



David Bellis <david@bellisarchitects.com>

Re: HGY/2025/2352 300-306 West Green Road - c10 Energy - Carbon Comments1 message

David Bellis <david@bellisarchitects.com>

30 March 2026 at 12:34

To: Alice Tsoi <Alice.Tsoi@haringey.gov.uk>

Alice

Further to the below, while I wait for our conergy consultant to re-issue updated calculations.

Please see attached from the client, who as discussed has retained all the properties for rental.

I hope that this helps.

David Bellis RIBA

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On Thu, 26 Mar 2026 at 12:19, David Bellis <david@bellisarchitects.com> wrote:

Alice

Thank you for your time on Tuesday.

While Ruth and Matt update their calculations I have been in contact with the manufacturers of the exhaust air heat pump system.

They have come back with the below.

I can confirm that the system supplied has been designed to meet the required heat demand for the residential units

There should be no requirement for additional panel heaters

It is compatible with the wet UFH provided it is designed to work at 45/40 degree flow and return temps

These EAHPs operate by extracting energy from exhausted air from the bathrooms, kitchen utilities etc. this energy is run through a heatpump and supplied to the central heating and DHW. Additionally the green comfort unit takes energy from the returns of the central heating and preheats supply air from the outside. This allows the apartments to be completely air tight with all fresh air coming from the greencomfort

Hope this helps

*Kind regards,
Tom Quinn*

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As Mentioned we did consider ASHP; however given the prominent corner location of the site, the planners wouldn't have been happy with the external facades hosting 19 external condenser units. Naturally the next possible position to consider could have been the roof, but this is covered in PV panels providing 20.4kWp with no surplus space to accommodate 19 condenser units, coupled with the fact that even if there were space the systems would have been less efficient given the position of the condenser being so remote from the flats they would be serving, worse case being flats at first floor having condenser units on roof over fourth floor level.

I might add that given the urban location of the development the building has been designed to provide ventilation without the need to open any windows and allow noise nuisance to disturb the occupants. The flats offer an excellent level of insulation and excellent air leakage test results ranging from 2.37 m3. h-1. m2 @ 5 0 P a

With this I can confirm that the EAHP coupled with the wet system underfloor heating installed within all flats more than copes with the heating and hot water demands without the need for any secondary source of heating, such as electric panel heaters as you suggested.

The building has been fully occupied since June 2025 so we have been through a winter cycle where heating demands would have been at their highest.

When reviewing online and at the Energy Trust, the pros and cons between ASHP & EAHP we still believe that the selected system is the better option of the two.

Air Source Heat Pumps (ASHPs) and Exhaust Air Heat Pumps (EAHPs) are both high-efficiency, electric heating technologies, but they differ significantly in their heat source and application. ASHPs extract heat from the external air to provide space heating and hot water, while EAHPs recover heat from outgoing stale ventilation air to heat the building and provide hot water. ^{eE}

Here is a breakdown of the differences based on the provided search results:

Air Source Heat Pumps (ASHP)

- *Heat Source: Extracts heat from the outside ambient air.*
- *Best For: A wide variety of homes, particularly as a replacement for traditional boilers (gas/oil).*
- *Pros: Highly efficient (300-400%); easier to install than ground source; versatile, with air-to-water (heating & hot water) or air-to-air (heating & cooling) options.*
- *Cons: Efficiency drops when outside temperatures are very low; requires outdoor space for the fan unit.*
- *Types:*
- *Air-to-Water: Most common in the UK; heats water for radiators or underfloor heating.*
- *Air-to-Air: Blows warm air directly into rooms; acts like air conditioning in summer. ^{eE}*

Exhaust Air Heat Pumps (EAHP)

- *Heat Source: Captures warmth from air that is already being ventilated out of the building.*

- *Best For: New-build, highly insulated, or airtight homes (e.g., Passive House standards) where ventilation is required.*
- *Pros: Combines ventilation, heating, and hot water in one system; avoids the issue of "oversizing" the heat pump in very low-energy homes; often more compact than ASHPs.*
- *Cons: Limited in how much heat it can produce compared to an ASHP, making it unsuitable for poorly insulated or larger homes.*
- *Advantage: Extremely high efficiency because the heat source (indoor air) is consistent and warmer than outdoor winter air. 🇪🇪*

Key Comparison Table

Feature	Air Source Heat Pump (ASHP)	Exhaust Air Heat Pump (EAHP)
Source	External Air	Stale Indoor Exhaust Air
Application	Retrofits & New Builds	New Builds (Airtight)
System	Heating + Hot Water	Ventilation + Heating + Hot Water
Size/Power	Larger (typical 5kW+)	Smaller (low energy needs)
Efficiency	Highly dependent on air temp	Very high (stable source)

Which one should you choose?

- **Choose an ASHP** if you have a garden or wall space for an outdoor unit and need to heat a whole house.
- **Choose an EAHP** if you are moving into or building a modern, airtight flat and want a compact system that manages both fresh air and heating. 🇪🇪

I hope that this helps and once supported with our updated calculations it will meet with your approval.

I look forward to hearing from you.

Kind regards

David Bellis RIBA

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