

Heat Pumps & Billing – 101

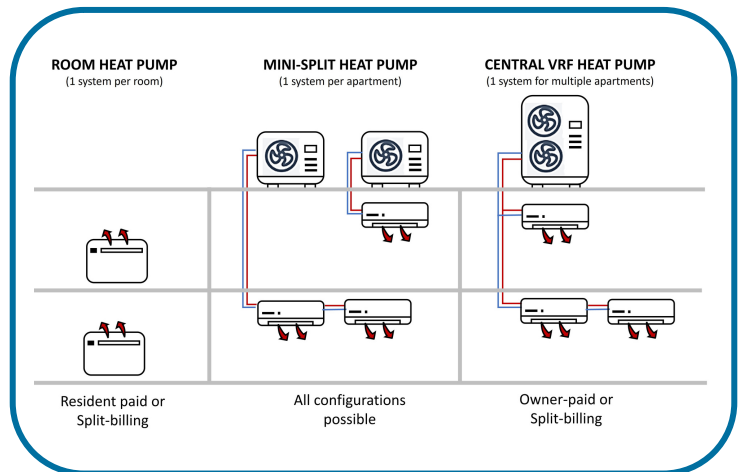
Choosing the right heat pump systems is complicated. Heat pump technology is 2-3 times more efficient and significantly less carbon intensive than gas or oil heating, but most heat pumps provide both heating *and* cooling, making billing complex. This is especially marked in NYC affordable housing where owners typically only pay for heating and residents pay for cooling.

Heat Pump Types

The diagram on the right illustrates the different heat pump typologies used in the HPD Retrofit Electrification Pilot, and the different ways they can be metered/ billed:

- Resident-paid heating & cooling*
- Owner-paid heating & cooling
- Split billing (owner-paid heating and resident-paid cooling)

*Note that HPD only allows resident-paid heating in certain situations, and prior HPD approval is required.



What are the pros and cons of each billing model?

BILLING	PROS	CONS
RESIDENT-PAID UTILITIES	<ul style="list-style-type: none"> • Residents can conserve energy and pocket the savings • Equipment and installation is simpler & cheaper • Removes burden of building collecting the fees for cooling 	<ul style="list-style-type: none"> • ConEd can turn off electricity <u>and</u> heating for non-payment • Utility protection programs like LIHEAP are reserved for very low-income customers • Less incentive for owner to design and maintain the system for efficiency • HPD/ HCR approval is required, which can be cumbersome
SPLIT BILLING: Owner paid heat + Tenant paid cooling	<ul style="list-style-type: none"> • This is “business as usual” for HPD • Shares the risk/ rewards of costs and savings between building and resident 	<ul style="list-style-type: none"> • Higher up-front costs for dual-wiring or sub-metering equipment • For sub-metered systems, it can be challenging and costly to collect fees for cooling
BUILDING-PAID UTILITIES	<ul style="list-style-type: none"> • Protects vulnerable residents • Building is most likely to design & maintain system for efficiency 	<ul style="list-style-type: none"> • Reduced likelihood of residents trying to conserve energy (in both summer and winter)

When does HPD allow resident-paid heating?

Per HPD’s Electric Heating Policy, resident-paid heating is allowed only with explicit permission of HPD and project must comply with the strict Terms and Conditions of HPD’s Resident-Paid Heat Pump Policy, which include protections for residents that are written into the regulatory agreement. Continue to pages 2-3 for more information.

The matrix below will help teams decide which system and which strategy makes the most sense

Retrofit Electrification Pilot: Heat Pump System Decision Matrix							
	Billing Strategy	Can be used for...	Building / Apartment Configuration	Possible Heat Pump Configurations	Considerations	First Cost	Refrigerant Leak Risk
						<i>estimates may vary</i>	
1	Resident-paid Heating & Cooling* (requires HPD approval)	Co-ops, Certain rentals in new construction w/ HPD approval	≤ 7 stories	Mini-split on apartment meter	Simple option when tenant-paid heating is allowed	\$\$\$	High
2	Owner-paid Heat/ Resident-paid Cooling	Rental buildings where tenant-paid heat is not allowed by HPD	Buildings where refrigerant line lengths are too long for mini splits	Central VRF on house meter w/ submetered cooling	Billing for cooling usually requires a 3rd party and collecting can be difficult	\$\$\$\$\$	High
3			≤ 7 stories	Mini-Split on house meter w/ submetered cooling		\$\$\$\$	High
4			Smaller apartments (0-1BR) and buildings w/ existing PTACs or AC sleeves	Room Heat Pumps** on apartment meter w/ heating wired to house meter	Simplest solution for split-billing, but new to market and more costly for large apartments	\$\$\$\$**	Low
5	Owner-paid Heating & Cooling	Senior/ Supportive Housing, rental buildings where cooling can be included in the M&O budget	Buildings where refrigerant line lengths are too long for mini splits	Central VRF on house meter	Simple & minimizes risk for residents, but cost for cooling adds ~\$50/year/room*** to M&O budget.	\$\$\$\$	High
6			≤ 7 stories	Mini-Split on house meter		\$\$\$	High

* Tenant-paid heating is only allowed with prior HPD & HCR permission and must comply with all HPD resident-paid heat requirements.
 ** Costs based on 0-1BR apartments, will be higher for larger apartments.
 *** Room Heat Pumps may require backup electric resistance heating in larger spaces, which is only allowed with prior Pilot approval.
 *** Number of "rooms" = number of bedrooms + 2

HPD Development Projects implementing Resident-Paid Heat must comply with the following conditions:

- HPD Permission is Required: Resident-paid heat is only allowed with permission of HPD Sustainability Office and HPD Program. For retrofits, only certain projects in the Retrofit Electrification Pilot may participate.
- Vulnerable Populations: Resident-paid heat is not allowed on projects with a large share of vulnerable residents, including senior or supportive housing or projects with a large share of formerly homeless or ELI/VLI units. Some HPD New Construction & Preservation Programs do not allow resident-paid heating.
- Retrofit Projects with Rent Stabilization: not allowed
- Rental Assistance Vouchers: Owners of rental properties are required to assume and pay the electric utility bills for households using rental assistance vouchers that do not factor in the cost of utilities (e.g. City FHEPS) and will be allowed to use money from the social service reserve for these expenses.
- HPD’s Regulatory Agreement will require compliance with HPD’s Resident/Shareholder-Paid Heating Guidelines for Owner/Co-op Boards: See Appendix A.
- Projects will be underwritten using the appropriate utility allowance for heat pumps, and the project’s M&O budget for “heating” will be reduced to account for in-unit heating, but ensuring that budget covers hot water heating and common area electric where applicable.

Appendix A: HPD's Resident-Paid Heat Pump Guidelines for Owner/Co-op Boards.

These Guidelines must be included in the HPD Regulatory Agreement. The key requirements are summarized below. Owners and developers should request the full HPD Guidelines from their Project Manager and/or HPD attorney:

1. Owners/ Co-op boards must implement the following Operations & Maintenance protocols:
 - a. Owners/Co-op boards must own and maintain systems as required to ensure system efficiency.
 - b. Owners/Co-op boards must respond to complaints of high bills or system issues promptly and conduct repairs, and/or provide guidance on system use as needed.
 - c. Owners will be required to keep a record of and inform HPD if there are resident complaints, shutoffs or other issues and share with HPD upon request.
 - d. Provide in-person demonstration of in-unit equipment & thermostat and, if possible, a web video tutorial at move-in and resident turnover.
 - e. Provide building staff training to ensure system is efficiently operated.

2. Owners must use an HPD Lease Rider and co-op boards must use HPD Shareholder Documents that inform residents of their responsibility to pay for heating. Records of these documents must be retained by owners and their property managers. The document will note that:
 - a. Resident/shareholder is responsible to pay for heat; owner or co-op board for maintenance.
 - b. In addition to rent, utilities are accounted for when determining household's ability to afford the unit.
 - c. Occupant must give owner/ co-op board access as stated in the rider to change filters or service the unit(s).
 - d. Resident/shareholder must acknowledge receipt of HPD Resource Packets.

3. Owners/Co-op boards must provide new occupants with a Resource Packet including:
 - a. Information and/or flyers including energy saving tips, equipment best practices, thermostat settings and energy assistance program referrals
 - b. Contact information for system questions and equipment issues
 - c. Annual referrals to energy assistance programs (e.g. ConEd Level Payment program, ConEd Senior Services, HEAP programs, etc.)
 - d. Information about Community Solar, which can enable residents to save up to 10% on utility bills. This information is available through HPD's Solar Where Feasible Program.

4. Utility Billing:
 - a. Owners/Co-op boards must agree to be named a 3rd party on resident/shareholder bills, if such a request is made.
 - b. Owners of rental properties are required to assume and pay the electric utility bills for households using rental assistance vouchers that do not factor in the cost of utilities (e.g. City FHEPS) and will be allowed to use money from the social service reserve for these expenses.

If you want to learn more, contact electrificationpilot@hpd.nyc.gov