Response ID ANON-UC1U-KPY3-5

Submitted to Exploring the role of alternative clean heating solutions
Submitted on 2026-02-06 15:01:54

About you

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Are you responding on behalf of an organisation? If so, which organisation?

Yes

Organisation:
Rural Services Network

We usually publish a summary of all responses, but sometimes we are asked to publish the individual responses too. Would you be happy for your response to be published in full?

Yes

How did you hear about this consultation?

How did you hear about this consultation?:
Email from this department

Other (please specify):

Consultation questions

1 Do you agree that electric boilers should play a limited role in decarbonising heat, given their comparatively low efficiency and limited ability to load shift, leading to high running costs for consumers?

Yes

Please enter your response below:

Yes — in principle, we agree that electric boilers should be limited as a widespread solution. On typical rural detached or semi-detached houses, running costs look high and could be unaffordable over time, especially for households with limited income or higher heat demand.

However, we consider there may be a place for electric boilers in certain rural properties — for example very small cottages or properties with very low heat demand, or where residents simply cannot invest in a full heat-pump retrofit. In those cases, even a less efficient system may be better than leaving oil or coal heating in place indefinitely.

That said, any roll-out should be cautious and accompanied by clear warnings about running costs — otherwise rural households risk being burdened with bills that could spiral, especially if electricity prices rise.

2 Do you agree that (a) thermal energy storage systems and (b) electrical energy generation and storage (solar PV and batteries) can enable electric boilers to become a more efficient and cost effective option to decarbonise heat?

Yes

Please enter your response below:

• Possibly — combining electric boilers with heat storage (thermal batteries / hot-water cylinders with storage) or with on-site solar PV and battery storage could help to manage electricity demand, shift load to cheaper or renewable periods, and reduce running costs. That could make electric boilers more viable in off-grid or rural settings where connection to gas is impossible.

• In a rural home with a good south-facing roof, solar PV + battery + electric boiler could offer a more stable and predictable solution, especially if grid constraints or peak electricity demand are concerns.

• However, the upfront costs of such combined systems (boiler + storage + PV + battery) are likely to be high. For many rural households, that initial

capital may be unaffordable. Without significant grants or support tailored to those costs, this approach risks being out of reach.

• Also — not all rural properties have the roof orientation or structural suitability for PV installations, reducing the universality of this solution.

3 Do you have any evidence or views on the role infrared heating could play in decarbonising heat?

Please enter your response below:

Infrared heating could have a role in some rural homes — especially smaller dwellings, or individual rooms used only occasionally (e.g. spare rooms, rarely used upstairs rooms, holiday lets). Because the panels are relatively easy to install and often require little maintenance, they could be a pragmatic solution for rural properties.

• For older, poorly insulated rural houses, though, infrared may struggle: the inherent inefficiency compared to other options means heating a whole house could be expensive. Over time, running costs may make it unattractive for long-term, whole-house heating.

• If used, infrared should perhaps be seen as a supplemental solution — for occasional use or in combination with other low carbon heating systems — rather than as the main heating source.

4 Do you agree that panel heaters and electric radiators should play a smaller role in decarbonising heat, given their comparatively lower efficiency (than heat pumps) and limited ability to load shift, leading to high running costs for consumers? Please provide any evidence or views to explain your answer.

Yes

Please enter your response below:

• Yes — generally we agree. For a typical rural house with higher heat demand, plain electric radiators or panel heaters are unlikely to be cost-effective or efficient over the long term. The higher running costs and inefficiency compared with heat pumps make them a poor foundation for decarbonisation.

• Limited grid capacity in rural areas is an issue for heating reliant on electricity. The Government must deal with the fragility of the rural electricity network before requiring electricity-based solutions.

• Any policy allowing electric radiators / panel heaters must come with very clear guidance to ensure households understand long-term costs and ideally accompanied by support to upgrade to better systems where possible.

5 In what circumstances, if any, would panel heaters or electric radiators be more suitable than heat pumps, thermal energy storage systems, biomass heating systems or hybrid heat pumps? Please provide any evidence or views to explain your answers.

Please enter your response below:

Potentially suitable when:
• The property is small (e.g. a small cottage, annex, or rarely used building) with low heating demand.

• Installing a heat pump (or biomass boiler) would require disproportionately high upfront costs — e.g. because of structural constraints, expensive radiator upgrades, or lack of favourable installation conditions.

• The occupants use the property intermittently (e.g. holiday home, second home, occasional use), making a simple electric heating system more economical than investing heavily in low-carbon infrastructure.

• There is no suitable outdoor space for a heat pump, or no access to biomass fuel delivery, or issues with supply / maintenance for biomass systems.

• The household lacks the upfront capital — in which case cheaper electric heating may be better than an unaffordable retrofit.

But these are very limited circumstances; panel heaters or electric radiators should not be the default for decarbonisation in most rural homes. We reiterate that limited grid capacity in rural areas is an issue for heating reliant on electricity. The Government must deal with the fragility of the rural electricity network before requiring electricity-based solutions.

6 Do you agree that high temperature heat pumps could play a key role in decarbonising heating of buildings?

No

Please enter your response below:

• Because HTHPs can deliver higher flow temperatures, they may avoid the need for expensive radiator upgrades — that's particularly important for rural homes with larger rooms, period radiators, or traditional building fabric.

• However, HTHPs may have higher running costs (due to decreased efficiency at higher output temperatures) and that cost-effectiveness will vary depending on how well the home is insulated, and what radiator or distribution system is in place. That uncertainty may deter rural households.

• A number of rural homes will not be suitable for a high temperature heat pump, due to the high upfront cost of the technology. Archetype analysis by

Energy Consultancy Gemserv has demonstrated that for a pre-1945 detached house, the upfront cost for a high temperature heat pump would be as much as £20,438 – a cost that only 17% of English households could afford . In comparison, the upfront cost of a renewable ready LPG boiler is much lower, at around £2,000, with the lowest levelised cost over the system's lifetime, and with 66% of households able to afford the capital cost of this heating system .

• The consumer journey to install a renewable ready LPG boiler is also less intrusive, with only half a day typically needed for installation, compared with between two and five days for a high temperature heat pump . Considering that the majority of heating technology purchases are distressed purchases, often in the winter months, this leads us to the case that some homeowners may be faced without heating for nearly two weeks should they be forced to install a heat pump, which is clearly unacceptable.

• Another critical barrier is the severe shortage of qualified heat pump installers. Current estimates vary, but Nesta projects that the UK will need around 27,000 installers by 2028 and up to 62,000 by 2035 , while the Heat Pump Association suggests 30,590 installers by 2028 to meet government targets . In rural areas, the availability of qualified installers tends to be less and with longer travel times, leading to higher installation costs.

• Training costs and timelines add complexity: experienced heating engineers can retrain in a matter of days at a cost of £500–£1,000, partially offset by grants, but new entrants may require 12–18 months of training. Scaling this workforce will require significant investment and coordination to avoid repeating the poor practices sometimes observed during past insulation rollouts. By contrast, LPG and renewable liquid gas drop-in solutions require none of these measures, enabling faster adoption without the risk of workforce bottlenecks.

• It would be vital for policy to include robust support and guidance — e.g. grants, fair financing, technical advice — to ensure rural homeowners can adopt HTHPs without facing unsustainable costs.

• While there may be some homeowners who can afford and may choose to pay the high upfront cost for this technology, we believe it is imperative that any policy must adopt a mixed technology approach, ensuring that consumer choice is at the heart of legislation.

7 What are the key barriers that are preventing the installation of high temperature heat pumps in (a) domestic properties and (b) non-domestic buildings? How could these barriers be removed?

Please enter your response below:

BARRIERS:
• Upfront cost: The capital cost of HTHPs (plus possible radiator or distribution upgrades) can be large, especially relative to typical incomes in rural areas.

• Lack of local installers or supply chains: In rural regions, fewer experienced installers, less competition, and longer travel distances increase installation cost and lead times.

• Uncertainty about running costs: Because HTHPs are less efficient when delivering high output temperatures, households may worry about bills — especially if electricity prices rise.

• Existing property constraints: Many rural homes are older, poorly insulated, or have heritage status — making retrofits more complex. Additionally, long single-phase electricity supplies could require costly upgrades to three-phase, which may not always be feasible.

• Grid capacity / electricity network constraints: In more remote or less densely populated rural areas, electricity network upgrades may be slow, making large-scale adoption challenging. Again, we stress that the Government must deal with the fragility of the rural electricity network before requiring electricity-based solutions

HOW TO REMOVE BARRIERS/MITIGATE
• Provide targeted grants or low-interest financing for rural households to offset upfront costs (especially for radiator / distribution upgrades) involved.

• Invest in training and certifying more heat-pump installers with coverage in rural areas, possibly with subsidy for travel to remote installations.

• Offer clear, realistic running-cost projections (e.g. for semi-detached rural homes, detached off-gas houses) so households can make informed decisions.

• Ensure flexibility: allow hybrid approaches (e.g. affordable and non-disruptive route to carbon reduction such as BioLPG, mix of insulation - further upgrades later) rather than forcing a "perfect" retrofit immediately.

• Work with electricity distribution companies to assess and upgrade rural grid capacity ahead of demand peaks or provide special tariffs / support for rural adoption.

8 Do you agree that air-to-air heat pumps could play a key role in decarbonising heating of buildings without wet central heating systems?

Yes

Please enter your response below:

• Potentially — in certain rural properties without wet central heating (for example, older cottages, holiday homes, small dwellings, barns converted to living spaces), AAHPs (or reversible air-to-air units) could offer a viable, lower-cost heat solution. Their relative compactness and ease of installation make them attractive when a full hydronic system is impractical.

• For small or low-demand dwellings, AAHPs could deliver reasonable running costs compared to direct electric heating and avoid the need for radiator / boiler overhauls.

• In larger rural homes, or those requiring significant hot-water heating, AAHPs may be less suitable (since they typically supply only space heating), so households may need a separate hot-water system — diminishing cost & convenience benefits.

• From a rural equity perspective, support (grant – reflecting the costs involved, installation advice, proper sizing) would be essential to make AAHPs a realistic option.

9 What are the key barriers that are preventing the installation of air-to-air heat pumps in (a) domestic properties and (b) non-domestic buildings? How could these barriers be removed?

Please enter your response below:

BARRIERS:
• Hot water provision: Many rural homes rely on wet central heating + hot water boilers; switching to AAHPs would require separate hot water systems. That adds complexity and cost.

• Limited local installer availability: Fewer installers in rural areas specialising in AAHPs; installation may involve long travel or lack of guaranteed maintenance. This increases costs.

• Perception / awareness: Rural homeowners may not be familiar with AAHPs (some may see them as just “air conditioners”) and may doubt their effectiveness in cold winters.

• Grid and tariff concerns: Running AAHPs (especially if heating + cooling) may strain local electricity supply, and electricity costs may be high. Again, we stress that the Government must deal with the fragility of the rural electricity network before requiring electricity-based solutions.

• Suitability for larger or older homes: For bigger houses common in rural areas, AAHPs may struggle to provide sufficient heat, or require multiple units, making them less efficient / affordable

HOW TO REMOVE BARRIERS/MITIGATE:
• Provide incentives or grants partly covering the cost of hot-water systems when switching to AAHPs.

• Develop training programmes to increase number of qualified AAHP installers who operate in rural areas, perhaps with travel-cost subsidies.

• Run demonstration or pilot schemes in rural areas to raise awareness / confidence in performance, especially in winter conditions. Harnessing the enthusiasm of early adopters and community energy groups.

• Offer electricity tariffs or subsidised off-peak electricity specifically for rural households adopting low-carbon electric heating, to make running costs more predictable and affordable.

• Encourage – through grant aid - combination with passive insulation and weather-proofing upgrades to reduce overall heating demand, making AAHPs more effective.

10 Do you have any evidence or views on the potential for air-to-air heat pumps to use alternative refrigerants?

Please enter your response below:

We do not have direct technical evidence — but from a rural viewpoint, the use of lower-impact refrigerants (with low global-warming potential) seems very desirable. Given that many rural properties may rely on fewer but long-lasting heating installations, locking in a refrigerant with high GWP (global warming potential) seems risky for long-term climate goals.

11 Please provide any evidence or views on a) the promotion of passive cooling measures to increase their uptake, so that active cooling is only used when and where needed, and b) local network impacts during extreme weather events.

Please enter your response below:

• Passive cooling (e.g. insulation, shading, ventilation, draught-proofing, proper building orientation / landscaping) should be a priority for rural homes before installing any active cooling or reversible heat/cool systems. Many older rural houses are poorly insulated; tackling that improves comfort, reduces heat (and cold) loss, and lowers both heating and cooling demand. This reduces pressure on the grid and reduces household bills.

• Encouraging passive measures via grants at levels which reflect the costs involved would be particularly beneficial for rural homes, where retrofits are often more complex or expensive.

• Regarding network impacts: rural electricity networks are often older or lower capacity than urban ones. A widespread roll-out of electric heating or reversible systems could stress local infrastructure — especially during extreme cold or heat events, when everyone turns on heating or cooling at once. The government should work with distribution network operators to assess rural network capacity, plan upgrades, and avoid overloading rural grids.

• Local extremes (cold snaps, heatwaves) may hit rural areas harder due to weaker infrastructure — so resilience (e.g. backup supply, storage, smart tariffs) should be built into any policy.

12 Do you agree that networked heat pumps may have a key role to play for buildings with limited outdoor space for individual heat pumps per dwelling?

Not Answered

Please enter your response below:

13 Do you have any evidence or views on a) which business models would be most effective at bringing forward networked heat pumps, where appropriate, and b) what steps would be necessary to support the development of such business models?

Please enter your response below:

14 Do you have any evidence or views on a) the public appetite to make use of clean heat solutions relying on shared infrastructure, b) where clean heat solutions that rely on shared infrastructure have been implemented, and c) what steps have been most effective at persuading households to participate in projects?

Please enter your response below :

• For many rural areas, we consider networked heat pumps (or shared infrastructure) are unlikely to be widely suitable — because rural homes tend to be dispersed, not clustered, so the economies of scale and cost-effectiveness that make shared systems viable in urban/suburban areas often do not exist.

• However, there could be niches: for example, small rural communities, clusters of cottages, small developments, or community buildings (e.g. village halls, shared housing) where a networked heat-pump scheme makes sense. In those cases, a communal shared system might reduce both per-household costs and maintenance burdens.

• Effective business models for these would likely need: community buy-in, transparent governance (so that rural residents — who may live on fixed/low incomes — do not end up paying disproportionately), upfront grants at levels which reflect the costs involved or subsidies (to overcome higher installation/connection costs), and long-term maintenance plans (since remote areas may struggle to get rapid technical support).

• Public appetite in rural areas may be uncertain — many rural homeowners value independence, control over their home systems, and may distrust shared infrastructure (e.g. communal boilers / networks). Any scheme would need strong local engagement, clear information, and flexibility so households retain a degree of control.

15 Do you have any evidence or views on the role exhaust air heat pumps could play in decarbonising heat?

Please enter your response below:

From a rural perspective, exhaust air heat pumps could help properties with limited outdoor space or challenging geography typical of villages and hamlets. However, their effectiveness depends on airtightness and adequate internal space for ducting and units. Rural buildings often have traditional layouts and variable airtightness that may limit performance unless paired with building fabric improvements.

16 Do you have any views on whether exhaust air heat pumps should be targeted primarily at buildings with a) limited outdoor space b) a higher risk of air-tightness c) lower heat demand d) new-builds? Please provide any evidence to explain your answer.

Please enter your response below :

We support targeting them where they are most technically suitable: limited outdoor space, lower heat demands (e.g., well-insulated rural homes and cottages), and new builds where installation can be planned. For buildings with poor airtightness (common in older rural stock). Coupling heat pump installation with funding for insulation and draught-proofing could be beneficial.

17 Do you have any evidence or views on the role heat batteries could play in decarbonising heat?

Please enter your response below :

Heat batteries could be valuable in rural areas with constrained grid capacity and higher peak electricity costs, as they allow charging at off-peak times and reduce strain on the grid. They also offer resilience benefits when paired with local renewables (e.g., solar PV), which many rural homes are installing.

18 Do you have any views on what further criteria, in addition to existing scheme criteria (e.g. MCS certification and SAP-eligibility), should be required for heat batteries that are supported through government grant schemes to prevent systems from drawing energy at peak times?

Please enter your response below:

Additional criteria should include time-of-use controls, mandatory smart tariff compatibility, and remote demand RESPONSE: capability. This would be especially useful where rural grid reinforcement is slow or expensive.

Mobile phone or Broadband connectivity if used to control time-of-use controls is an issue in many rural areas.

19 Do you have any evidence or views on how future developments in the thermal energy storage market might help reduce strain on the electricity grid and how this could work with other technologies (like heat pumps or electric boilers) to become more cost effective?

Please enter your response below :

In rural areas with weaker grid infrastructure, combining thermal storage with solar PV and/or wind turbines can reduce peaks and balance loads. For example, heat batteries could store solar energy mid-day, reducing reliance on costly grid upgrades.

20 Do you have any evidence or views on the role storage heaters could play in decarbonising heat?

Please enter your response below :

High-heat-retention storage heaters could be part of the mix, particularly for rural homes off-gas grid where retrofit heat pumps might be expensive or technically challenging. However, effective tariffs and guaranteed off-peak supply are crucial. Mobile phone or Broadband connectivity if used to control time-of-use controls is an issue in many rural areas.

21 Do you have any views on what further criteria, in addition to existing scheme criteria (e.g. SAP-eligibility), should be required for high heat retention storage heaters that are supported through government grant schemes, to prevent systems from drawing energy at peak times?

Please enter your response below :

Criteria should include thermostatic control integration, smart grid communication, and minimum insulation standards. Without these, storage heaters may remain expensive to run and inefficient.

22 Do you have any evidence on any other types of electric heating that could play a significant role in decarbonising heat?

Please enter your response below :

In addition to options covered, infrared heating panels and air-to-air heat exchangers may offer low-cost alternatives for small, low-occupancy rural homes or ancillary buildings (e.g., workshops), where central heating systems are not cost-effective.

23 Do you have any evidence or views on the role solid biomass boilers could play in decarbonising heat?

Please enter your response below:

Solid biomass boilers can be viable in rural contexts where sustainable feedstock is locally available (e.g., forestry residues or agricultural by-products). They support rural economies and reduce transport emissions when fuel is local, but air quality impacts need careful mitigation (e.g., particulate filters). Solid biomass boilers are most likely to be considered as alternatives for oil heated homes, but again affordability must be taken into account. The consultation states that a biomass boiler for the off-grid archetype mentioned would be £26,200 (vs £4,000 for an oil boiler) and the running cost would be £1,750 (vs £1,489).

A few other points for consideration are:
• The system is significantly larger than a conventional boiler.
• In order to avoid significant heavy lifting (of fuel sacks), the system will need to include an automated hopper.
• There is a need for a separate store for the fuel – potentially up to 5% of the assumed floor space of the home.
• The system needs to be cleaned at least once a week.
• Over the 3.5 years of the scheme, Boiler Upgrade Scheme only 366 biomass boilers have been supported by the scheme (circa 0.5% of the total appliances supported).

24 Do you have any evidence on the types and/or characteristics of properties which would not be suitable for a heat pump or a heat network, but would be suitable for a biomass boiler?

Please enter your response below :

Traditional rural stone and timber buildings with high heat losses and limited space for heat pump equipment may find biomass more practical. Also, large rural premises (e.g., barns, community halls) with existing chimney infrastructure can make biomass conversion cost-effective.

25 Do you have any further evidence or views on the sustainable implementation potential for renewable liquid heating fuel production in the UK?

Please enter your response below:

Renewable liquid fuels (e.g., HVO - Hydrotreated Vegetable Oil or bioLPG) could be beneficial where grid-dependent technologies are impractical and/or unaffordable when whole house costs are considered.

We understand that to support the transition, the liquid fuel heating industry has successfully completed a national demonstration project using HVO. This project has shown conclusively that HVO can be used as a drop-in replacement for heating oil and offers a reduction in carbon emissions of up to 88%. The big advantage of this fuel is that it works well in existing oil heating systems once some simple modifications are made, minimising both upfront costs and disruption. The industry is, apparently, nearly ready to begin deploying the new fuel to existing oil heating customers but to make it affordable the price of HVO needs to be reduced. To solve this problem, the industry has called on the government to make two important changes:

• Align the duty charged on HVO with kerosene by reducing the duty on HVO to zero when used in heating.
• Implement a similar renewable fuel incentive system to the one already in place for the road transport sector.

We strongly, support affordable and non-disruptive routes to carbon reduction (such as BioLPG, HVO, mix of insulation - with further upgrades later) – incentivised with financial support as are other supported technologies/fuel types - rather than forcing a “perfect” retrofit immediately.
Off-gas-grid households want to choose from a range of low-carbon heating options. They also don’t expect to pay more for their central heating system than the cost and installation of a conventional boiler.

For those currently using an LPG boiler, BioLPG, can be dropped into existing LPG systems: It is compatible with existing LPG boilers, without modification. This also avoids the cost and disturbance associated with installing an alternative appliance such as a heat pump, by providing the high temperature heating necessary for many poorly insulated rural homes and businesses.
BioLPG is produced from a range of sustainably sourced feedstock including plant and vegetable waste material and can reduce CO2 emissions by up to 86%.

Older commercial buildings such as hotels, pubs, or care homes; many are even harder to heat than some rural off-grid homes. As a result, they are running on either LPG or oil boilers.

Additional fabric upgrades are often required with the installation of heat pumps because they distribute heat in a different way to boilers. In many cases the property will require new radiators to ensure a heat pump is working to its maximum efficiency. This can make the installation of a heat pump disruptive and time-consuming in comparison – meaning significant downtime – and money lost – for commercial premises.

Switching from LPG to BioLPG is seamless, and from oil it just requires a new boiler and storage tank, with no internal refurbishment work.

Alongside overseas bioLPG facilities and production, there is significant opportunity for rapid scale-up of indigenous bioLPG production in the UK. Bioeconomy consultants NNFCC, noted that there are opportunities including new HVO plants, co-processing at existing refineries and commercialising new and novel processes for bio-propane synthesis . Another report has also commented on the impact indigenous production could have in supporting UK industry, energy security, and the wider economy, stating “Domestic production will lead to the creation of green jobs, as well as in secured supplies that will support the UK to meet its decarbonisation targets.” However, it is clear that policy support is needed to foster the growth of UK production. Developing new and nascent pathways for the development of renewable liquid gases will require unlocking and reducing investor uncertainty.

Additionally, bioLPG which is ISCC-certified demonstrates how mass balance tracking is already ensuring traceability and accountability of sustainable renewable liquid heating fuel production, supply and distribution.

26 Do you have any further evidence or views on the cost at which renewable liquid heating fuels – produced from sustainable feedstocks - could be made available to UK consumers?

Please enter your response below :

No further evidence or views.

Although, Archetype analysis completed by Energy Consultancy Talan in 2026, shows the comparative journeys towards low carbon heating technologies for a range of different properties across the four nations. In all seven archetypes, a renewable-ready liquid gas boiler utilising a 20% blend of bioLPG provided the lowest levelised cost across the systems lifetimes in comparison to all other technologies included (ASHP, ASHP plus retrofit, Hybrid HP, Hybrid HP plus retrofit and a Biomass Boiler).

A renewable-ready liquid gas boiler also has the lowest upfront cost of any technology included in the archetypes, with Capex costs of between £1,888 and £2,730. For an air source heat pump – particularly in those properties where retrofit measures are required – costs range anywhere from £16,611 to £45,457.

27 Do you have any evidence or views on the potential of renewable liquid fuels to be used in certain housing types where other low carbon solutions may not be the best solution?

Please enter your response below :

Renewable liquid fuels offer a transitional option for off-grid homes and retrofit scenarios where heat pumps are not suitable due to installation costs and/or disruption impacts, heritage restrictions, or grid limitations.

Rural homes are typically old (28% of rural homes in England were built before 1919), less energy efficient, and harder to improve. As such, off-grid homes are less suited to heat pumps, which rely on high thermal efficiency to operate efficiently. This is evidenced by the Electrification of Heat demonstration project, funded by DESNZ, which identified challenges to successfully designing heat pumps in homes built pre-1945.

Renewable liquid fuels such as bioLPG and HVO should be supported financially as are other supported technologies/fuel types and treated the same in terms of duty and VAT.

28 Do you have any evidence or views on the practical implications that may arise if some off-grid consumers start using renewable liquid heating fuels?

Please enter your response below :

Increased demand could support local supply chains, but logistics and storage safety need clear guidance. Rural areas may benefit from bulk delivery schemes or co-ops to reduce costs.

Less impact on the electricity network than options based on electricity.

We understand that the liquid fuel heating industry has proposed the introduction of an initial 20% blend of HVO with kerosene to all existing oil heating users, which is a drop-in replacement and requires no system changes, so would have no practical consequences for end users. This would have a significant and immediate impact on carbon emissions but would leave these households free to adopt other options, should they wish to do so.

A survey conducted by Liquid Gas UK showed that over 77% of rural consumers support being allowed to keep existing boilers running on renewable fuels beyond 2035. This high level of public acceptance, combined with the minimal disruption it entails while delivering meaningful decarbonisation, shows how RLGs can play a crucial role in addressing some of the UK's most complex to decarbonise properties.

Drop in fuels, such as bioLPG, which can be blended all the way up to 100%, offer consumers a low carbon alternative that can be used within existing boilers, pipework and storage systems, avoiding the need for disruptive infrastructure changes.

29 Do you have any evidence or views – especially on cost and availability of sustainable feedstock - to demonstrate that a possible initial blend approach could be increased to a 100% renewable liquid fuel solution for consumers?

Please enter your response below :

No evidence or views.

30 Do you have any evidence or views on the role that hybrid heat pumps, comprising of a heat pump and an appliance using 100% renewable liquid fuels, could play in decarbonising heat?

Please enter your response below :

From a rural perspective, hybrid systems that combine a heat pump with a boiler running on 100% renewable liquid fuel could be a practical bridge solution for older homes and off-grid properties where purely electric heat pumps alone are not always suitable. Many rural properties have limited electrical capacity or challenging insulation and so struggle to achieve the performance needed for heat pump–only systems. Hybrid models could reduce carbon emissions while maintaining reliable heat during the coldest periods. Integration with locally sourced biofuels could also support rural supply chains and farm-based fuel production where feasible.

According to research by Liquid Gas UK, if they have to have a heat pump, 72% of rural households would want a back-up boiler. LPG and bioLPG is the perfect partner for hybrid heat pumps in rural areas and it would be short-sighted by Government to not consider a place for them in the future regulatory framework.

31 Are there any other alternative low-carbon heat sources not discussed in this consultation which you consider could offer further benefits if installed as part of a hybrid heat pump system compatible with net zero? Please provide an explanation and evidence to support your answer.

Please provide your response below :

In addition to those covered in the consultation, rural stakeholders may see value in biomass combined with modern control systems, greater use of solar thermal + heat storage, and community shared thermal storage for clusters of cottages or farms. Where suitable, wood chip or pellet boilers utilising sustainably managed local woodland resources could lower transport emissions and support rural forestry economies — provided sustainable sourcing standards are met. These could complement hybrid systems or serve as stand-alone low-carbon options for some building types

32 Do you have any evidence or views that could help inform future decisions on whether to implement a Renewable Liquid Heating Fuel Obligation, and if so, how?

Please enter your response below :

Evidence should include supply chain readiness, impacts on fuel prices for remote consumers, sustainability of feedstocks, and implications for farm and forestry sectors that could help produce the fuels.

Yes — but with the following considerations:

• Must ensure affordability for rural households, potentially by subsidising the biofuel premium during early years.
• Should be phased in gradually, aligned with sustainable feedstock growth.
• Clear long-term policy signals are needed so households and installers can invest confidently.
• Should prioritise UK-sourced waste-based feedstocks to maintain sustainability.
• Should support the cost of boiler conversions, ideally through grants or vouchers although we would comment to reflect that boiler conversion costs only apply once blends exceed 30%.

Rural communities reliant on oil or LPG heating would welcome evidence that a Renewable Liquid Heating Fuel Obligation (RLFHO) can ensure secure, cost-competitive, and locally available supply of low-carbon fuels. For many off-grid homes, switching entirely to electrification is constrained by grid capacity and retrofit costs, so renewable liquid fuels could offer significant near-term emissions reductions

The implementation of an obligation, alongside clear, supportive policy incentives, is extremely helpful because it gives a clear policy signal that investment in production and distribution capacity is justified and is something the industry would welcome. If a phased introduction was used, beginning with a blend, the fuel would be a drop-in solution.

An RLHFO could provide a fair, rapid, low-disruption decarbonisation path for rural oil-heated homes if affordability and sustainability are addressed.

33 Do you agree that evidence of affordability to consumers, and availability at scale of sustainable feedstock are key factors in determining if the government should pursue the implementation of a Renewable Liquid Heating Fuel Obligation? If not, what other factors do you think are significant and why? Please provide your views and evidence to support this answer.

Please enter your answer below :

We agree that affordability to consumers and availability of sustainable feedstock at scale are crucial. In rural areas, heating costs are often already high because of lack of gas connection (a market failure), so any obligation must not disproportionately increase bills for vulnerable households. Another significant factor is fuel distribution infrastructure in remote locations; renewable liquid fuels must be deliverable to dispersed communities without prohibitive transport costs. In addition, long-term stability of policy and incentives is needed so rural suppliers and households can plan investments with confidence.

Consumer choice must also be a key consideration. Rural homeowners face significant challenges in terms of the age, construction and location of their homes, which means that many of these properties will be complex to decarbonise. These consumers must be allowed a choice in how they reach Net Zero.
We understand that the liquid fuel heating industry has commissioned detailed research on feedstock availability which has been made available to DESNZ.

34 Do you have any views on what other steps government or industry could take to develop the market for renewable liquid heating fuels, ahead of making a decision on whether to implement a Renewable Liquid Heating Fuel Obligation?

Please enter your response below:

Innovation funding must not focus solely on heat pumps but support a diverse portfolio of rural-appropriate technologies.

To support a viable rural market for renewable liquid fuels ahead of a formal obligation, government could:

• Pilot schemes in rural and off-grid areas with tailored monitoring and evaluation;
• Grants or tax incentives for early adopters and local producers;
• Standards and certification to ensure quality and sustainability;
• Support for distribution logistics so rural deliveries are cost-competitive with conventional fuels;
• Technical support and training for local installers familiar with rural buildings.
Such steps would help build confidence among rural consumers and businesses and ensure supply chains are resilient and grounded in local economies.
• We suggest a trial on hybrid heat pump/liquid fuel boiler systems to develop them as a viable option.

35 Do you have any views on whether the introduction of the Renewable Liquid Heating Fuel Obligation would be an effective tool in fully decarbonising oil heated homes or whether it is a transitional solution to decarbonisation (if either)?

Please enter your response below :

From a rural viewpoint, a Renewable Liquid Heating Fuel Obligation is more likely to be a transitional tool than a complete decarbonisation solution on its own. Renewable liquid fuels could significantly cut emissions from oil-heated homes quickly and with minimal disruption, which is important where heat pump installation is technically challenging or costly. However, in the long term, fully decarbonising rural heat will still require a mix of solutions — including electrification where feasible, improved energy efficiency, community systems, and innovation in low-carbon technologies. The RLFHO should be part of a portfolio approach rather than seen as the sole pathway to net zero.

36 Do you have any evidence or views on the role other low carbon heating systems, not discussed in this consultation, could play in decarbonising heat?

Please enter your response below:

Rural perspectives suggest exploring hybrid systems combining heat pumps with biomass or renewable liquid fuels, micro-CHP units, community heat networks for clusters of rural homes, and local district energy from anaerobic digestion, especially where heat demand is shared.

37 Do you have any evidence or views on what steps the government could be taking to support the development of early-stage heating technologies that have legitimate potential in decarbonising properties?

Please enter your response below :

Government support should include pilot funding for rural demonstration projects, innovation grants tied to rural deployment, and standards frameworks that reduce market entry barriers for new heating solutions that perform well in rural conditions.

38 Do you have any additional evidence on how people with protected characteristics under the Equality Act 2010 may be affected by the installation of any of the alternative heating technologies included in this consultation?

Please enter your response below :

It should be taken into account that rural residents may include older adults and households with health vulnerabilities who are more affected by inadequate heating. Any transition must ensure affordable and reliable solutions, support for retrofit costs, and training for installers sensitive to accessibility needs.

Potential impacts:
• High heating bills if unsuitable technologies are mandated.
• Difficulty using or maintaining unfamiliar systems.
• Exclusion caused by higher capital costs and limited installer availability.

Recommendations:
• Targeted grants for rural low-income and vulnerable households.
• Tailored consumer advice and simpler user interfaces for new technologies.
• Stronger service guarantees ensuring rural coverage by installers.

39 Please upload any further evidence below

File upload :
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