption per school (after ESMs) based on #2 oil history.
2. Determine Rate Schedule & Commodity Costs for each school.
 - Rate Schedule based on annual volume and load profile.
 - Can they buy 3rd-party gas via. the State Contract?
 - Prepare a negotiated delivery rate for cost recovery, if needed.
3. Model the total projected savings vs. their current fuel.

Questions/Tasks for Chesapeake Utilities (cont.):

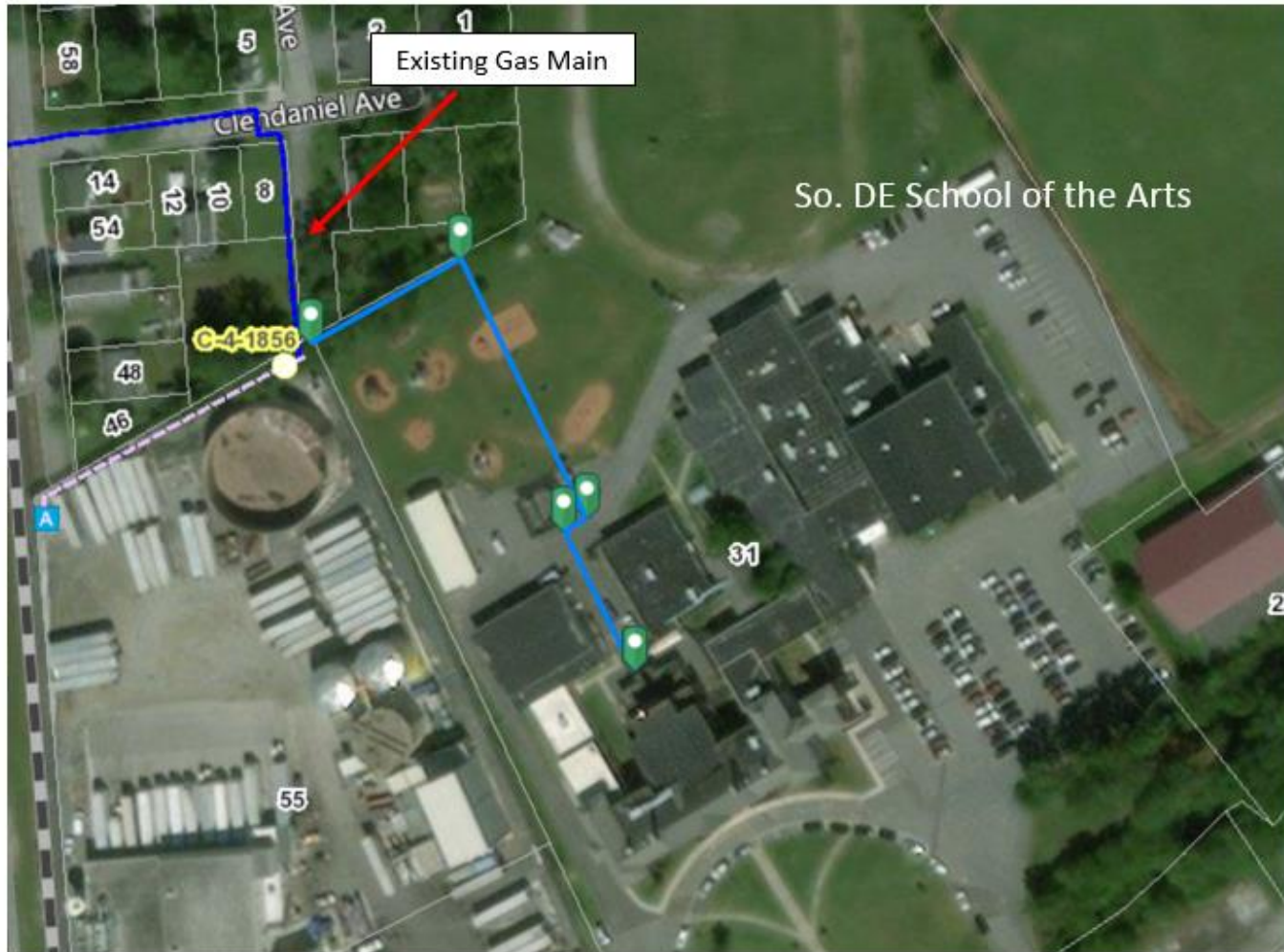
4. Is there a viable alignment and adequate pressure to serve the schools? Are there additional loads along the route to help support?
5. What are the costs to install the gas main, service lines, and meters?
6. Do we project enough gas delivery revenues to recover construction cost in our required 6-year timeline?
7. After gas main cost recovery, do the boiler conversions still yield sufficient savings for the customer within the ESPC contract term?

IRSD School sorted by Oil Consumption

Facility	SQ Feet	Oil \$s	Projected Gas Use (MCF/yr)	Feet from main	Notes
Lord Baltimore ES	77,389	\$ -	-		Geothermal
John M Clayton ES	90,340	\$ -	-	15,800	Electric.
Sussex Central High School	196,333	\$ -			Already on gas
East Millsboro ES	59,815	\$ 4,288	329	1,500	Geothermal plus oil?
North Georgetown ES	55,475	\$ 11,685	797	2000+	
Selbyville MS	80,697	\$ 11,977	828	1,500	
Long Neck ES	55,690	\$ 14,146	981	6,900	
George Washington Carver Academy	63,898	\$ 16,321	1,170	5,300	
Phillip Showell ES	39,134	\$ 25,266	1,742	1,300	Water source HP w/oil backup
Indian River HS	159,976	\$ 47,487	3,297	15,000	
Millsboro MS	105,022	\$ 49,172	3,470	1,700	
Georgetown MS/Georgetown ES	213,574	\$ 61,757	4,425	1,640	
Southern Delaware School of the Arts	97,675	\$ 83,696	6,427	590	

Southern DE School of the Arts, Selbyville:

~590 feet from existing main serving poultry plant



Southern DE School of the Arts, Selbyville:

~540 feet from existing main serving poultry plant

- Higher annual baseline oil consumption.
- Qualifies for Large Volume Rate.
- Meets volume threshold for Customer Choice Program – 3rd-party supply.
- All-in gas rate ~\$8 per MMBTU.
- Oil equates to ~\$15 per MMBTU.
- Only 590 feet of gas line with only \$30K in installation costs – no up-front contribution required.
- Most of the fuel savings accrues to the ESPC project.
- Projected Annual Fuel Savings: ~\$45K.
- **20 Year Fuel Savings: ~\$900K.**
- **CO2 Reduction: ~725 Tons annually**



Millsboro Middle School:

~1750 from gas main on Washington Street



Millsboro Middle School:

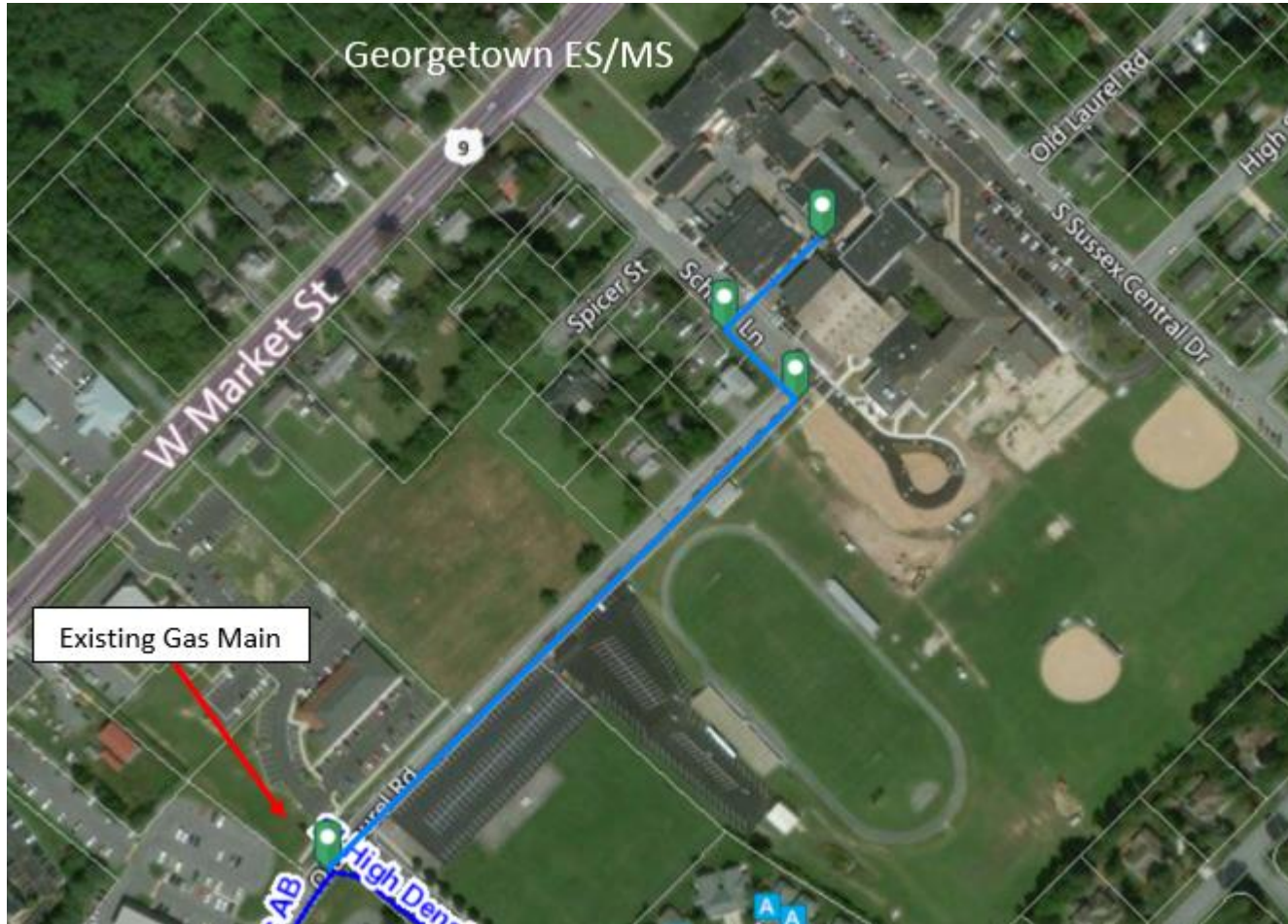
~1750 from gas main on Washington Street

- Gas consumption ~3,400 – 3,700 Mcf.
- Qualifies for Large Volume Rate.
- Meets volume threshold for Customer Choice Program – 3rd-party supply.
- All-in gas rate ~\$9 per MMBTU.
- Oil equates to ~\$15 per MMBTU.
- 1,750 feet of main – approx. \$113K in install costs.
- Six years' delivery revenues funds \$44K in gas main costs.
- Annual Fuel Savings: ~\$16.4K.
- **20 Year Fuel Savings: ~\$329K.**
- **CO2 Reduction: ~391 Tons annually.**



Georgetown ES/MS:

~1,600 feet from gas main Laurel Road



Georgetown ES/MS:

~1,500 from gas main on Laurel Road

- Gas consumption ~3,200 Mcf./yr.
- Qualifies for Large Volume Rate.
- Meets volume threshold for Customer Choice Program – 3rd-party supply.
- All-in gas rate ~\$9 per MMBTU.
- Oil equates to ~\$15 per MMBTU.
- 1,750 feet of main – approx. \$89K in install costs.
- Six years' delivery revenues funds \$40K in gas main costs.
- Annual Fuel Savings: ~\$16.4K.
- **20 Year Fuel Savings: ~\$250K.**
- **CO2 Reduction: ~500 Tons annually.**





INDIAN RIVER
School District



Summary:

- Not Scary At All.
- Excellent Synergy of Goals.
- Main extensions to larger customers supports residential oil-to-gas conversions.
- Reduced fuel costs supports other ESMs.
- **20-year gross fuel savings ~\$1.4M+**
- **20-year CO2 reduction: ~32,300 Tons**



Thank You!

Questions?

