



Converting to Natural Gas

Natural gas is considered to be the cleanest burning fossil fuel at the point of combustion. Converting to natural gas can also lead to cost savings due to lower fuel prices, reduced boiler maintenance and operating costs. However, the process of converting to natural gas requires significant advanced planning. At least nine months are needed to evaluate internal conversion costs, determine financing options, coordinate with utilities on accessing a gas line, and to develop a construction timeline for your conversion.

There are two primary costs to consider when switching from oil to gas. The first is internal construction on the existing heating system and building infrastructure. The second is the cost charged to the building by the utility to deliver gas. Natural gas is supplied directly from a utility main to a meter that measures consumption. The meter is typically located outside of the building or in the basement. A pressure regulator maintains a set gas pressure within the buildings internal piping and a gas valve then modulates the amount of gas flowing to the burners based on when fuel is needed to heat the building.

Two natural gas utilities serve buildings in New York City. Visit nyc.gov/cleanheat to find out whether Con Edison or National Grid provides service in your neighborhood. Only the utility servicing your area can deliver gas to your building and the rate structure you choose (firm or interruptible) reflects the charges for each unit of gas delivered. However, building owners can purchase the commodity itself from any energy service company (ESCO).

Follow the steps below and contact NYC Clean Heat by calling 311 or sending an email to info@nyccleanheat.org.

1. Contact NYC Clean Heat

NYC Clean Heat can answer your technical and financing questions. If your building is burning No. 4 or No. 6 fuel oil, NYC Clean Heat can help you understand the natural gas options available to you. This could include assembling a cluster of buildings near you to convert to gas as a group, Con Edison Area Growth Zones, or other means.

2. Determine Internal Conversion Costs

A licensed engineer or qualified contractor can determine heating equipment that needs to be installed when converting to gas. The engineer or contractor can give buildings a rough cost estimate which will enable the building owner to decide if a gas conversion is right for the building. Such costs may include, but are not limited to, internal pipe work, the decommissioning or replacement of the oil tank, installation of chimney lining, burner replacement and a gas booster or gas reducer. Buildings converting to natural gas are responsible to determine and pay for all internal conversion costs within their property line. Specific costs to consider for a natural gas conversion include:

Chimney Liners

Chimney liners are an important safety measure that ensures combustion gases are contained within the chimney by preventing condensation from eroding the masonry and mortar and allowing harmful gases to enter the building envelope. Buildings with masonry chimneys are likely to need a chimney liner when installing natural gas heating. 10 and 20 gauge stainless steel chimney liners as well as a spray on liner system have been approved by the City's Department of Buildings. Buildings should work with an approved contractor to determine the best option for their building.



Boilers and Burners

Gas conversions do not require boiler replacements unless the boiler has reached the end of its useful life or needs replacement for other reasons. Similarly, if the burner has reached its useful life or is damaged, a new dual fuel burner will need to be installed. Straight oil burners (non-dual fuel burners) will need to be replaced with a dual fuel burner when switching to gas.

Asbestos

Boilers systems installed prior to the 1970s may contain asbestos. A qualified inspector can sample suspect materials to verify if asbestos is present. Asbestos abatement must be done according to the law. Asbestos abatement costs vary widely and depend on individual situations. Visit the New York City Department of Environmental Protection's website, nyc.gov/dep, to learn more about asbestos abatements.

Gas Boosters

The utility company will inform the building if the service will be a high pressure or low pressure gas service. A gas booster may be required for low pressure gas service to increase pressure for the burner to perform properly.

Oil Storage Tanks

Oil storage tanks need to be integrity tested in order for buildings to convert to an interruptible or dual fuel firm gas service. Buildings with underground storage tanks and above-ground tanks installed before 1982 will likely need to consider replacement. Firm gas customers will have to decommission the oil tank and disconnect both the fill and feed lines to the boiler while burning firm gas. If the gas customer wishes to go to interruptible service at a later date, the oil tank can be re-registered and filled with oil again. A licensed professional can ensure that tanks are in compliance with city regulations.

3. Understand Operating Savings and Pay-Back

Buildings can experience significant cost-savings by converting to natural gas due to lower fuel prices, reduced boiler maintenance and electricity savings. Your engineer or qualified contractor can help calculate expected savings based upon present fuel usage. Buildings should also invest in cost-effective energy efficiency strategies to increase savings further. Visit nyc.gov/cleanheat to learn more.

Natural Gas Conversion Cost-Savings Calculations

To calculate annual operating cost savings and payback period:

1. Collect your oil delivery data for the past two – three years to determine the average number of gallons of No. 6 or No. 4 oil used annually and the total cost of your fuel consumption.
2. Multiply your total annual oil consumption in gallons by 1.5 (number of gallons of oil X 1.5 = number of therms) to estimate the future gas usage.
3. Calculate your estimated annual gas costs based on the estimated number of therms.
4. Calculate your annual savings by comparing it to estimated oil prices.
5. Divide your estimated capital costs by your annual savings to determine your payback period, or the length of time it will take to recover the cost of your investment through the calculated savings from fuel costs. The NYC Clean Heat team can help you better understand the economics of your conversion project.



When determining the operating costs of natural gas, buildings should consider incentives that can help buildings save money. Visit nyc.gov/cleanheat for more information.

4. Submit an Application Package to your Utility

A licensed professional should submit the Gas Service Request to the utility company. After submitting this request, which includes the load letter, the utility will assign a case number and send written communication to the building's licensed professional. If your building is in Manhattan or the Bronx, no or low cost gas connection may be available to your building through Area Growth Zones. Please contact Con Edison for more information.

Buildings may incur additional costs to connect to the nearest gas main that vary, depending on the distance and whether or not they elect firm gas service. If the utility company quotes a high cost to bring the gas service to the building, contact NYC Clean Heat for assistance.

Types of Gas Service and Gas Rates

See below to learn about gas service options and visit Con Edison or National Grid's websites to view details on specific rate information.

Firm Gas

Firm rates apply to buildings that only burn natural gas. With firm gas, the utility company cannot interrupt gas service because of weather or other conditions. Firm base delivery rates are currently established by Con Edison's New York Public Service Commission approved gas rate plan for the period ending September 2013. Firm gas customers, according to NYS Tariff, are entitled to 100 feet of *free* gas main and 100 feet of *free* service to their building.

Interruptible Gas

Interruptible rates are for customers who can burn either gas or fuel oil. Interruptible customers agree to have their gas flow interrupted based on the utility's pre-established criteria. The interruptible rate may change from month to month, and may be lower than the firm rate. The upcoming month's interruptible rate is published on the company website at the end of each month. Interruptible customers need to maintain a 10 days of supply of No. 2 fuel oil.

Dual Fuel Firm

Buildings that now burn at least 70,000 gallons of oil annually can inquire with Con Edison about dual fuel firm gas. The building can maintain a dual fuel system and pay the firm gas rate. They are also required to burn a minimum amount of gas each year with that value set by Con Edison. The construction costs for bringing the main and or service to the building are rendered through a "Revenue Test" which looks to see if the revenue seen from the building can offset the cost of bringing service to the building.

Visit nyc.gov/cleanheat for more information or contact NYC Clean Heat by calling **311** or sending an email to info@nyccleanheat.org.