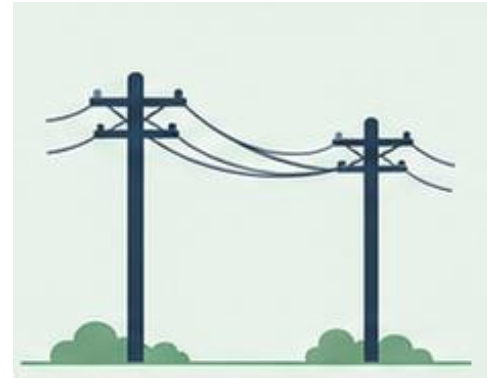


Experimental evidence on homeowner preferences for lower-carbon fuels and heat pumps

Dr Shane Timmons

10th September 2026





“Lock-in” Research

Asset Longevity

Network Effects

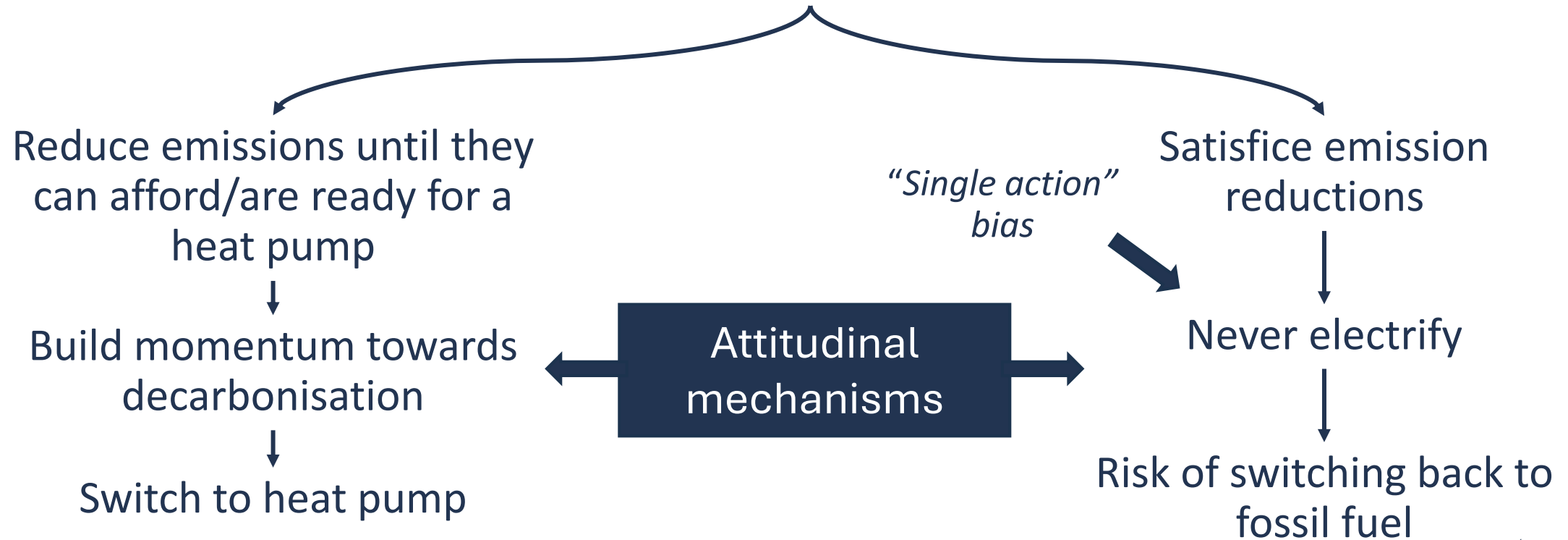
Sunk Costs

e.g., Levi (2013); Unruh (2000, 2002)

**Household-
Level Lock-in?**

“Stepping Stone” or Lock-In?

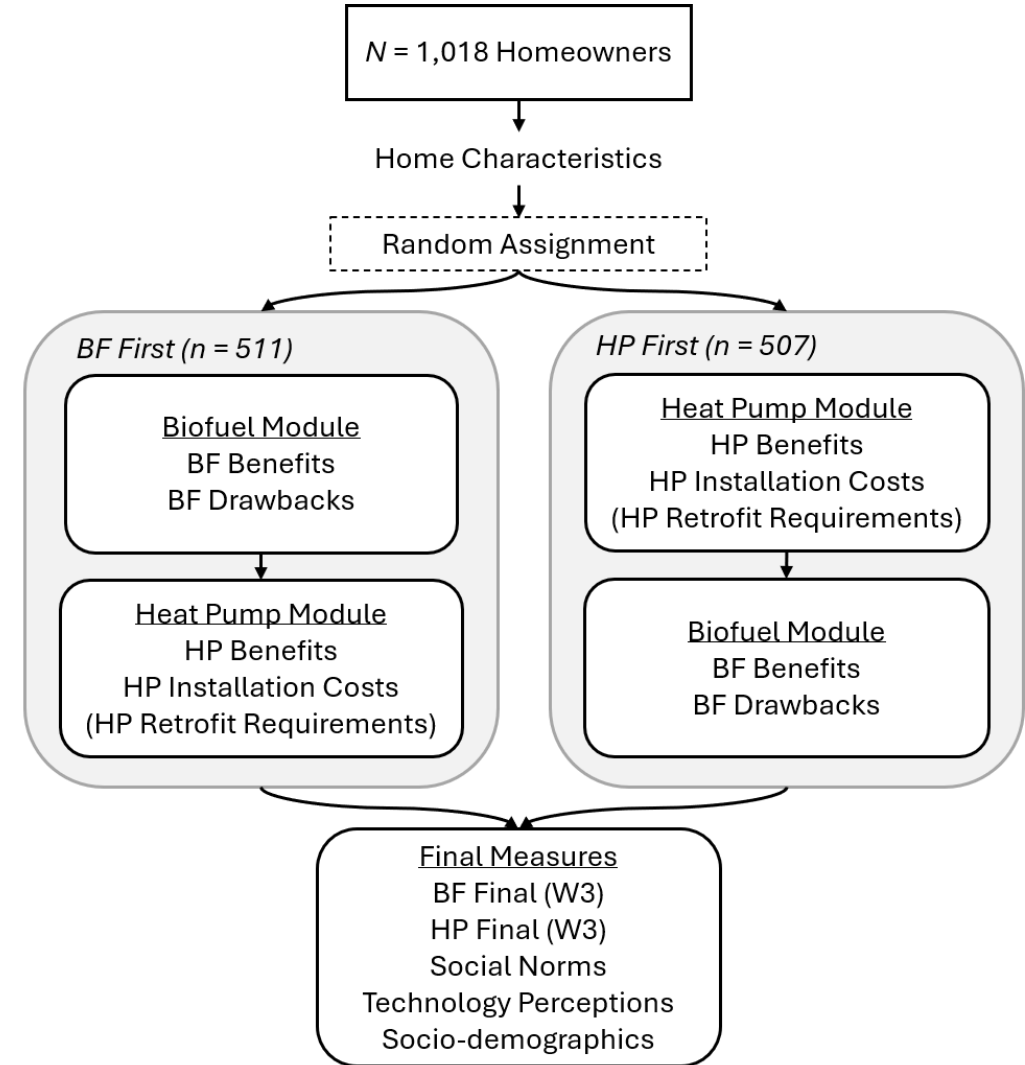
Biofuel switching requires no building fabric retrofit, no change in how the household experiences heat and continuity with existing infrastructure



This Study

1,018 homeowners with oil or gas boilers:

- How familiar are they with these decarbonisation pathways?
- How do they evaluate biofuel heating change as they learn about its (i) benefits and (ii) drawbacks?
- How do their judgements of biofuel and heat-pump pathways compare as information about each technology is revealed?
- Does learning about one decarbonisation pathway influence willingness to switch to the other?



Participants

- 1,018 house-owners with gas/oil boiler
- Recruited by Ipsos B&A to be representative by age, region and mortgage status
- Collected Feb 2026 (pre-Iran conflict)

Characteristic		%
Ownership	With mortgage	49.6
	Owns outright	50.4
Age	18-39 years	14.0
	40-59 years	51.1
	60+ years	35.0
Region	Dublin	28.7
	Rest of Leinster	27.9
	Munster	27.5
	Connacht-Ulster	15.9
BER	AB	26.2
	CD	32.4
	EFG / Exempt	3.6
	Don't know	37.8
House Built	2010+	5.9
	2000-2010	29.7
	1978-2000	31.4
	1950-1977	21.3
	Pre-1950	11.7
Boiler Type	Gas	45.8
	Oil	54.2

Familiarity

The next part of the study is about Hydrotreated Vegetable Oil (HVO). Have you heard of HVO before?

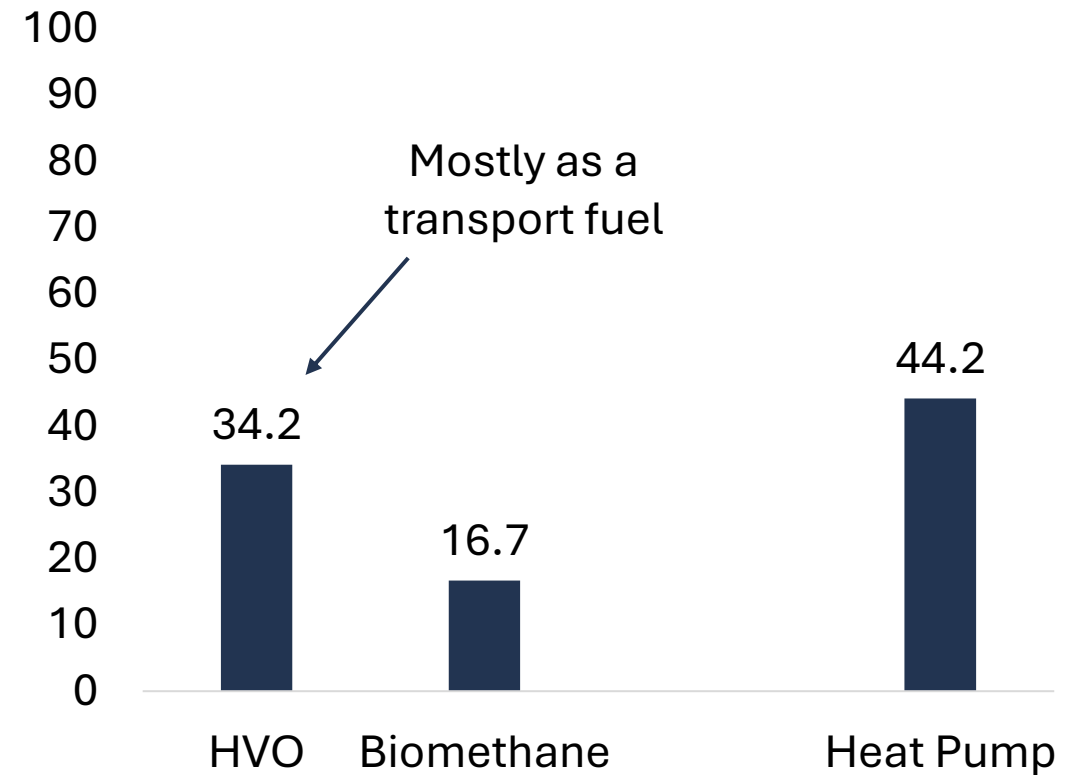
☒ Yes

☐ No

Please briefly describe your understanding of HVO.

Next →

Heard of [alternative] before and gave reasonable definition



HVO is made from vegetable oil and can be used in place of diesel without any major changes. Diesel engines can switch to HVO easily. Oil boilers can also be adapted to use HVO instead of kerosene.

HVO has several advantages over traditional heating fuels like oil:

- **Better for the environment** - HVO can reduce carbon emissions from between 65% to 90%, compared with oil boilers.
- **Cleaner air** - HVO produces fewer pollutants than oil, which helps improve outdoor air quality.
- **Easy switch** - Most existing oil boilers can use HVO with little or no expensive changes.

Based on what you now know about HVO, how willing would you be to switch your boiler to one that uses HVO?



Which of the following pieces of information matters most to you?

- ☐ Better for the environment - lower carbon emissions
- ☐ Cleaner air - fewer pollutants
- ☐ Easy switch - works with existing oil boilers
- ☐ None of these

Next ➞

However, there are some drawbacks to using HVO at the moment:

- **Limited supply** - Ireland produces very little waste material to make HVO, so most HVO has to be imported.
- **Sustainability concerns** - As demand grows, there is worry that some suppliers may use unsustainable oils (for example, palm oil linked to deforestation) instead of genuine waste oils. For transport fuel, these risks are managed through strict certification, but this system is not yet in place for home heating.
- **Price** - HVO is taxed as a transport fuel, so it is often a bit more expensive for heating than traditional oil. If stronger sustainability checks are introduced, the price could rise further.

Overall, Irish policy currently focuses on using HVO in sectors that have few alternatives, like aviation and heavy transport, rather than home heating.

Based on what you now know about HVO, how willing would you now be to switch your boiler to one that uses HVO?

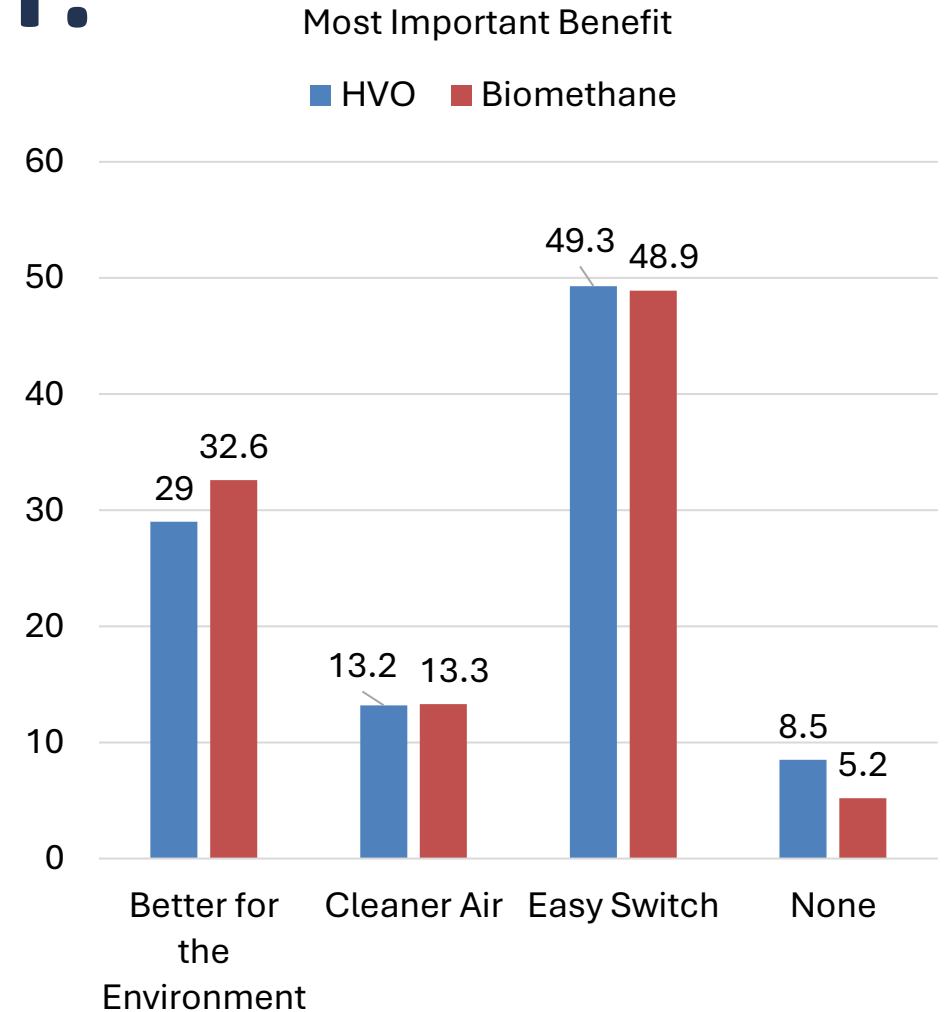
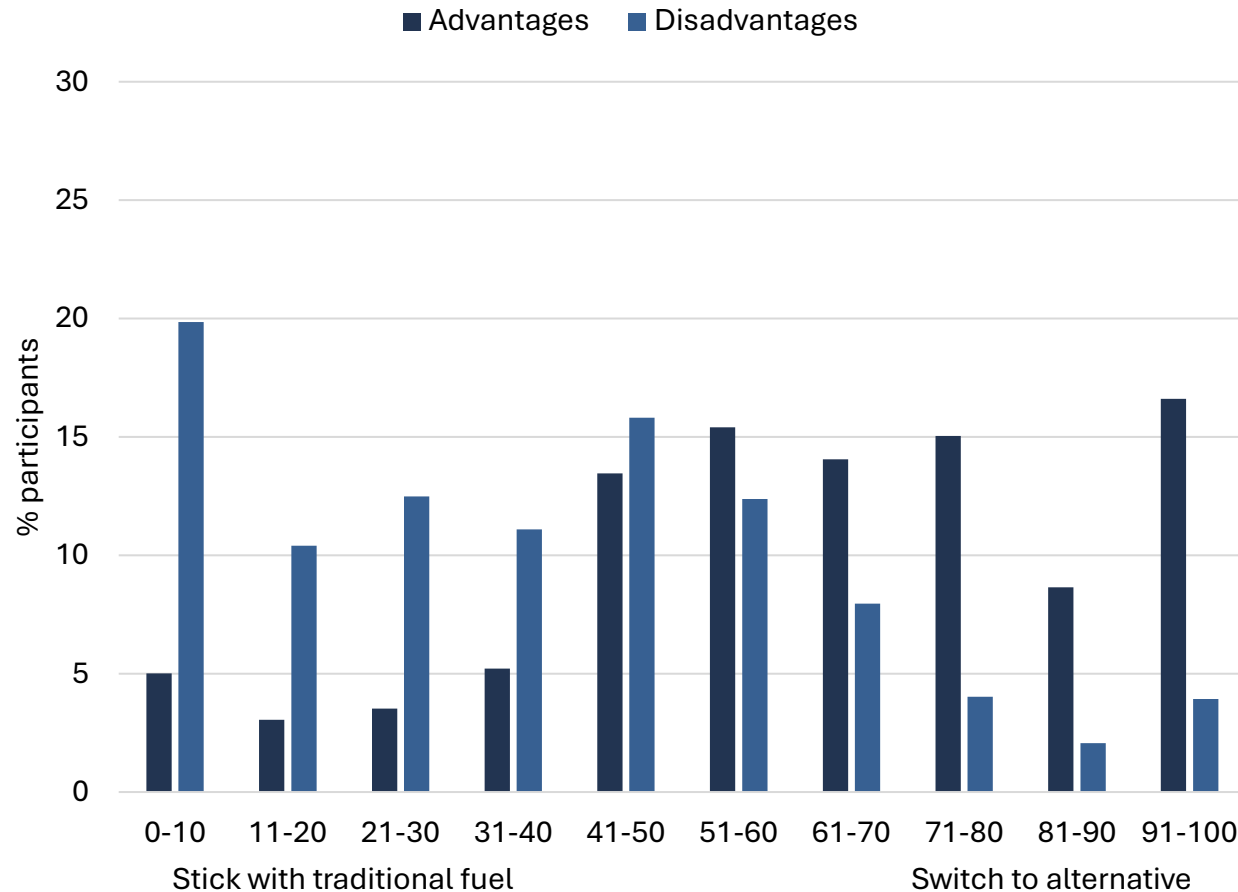


Which of the following pieces of information matters most to you?

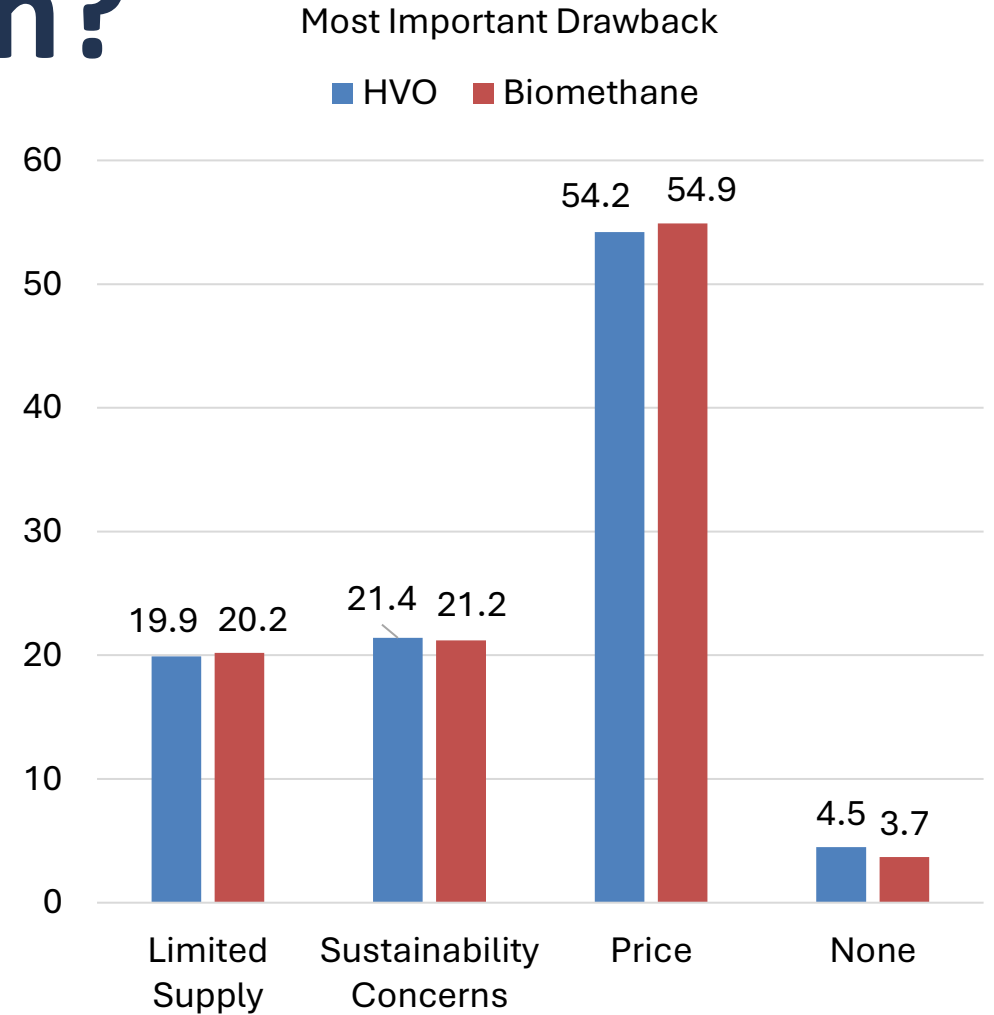
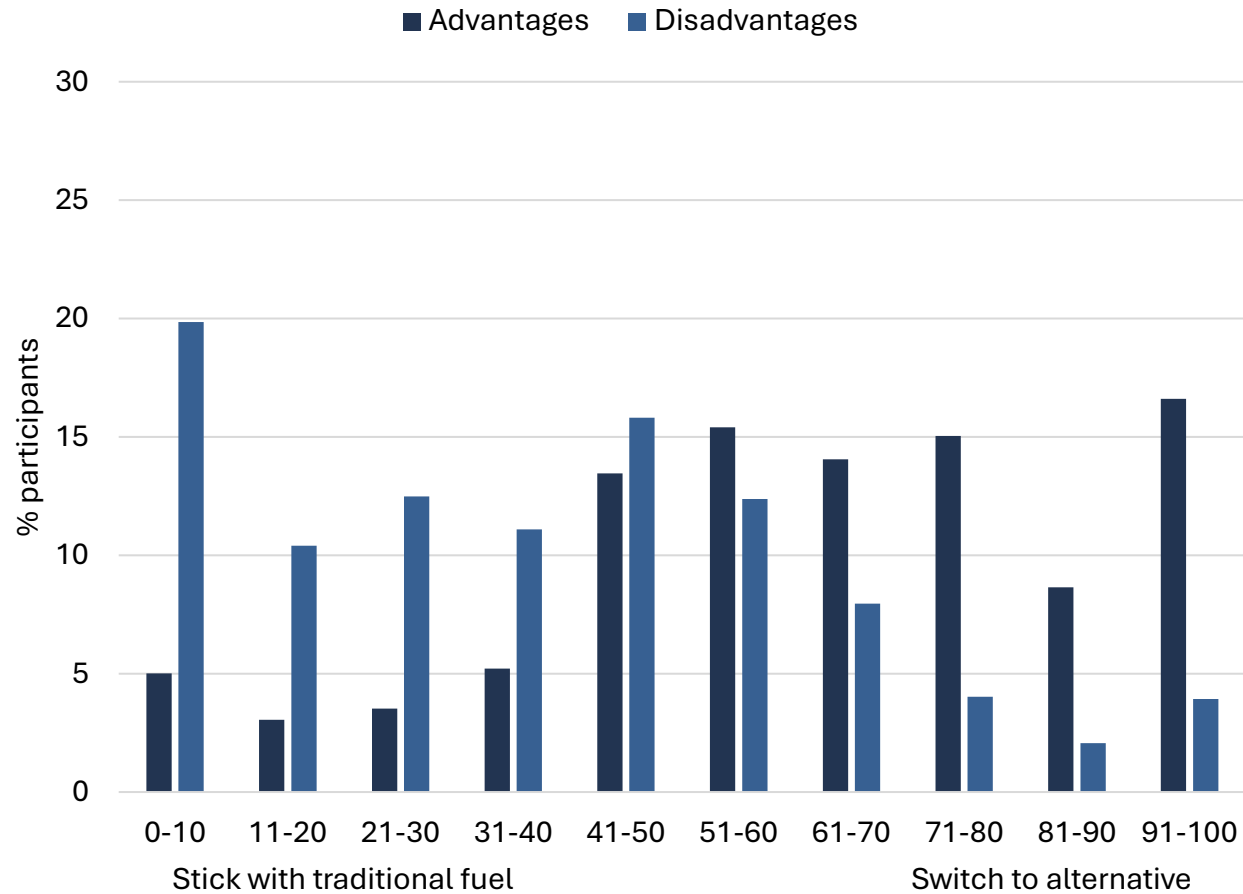
- ☐ Limited supply - HVO must be imported.
- ☐ Sustainability concerns - Possibly less sustainable than believed.
- ☐ Price - Slightly more expensive than traditional oil.
- ☐ None of these

Next ➞

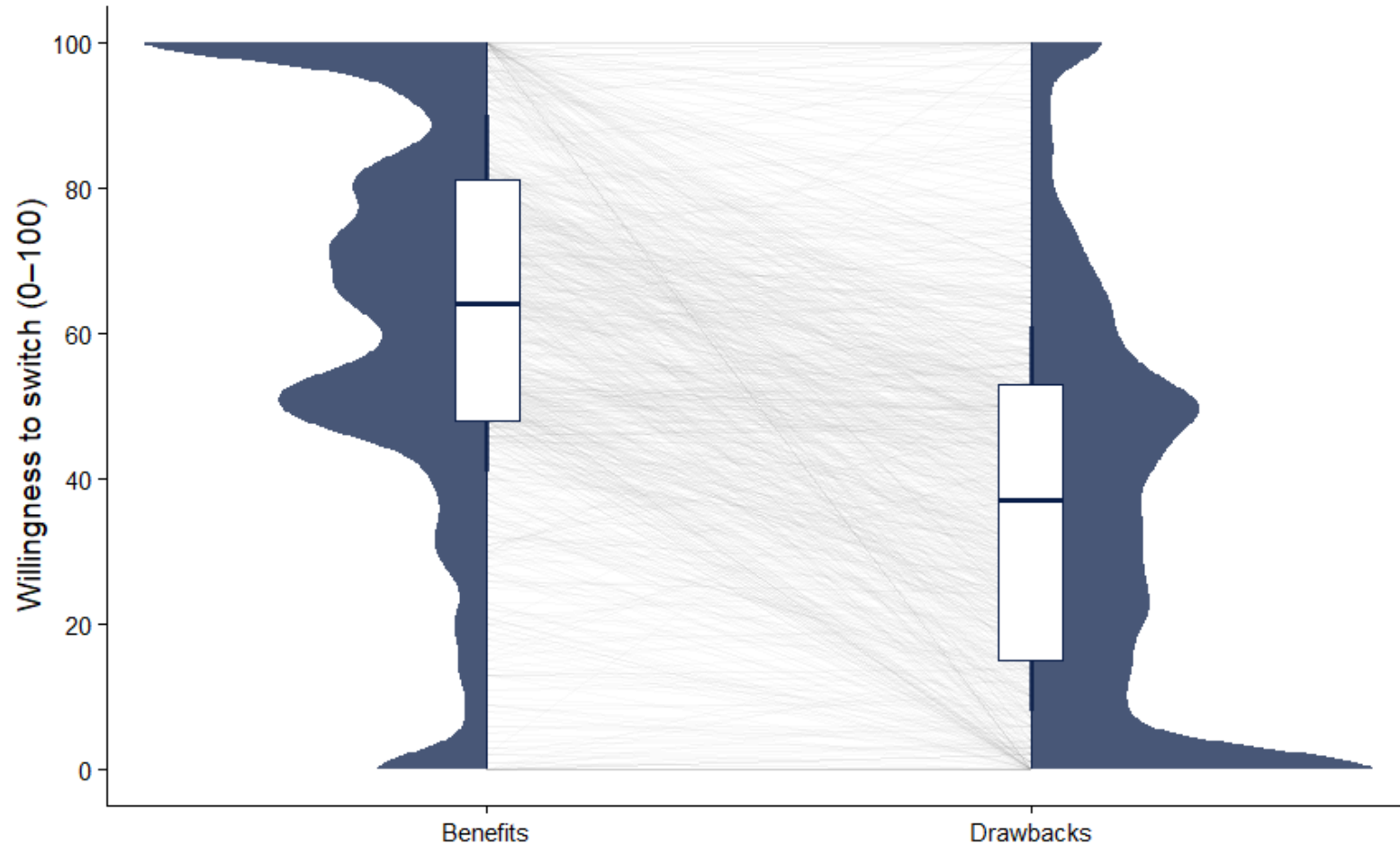
Willingness to Switch?



Willingness to Switch?



Willingness to Switch?



Benefits and Drawbacks

Benefit: <u>Drawback</u>	Ease of Switch	Emissions Reductions	Air Quality	None
Price	31.3	12.8	6.2	4.2
Sustainability Concerns	6.8	9.7	4.7	0.1
Limited Supply	9.8	7.4	2.1	0.8
None	1.2	0.8	0.3	1.9

- Willingness remained slightly higher among those more concerned about environmental issues than price and convenience

Heat Pumps

Heat pumps have several benefits compared to traditional boilers:

- **Lower heating bills** – heat pumps are more efficient than traditional systems, so they can lower your heating bills.
- **Better for the environment** – they produce fewer carbon emissions than traditional boilers.
- **More comfort** – they spread heat more evenly throughout your home than traditional boilers.
- **Lower maintenance** – they usually last longer and need less maintenance than traditional boilers.
- **Property value** – increasing the energy efficiency of your home can increase its value.
- **Grants** – companies called 'one-stop shops' can handle all the paperwork for grants and contractors.

This page covers the cost and disruption of getting the heat pump itself compared to getting a new boiler (excluding any other additional work that might be needed).

How much might it cost?

For a house like yours, installing a heat pump would cost around €18,000. A one-stop shop could help you get **grants of €10,500**, so you would pay around **€7,500**.

A new **gas boiler** would cost **€2,500**. There are **no grants**, so you would need to pay the **full cost**.

How long would it take?

Installation works would take around 4 to 5 days to complete.

A new **gas boiler** would take around 1 day to install.

How much disruption would there be?

Regardless of which system you choose, you would not need to move out of your home, though you may temporarily be without heating or hot water for a day or two.

Based on what you told us earlier, you would probably need **wall and attic insulation** before installing a heat pump.

Your home would be suitable for **external wall insulation** (also called "wrap") or **internal wall insulation** (also called dry lining).

How much might it cost?

Costs depend on the size of your home and the type of wall insulation.

External wall insulation for a house like yours is €25,000. **You could get a grant of €6,000**, so you would pay around **€19,000**.

Internal wall insulation for a house like yours is €17,000. **You could get a grant of €3,500**, so you would pay around **€13,500**.

Attic insulation for a house like yours would cost around €2,500. **You could get a grant of €1,300**, so you would pay around **€1,200**.

How long would it take?

External insulation would take around **3 weeks**.

Internal insulation would take around **7 days**.

Attic insulation can be installed in a day.

How much disruption would there be?

External insulation is installed outside, so there is very little disruption inside your home and you **would not need to move out of your home**.

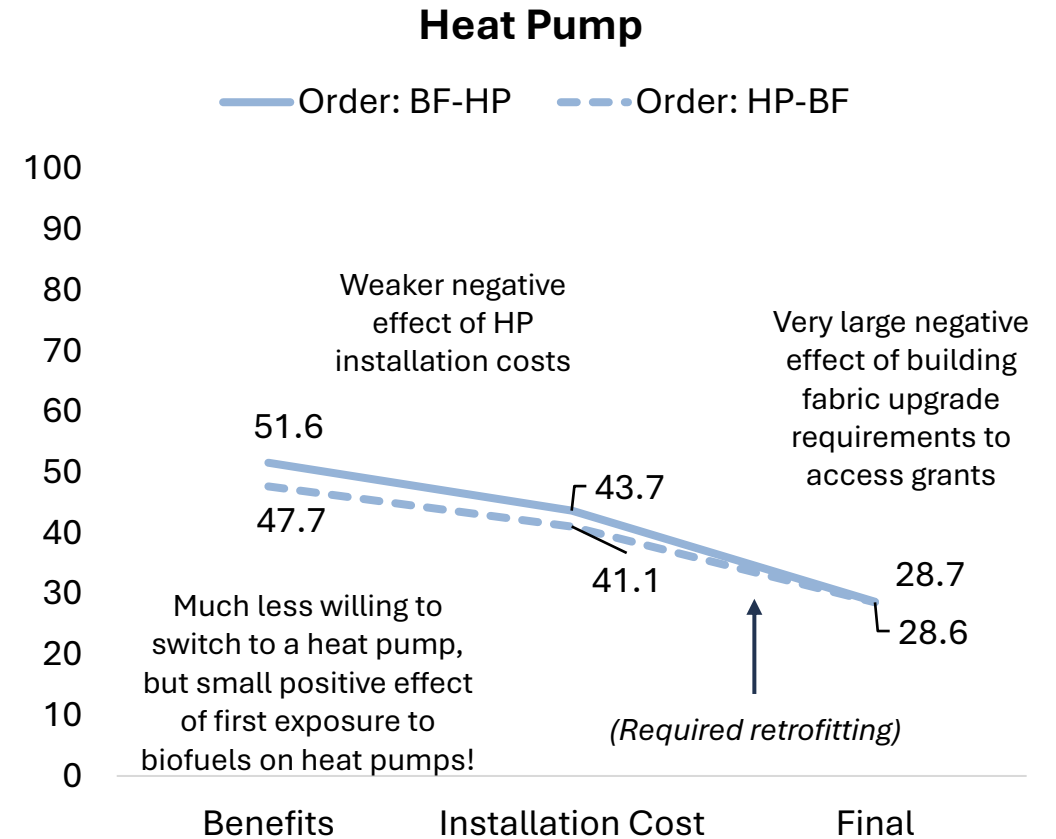
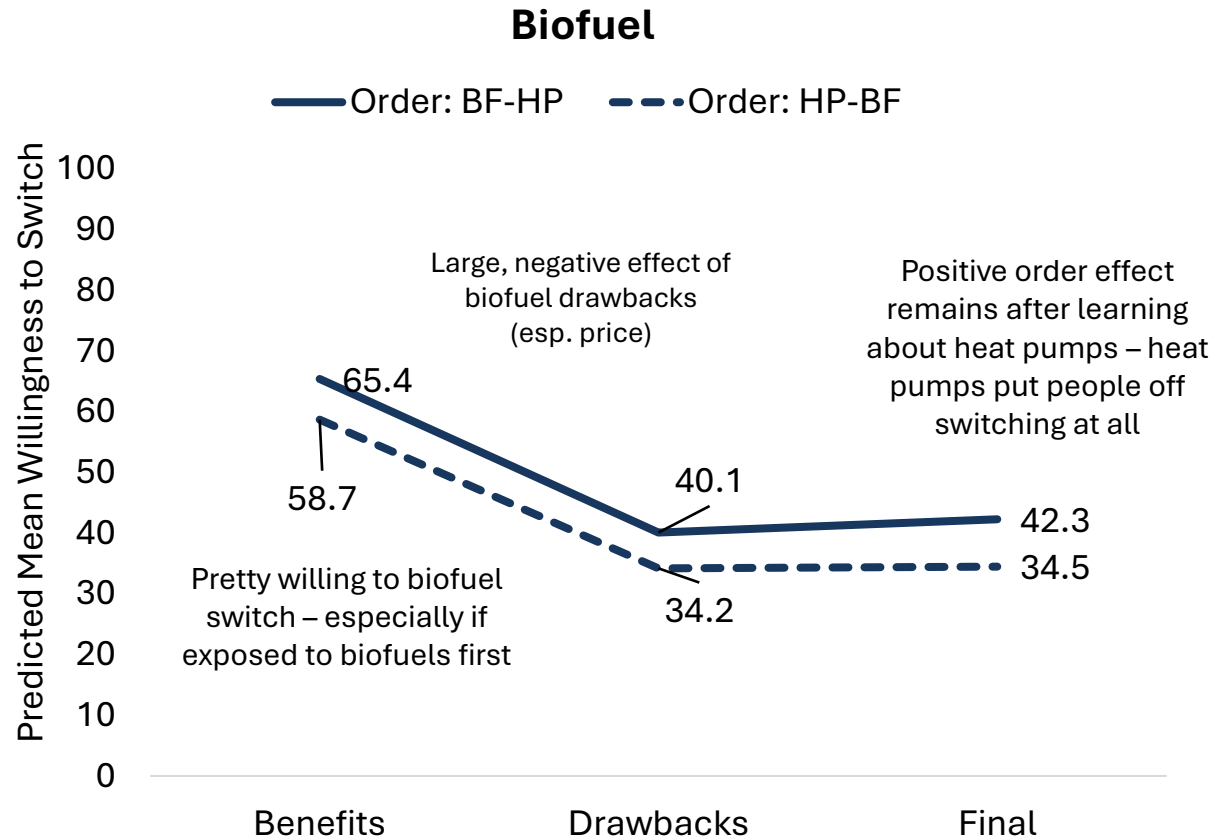
Internal insulation is more disruptive. Most people move out of main rooms during the work. You can stay living in your home, but expect dust, noise and drying plaster smells. Skirting boards, radiators and sockets would need to be removed and put back on.

Attic insulation is straightforward with minimal disruption, but you may need to clear your attic temporarily.

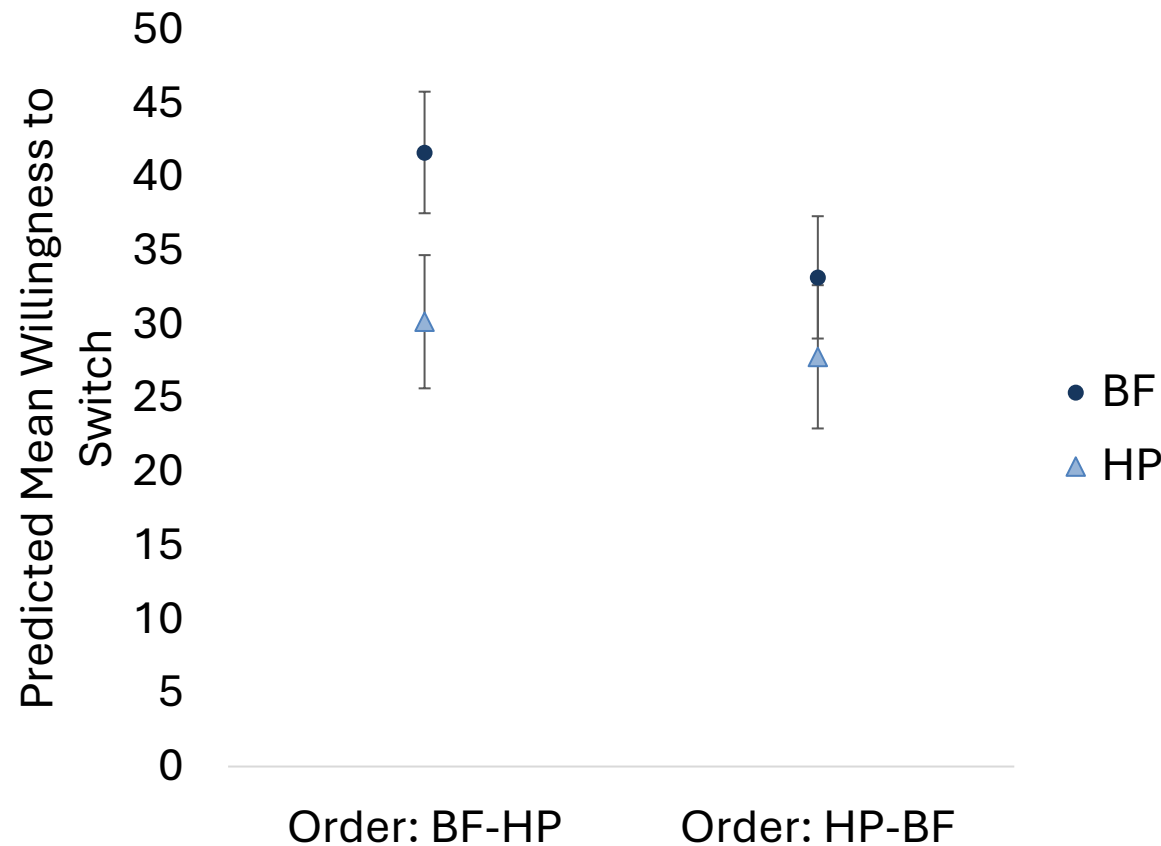
Is this necessary?

If you were to replace your boiler with another boiler, you wouldn't need to do this work. But upgrading your insulation would make your home more comfortable and energy efficient, even if you don't get a heat pump.

Switching Trajectories



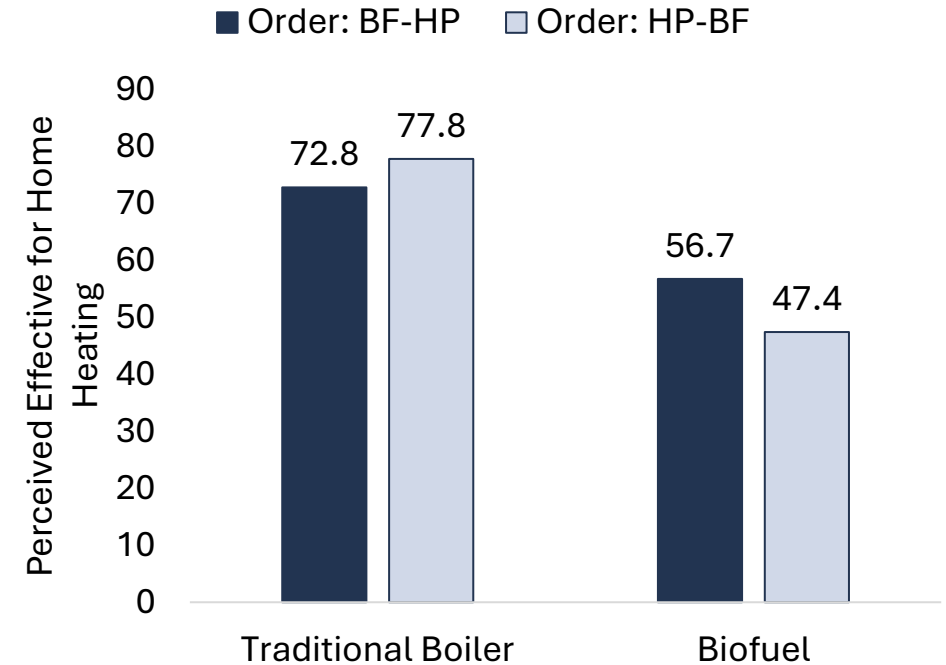
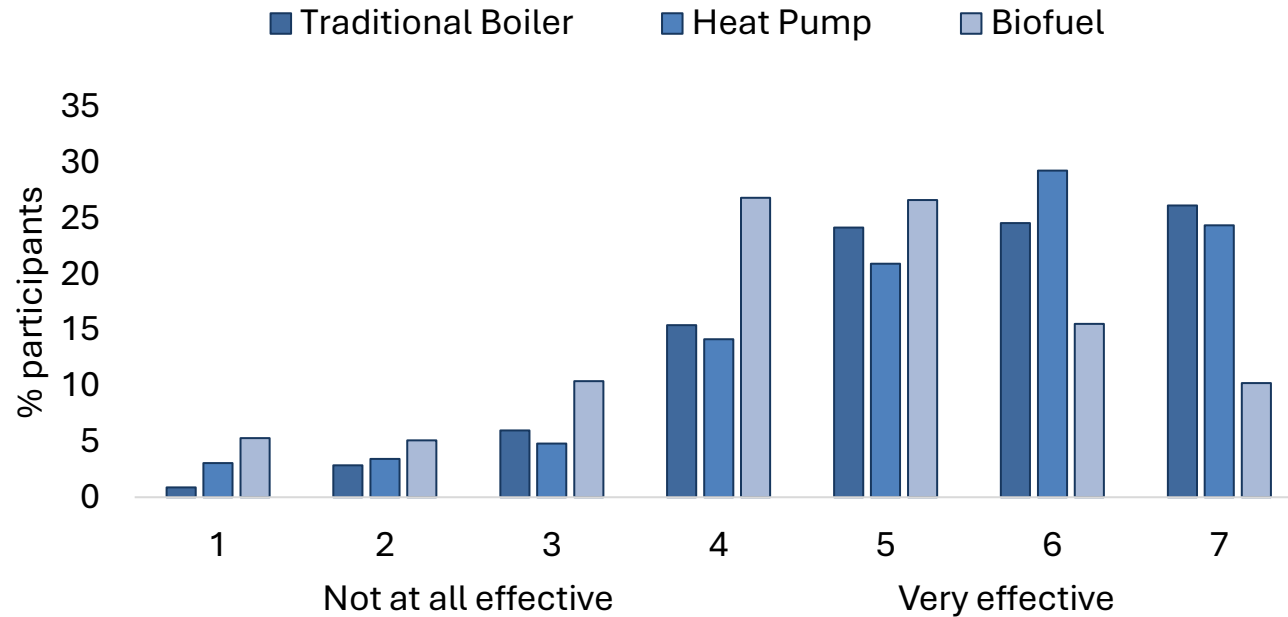
Final Willingness



- Willingness to switch below the midpoint for both alternatives
- No evidence that biofuels have a detrimental effect on heat pumps (the detriment is caused by building fabric upgrades)
- But some evidence that heat pumps have a detrimental effect on biofuels

Other Perceptions

How effective do you think each of the following would be at heating your home?



Summary and Implications

Homeowners are unfamiliar with but receptive to biofuels - though costs matter

- Willingness to switch was initially high after learning about benefits, but fell substantially once higher running costs were highlighted

Biofuels outperform heat pumps in stated preferences

- Even with drawbacks, willingness to adopt biofuels remained higher than willingness to install a heat pump
- Heat pumps' disadvantage relative to biofuels is concentrated in building-fabric and retrofit requirements, not in installation cost or disruption of the system itself
- Biofuels' main deterrent is pricing-policy-tractable; heat pumps' main deterrent requires a shift from fabric adequacy requirements

No evidence of carbon lock-in in homeowner attitudes

- Exposure to biofuel potential did not reduce willingness to adopt a heat pump – if anything, they provided a small, temporary stepping-stone effect

From a consumer preference perspective, this evidence implies that facilitating both pathways would accelerate decarbonisation