

The Alliance for Zero Carbon Heating's submission to the Department's Call for Expert Evidence - Climate Action Plan 2023

About the Alliance for Zero Carbon Heating (TAZCH)

The Alliance for Zero Carbon Heating was set up to transform Ireland's home heating sector and contribute to achieving our national decarbonisation targets while continuing to meet the needs of the 37% of Irish households who depend on liquid fuels to meet their home heating needs.¹

Our founding members - Fuels for Ireland (which represents companies that import, distribute, and market liquid fuels and operate forecourts), OFTEC (which represents the interests of boiler, liquid fuel storage and supply equipment manufacturers) and the UK and Ireland Fuel Distributors Association (the trade association for the liquid fuels distribution industry) are united in the belief that major steps must be taken to preserve our environment for generations to come.

Our Alliance is determined to give Irish households the alternatives they need to dramatically reduce emissions from home heating. With the right support, a movement towards low carbon liquid fuels can happen, thus paving the way for a carbon neutral future.



Sectoral Emissions Ceilings

1. What do you view as the key actions required to ensure the emission reduction targets set out in the Sectoral Emission Ceilings are met?

The Government has set a target of achieving a 44-56% emissions reduction relative to 2018 levels by 2030.² Unquestionably, this will be a huge challenge, and achieving such dramatic carbon reductions will only be possible if every stakeholder is part of this shared effort. The Alliance for Zero Carbon Heating is committed to doing everything in our power to achieve this milestone, which mirrors our own target of cutting emissions from the products we provide by 50% by 2035, en route to achieving zero carbon heating by 2050.

There is no one key action which taken on its own can produce this outcome. However, when considering how to deliver on its highly ambitious target, the Government needs to ensure that all

¹ Central Statistics Office (2021), 'Household Environmental Behaviours - Energy Use,' <https://www.cso.ie/en/releasesandpublications/er/hebeu/householdenvironmentalbehaviours-energyusequarter32021/>

² Department of the Taoiseach (2022), 'Government announces sectoral emissions ceilings, setting Ireland on a pathway to turn the tide on climate change,' <https://www.gov.ie/en/press-release/dab6d-government-announces-sectoral-emissions-ceilings-setting-ireland-on-a-pathway-to-turn-the-tide-on-climate-change/>

policy options are on the table. These include the maximising of boiler efficiency by way of the introduction of a boiler scrappage scheme, the introduction of a Renewable Heat Obligation to require the use of renewable fuels in the heating sector (as called for by the Alliance last year³) and changes to the taxation system to incentivise the introduction of fuels which produce far less emissions. By embracing a diversified policy approach rather than relying on one policy tool such as electrification, we firmly believe that the Government can set Ireland on a course for carbon neutrality in the home heating sector by the middle of this century.

2. What do you view as the main challenges/obstacles to the Sectoral Emission Ceilings being met?

At present, 37% of Irish households rely on liquid fuels to meet their home heating needs. That is almost 700,000 households. Across broad swathes of rural Ireland, the great majority of homes use liquid fuels. Up until now, the Government has focused virtually all of its efforts on the target of carrying out 500,000 deep retrofits in this decade, but given the huge challenges in the area of housing, it remains unclear whether there are enough skilled personnel available to carry out a massive programme of work which is already being delayed due to capacity issues.

On an individual level, this is creating a problem whereby homeowners who wish to pursue the option of deep retrofitting are experiencing significant delays. According to the managing director of Retrofit Energy Ireland Ltd, homeowners are waiting for between five and eight months for contractors to become available.⁴ These substantial delays add to the already significant cost burdens which those looking to engage in deep retrofits, which carry with them an average cost of €56,000, face.⁵

Even with the 50% grant funding available under the new National Home Energy Upgrade Scheme,⁶ deep retrofits which cost €28,000 on average and involve major disruption over a prolonged time period are simply not an option for many people, which perhaps explains why just 8,600 deep retrofits are expected to be completed this year.⁷ Ongoing labour shortages and the continuing cost barrier are key obstacles to the achievement of the emissions reductions targets. If the Government is serious about cutting emissions from the heating sector, they need to properly examine all of the options for decarbonising the sector, instead of maintaining the current fixation on electrification as a panacea.

Electricity

6. What measures might be taken to improve the resilience of the electricity system to the impacts of climate change?

³ TAZCH (2021), 'Submission to the Consultation on the Introduction of a Renewable Heat Obligation,' <https://www.gov.ie/pdf/?file=https://assets.gov.ie/204806/ccfd3c3b-3e73-4ae5-8fce-b8643932e3ea.pdf#page=null>

⁴ The Irish Times (2022), 'Soaring demand for skilled workers is delaying deep retrofits under home energy scheme,' <https://www.irishtimes.com/environment/2022/08/08/soaring-demand-for-skilled-workers-delaying-deep-retrofits/>

⁵ Electric Ireland Superhomes (2022) 'Costs & Fees,' <https://electricirelandsuperhomes.ie/costs-fees/>

⁶ SEAI (2022), 'Government launches the National Retrofitting Scheme,' <https://www.seai.ie/news-and-media/government-launches-the-n/>

⁷ The Times (2022), 'Retrofit numbers hit the roof as grant claims rise,' <https://www.thetimes.co.uk/article/retrofit-numbers-hit-the-roof-as-grant-claims-rise-fclwj8gdx>

Clearly, any major increase in the need for electricity will put additional strain on the overall system. This is yet another practical consideration surrounding the Government's objectives which has not yet received sufficient attention from policymakers, although some energy experts have already been examining the issue in detail. In August 2022, the ESRI published a research bulletin titled 'Decarbonising heat through electricity: costs, benefits and trade-offs for the Irish power system.' In it, the authors looked at the impact which the electrification of heat via heat pumps would have on the electricity generation and transmission systems, and found that the impact would be quite significant. "The cost associated with retrofitting dwellings to the B2 BER standard required in order to support a heat pump was by far the greatest driver of costs. The total cost associated with the policy increases power system costs by 30% when 20% of heating is electrified, and by 46% when 30% of heating is electrified," the ESRI research team wrote.⁸

This, of course, is not to suggest that the increased electrification of the heating sector is without its benefits: benefits which are particularly obvious when it comes to new housing units. Heat pumps and the use of deep retrofitting should form part of a comprehensive policy approach aimed at offering all consumers options when it comes to providing more environmentally sustainable home heating. Instead of dismissing any one option, we need to consider how each approach can form part of a successful overall effort to achieve the necessary emissions savings by the end of this decade.

Enterprise

1. What measures can be taken to accelerate the uptake of carbon-neutral low temperature heating in manufacturing?

Liquid fuels such as oil continue to play an important role in providing heating within the manufacturing sector, and this role will remain crucial for many years to come. The advantages of oil - including its high energy density and energy efficiency, its suitability for a wide range of functions and the ease with which it can be stored wherever it is needed - are not going to disappear, and nor will the need for its use in a wide variety of settings, including manufacturing. As a result, policymakers need to look to the future and consider how the existing fuel mix could be changed in order to reduce pollution without damaging key sectors of the economy.

We have already seen analysis in other areas which highlights the advantages of low carbon liquid fuels like biofuel blends or Hydrotreated Vegetable Oil compared to oil.⁹ Based on this model, and based on the long-standing policy of incorporating more and more biofuels within the transportation fuel mix, the Government should consider incentivising the uptake of low-carbon liquid fuel alternatives in the manufacturing sector by way of grants, changes to taxation or the introduction of a requirement (based on the current Biofuels Obligation Scheme in the transport sector) for a certain percentage of the energy mix to be renewable.

2. What measures can be taken to decarbonise high temperature heating in industry?

⁸ ESRI (2022), 'New research suggests that electric heating will increase generation costs and decrease transmission costs,' <https://www.esri.ie/news/new-research-suggests-that-electric-heating-will-increase-generation-costs-and-decrease>

⁹ AECOM (2021), 'A Review of the Irish Residential Heating Sector,'

https://static1.squarespace.com/static/6124d4e8744cd45a732bca12/t/61df0ff9dbcba52ae6fc94a4/1642008574520/TAZCH_Home+Heating+Report_FINAL+DI_GITAL.pdf

As with manufacturing, there are many other areas where liquid fuels are important, including in the industrial sector where an emissions reduction of 35% is targeted.¹⁰ Here too, the incorporation of biofuels and other alternatives into the existing fuel mix could allow for substantial reductions to be achieved in a way that is affordable for the businesses involved. Where the cost of transitioning to alternative fuels would be an impediment to many companies looking to make a change, the Government should consider providing grants to small businesses which would offset some of the costs involved.

4. How can we encourage diversification so as we can move from products with high levels of embodied carbon, such as traditional cement in construction to lower carbon alternatives?

Some areas of industry are always likely to produce higher levels of carbon. This fact, and the ongoing necessity for essential products to be available across society, brings with it complications for any national decarbonisation strategy. Liquid fuels will continue to be important for decades to come, and that ongoing reliance makes the task of transforming the fuel mix all the more urgent, and changes to the taxation system need to be considered immediately. Although there are major differences between the emissions levels of different fuels - a shift from oil to HVO, for instance, would reduce emissions by 86%¹¹ - these differences are not properly reflected in the current fuel taxation system. By reforming it so that cleaner fuels are taxed at a lower rate, the Government could encourage a shift towards the use of these fuels, thus immediately cutting emissions. Ultimately, if the goal is to encourage diversification as an outcome involving a move away from products with high levels of embodied carbon, then the Government must embrace a diversified policy approach which looks at every way in which emissions reductions can be achieved.

5. What role could Carbon Capture and Storage (CCS) have in industry, and what steps would encourage its deployment?

Carbon Capture and Storage (CCS) represents another exciting possibility when it comes to reducing the environmental impact of industry, particularly in areas where the use of liquid fuels remains essential. The availability of grant assistance and other incentives would be welcome steps in encouraging the deployment of such technology by industry in as many settings as possible.

6. What other opportunities exist to drive the decarbonisation of the enterprise sector?

Liquid fuels play an enormous role across the enterprise sector, including when it comes to the heating of buildings. As these fuels play various roles, there should be a variety of technological solutions available for offsetting the environmental impact of their use. While electrification may be suitable in some areas, it may not be suitable in others, as those in the enterprise sector who are seeking this work may be unable to source the necessary labour.

¹⁰ Department of the Taoiseach (2022), 'Government announces sectoral emissions ceilings, setting Ireland on a pathway to turn the tide on climate change,' <https://www.gov.ie/en/press-release/dab6d-government-announces-sectoral-emissions-ceilings-setting-ireland-on-a-pathway-to-turn-the-tide-on-climate-change/>

¹¹ AECOM (2021), 'A Review of the Irish Residential Heating Sector,' https://static1.squarespace.com/static/6124d4e8744cd45a732bca12/t/61df0ff9dbcba52ae6fc94a4/1642008574520/TAZCH_Home+Heating+Report_FINAL+DI_GITAL.pdf

The significant costs associated with the deep retrofitting of homes will also be a factor when it comes to substantial upgrading works being carried out on business premises and so forth. Additionally, many businesses may not be able to continue to function while retrofitting work is underway, which in turn could necessitate temporary closures which have a serious adverse impact on the business. Rather than specifying the need for one option to be pursued, the Government should facilitate a much wider policy approach by introducing a revised taxation system which encourages a move to low carbon liquid fuels.

8. Are there measures that can be taken to assist businesses sustain the additional operating costs associated with moving to new, low-carbon technology?

Grants and other financial incentives are important components of any approach geared at encouraging businesses to move to new, low carbon technologies of various kinds. By providing a wide range of incentives - and by making changes to the current fuel taxation regime to incentivise the use of bioliquids and other low carbon alternatives like HVO - the Government can help all stakeholders to understand the myriad of ways in which significant emissions reductions can be achieved. This, in turn, will accelerate the speed of Ireland's energy transition.

Built Environment

1. Currently the SEAI provides approximately 50% of the grant of retrofit to Landlords, Housing for All commits to introducing a minimum BER for rented properties from 2025 onwards. What further supports can be put in place to address the split incentive when retrofitting rental properties (residential and commercial)?

Achieving emissions reductions in the rental sector is of urgent importance. In the Alliance's recent submission to the consultation on the Energy Poverty Strategy Review, we called on the Government to introduce a minimum standard of energy efficiency in order for rental properties. We believe that a system based on the Minimum Level of Energy Efficiency Standard (MEES) regulations in the UK - which requires energy upgrades while making the necessary exemption for those properties which cannot be brought up to the required standard at a cost below £3,500¹² - would be of major benefit in achieving greater energy and cost efficiency in the long-term for both renters and landlords alike.¹³

In addition to the aforementioned considerations about cost, policymakers need to be conscious of the overall costs and whether or not landlords will be in a position to undertake deep retrofitting processes which cost €56,000 on average, and often considerably more than this.¹⁴ These costs are beyond the reach of many at a time when large numbers of landlords are exiting the rental market and, as is the case with any regulations or policies in this area, rather than concentrating its sole focus on retrofitting targets, the Government needs to carefully consider the steps which could be taken to reduce emissions in the rental sector in both the short- and long-term. Steps such as the introduction of a boiler scrappage scheme aimed at landlords, the ongoing provision of support for

¹² Department for Business, Energy & Industrial Strategy (2020), 'Domestic private rented property: minimum energy efficiency standard - landlord guidance,' <https://www.gov.uk/guidance/domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance>

¹³ Alliance for Zero Carbon Heating (2022), 'Submission to the consultation on the Energy Poverty Strategy Review'

¹⁴ The Irish Times (2021), "Deep retrofitting: 'The quality of life in the house certainly improved,'" <https://www.irishtimes.com/news/environment/deep-retrofitting-the-quality-of-life-in-the-house-certainly-improved-1.4720818>

energy upgrades and a major overhaul of the current fuel taxation system to incentivise a move to bioliquids and other cleaner fuels would all help to achieve the desired results.

2. How can we encourage SMEs to upgrade the energy efficiency of the buildings they own?

The Government should encourage all SMEs to upgrade the energy efficiency of the buildings they own by providing targeted support and clear incentives to make positive changes. Rather than promoting the deep retrofitting option on its own, the Government needs to ensure that grant assistance is available to encourage SMEs to seek minor (and therefore, relatively quick and inexpensive) energy upgrades which, over time, could bring about considerable emissions savings. This sort of work has received support from public bodies in the past - the SEAI's various schemes have supported over 465,000 homeowners to upgrade their homes since 2000¹⁵ - and it is vital that the Government continues to support similar activities in the coming years.

Changing the tax system so that fuels like bioliquid and blends and HVO are more affordable will help to bring about a shift also. Currently, many SMEs operate oil-fired heating systems, and as in the residential sector, many of these involve the use of older, less efficient non-condensing boilers. Replacing these older boilers with modern condensing (and biofuel compatible) units can deliver CO2 emissions and annual fuel cost savings of up to 30%.¹⁶ Given how the different boilers compare, there is no reason why the Government should not introduce a boiler scrappage scheme as part of its overall plan for decarbonising various sectors, including the small business sector.

3. What immediate actions can we take to address the skills shortage in the construction sector, to facilitate meeting our annual retrofitting targets?

The skills shortage in the construction sector and the competing pressure for the same scarce resources has been highlighted as a major challenge by a number of stakeholders. In 2021, the former chairperson of the Climate Change Advisory Council warned that the Government may have to choose between retrofitting work and the construction of new homes due to the shortage of qualified workers.¹⁷ As the housing crisis increases in political salience, it could become even harder to recruit and retain the 17,000 skilled workers who the SEAI say will be needed to make the Government's retrofitting targets a reality.¹⁸ In addition to the shortage of workers, another problem which adds to the difficulties faced by homeowners looking for a deep retrofit is the shortage of companies who can undertake all of the necessary work. As of April 2022, just two companies in Ireland were registered to provide the entire service for homeowners looking for a full deep retrofit.¹⁹

All of these factors, along with the often prohibitive costs involved, are delaying the State's progress in meeting retrofitting targets. In order to achieve retrofitting goals, 75,000 retrofits will need to be

¹⁵ Oireachtas.ie (2022), 'Environmental Schemes,' https://www.oireachtas.ie/en/debates/question/2022-09-08/151/#pg_151

¹⁶ Sutherland Tables (2022), 'Comparative Heating Cost - Republic of Ireland - June 2022'

¹⁷ The Irish Times (2021), 'Skills shortage means Government must opt for retrofitting or new builds,' <https://www.irishtimes.com/news/politics/skills-shortage-means-government-must-opt-for-retrofitting-or-new-builds-1.4644167>

¹⁸ RTE.ie (2022), 'Labour and material shortage may impact retrofit scheme,' <https://www.rte.ie/news/ireland/2022/0207/1278264-ireland-retrofit/>

¹⁹ The Irish Times (2022), 'Full retrofit only available from two firms, sustainable energy body says,' <https://www.irishtimes.com/news/politics/full-retrofit-only-available-from-two-firms-sustainable-energy-body-says-1.4844609>

carried out each year:²⁰ which will be a massive jump up from the current figure of 17,600 retrofits carried out annually.²¹ None of this, however, means that progress cannot be achieved in cutting emissions, and those involved in the home heating sector are working each day to help homeowners to replace older and less efficient oil boilers with newer and cleaner versions. Every year, around 20,000 boiler upgrades are carried out by industry personnel,²² and if a boiler scrappage scheme were to be introduced, we believe that demand for upgraded boilers would significantly increase.

5. Housing for All Commits to 100% funding to retrofit 40% of local authority housing stock to B2 by 2030 at a cost of 1.4 billion euro. How can we further support local authorities to help them deliver on social housing retrofit targets?

It is important that local authorities continue to focus on achieving greater levels of energy efficiency within their housing stock. At the same time, policymakers need to recognise the very considerable cost which this is already imposing on the sector. Earlier this year, for instance, it was estimated that Dublin City Council's plan to retrofit 2,690 homes was expected to cost €83 million,²³ and the Department of Housing has allocated €85 million to provide for the upgrade of approximately 2,400 social homes in 2022.²⁴ While continuing to look to electrification as an option for meeting the heating needs of many households, local authorities should also examine where alternative options may achieve similar or even superior results, both in terms of emissions savings and in terms of overall cost.

AECOM's recent analysis of the various options found that it would cost more than twice as much for a household to switch to an air source heat pump, compared to what it would cost to switch to a viable alternative including biofuel.²⁵ These and other options need to be properly examined by policymakers at both a national and local level.

6. In addition to the existing financial supports and policy measures, are there any other incentives/assistance needed to help homeowners upgrade the energy efficiency of their homes?

One obvious option which the Alliance for Zero Carbon Heating believes has not received proper attention is the possibility of introducing a boiler scrappage scheme. Industry estimates suggest that there are about 400,000 less efficient non-condensing oil boilers in service nationwide, and industry estimates further suggest that a switch to a modern condensing boiler could bring about carbon emissions and fuel cost savings of 30%.²⁶ Boiler upgrades cost just €1,900 on average,²⁷ and there is already widespread demand for this work to be done, as shown by the fact that tens of thousands of

²⁰ The Irish Times, 'Exponential' growth needed to hit retrofitting targets,'

<https://www.irishtimes.com/news/politics/exponential-growth-needed-to-hit-retrofitting-targets-1.4797302>

²¹ KildareStreet, 'Energy Conservation,' <https://www.kildarestreet.com/wrants/?id=2021-06-15a.389&s=retrofitting#g390.g>

²² Fuels for Ireland (2020), 'Powering today and tomorrow,'

https://static1.squarespace.com/static/5f310883c542ed5446733d3b/t/5f3a3e73acc4a17e490396ec/1597652602400/FFI_Vision_Doc_Digital_PDF-compressed.pdf

²³ The Irish Times (2022), 'Retrofitting of 2,690 Dublin council houses to cost €83 million,'

<https://www.irishtimes.com/news/environment/retrofitting-of-2-690-dublin-council-houses-to-cost-83-million-1.4830662>

²⁴ Oireachtas.ie (2022), 'Energy Conservation,' https://www.oireachtas.ie/en/debates/question/2022-09-08/642/#pg_642

²⁵ AECOM (2021), 'A Review of the Irish Residential Heating Sector,'

https://static1.squarespace.com/static/6124d4e8744cd45a732bca12/t/61df0ff9dcb52ae6fc94a4/1642008574520/TAZCH_Home+Heating+Report_FINAL+DIGITAL.pdf

²⁶ Sutherland Tables (2022), 'Comparative Heating Cost - Republic of Ireland - June 2022'

²⁷ Fuels for Ireland (2020), 'Powering today and tomorrow,'

https://static1.squarespace.com/static/5f310883c542ed5446733d3b/t/5f3a3e73acc4a17e490396ec/1597652602400/FFI_Vision_Doc_Digital_PDF-compressed.pdf

people are provided with upgrades each year by industry personnel. The introduction of any Government support for this work through a boiler upgrade scheme would accelerate the pace of change, and it would be an important step in preparing for a cleaner future where home heating needs are met using new and more sustainable liquid fuels.

10. Further to the existing supports financed by carbon tax revenues, how can we protect those who are currently experiencing fuel poverty and those who are at risk?

The Russian invasion of Ukraine and the resulting energy crisis has created a situation where the ESRI estimates that 43% of Irish households may be in energy poverty.²⁸ Yet, long before this, it was obvious that Irish families were experiencing real pressure due to policy decisions in this area. In August 2021, the authors of the ESRI's 'Fuel for Poverty' research paper stated that "a 1% increase in fuel prices for residential heating due to carbon taxation will raise the proportion of people experiencing fuel poverty from 11.5% to 12%."²⁹

More recently, an economic study by Grant Thornton that focused on the impact of fuel prices in the transport sector showed that consumers remain 'inelastic' to fuel price rises given their dependence on fuel products, and this inelasticity was most pronounced when it came to people on low-incomes and those in rural areas.³⁰ A similar situation likely exists in the home heating sector, where a large majority of households across large areas of rural Ireland depend on liquid fuels.

While the Alliance accepts the need for carbon taxation as part of a gradual shift away from fossil fuels, we strongly believe that a key principle of any 'Just Transition' is that there be no penalties where there are no alternatives available. Continued increases in carbon taxes will only work where households have the means to switch to low carbon alternatives, and rather than relying on the current approach of increasing taxation while focusing exclusively on retrofitting, it is vital that the Government put in place policies which will help consumers to decrease their emissions significantly.

11. What specific measures can be implemented to improve the efficiency of rolling out the National Retrofit Programme?

One key way in which the Government can improve the efficiency of the National Retrofit Programme would be for policymakers to include a focus on the significant energy upgrades which can be achieved without recourse to the 'deep retrofitting' processes. For many, a time-consuming deep retrofitting with a total cost of €56,000 on average is simply not an option, regardless of the 50% grants which are available. However, a great number of households may be willing to invest more modest sums in making relatively minor upgrades to improve the energy efficiency of their homes.

One of the multitude of positive steps which could be taken by families not willing or able to pursue the option of 'deep retrofitting' would be a replacement of an older non-condensing oil boiler with a

²⁸ RTE.ie (2022), 'ESRI estimates 43% of households could be in 'energy poverty' <https://www.rte.ie/news/2022/0902/1320186-energy-poverty/>

²⁹ ESRI (2021), 'Fuel for poverty: A model for the relationship between income and fuel poverty' <https://www.esri.ie/system/files/publications/RB202114.pdf>

³⁰ Grant Thornton (2022), 'An economic study into the impact of fuel price rises,' <https://static1.squarespace.com/static/5f310883c542ed5446733d3b/t/62d69f3a9dc4a534f3818a3b/1658232637336/Fuels+for+Ireland+final+report+230622%5B22%5D.pdf>

modern condensing boiler compatible with bioliquids and blends which can bring about substantial carbon savings. Furthermore, by bringing about a greater alignment between the goals set out in the National Retrofit Programme and those within the Energy Efficiency Obligation Scheme (EEOS) - in particular, by incentivising energy upgrades to improve home energy ratings in any substantial way, rather than focusing solely on the steps needed to achieve BER ratings between A1 and B2 - the Government could achieve far more emissions savings at an affordable price.

12. Further to those technologies identified in previous iterations of the Climate Action Plan, what other additional measures could be used to reach our emission reduction target in this sector?

One key policy which is not contained in the current Climate Action Plan but which could contribute enormously towards reaching the emission reduction target in this sector involves the incorporation of biofuels within the home heating sector. Research from the world-leading infrastructure consulting firm AECOM showed that “the use of bioliquid blends in existing kerosene-based home heating systems is a viable transition away from complete reliance on kerosene oil and offers significant carbon savings in a short time frame.”

In their 2021 report titled ‘A Review of the Irish Residential Heating Sector,’ AECOM described how a switch from oil to bioliquids could achieve potential emissions reductions per dwelling of between 23-86%, and they also noted that a 50% bioliquid/kerosene blend (B50K) would be the most cost effective switch for households over a 10 year period.³¹ With almost 700,000 households currently relying on oil, it is clear that even if the highly ambitious retrofitting goals are met in this decade, hundreds of thousands of households are going to continue to use oil for home heating purposes for many years to come.

Rather than ignoring the potential for emissions savings offered by the use of biofuels in the home heating sector as shown by the success of the Biofuels Obligation Scheme in the area of transport, the Government urgently needs to consider what steps should be taken to facilitate the introduction of fuels which can perform the same role as oil while producing far less emissions, and at a cost which is affordable to the great majority of Irish households.

13. What specific measures would incentivise a greater rate of oil boiler replacement?

It is estimated that there are currently 400,000 older and less efficient non-condensing oil boilers in service nationwide. Those working within the home heating sector deliver 20,000 boiler upgrades each year, each of which can achieve CO₂ emissions savings of up to 30%, according to industry figures. Rather than assuming that older oil boilers need to be replaced with heat pumps by way of expensive and time-consuming deep retrofits, policymakers need to properly consider the benefits of upgrading boilers so that they can use new fuel blends which produce far less emissions.

Instead of focusing solely on the option of deep retrofitting, they need to consider the steps which can be taken to upgrade the energy rating of older buildings, and boiler upgrades can indeed be an

³¹ AECOM (2021), ‘A Review of the Irish Residential Heating Sector,’ https://static1.squarespace.com/static/6124d4e8744cd45a732bca12/t/61df0ff9dbcba52ae6fc94a4/1642008574520/TAZCH_Home+Heating+Report_FINAL+DI+GITAL.pdf

important part of these efforts. With upgrades to boilers costing just €1,900 on average, the introduction of even a very modestly resourced boiler scrappage scheme to install biofuel compatible modern boilers could help huge numbers of families to save money and cut their emissions. This would also have the effect of potentially lessening the pressures being experienced within the hard-pressed retrofitting sector, without slowing progress towards the decarbonisation of the heating sector.

Agriculture, Land Use and Forestry

2. What policies and measures would be needed to support farmers to diversify their farm activities to include opportunities such as bioenergy, vegetable growth, forestry, organic farming, etc?

There are significant opportunities for expanding the production of bioenergy here in Ireland and for using domestically produced biofuels within the home heating sector, thus boosting employment while also cutting back on emissions. In spite of the decisions by a previous government which led to a decline in what was previously a fast-growing biofuels industry,³² biodiesel is still produced here. Furthermore, the tallow which is a by-product of the slaughtering industry remains an important source of Irish biofuel production.³³

As noted recently by the Minister for Agriculture, the production of oilseed rape has increased significantly in recent years and is expected to increase further in 2023. The Agriculture Minister also noted that vegetable oil from oilseed rape could be used as a feedstock for the production of HVO³⁴ - a product which has been shown to reduce emissions per dwelling from home heating by up to 86%.³⁵ By building on this strong foundation, the Government could help to provide Irish farmers with opportunities to contribute to making net zero a reality, and this could be achieved at a time when concerns about emissions in other areas of agriculture are leading to major concerns about the future of farming here. As a first step, the Government should encourage Teagasc to examine how more biofuels could be produced sustainably in Ireland, either through the growing of crops or the greater utilisation of waste products from agriculture and other areas.

9. What other opportunities exist to support the decarbonisation of the agriculture, landuse and marine sectors?

As part of a comprehensive energy strategy examining all sectors including home heating, policymakers should consider the multitude of ways in which biofuels can be produced here in Ireland, while also examining the possible advantages and disadvantages of different methods of domestic production. This strategy could also involve the allocation of funding for pilot projects and general research into various biofuel feedstocks which could be part of the overall solution to

³² The Irish Examiner (2012), 'Turning the tap on biofuels,' <https://www.irishexaminer.com/news/arid-20193845.html>

³³ MaREI (2021), 'Transport in Ireland: A pathway to halving emissions,' <https://www.irbea.org/wp-content/uploads/2021/12/Irish-Bioenergy-Association-UCC-MaREI-Renewables-In-Transport-Report-Final.pdf>

³⁴ Oireachtas.ie (2022), 'Renewable Energy Generation,' https://www.oireachtas.ie/en/debates/question/2022-09-08/2114/#pg_2114

³⁵ AECOM (2021), 'A Review of the Irish Residential Heating Sector,' https://static1.squarespace.com/static/6124d4e8744cd45a732bca12/t/61df0ff9dbcb52ae6fc94a4/1642008574520/TAZCH_Home+Heating+Report_FINAL+DI_GITAL.pdf

meeting our energy needs sustainably. Opportunities exist across both the agricultural and marine sectors: for example, microalgae can be used to produce biofuels, including HVO.³⁶

Waste and the Circular Economy

2. What other opportunities exist to support decarbonisation through the acceleration of a transition to the circular economy?

In order for the use of biofuels to remain a net positive for the environment, it is vital that strong safeguards exist to ensure that products are not sourced in a manner which is unsustainable. At present, it is clear that the use of biofuels is not leading to adverse side effects here in Ireland. According to the National Oil Reserves Agency's most recent statistics, 64% of the biofuel placed on the market was produced from used cooking oil (UCO).³⁷ While concerns exist about the role played by palm oil internationally, this is not a significant issue here, and Minister Eamon Ryan acknowledged in February 2021 that it "should be noted that the quantities of biofuels from palm oil used in Ireland are very small."³⁸ In the coming years, as the need for biofuels to play a larger role in the heating sector becomes even more obvious, we need to ensure that there are strong certification standards in place at national and EU level.

Public Sector leading by example

1. What opportunities exist for the public sector to step up its climate ambition?

Large numbers of public sector buildings are heated using oil, and a large number of these buildings feature older non-condensing boilers which produce higher emissions at a more expensive cost. Although some in Government would like to see the use of air source heat pumps become the norm in all areas, this is not always technically feasible, and that is why the various departments need to assess what else can be done to reduce emissions.

As a priority, the Government should insist that each department put in place a timeline for action in replacing older non-condensing boilers, while also considering the options such as bioliquid blends which could soon be available here if the right steps are taken in the area of fuel taxation and energy policy more generally. Crucially, decision makers at all levels need to stop looking at energy policy as being a binary choice between the status quo and electrification. Other options are available, and given the scale of the challenge and the need for the public sector to be a leader in confronting it, then the wide range of low-carbon pathways which exist need to be availed of as a matter of urgency.

Just Transition

³⁶ Wageningen University & Research (2016), 'Modelling and assessment of algae cultivation for large scale biofuel production – sustainability and aspects of up-scaling of algae biorefineries,' <https://research.wur.nl/en/publications/modelling-and-assessment-of-algae-cultivation-for-large-scale-bio>

³⁷ NORA (2021), 'The Biofuels Obligation Scheme Annual Report 2021,' <https://www.nora.ie/fileupload/457-22X0084%20-%20BOS%20Annual%20Report%202021%20for%20publication.pdf>

³⁸ KildareStreet (2021), 'Environmental Policy,' <https://www.kildarestreet.com/wrans/?id=2021-02-17a.152&s=biofuel#g154.r>

1. What types of supporting interventions should be considered by the Government to address the four principles of our Just Transition Framework within individual sectors?

Slow progress in meeting both retrofitting and carbon reduction targets in the residential sector strongly suggests that the current policy framework is highly unlikely to deliver major savings. Electrification of home heating should be viewed as an important part of the overall solution, rather than as a panacea. With an enormous number of older and less energy efficient homes and buildings in the State, there is clearly an opportunity to do much more, and faster, but progress towards the decarbonisation of home heating requires a pragmatic approach.

There are two aspects of a Just Transition. Firstly, it should be 'Just,' meaning that no sector of society is unfairly targeted or left facing penalties where no alternatives are available. Secondly, it must be a 'Transition' from one approach to another, and real change needs to occur. The State's ambitious and far-sighted approach to climate action should be applauded, including the targeting of net zero by 2050: a goal which the Alliance for Zero Carbon Heating is determined to make a reality.

Unfortunately, when it comes to the area of home heating, the policies which have been pursued up until this point have not been in accordance with the spirit of a Just Transition. The overreliance on ever-increasing taxation combined with a single-minded focus on electrification as a one-size-fits-all solution have not given households the tools they need to adapt, and the slow pace of progress suggests that many people simply cannot afford the one option which the Government is concentrating on. Slow progress in retrofitting has meant that there has been slow progress overall in reducing emissions.

A new approach is desperately needed: one which seeks to give every household in the country the tools they need to significantly reduce their carbon emissions. In the area of road transport, the Government's more broad-minded and technologically neutral approach has reaped major dividends. In 2020 alone, for example, the Biofuels Obligation Scheme resulted in 209 million litres of fossil fuel products being replaced with 239 million litres of biofuels.³⁹ A similar approach in the area of home heating would help those in the industry to make the range of options on the horizon readily available to consumers, and this policy approach would be fully in line with the principles of a Just Transition Framework

2. Are there any emerging skills gaps that need to be addressed that haven't already been identified by the Expert Group on Future Skills Needs in its Skills for Zero Carbon report?

Those operating in the home heating sector have gained enormous expertise when it comes to providing energy upgrades, and in particular, in carrying out up to 20,000 boiler upgrades each year. This vital work takes place each day, and the contribution which the sector is already making could be accelerated by introducing a boiler scrappage scheme to encourage more households to make the switch to a far more efficient boiler. When considering skills gaps which exist, the Government should not simply focus on the option of deep retrofitting; they should consider every way in which homes

³⁹ Department of Transport (2021), 'Minister Eamon Ryan announces the publication of the Renewable Fuels for Transport Policy Statement,' <https://www.gov.ie/en/press-release/93827-minister-eamon-ryan-announces-the-publication-of-the-renewable-fuels-for-transport-policy-statement/>

can be upgraded, and the steps which may need to be taken to expand the workforce which is capable of carrying this work out.

3. What additional targeted supports should be considered to minimise the impact of our climate policies to those on low income or households that are most at risk from fuel poverty (including transport and heating)?

As part of the Energy Efficiency Obligation Scheme (EEOS), energy suppliers are required to deliver energy savings, with those in the residential sector being eligible to receive energy savings credits for upgrading their insulation, installing heat pumps, and so forth.⁴⁰ Expanding the current system to incentivise measures such as boiler upgrades which allow for the use of biofuels would be a hugely positive step in minimising the impact of climate policies such as the use of carbon taxation on low income households at risk of experiencing fuel poverty.

4. Are there any emerging areas of vulnerability in specific sectors of the economy as a direct result of the implementation of Ireland's climate action policies?

Every sector of the economy has a role to play in working to make Ireland's climate action objectives a success, because every sector of society has a stake in preserving our environment for generations to come. Businesses and individuals within the home heating sector have long played an essential role in Irish life by providing the heating products which millions of Irish people depend on. In spite of that long standing role - and in spite of the ongoing work done by the sector to deliver real emissions savings by way of boiler upgrades - it is clear that the fuel industry's role as a partner in solving the overall problem of carbon emissions has not been properly reflected upon.

Despite the strong support for the introduction of a Renewable Heat Obligation expressed by various stakeholders during last year's consultation,⁴¹ the Government has not enacted a policy in this sector based on the hugely successful Biofuels Obligation Scheme. Virtually no serious consideration has been given to the role that biofuels could play in the heating sector, and as of yet, there are no signs that the Climate Action Committee intends to invite industry representatives to take part in the planned hearings on the issue of renewable heating.⁴² Just as the fixation on electrification has not delivered the desired results, a policy of refusing to commit to an inclusive stakeholder engagement strategy can only serve to hinder the implementation of climate action policies.

5. How should Local Authorities seek to integrate just transition considerations into the preparation of their statutory Climate Action Plans?

As stated above, local authorities are already investing considerable resources in retrofitting housing stock, and it is likely that a large amount of work will be done in the coming years to expand the use of electrification when it comes to the heating of public buildings of all types. While these solutions may represent the best value in some areas, there are many other properties which are heated using

⁴⁰ SEAI (2022), 'Energy Efficiency Obligation Scheme,' <https://www.seai.ie/business-and-public-sector/business-grants-and-supports/energy-efficiency-obligation-scheme/>

⁴¹ Department of the Environment, Climate and Communications (2021), 'Consultation on the Introduction of a Renewable Heat Obligation,' <https://www.gov.ie/en/consultation/7bc5b-consultation-on-the-introduction-of-a-renewable-heat-obligation/>

⁴² Oireachtas.ie (2022), 'Scrutiny of EU Legislative Proposals,' https://www.oireachtas.ie/en/debates/debate/joint_committee_on_environment_and_climate_action/2022-02-22/2/

liquid fuels where a more cost effective and environmentally sustainable option may involve transitioning to an alternative fuel blend. By opting for a technologically neutral approach to emissions savings, those with responsibility for climate action policies at local government level could play a larger and more productive role in cutting emissions from heating.

6. What other issues should be considered by the Government to inform just transition policy in the 2023 Climate Action Plan?

On an overall level, the Government's policies need to be informed by the core principles of a Just Transition. There should be no penalties where alternatives are not available, and the core focus needs to be on reducing emissions, rather than on the policy tool which is being used to bring emissions reductions about. By adopting the following policies now or as part of the next iteration of the Climate Action Plan, the Government could greatly accelerate the pace of change:

- Reform the current fuel taxation regime, so that liquid fuels which produce less emissions are taxed at a lower rate.
- Introduce a Renewable Heating Obligation in the heating sector, based on the hugely successful Biofuels Obligation Scheme which exists in the area of transport.
- Fund a boiler scrappage scheme to encourage households with older, non-condensing boilers to install upgraded boilers capable of using new bioliquid blends.
- Push for a timeline for the upgrading of all non-condensing boilers within the public sector.
- Ensure that all rental properties have a sufficiently high energy rating.
- Properly investigate all of the ways in which the domestic production of biofuels could be increased.

8. What mixtures of skills and expertise are required on the Just Transition Commission?

Skills and expertise are required on the Just Transition Commission, and on all deliberative and consultative bodies which exist in the area of climate policy. Without any doubt, that also means including stakeholders who are directly impacted by the decisions and recommendations of these bodies - including those of us in the home heating sector. In the same way that the industry needs to have a voice in the Climate Action Committee's planned hearings, it is also important that those who are engaged in the essential work of meeting Ireland's home heating needs are allowed to contribute their views on the future of the sector. Furthermore, when it comes to energy policy, it is impossible to plan effectively for the future without consulting with the sector which provides 52% of Ireland's final energy use needs according to the SEAI's latest figures, along with 44% of the heat supply.⁴³

The Alliance for Zero Carbon Heating has consistently engaged with the Department in consultative processes such as this one, and we are committed to raising public awareness about the ways in which climate action can be accelerated across the board. We would welcome any opportunity to be part of future discussions in the Just Transition Commission or other important fora.

Research and Innovation

⁴³ SEAI (2022), 'Energy in Ireland: 2021 Report,' https://www.seai.ie/publications/Energy-in-Ireland-2021_Final.pdf

2. Have you identified any research and innovation gaps which need to be addressed? If so, how can these gaps best be addressed?

When AECOM examined the range of heating options including the use of heat pumps and the various alternative fuels, they found that the use of B50K and other bioliquid blends would compare favourably to the use of heat pumps on both cost and emissions grounds. Unfortunately, the Government has not examined these findings in detail, and key figures remain unwilling to seriously consider the role that biofuels could play in home heating.

Clearly, more research needs to be done in this area to raise awareness about the options which already exist. This would involve research on the emissions profiles and costs associated with various heating technologies, along with work aimed at ascertaining the willingness of homeowners to spend specific sums of money on achieving energy upgrades. Furthermore, the Government should expand on the work which has already been carried out on the ESRI in seeking to determine the likely impact which the widespread electrification of the heating system would have on Ireland's electricity grid, and the costs associated with this change.