## **Unaccounted for Natural Gas**

## in the Utility System



#### Variations in Temperature and its Measurement

Gas expands and contracts with changes in temperature. Utilities use a temperature correction factor to determine the volume of gas delivered. In addition, end-use meters measure volumetrically and customers are billed based on the number of Therms (a unit for quantity of heat) they consume. This can also lead to measurement differences.



#### Variations in Pressure and its Measurement

Delivery pressure is set by a single service regulator at the city-gate station. The gas is received by hundreds of thousands of end-use meters, which can experience small variations that can lead to differences in calculated volumes of incoming and outgoing gas. Utilities use pressure adjustment factors to calculate the equivalent gas volume at a standard pressure.



# Third-Party Damage

Gas can escape when construction crews, property owners or other utilities damage underground pipes.



#### **Emissions**

Some natural gas may be emitted from the delivery system. Utilities survey their pipelines, fix hazardous leaks immediately and schedule non-hazardous leaks for repair. Pipes that may no longer be fit for service are being replaced with ones made from more modern materials, which increases safety and reduces emissions.



For logistical reasons and due to differences in billing cycles, all customer meters cannot be read simultaneously, which leads to considerable differences in calculated volumes. State utility commissions and utility companies mutually agree to allow a percentage of the difference to be treated as unaccounted for gas for accounting and ratemaking purposes.



### Theft or Meter Tampering

In some cases, customers may illegally bypass their meter or tamper with a meter so that it does not accurately record the volume of gas consumed.



## Use by Operators

Utilities use gas in their operations. Examples include: the purging process necessay to repair or replace a pipe or the use of unmetered bath heaters at gate stations.







At a city gate, natural gas is transferred from an interstate or intrastate pipeline to a local natural gas utility. At that moment, some utilities measure the volume of gas using highly sophisticated technology that is able to quickly and precisely take into account a variety of factors, including temperature and pressure. The utility reports the volume of gas sold to customers as represented on their bills. The difference between the city-gate measurement and the volume of gas sold is treated as unaccounted for gas by regulators who build a form of reimbursement for this gas into the utility's rate structure.





Unaccounted for gas is the inevitable imbalance that exists at any given time between the measured gas coming into a utility distribution system and the measured gas going out of the same system.

For natural gas utilities and regulators, unaccounted for gas (sometimes called LUAF) is an accounting and ratemaking issue — not an operational issue. The cost of unaccounted for gas is recovered through accounting and ratemaking measures, and these measures differ from state to state. Under traditional ratemaking, natural gas distribution companies do not make a profit on the sale of the natural gas commodity that they acquire on behalf of their customers. Instead, utilities pass through the costs of natural gas supply, including those of unaccounted for gas, in base rates and/or through rate adjustments, which are set and approved by state utility commissions.

The U.S. Environmental Protection Agency also rejects the idea that unaccounted for gas could provide an indication of or could be used to formulate policy on fugitive methane emissions. In response to comments on its Mandatory GHG Reporting Rule it said, "EPA disagrees on the use of LUAF as a surrogate for greenhouse gas emissions data collection ... there are other multiple factors associated with LUAF, such as inaccuracies of gas measurement, and thus would not provide the desired level of data accuracy and quality to achieve the objectives of [the reporting] rule. Most importantly, because LUAF would not identify the exact sources of the emissions, there would be further inadequacies for informing future policy. Finally, no current studies exist that accurately define the percentage of LUAF that is emissions from a system."













twitter.com/AGA\_naturalgas



facebook.com/naturalgas