

NYSERDA

Combined Heat and Power Expo

New York State Energy Research and Development Authority (NYSERDA)

NYSERDA



Wednesday, September 17, 2014

The TimesCenter
242 West 41st Street, Manhattan, NY
Expo Hours – 2:00 p.m. to 7:00 p.m.

Register today: chpExpoManhattan.eventbrite.com

There is no cost to attend this event.

Manhattan

NYSERDA's Combined Heat and Power Expo is designed to help commercial, industrial, and multifamily building owners and managers connect with pre-approved Combined Heat and Power (CHP) equipment vendors and other organizations offering financial incentives and technical support for the installation of CHP systems. NYSERDA's CHP programs offer incentives for systems 50 kW and larger.

Building owners, managers, and other representatives are invited to stop by and speak with CHP system vendors, NYSERDA staff, and U.S. Department of Energy's CHP Technical Assistance Partnership representatives about the various products and services available to capture significant energy savings and improve the resiliency of their buildings.

The Expo will feature:

- Information from vendors of pre-approved CHP systems featured in NYSERDA's CHP Catalog
- Information on the incentives available for CHP through NYSERDA's complementary pair of CHP programs:
 - CHP Acceleration Program (PON 2568)
 - CHP Performance Program (PON 2701)
- Information on FREE technical assistance and project screening offered through the U.S. Department of Energy's Northeast CHP Technical Assistance Partnership
- Q&A time with representatives from Con Edison, National Grid, NYCEEC, and the NYC Department of Buildings

Register today: chpExpoManhattan.eventbrite.com

Questions? chpAcceleration@nyserdanyc.gov

Please note: This event is intended to address medium-to-large buildings (those with a monthly electric bill of \$5,000 or more).



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9/14

November 22, 2013

The TimesCenter – 242 West 41st Street
Expo Hours – 10:00 a.m. to 3:00 p.m.

There is no cost to attend this event.

Manhattan

Wednesday, February 26, 2014

Sheraton LaGuardia East Hotel
135-20 39th Avenue, Flushing, NY
Expo Hours – 10:00 a.m. to 3:00 p.m.

There is no cost to attend this event.

Queens

Wednesday, May 14, 2014

Holiday Inn Albany
205 Wolf Road, Albany, NY
Expo Hours – 10:00 a.m. to 3:00 p.m.

There is no cost to attend this event.

Albany

Tuesday, May 20, 2014

Sheraton Brooklyn New York Hotel
228 Duffield Street, Brooklyn, NY
Expo Hours – 10:00 a.m. to 3:00 p.m.

There is no cost to attend this event.

Brooklyn

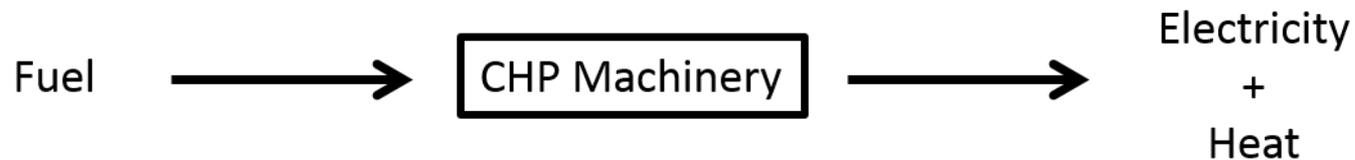
Not sure what questions to ask?

Experts are here to help!

- NYSERDA
- USDOE's CHP Technical Assistance Partnership
- Con Edison
- National Grid
- NYC Department of Buildings
- NYC Energy Efficiency Corporation
- NYC Clean Heat Program

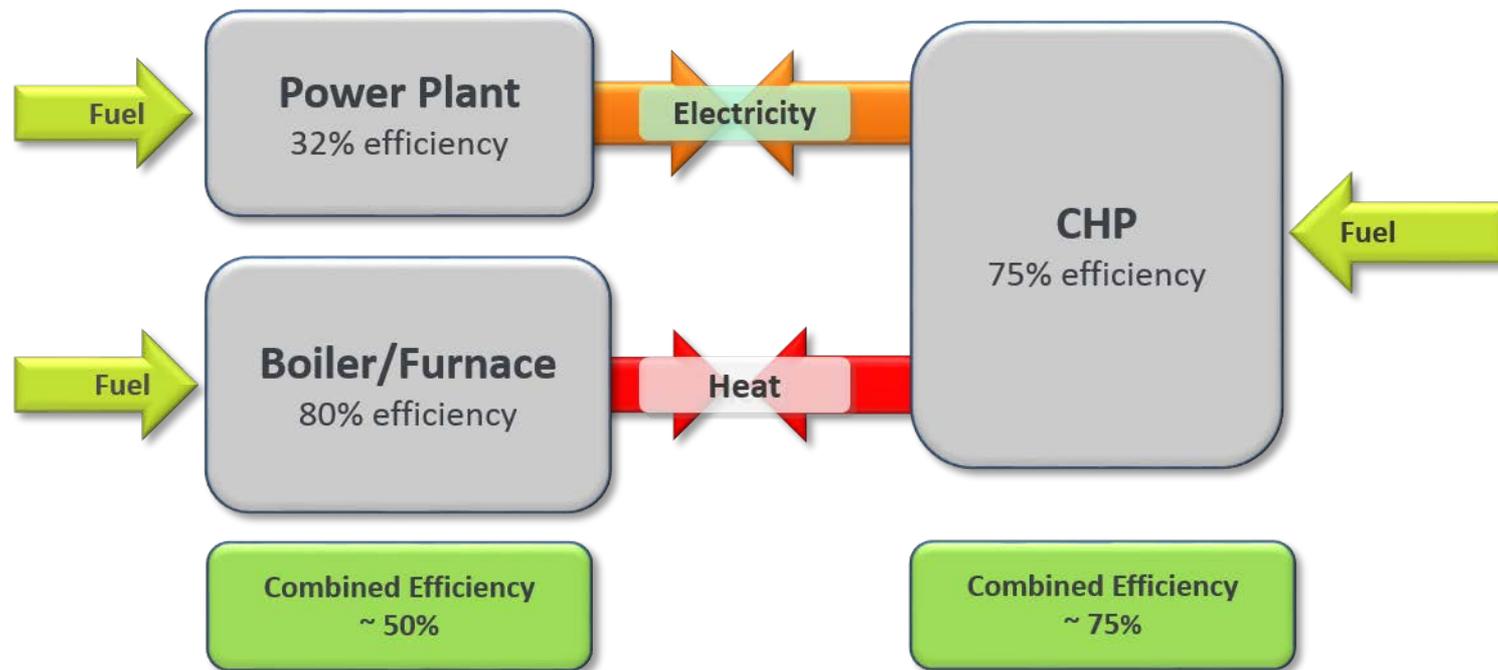
What is Combined Heat and Power (CHP)?

Combined Heat & Power (CHP or cogeneration) is the simultaneous generation of heat and electricity from a single fuel source



Why is CHP a good thing?

Comparison of “status quo” scenario versus “CHP” scenario



Fuel savings = Everyday Financial savings

Fuel savings = Everyday Emission reduction

What are common uses of CHP?

- Produce onsite some of your everyday electrical power, while
- Recycling the electric generator's byproduct heat for use in heating and/or cooling, and
- Keep power on during grid outages

Why is CHP a good thing?

- Save money every day
- Reduce your carbon footprint
- Enhance the resiliency of your building:
 - CHP can run every day to save money, and
 - CHP can also run during a grid outage to provide convenience power to your priority loads

Guide to Using Combined Heat and Power for Enhancing Reliability and Resiliency in Buildings

September 2013



U.S. DEPARTMENT OF
ENERGY



United States
Environmental Protection
Agency

Who should consider CHP?



Manufacturing



Hospitality



Commercial Real Estate



Data Centers



Healthcare



Municipalities



Multifamily



Other energy-intensive facilities

Am I a good candidate for CHP?

CHP-compatible building-types should have:

- Significant annual energy consumption for both electricity and heat
 - Electric Utility bill of \$5,000 or more per month
 - Master-metered is best
 - Many hours per year for “coincident” need of electricity and heat
- Thermal distribution piping:
 - Must have: building heating via centralized hot water distribution pipes
 - Helpful: building cooling via centralized chilled water distribution pipes

Is natural gas available nearby?

Please ask your natural gas utility company:

- Brooklyn National Grid
- Bronx Con Edison
- Manhattan Con Edison
- Queens Con Edison or National Grid
- Staten Island National Grid

What if I need to switch from fuel oil to natural gas?

The NYC Clean Heat Program might have incentives

- If you are going to switch your boiler from fuel oil to natural gas, please consider upgrading your retrofit project to install a CHP system
- Contact NYC Clean Heat for free technical and financial assistance throughout your fuel oil conversion process

What size system should I seek?

- There are some “rules-of-thumb” as generalized reference points, but every building deserves a site-specific assessment
 - Start with a “building tune-up” to minimize your needs
 - In general, a properly-sized CHP system will typically displace about half of your electric consumption from the grid
 - A multifamily apartment building with 300 units should have initial discussions in the range of approx 100 kW
 - A hospital with 300 beds should have initial discussions in the range of approx 600 kW

What size system should I seek?

NYSERDA encourages meritorious “N+1” configurations

Example: A hospital suitable for a 600 kW system should consider 3 generators at 300 kW each = 900 kW

- Operating schedule on regular days:
 - Week #1 use generators A + B = 600 kW
 - Week #2 use generators A + C = 600 kW
 - Week #3 use generators B + C = 600 kW
- Operating schedule on “Demand Response” days and during grid outages: use generators A + B + C = 900 kW

Who can help me clarify my size range?

- At no cost to you, the USDOE's CHP Technical Assistance Partnership can visit your building and perform an "initial screening audit"
- CHP equipment Vendors have expertise in helping to select a properly-sized CHP system
- NYSERDA will review your choice to ensure the sizing is reasonable



What does it cost to install CHP?

System Size	Typical Customer (these are real examples)	Total Cost	NYSERDA Incentive	Out-of-pocket Expense
100 kW	Multifamily 100 units	\$370,000	\$198,000	\$172,000
200 kW	Multifamily 500 units	\$625,000	\$350,000	\$275,000
	Multifamily 450 units	\$850,000	\$350,000	\$500,000
300 kW	Multifamily 700 units	\$1,800,000	\$561,000	\$1,239,000
400 kW	10-story @ 60,000 sq.ft. mixed-use residential & commercial	\$1,170,000	\$454,000	\$716,000
600 kW	Hotel 400 rooms	\$1,800,000	\$930,000	\$870,000
800 kW	7-story @ 200,000 sq.ft. mixed-use commercial	\$3,400,000	\$1,276,000	\$2,124,000

In this size range, NYSERDA incentives are, on average, about 40% of the overall cost of the project

How much would I save?

Savings will depend on your purchase style, and is influenced by your preference for a deal either with low upfront costs or with best lifetime saving:

- Buy
- Lease
- Lease-to-own

NYSERDA incentive helps you achieve a simple payback period of approximately 4-6 years.

Equipment lifespan of at least 15 years is typical.

- Power Purchase Agreement
- PPA with Buy-out Clause

No Money Down!

Save approximately 10% off your electric bill starting on day-one.

What are the benefits of CHP?

- Delivers reliable power during outages:
 - Eliminating work stoppages and production downtime at businesses
 - Enabling “shelter-in-place” and greater comfort at multifamily residential buildings
- Saves money on energy bills
- Requires less fuel to produce desired energy output
- Reduces carbon footprint

What incentives are available?

- NYSERDA incentives are available to help reduce the cost of CHP
- NYSERDA and Con Edison have a joint program to help you evaluate & implement a building tune-up
- Innovative financing might be available through NYC Energy Efficiency Corporation

What incentives are available?

- NYSERDA offers bonus incentives for CHP:
 - At sites of “critical infrastructure” such as hospitals, nursing homes, food distribution centers, emergency command posts, other
 - Sites within Con Edison’s “Target Zone” circuits

Where are Con Edison's Target Zones?

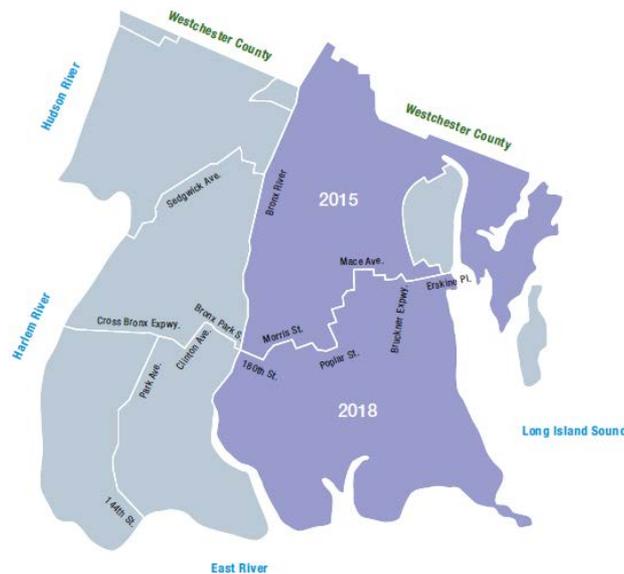
CHP Target Zones: Manhattan



All boundaries are approximate.

18 December 12

CHP Target Zones: Bronx

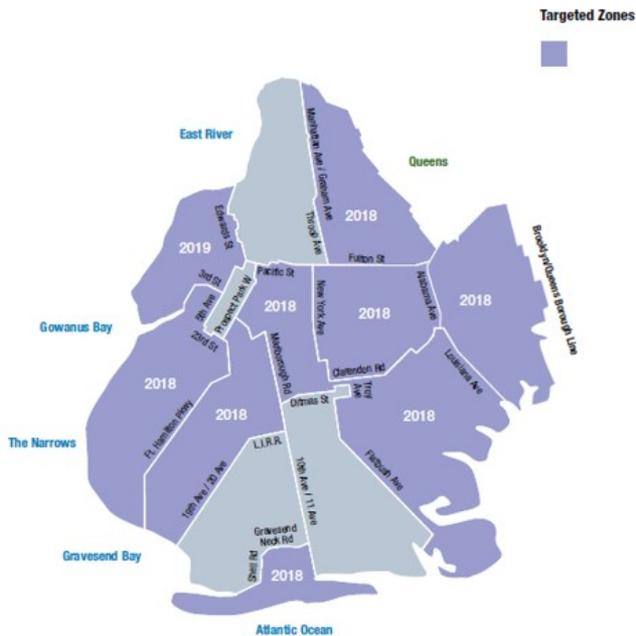


All boundaries are approximate.

18 December 12

Where are Con Edison's Target Zones?

CHP Target Zones: Brooklyn



All boundaries are approximate.

August 14, 2014

CHP Target Zones: Queens

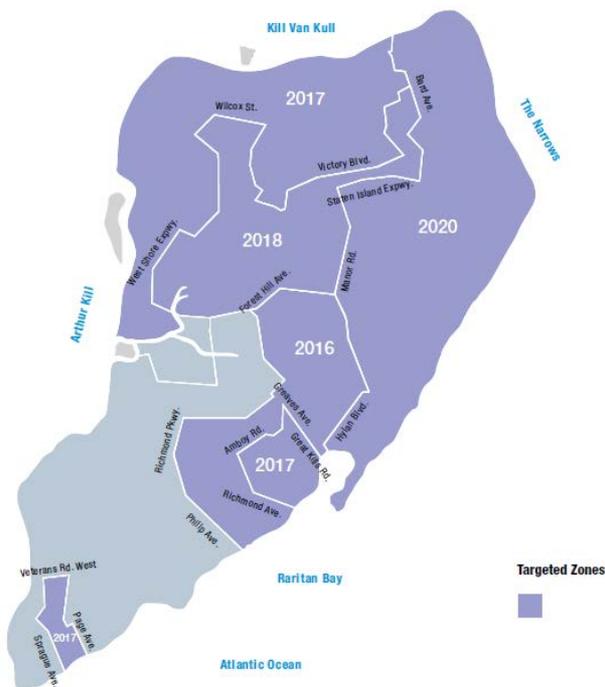


All boundaries are approximate.

August 14, 2014

Where are Con Edison's Target Zones?

CHP Target Zones: Staten Island



All boundaries are approximate.

18 December 12

How do I get started?

- Please ask follow-up questions from your support team of NYSERDA, USDOE's CHP Technical Assistance Partnership, Con Edison, National Grid, NYC Department of Buildings, NYC Energy Efficiency Corporation, and NYC Clean Heat Program
- Please meet, chat, and comparison-shop among NYSERDA's pre-approved CHP vendors
- You may want to invite several vendors to tour your building and give you a prospectus with bid

We are here to help!



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Contacts

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Contacts

Learn more at

www.nyserda.ny.gov/chp