



From wellhead to burner tip: how natural gas gets to you

Natural gas flows from deep inside the earth into wells. From there it enters large pipelines where it is moved along with the help of compressors. Some of the gas is moved into underground storage for later use. After traveling many miles, the natural gas enters the Enbridge Gas system and is sent through a network of smaller pipes to homes and businesses.

Natural gas is transported and delivered safely to you

According to the U.S. Department of Transportation, pipelines are the safest, most efficient and most reliable means of transporting natural gas. The American Gas Association estimates 2.7 million miles of underground pipelines deliver natural gas to customers throughout the country. While the design, construction, integrity and operation of pipelines are strictly regulated at both the state and federal level, hazards do exist and emergencies can occur. For decades, Enbridge Gas has been improving its system and replacing older pipe to ensure safe natural gas delivery to our customers. Statistics show the leading cause of pipeline damage, and subsequent safety hazards, is third parties (contractors, property owners, excavators, etc.) hitting pipelines while digging. Read on to learn how you can prevent, recognize and report such hazards.

EFVs help protect people and property

More than a decade ago, Enbridge Gas launched a safety initiative to install excess flow valves (EFVs) on new and replacement service lines. An EFV is a small plastic valve that automatically stops the flow of gas if a service line is severed. Today, more than 200,000 customers have an EFV on their natural gas service line. Customers who do not currently have an EFV may request one, with installation at the customer's expense. Please visit enbridgegas.com for more information.

How to identify an outside gas leak

The following signs may indicate a natural gas pipeline leak:



"Rotten egg"
odor*



Continuous
bubbling in wet,
flooded areas



Hissing, roaring
or blowing sound



Fire at or near
exposed piping



Dirt being blown
into the air



Flames coming
from the ground



Water being
blown into the air
at a pond, river
or creek



Dead or brown
vegetation in an
otherwise moist
or green field

From a safe place, see if you can spot a pipeline marker and call the emergency number or call 911 to report a leak or other natural gas emergency.

* In its natural state, natural gas is odorless, colorless and nontoxic. Local utilities such as Enbridge Gas add an odorant to make leaks easy to smell. However, sometimes the smell of the odorant may be too weak to smell, even though there is a leak. If you suspect a leak for any reason, get to a safe place immediately and call the emergency number or 911. Call 800-323-5517 for a free scratch-and-sniff odorant brochure if you don't know the smell.

Call 811 before you dig

If you're planning a project that involves digging, remember to first **call 811** at least three business days before you dig, grade or excavate. The national 811 number will connect you with your local line-location center. Knowing where lines are buried may protect you from injuries caused by accidentally hitting a gas, electric, cable, telephone, fiber-optic or other line. It can spare you repair costs and it's the law. After receiving your call, each participating utility will mark its line locations for **free**.





Natural gas facts

According to the American Gas Association, **nearly 189 million Americans use natural gas to cook their meals**, heat their water or warm their homes. How much do you know about this safe and efficient resource? Here are a few facts:

- 1

Natural gas is naturally odorless
That unusual smell is a harmless chemical that we add to natural gas to help you detect leaks. We add this rotten egg-like odorant as a safety precaution because natural gas has no odor of its own.
- 2

Natural gas is non-toxic (not poisonous)
If you inhale it, nothing harmful will be absorbed into your blood.
- 3

Natural gas is lighter than air
If it escapes into the atmosphere, it dissipates rapidly. Heavier-than-air gases like propane and gasoline fumes settle and accumulate near the ground where ignition sources are more common.
- 4

Natural gas is colorless
When mixed with the proper amount of air and ignited, invisible natural gas burns with a clean, blue flame. It is one of the cleanest-burning fuels, producing primarily heat, carbon dioxide and water vapor.
- 5

Natural gas burns only when properly mixed with air
It will only ignite when there is an air-and-gas mixture between 5 and 15 percent natural gas. Any mixture containing less than 5 percent or greater than 15 percent natural gas will not ignite.

How to prevent CO poisoning

Carbon monoxide (CO) can come from many sources such as wood, propane, natural gas, charcoal, gasoline and anything else that burns. High concentrations of CO can be toxic, but you can avoid CO poisoning with simple preventive measures and common sense:

- Have your heating systems serviced by a certified heating contractor every year. (This helps ensure that your system is operating safely and that combustion byproducts vent to the outside.)
- Install a battery-operated, Underwriters Laboratory-approved CO monitor on each level of your home. Check or replace the battery when you change the time on your clocks each spring and fall. Installing a CO monitor should never be a substitute for a professional inspection of home-heating and cooking equipment. Owners of boats and recreational vehicles with propane stoves or heaters should also install CO monitors.
- **Do not** use a generator, charcoal grill, camp stove, or other gasoline- or oil-burning device anywhere inside your home including your basement and garage, or outside near an open window.
- **Do not** run a car or truck inside a garage attached to your house, even if you leave the door open.
- **Do not** burn anything in a stove or fireplace that is not vented.
- **Do not** heat your house with a gas oven.

If you are feeling dizzy, light-headed or nauseated, and suspect CO poisoning, **seek prompt medical attention by dialing 911 or calling your poison control center at 800-222-1222.**

What to do if you damage a gas line or come across a leaking line


If you damage a gas line or discover natural gas escaping from a broken or leaking line, follow these steps:

- Turn off all machinery and vehicles and eliminate other ignition sources such as open flames, electrical switches and phones.
- Evacuate everyone from the area.
- **Do not** try to make repairs or operate pipeline valves.
- **Do not** try to extinguish fires.
- From a safe place, call 911 or other local emergency responders, including Enbridge Gas at **800-767-1689**.

Follow these steps if a line is pulled, jarred or its coating is damaged:

- Stop work and check for the sound and signs of escaping gas in the area.
- **Do not** make repairs or backfill until Enbridge Gas has inspected the line and repaired any damage. Unrepaired damage to a gas line or coating may cause a failure to occur. Unrepaired damage to a locating wire will cause difficulty in locating a line.

For more information about pipeline safety, call **800-323-5517** for a free brochure printed in both English and Spanish.



For customer service, please call **800-323-5517** Monday through Friday, 7 a.m. to 6 p.m.