

Is this guide for me?
Commercial buildings of this type use district steam heating and central chiller systems. They can vary widely in design, occupancy, and use, ranging from offices lightly occupied for 40 hours a week, to those with 24/7 energy-intensive operations.

Commercial Buildings with Central Chillers & District Steam Heating



Maximize occupant comfort, save energy, and get your building climate-ready with high-performance upgrades. **The recommendations in this guide can help you meet Local Law 97 emissions limits and prepare for New York City's carbon-neutral, climate-friendly future. By planning for upgrades today, you can align projects with capital improvement cycles and phase them in at the pace that works for you, minimizing costs and tenant disruption.**

typical building systems

heating & distribution
district steam heating;
steam distribution

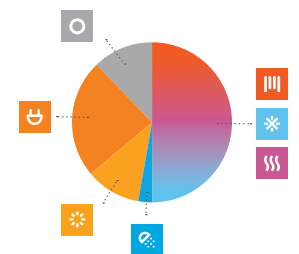
cooling
central chiller systems,
including: absorption,
centrifugal, electric,
reciprocating, scroll, and
screw-driven

ventilation
rooftop exhaust

domestic hot water
district steam heat exchanger



building GHG distribution



- heating
- lighting
- cooling
- plug loads
- ventilation
- hot water
- other

moderate retrofit

Moderate decarbonization improvements include upgrading boilers, modernizing controls, installing high-efficiency lights, appliances, and fixtures, and implementing relatively minor insulation and air sealing measures. Combined, these improvements can reduce greenhouse gas (GHG) emissions in a typical commercial building with central chillers and district steam heating by as much as 25%.*

deep retrofit

Deep decarbonization improvements typically involve comprehensive, whole-building upgrades, in addition to some items from the moderate decarbonization list. Key measures include replacing fossil fuel-based heating and cooling systems with electric-powered heat pumps, installing energy recovery ventilation, upgrading insulation and windows, and integrating controls with real-time building management systems. Combined with renewables like on-site solar, deep decarbonization measures can reduce GHG emissions by as much as 50%.*

BUILDING SYSTEMS	GHG SAVINGS	ENERGY CONSERVATION MEASURES (ECMS)	ADDED BENEFITS	GHG SAVINGS	ENERGY CONSERVATION MEASURES (ECMS)	ADDED BENEFITS
envelope	4	■ Increase roof insulation	⚙️ + 📈 🏗️	4	■ Increase roof insulation	⚙️ + 📈 🏗️
		■ Weatherstrip windows, exterior doors, and through-wall air conditioning units	⚙️ + 📈 🏗️		■ Upgrade to high-performance windows	⚙️ + 📈 🏗️
HVAC	4	■ Replace/repair steam traps and control valves	⚙️ + 📈 🏗️	4	■ Install pumps for heating and cooling	⚙️ + 📈 🏗️
		■ Install pipe insulation	⚙️ + 📈 🏗️		■ Install an energy recovery ventilation system (ERV)	⚙️ + 📈 🏗️
		■ Install a variable air volume (VAV) system	⚙️ + 📈 🏗️		■ Install demand controlled ventilation (DCV)	⚙️ + 📈 🏗️
		■ Install or commission an economizer	⚙️ + 📈 🏗️		■ Integrate controls with a building management system (BMS)	⚙️ + 📈 🏗️
		■ Install variable frequency drives (VFDs) for pumps & fans	⚙️ + 📈 🏗️		■ Optimize setpoints and schedules for occupied hours	⚙️ + 📈 🏗️
domestic hot water	4	■ Install dedicated 10-year boiler prior to electrification	⚙️ + 📈 🏗️	4	■ Upgrade to dedicated heat pump with hot water storage tank	⚙️ + 📈 🏗️
		■ Install pipe and tank insulation	⚙️ + 📈 🏗️		■ Install pipe insulation	⚙️ + 📈 🏗️
		■ Install low-flow fixtures	⚙️ + 📈 🏗️		■ Install low-flow fixtures	⚙️ + 📈 🏗️
lighting	4	■ Upgrade to LED lighting with vacancy sensors and controls	⚙️ + 📈 🏗️	4	■ Upgrade to LED lighting with vacancy sensors and controls	⚙️ + 📈 🏗️
		■ Set scheduling timers for common areas and exterior	⚙️ + 📈 🏗️		■ Set scheduling timers for common areas and exterior	⚙️ + 📈 🏗️
		■ Delamp overlit spaces	⚙️ + 📈 🏗️		■ Install automated daylighting systems for lights and shades	⚙️ + 📈 🏗️
plug loads renewables	4	■ Install plug load controls and timers, and use sleep modes for IT	⚙️ + 📈 🏗️	4	■ Install plug load controls and timers, and use sleep modes for IT	⚙️ + 📈 🏗️
					■ Install ballasted rooftop solar PV system	⚙️ + 📈 🏗️

legend	emissions reduction from baseline					added benefits			
	1	2	3	4	5	⚙️	+	📈	🏗️
	≤5% savings	6–10% savings	16–20% savings	26–30% savings	36–40% savings	operations & maintenance Keeps building performing optimally and reduces maintenance time and/or costs	health & comfort Enhances indoor environmental quality and advances occupant wellbeing	marketability Improves aesthetics and upgrades occupant spaces, increasing appeal to potential tenants	future-proofing Puts building on a path for long-term emissions reduction and regulatory compliance

What is Local Law 97?

NYC Local Law 97 (LL97) was passed in 2019 as part of the Climate Mobilization Act (CMA), a package of ground-breaking legislation that addresses New York City's largest source of greenhouse (GHG) gas emissions – our buildings. LL97 establishes annual GHG emissions limits on buildings greater than 25,000 sf. Beginning in 2024, buildings that exceed their annual emissions limits will face financial penalties that can total millions of dollars each year that the building is out of compliance. Emissions are calculated based on tons of CO2 equivalent per square foot, and the annual penalty is equivalent to \$268 per ton over the limit:

$$(\text{actual emissions} - \text{annual emissions limit}) \times \$268 = \text{maximum annual penalty}$$

What can you do?

We can help.

1

check

the building's compliance status

Use NYC Accelerator's Building Energy Snapshot tool to gauge carbon emissions and potential LL97 fines:
www.accelerator.nyc/snapshot

2

assess

the need for building upgrades

Work with an NYC Accelerator Account Manager to assess building portfolio and upgrade needs

3

prioritize

applicable energy conservation measures

Determine your LL97 compliance pathway and set an implementation timeline.

4

implement

your building upgrade plans

Get connected to vetted service providers, lenders, and financial incentives through your NYC Accelerator Account Manager.

NYC Accelerator offers free advisory services to help your building navigate compliance. Here's how we can help:

Peace of mind

We confirm compliance requirements, emissions caps, and estimated penalty amounts if steps are not taken to reduce greenhouse gas emissions.

Lower costs

We provide technical assistance to help you identify opportunities to reduce your building's carbon emissions and operating costs.

Financial options

We connect you to financial incentives and financing products, including NYC Housing Preservation & Development financing programs, NYC Accelerator PACE financing, and vetted lenders.

Trusted providers

We help you find vetted service providers and contractors to solicit project proposals.

Get started today.
Contact NYC Accelerator.

visit
call
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