

steam systems

70%

of New York City's large buildings use steam systems to generate heat.¹

Steam heat utilizes energy, generally produced by burning greenhouse gas-emitting fossil fuels, to produce steam distributed through a building to heat occupant spaces.

Many steam heated buildings suffer from loud, clanging pipes, leaky radiators, and simultaneous under- and overheating of occupant spaces. These common problems not only waste energy and cause discomfort, but also drive up utility and maintenance costs.

Fortunately, with proper maintenance and a few simple upgrades, steam heating systems can provide reliable and balanced heat more efficiently. Before making a comprehensive steam upgrade, building owners should consider local greenhouse gas reduction mandates and explore the opportunity to convert to high efficiency electric-powered systems.

District Steam

Many buildings in New York power their steam systems using steam generated at a central facility and distributed across the City by a system of underground pipes.

DISTRICT STEAM PIPES

SUPPLY
RETURN

Distribution

A building's pipes distribute steam to radiators that heat occupant spaces.

Air Pollution

Burning oil or gas results in greenhouse gas emissions and local air pollution.

RADIATOR

My apartment was always too hot in the winter, but now I can adjust the temperature to get it just right.

We get so few complaints since upgrading the system, now I have time to watch the Mets every night.

BOILER

Heating Equipment

Buildings not connected to district steam burn oil or gas in on-site boilers to generate steam.

¹ One City Built to Last: Technical Working Group Report, NYC Mayor's Office of Sustainability (MOS), 2016, pp. 36-37.

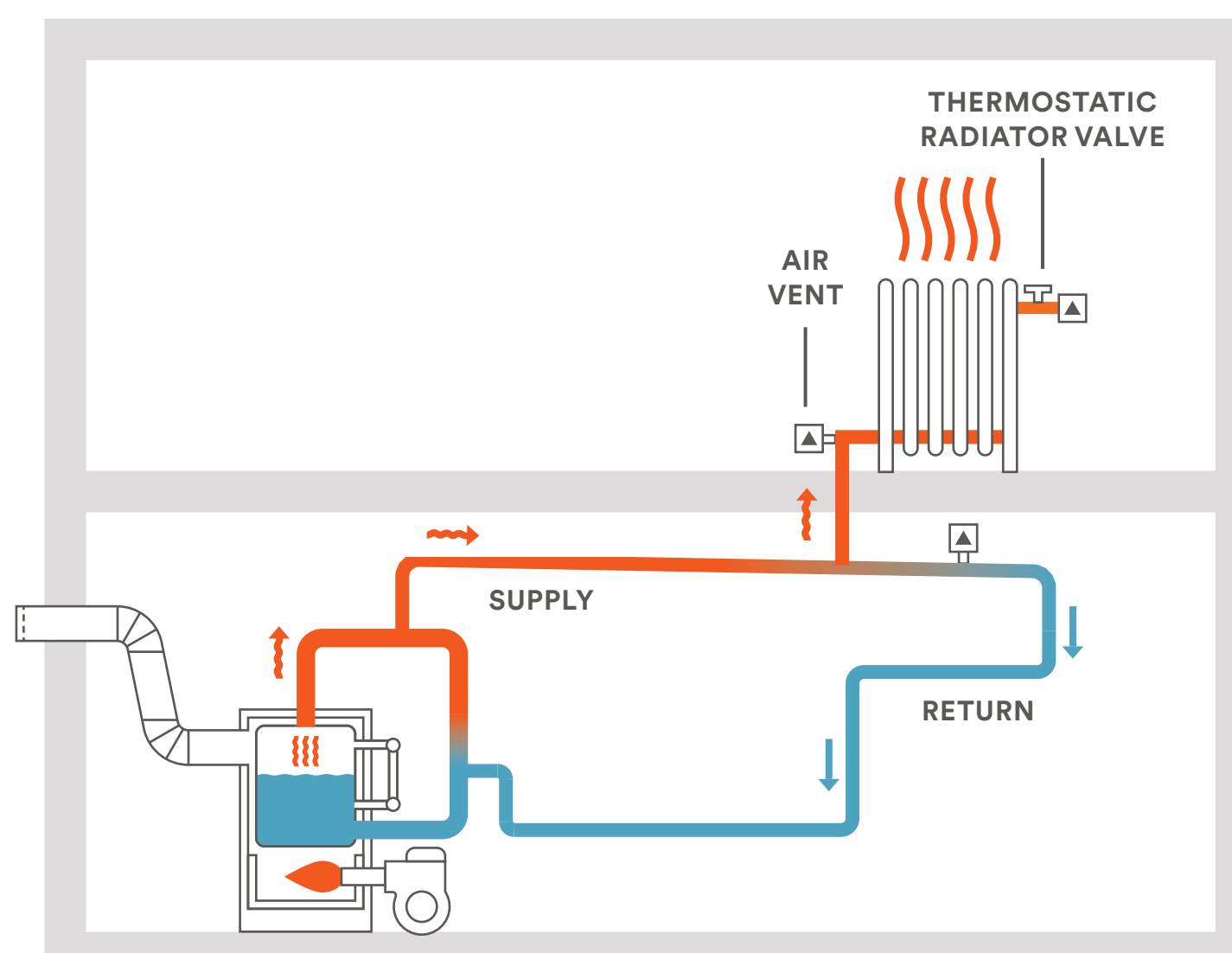
types of steam heat

One and two-pipe steam systems are the most common types of heating in New York City. Although the two systems are very similar, piping designed for steam condensate requires different retrofit strategies and maintenance practices.

one-pipe

One-pipe steam systems use a single pipe to supply steam to each radiator and drain away condensate.

Optimizing one-pipe systems includes properly sizing vents to help steam travel evenly through the system and installing adjustable thermostatic radiator valves (TRVs) to regulate heat output at radiators.



two-pipe

Two-pipe steam systems have two separate pipes at each radiator—one that supplies steam and another that drains condensate.

Optimizing two-pipe systems includes properly sizing vents to help steam travel evenly through the system, installing orifice plates and TRVs to regulate heat output, and maintaining steam traps on pipes mains to ensure water and steam do not mix.

