

The Consumer Voice in Europe

## HOW TO MAKE THE HOME HEATING AND COOLING REVOLUTION CONSUMER-FRIENDLY

BEUC position paper



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## Why it matters to consumers

To tackle the climate crisis, a rapid change in the way we heat and cool our homes is needed. Today, consumers are often still using fuels and technologies, which are harmful for the climate. For consumers to be able to shift to sustainable heating and cooling systems, they need incentives to replace their appliances because such a change will often imply high upfront costs. At the same time, they need clear information, reliable advice as well as access to infrastructure that allows for the shift to sustainable technologies.

## Summary

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The European Commission and EU Member States are aiming to speed up the decarbonisation of the heating and cooling sector. To achieve this goal, the European Commission will issue a legislative package (i.e., the 'Fit for 55' package) in June 2021. Local authorities and European countries are also adopting a patchwork of measures at local and national levels.

Yet consumers are still not being given enough clarity about the heating and cooling systems that they should choose and are not sufficiently supported in this transition. Nor are consumers given sufficient protection, particularly when it comes to district heating. This is why consumer protections should be included in both EU and national legislation.

The EU will only reach its climate neutrality goal if EU and national policy makers adopt a consumer-centric and systematic approach to the decarbonisation of the heating and cooling sector. This means that:

- 1. Member States should develop national heating and cooling decarbonisation plans to enable investments in sustainable technologies.** In the context of the upcoming revision of the Renewable Energy Directive, the European Commission should require Member States to develop these plans.
- 2. The European Commission and Member States should make clear decisions on the future of gas networks and, in the forthcoming proposals, should not promote renewable hydrogen or renewable gases in residential heating.** The production of renewable hydrogen and renewable gases is connected to significant uncertainties regarding future availability and prices. These uncertainties create high risks of sunk investments both for consumers – in converting their home heating appliances and gas pipes – and for the public sector, regarding the gas infrastructure upgrades that would be necessary. Hence, more proven and easily-scalable solutions, such as electrification, should be prioritised to decarbonise residential heating.
- 3. The European Commission and Member States should put affordability and a fair distribution of costs at the core of heating and cooling decarbonisation.** This will be fundamental to ensure that the energy transition enjoys public acceptance.
- 4. All consumers should enjoy appropriate rights and protections,** regardless of the energy technology they rely on.

## 1. Introduction

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The EU must decarbonise the heating and cooling sector if it wants to meet its 2050 carbon neutrality target. Today, heating and cooling is responsible for roughly one third of the European Union's greenhouse gas emissions, because only 21% of its demand is currently met by renewable energy sources.<sup>1</sup>

The energy system is undergoing fundamental changes, as the decarbonisation of the electricity sector is progressing at a very fast pace, thanks to the integration of increasing amounts of renewables, especially wind and solar energy. In addition, there are heated debates about the future of the gas sector. Fossil gas demand is expected to significantly decrease in Europe from now until 2030 and beyond, as the direct use of (renewable) electricity is expected to become an increasingly important part of the energy mix.

The decarbonisation of the energy system will have significant implications as to how consumers heat and cool their homes. Consumers relying on fossil fuel heating appliances will need to switch to renewable energy sources, which they may not be familiar with yet.

For example, highly efficient electric devices, such as ground source or air source heat pumps, are still a niche in several European markets.<sup>2</sup> Consumers will need advice on what energy carriers and appliances best satisfy their heating and cooling needs and how to use them in the most cost-efficient way. They also need clear, simple and tailored advice on what subsidies are available to switch to those appliances.

The EU has already started reducing the environmental footprint of the heating and cooling sector by initiating a transition towards more efficient appliances, thanks to minimum energy efficiency standards.<sup>3</sup> However, the effects of this transition have not yet fully materialised.

In addition, consumers need clearer communication with an updated energy label which is more fit for purpose. The vast majority of heating appliances available for purchase today fall into "A" or "+" classes, giving consumers the wrong impression that products labelled as "A" are among the best in class.

Another barrier to a shift to more sustainable consumption patterns is that consumers generally buy new heating appliances only when those they use break down and are too expensive or impossible to repair.<sup>4</sup> The high upfront cost of sustainable heating appliances is one of the reasons, as the average EU price for acquisition and installation can range from €8,200 for an air-source heat pump to over €22,000 for a ground source heat pump.<sup>5</sup> In addition, it is difficult for consumers to assess the payback period of purchasing a more efficient appliance.<sup>6</sup> Therefore, it is crucial to ensure that consumers are advised on their return on investment to overcome this barrier.

Furthermore, the EU's heating and cooling decarbonisation efforts will only be successful if the roll out of low-carbon appliances takes place together with successful building renovations programmes. The most affordable and sustainable energy source is and will

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<sup>1</sup> Eurostat, [Renewable Heating and Cooling](#), 2020.

<sup>2</sup> See, for example, ehi, [Heating Market Report](#), 2020.

<sup>3</sup> The EU adopted for example [minimum Ecodesign and/or Energy Labelling criteria](#) for air conditioners, solid fuel boilers, space heaters/ combination heaters, water heaters, local space heaters, hot water storage tanks for water heaters.

<sup>4</sup> For more information on consumers' attitudes on heating appliances, see Citizens Advice, [Taking the temperature: consumer choice and low carbon heating](#), 2020.

<sup>5</sup> VHK, [Review Study existing ecodesign & energy labelling – space heaters & combination heaters – Task 2 Market Analysis](#), 2019.

<sup>6</sup> CLEAR 2.0, [What the CLEAR 2.0 project taught us: Results and Recommendations](#), 2020.

remain the energy that is not used, hence Europe should also focus on improving the thermal efficiency of its building stock. Such improvements are often necessary for low-carbon heating systems to function efficiently, such as heat pumps or low-temperature district heating. Having to carry out building renovations obviously also contributes to increased consumer costs, disruption and hence reluctance to switch.

As the average lifetime of a heating and cooling appliance is 15-20 years, purchasing decisions consumers make in the next 10 years will define the way we heat and cool our homes in 2050 and whether Europe will meet its 2050 climate neutrality target. Without clarity over which system consumers should be using in the next decades, there is a significant risk that they may make investment decisions that are not future proof, such as the purchase of a gas boiler in an area where the gas network will be decommissioned. This may have a significant financial impact, as consumers will be forced to replace their appliances before their end of life.

Rental or leasing schemes for heating appliances by energy suppliers or third parties would enable consumers to be more flexible in this transition. However, they have only recently started to appear and not in all markets. Some consumer organisations active in those markets noted that rental and leasing schemes can lead to higher costs for consumers over the life of the appliance and contracts can be difficult to terminate.<sup>7</sup>

## **2. National heating and cooling decarbonisation plans should be developed to enable and guide investments in sustainable technologies**

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For consumers, it is often unclear how policymakers intend to decarbonise the heating sector, which means that they often do not know which appliances they should purchase to heat their homes in a sustainable way.

Article 14 of the Energy Efficiency Directive and Article 15 of the Renewable Energy Directive require Member States to carry out a “Comprehensive assessment on efficient heating and cooling,” which should identify in which areas the sector can be decarbonised in a cost-efficient way, by relying on district heating and cooling or high-efficient cogeneration. Following this assessment, Member States would have to adopt policies that encourage the “due taking into account” of the potential of using these technologies.

Although this is a necessary first step to develop a strategy to decarbonise heating and cooling, it does not provide consumers the clarity they need. The provision should be amended in the upcoming revision of the Energy Efficiency and Renewable Energy Directives to require Member States to develop and implement plans to decarbonise heating and cooling, serving consumers’ interests. These plans should also explicitly cover energy infrastructure choices needed to decarbonise individual heating, to avoid, for example, the purchase of gas appliances in areas where the grid will be decommissioned in the next 15-20 years.

### **National heating and cooling decarbonisation strategies should:**

- a. Be based on a thorough assessment of the characteristics of the existing building stock and its occupants

The collection of building stock data (e.g., age of the building, ownership, use, size, urban or rural location, heating system etc.) is fundamental to develop cost-effective strategies

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<sup>7</sup> For example, Consumentenbond, [Cv-ketel kopen, huren of leasen](#), 2019.

which minimise the negative impacts on low-income households, as demonstrated by a study by BEUC's Austrian member, Arbeiterkammer.<sup>8</sup>

### **Case study: Assessment of technologies used by different consumer groups in Austria**

Our Austrian member, Arbeiterkammer, published a study assessing what heating systems and what energy sources are used by different groups of consumers, focusing on parameters such as income, degree of urbanisation, age of the building, whether occupiers of the dwelling are renting or are the owners.

The study showed that about 18,500 households in Austria still heat with coal and that most of them belong to the two lowest income deciles, are single males and live in relatively old buildings (built before 1970). Roughly one quarter of households heating with coal are located in Vienna.

Oil is used by 16% of Austrian households (600,000), mostly living in the countryside (especially Styria and Tyrol) and is used by pensioners with above-average incomes (6th/7th income decile) and who own their house/flat (2/3 of all oil heating systems are located in owner-occupied single-family homes).

Gas is the most used energy source (27% of Austrian households, 1.03 million) and practically used in all income deciles, in all household types, either in owner-occupied buildings or rented buildings.

The study shows that phasing out coal will have very different distributional effects compared to phasing out oil, because low-income consumers heating with coal and renting their apartments face quite a different situation to better-off pensioners relying on oil, living in their own property. This shows that different measures for different energy sources may be needed for an inclusive energy transition.

#### **b. Be swiftly developed**

The European Commission's Renovation Wave initiative aims to trigger the renovation of a significant share of buildings in the next decade. We can expect that heating and cooling appliances will often be replaced as part of renovation works, because of cost-efficiency reasons and of the immediate availability of public funding.

The risk of decarbonisation plans coming too late is that consumers may purchase heating and cooling systems that are not future-proof and may need to replace them again before their end of life. This would result in a waste of both public and private money.

#### **c. Clearly specify infrastructure choices and include clear timelines for the deployment of new infrastructure and for the phase-out of fossil fuels in heating**

Meeting EU's 2050 climate target means that by 2050, the residential heating and cooling sector will need to rely entirely on renewable, carbon neutral energy. Consumers and the economy need clarity on how EU and national policymakers intend to make this happen. Today, this is not yet the case.

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<sup>8</sup> AK, [AK Klimadialog: Ärmere Haushalte heizen mit Kohle, reichere mit Heizöl](#), February 2020.

Several cities and governments have already announced bans on fossil fuel heating appliances or the phase out of gas by a certain date.<sup>9</sup> While these announcements certainly provide an indication what the future of heating and cooling may be, they do not provide sufficient clarity nor guidance to consumers.<sup>10</sup>

For example, when a government announces a ban on heating oil appliances, consumers willing to replace their appliance still face a lot of uncertainty. Consumers may ask themselves, for example, whether a district heating and cooling network will reach their home in the coming years or whether they should install a heat pump.

To provide sufficient legal clarity to consumers, Member States should establish clear timelines for the phase-out of the use of each of the fossil fuels used in residential heating (i.e., coal, oil, LPG, fossil natural gas). The time horizon should be set in a way that:

- (1) provides consumers sufficient time to make appropriate investments;
- (2) it is mindful of the impact of these expenditures on households' finances;
- (3) allows the economy to ensure that low-carbon systems are produced in sufficient quantities and the workforce is adequately skilled, and
- (4) is sufficient for the development or for the upgrade of the energy infrastructure that consumers will need to rely on to satisfy their heating needs when will not be able to use those fossil fuels any more.

Measures to phase out fossil fuels may take the form, for example, of a ban on the installation of certain new fossil fuel heating systems, a requirement on property owners to replace these systems by a certain date, timeframes by which suppliers will not be able to sell fossil fuels or by which fossil fuel infrastructure will be decommissioned.<sup>11</sup>

Member States should also specify clear choices at the local level on what energy infrastructure and carriers will be available to consumers in the coming ten years, so that they can make their purchasing choices accordingly.

d. Include communication and awareness-raising activities to inform consumers of the change and what it means for them

Consumers are often not aware of national energy plans and strategies not only because topics like energy are generally less covered by mainstream media but also because energy markets are perceived by many as complex and therefore hard to engage with.

Awareness-raising activities reaching the widest possible audience are needed. These should explain the benefits of the transition for them, in terms of economic impact, health and comfort, and for the environment.

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<sup>9</sup> For example, the [Netherlands](#) announced the phase out of gas in buildings by 2050 and [Vienna](#) announced that new buildings located in so-called "climate protection areas" will have to rely on renewable heating systems or on district heating.

<sup>10</sup> An example of unclear planning is Lithuania, where the government decided to only halve (and not phase out) coal consumption by 2030, while strong action is not being taken to decrease reliance on peat and heating oil. In addition, fossil fuel subsidies are still abundant in Lithuania and there currently are discussions to only phase out subsidies to heating oil by 2022.

<sup>11</sup> A positive example comes from Austria where the government approved a plan to phase out fossil fuels in heating by 2040. To avoid negatively impacting low-income consumers, the government put in place long-term measures and made financial support available. As of 2020, no oil and coal heating systems can be installed in new buildings. As of 2021, no oil and coal heating systems can be installed to replace existing ones. As of 2025, all oil and coal heating systems older than 25 years must be replaced. This will enable the complete phase out of oil and coal in buildings by 2035. Regarding gas, as of 2025, no gas boilers can be installed in new buildings and no further expansion of gas networks to satisfy residential heating demand will be allowed.

Appropriate national funding should be foreseen for these activities, which should be carried out not only directly by national and local governmental bodies, but also by organisations specialised in providing advice to consumers, such as consumer organisations.

- e. Foresee incentives and financing mechanisms to support the switch to low-carbon heating and cooling

Even if the operational costs of efficient heating systems, such as a heat pumps are lower than those of a fossil-fuel based system, the initial cost barrier may be a problem for many consumers. Consumers willing to replace their fossil fuel boiler with a heat pump not only have to face the cost of the acquisition and installation of the appliance, but sometimes also that of the required improvement in the thermal insulation of the building.

Member States should introduce incentives, such as tax breaks, subsidised loans and/or other types of subsidies, to support consumers overcome the cost barrier of low-carbon heating and cooling systems.

- f. Foresee specific support to low-income households as well as middle-income households

Low-income households risk being left behind in the energy transition, especially in the heating and cooling sector, as the upfront cost barrier is more important for this category of consumers.

This is particularly problematic in the case of consumers relying on gas, as the number of gas users is expected to decrease, and this will have an impact on their bills. The reason is that the required investments in the gas network will be paid for by fewer consumers, which will lead to an increase in network tariffs and hence consumer bills. Therefore, the consequence may be that consumers without the financial means to switch away from gas will be penalised with higher gas bills.

Low-income consumers should not be penalised for their inability to switch. Member States should put in place specific measures to support low-income consumers and facilitate their transition to low-carbon heating and cooling systems. Financial support such as funding and subsidies, covering up to 100% the upfront costs, should be made available to them.<sup>12</sup>

At the same time, specific measures for middle-income households, who always risk being forgotten in all energy decarbonisation discussions, should be introduced, as the transition will have a big financial impact for them and may result in a significant reduction in their standard of living.

For this reason, governments should also introduce measures specifically supporting middle-income households' transition to sustainable heating and cooling systems.

- g. Ensure that consumers have access to a skilled workforce of installers and advisors, able to provide them with trusted advice on what system is best for them and able to install it properly

Consumer purchasing choices are heavily influenced by what options are offered by installers in their areas, particularly when it comes to heating and cooling appliances. For

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<sup>12</sup> As an example, the Austrian government made available €100 million euro for 2021 and 2022 to support low-income households to renovate their homes and to replace their heating systems.

example, the lack of skilled installers was identified as one of the main barriers to the installation of heat pumps in the United Kingdom.<sup>13</sup>

Member States should:

- finance training programmes for installers of heating and cooling systems to ensure that they are able to install and maintain low-carbon heating and cooling systems properly and to understand whether a building is sufficiently insulated to allow for their usage.
- ensure that independent energy advice is available to consumers, to help them make sustainable and cost-effective choices. Consumer organisations, alongside other independent organisations, have a history of providing advice on energy matters to consumers, but are often under-staffed due to budget limitations. Member States should support them financially, so that they can continue to carry out these activities and reach a wider audience.
- Member States should also encourage that skilled installers and energy advisors are available across their national territory, to ensure that all consumers effectively have access to them.

h. Be re-assessed at least every ten years

Member States should assess at least every ten years the progress made in decarbonising heating and cooling, by looking at the impact of the measures on consumers' living standards and on the environment.

Based on this assessment, they should draw updated plans for the next period, aimed to ensure compliance with EU and national climate and energy goals.

**To ensure consumers can make sustainable choices, national heating and cooling decarbonisation strategies should:**

- Be based on a thorough assessment of the characteristics of the existing building stock and its occupants
- Be swiftly developed
- Clearly specify infrastructure choices and include clear timelines for the deployment of new infrastructure and for the phase-out of fossil fuels in heating
- Include communication and awareness-raising activities to inform consumers of the change and what it means for them
- Foresee incentives and financing mechanisms to support the switch to low-carbon heating and cooling
- Foresee specific support to low-income households as well as middle-income households
- Ensure that consumers have access to a skilled workforce of installers and advisors, able to provide them with trusted advice on what system is best for them and able to install it properly
- Be re-assessed at least every ten years

<sup>13</sup> See, for example, Gleeson, [Residential heat pump installations: the role of vocational education and training](#), Building Research & Information, 2016.



### 3. Clear decisions should be made on the future role of gas, to ensure a cost-effective transition

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While fossil gas plays an important role in satisfying Europe's residential heating demand today, this is expected to radically change in the coming years and decades as a result of Europe's commitment to tackle climate change. For this reason, the gas industry is proposing to blend renewable hydrogen and renewable methane with natural gas to decarbonise the gas supply in Europe.

In the context of the upcoming Hydrogen and Gas markets Decarbonisation Package, the European Commission plans to amend the Gas Directive to facilitate the production and uptake of renewable hydrogen and gas. The current gas infrastructure is not ready to transport a gas mix containing a high share of hydrogen and therefore further investments into infrastructure would be needed.<sup>14</sup>

To increase the public acceptance of the energy transition in the residential heating sector, EU and national policymakers should promote infrastructure and fuel options that will lead to decarbonisation at the lowest cost to consumers.

The use of renewable hydrogen and renewable methane should be prioritised to those sectors (e.g., industry, aviation, maritime transport) which can only be decarbonised by using these fuels. As for residential heating, decarbonisation through renewable hydrogen and renewable methane is still connected to several uncertainties, including on future costs, and challenges. On the other hand, smart electrification represents a more proven solution. Therefore, BEUC is sceptical about relying on renewable hydrogen and renewable methane to decarbonise this sector.

Firstly, almost all the gas boilers on sale and in consumers' homes today can function with a gas mix containing a maximum 10% share of hydrogen and, if they are retrofitted, the maximum share they can accommodate is 20%. If hydrogen represents a significantly higher share of the gas supplied to consumers' boilers, these will inevitably need to be retrofitted or replaced.<sup>15</sup>

Secondly, gas pipes in consumers' homes can safely accommodate a gas mixture containing only up to 10% of hydrogen. The supply of higher shares of hydrogen would involve high costs and disruption for consumers, linked to the retrofit of gas pipes in their homes.<sup>16</sup>

Thirdly, heating with hydrogen boilers is a very inefficient option compared to smart heat electrification with heat pumps. The conversion of renewable electricity to green hydrogen through electrolysis leads to significant energy losses (20-30%) and, in addition, hydrogen boilers will only be able to reach a maximum efficiency level of 100%, while heat pumps, being able to benefit from the thermal energy contained in ambient heat, can reach much higher efficiency levels (even higher than 250%).<sup>17</sup>

Fourthly, it is commonly agreed that renewable hydrogen and renewable methane will be scarce resources and will be needed in some sectors, such as heavy industry and aviation, where they are the only viable carbon neutral option.

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<sup>14</sup> E3G, [EU gas infrastructure does not need more subsidies](#), October 2020.

<sup>15</sup> Marcogaz, [Overview of available test results and regulatory limits for hydrogen admission into existing natural gas infrastructure and end use](#), 2019.

<sup>16</sup> Marcogaz, [Overview of available test results and regulatory limits for hydrogen admission into existing natural gas infrastructure and end use](#), 2019.

<sup>17</sup> London Energy Transition Initiative, [Hydrogen. A decarbonisation route in buildings?](#), 2020.

Finally, if widely used in residential heating, green gas prices, particularly those of renewable hydrogen, may drastically increase because of high competition for these resources.<sup>18</sup> The implication may be that renewable hydrogen and renewable methane would not be the most cost-efficient option for heating consumers' homes.

For these reasons, EU and national policy makers should focus on more proven and easily scalable low-carbon solutions for the residential heating sector and there should not be a target promoting a blending of renewable gases in the gas supply in the upcoming revision of the Gas Directive.

**To ensure that the decarbonisation of residential heating takes place at the lowest possible costs to consumers, the EU should not promote reliance on renewable gases in this sector. Instead, the EU should prioritise more proven and scalable options, such as smart electrification.**

#### **4. Affordability and a fair distribution of costs should be at the core of heating and cooling decarbonisation**

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Heating and cooling decarbonisation will likely result in rising energy prices for consumers, as final energy prices are expected to increase.

In its 2030 Climate Target Plan, the European Commission expects that electricity prices to final consumers will increase by 32% in the next 30 years, because of increased grid management costs.<sup>19</sup> Overall, this will lead to higher energy bills for consumers, as the Commission expected that their energy expenditure will be over €3,100/year in 2050, up from €2,672/year in 2015.<sup>20</sup>

While over 90% of European citizens believe that climate change is a serious problem and call for legislation to protect the environment,<sup>21</sup> affordability is and will likely remain the primary concern for most Europeans. Around 34 million Europeans cannot afford to keep their homes adequately warm.<sup>22</sup> Likely rising energy prices will affect the poorest segment of the population the hardest, as energy represents a larger share of their overall expenditure.<sup>23</sup>

To ensure affordable energy bills, the European Commission and Member States should:

- a. Improve the energy efficiency of heating and cooling products and ensure that the benefits of efficient systems are clearly communicated and passed on to consumers

The Ecodesign Directive sets minimum energy efficiency requirements for energy-related products, including heating and cooling appliances. These are tightened over time to reflect technological developments. For some heating appliances, more stringent requirements

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<sup>18</sup> E3G, [EU gas infrastructure does not need more subsidies](#), p. 5, October 2020.

<sup>19</sup> European Commission, [Impact assessment accompanying COM\(2020\)562: Stepping up Europe's 2030 climate ambition – Investing in a climate-neutral future for the benefit of our people](#), 2020.

<sup>20</sup> European Commission, Impact assessment, 2020.

<sup>21</sup> Kantar, [Special Eurobarometer 501 – Attitudes of Europeans towards the environment](#), 2020.

<sup>22</sup> EU Energy Poverty Observatory, [Addressing Energy Poverty in the European Union: State of Play and Action](#), 2018.

<sup>23</sup> In 2015, energy represented 7.3% of the total expenditure of the bottom income quintile in the EU and this figure decreases to 4.4% for the highest earning one. Eurostat, [Structure of consumption expenditure by income quintile and COICOP consumption purpose](#) [hbs\_str\_t223].

would be needed to promote cost-effective decarbonisation of the sector.<sup>24</sup> The European Commission should propose more ambitious Ecodesign requirements to help consumers use less energy and reduce their greenhouse gas emissions.

In addition, the current energy label for central heating and cooling appliances is not fit for purpose. Consumers today are misled into thinking that boilers labelled as “A” are among the best in class. However, much more efficient products, such as heat pumps, are widely available on the market, and are today labelled as “A+”, “A++” and “A+++”.

The European Commission should urgently rescale the energy label for central heating and cooling appliances, leaving the class “A” empty, to ensure that consumers receive clear information so that they can choose the most efficient products. This will also stimulate manufacturers to innovate, as they will be seeking to produce and put on the market more efficient products, to be able to label them as “A”.<sup>25</sup>

Finally, consumers do not currently receive information on the efficiency and of the operating costs of portable electric heating appliances, as these products are exempt from energy efficiency labelling requirements. Hence consumers are unable to understand which are the most efficient appliances and how relying on them will impact their electricity bills. Portable electric heating appliances are quite inefficient products with very high running costs and, if an energy label were applied to them, most of them would consistently rank in the lowest classes of the scale.

Energy efficiency labels should apply to these products, to enable consumers to compare among different heating systems and choose the most efficient ones.

b. Promote energy efficiency improvements: it is a no brainer

Increasing the energy efficiency of buildings and of heating and cooling systems will help consumers to partially mitigate the impact of rising energy prices.

Upfront costs are and will remain one of the main barriers to the purchase of low-carbon heating appliances and the improvement of buildings’ energy efficiency. To address this issue, the EU is making important amounts of funding available through the EU budget. These measures will only be successful if this funding effectively reaches homeowners and tenants, with a particular focus on lower-income households.

Member States and, where appropriate, regional and local authorities, should provide consumers monetary incentives, such as tax breaks and/or lump-sum subsidies, to support the purchase of energy efficient technologies and/or home renovations. Incentives covering up to 100% of the cost of energy efficiency measures should be made available to low-income households.

c. Provide adequate incentives and safeguards to consumers, so that they can provide demand response to the system and reduce the need for infrastructure investments

The increase of overall electricity demand and of demand peaks linked to the electrification of heating and transport will require significant investments to reinforce the electricity network. Consumer behaviour can help reduce the need for these investments, as households can provide their flexibility to the electricity system, for instance by adapting their electricity consumption and therefore ‘flattening’ their demand peaks. However, consumers will only provide this flexibility to the network if they are fairly compensated for this service and if they are given adequate safeguards.

<sup>24</sup> As regards local space heaters, see, for example, [ANEC-BEUC, Consumer Organisations’ comments on Ecodesign and Energy Labelling for Local Space Heaters](#), 2019.

<sup>25</sup> ANEC-BEUC, [The new energy label – back to the A-G scale!](#), 2017.

To fully unlock consumers' demand response potential, automated heating and cooling appliances will need to be widely rolled out in Europe. As they are often more expensive than conventional appliances, the compensation for consumers' flexibility should be sufficient to make these appliances financially interesting. Financing schemes should also be made available to consumers, to help make these investments worthwhile for more of them.<sup>26</sup>

Finally, consumers may not be able or willing to provide their flexibility and they should not be penalised for this. Affordable non-dynamic electricity tariffs should always be available to them.

d. Give the right price signals to consumers: address the imbalance in the carbon price and energy taxes and levies between fossil fuels and sustainable energy carriers

Consumers relying on electricity today contribute disproportionately more for the energy transition than fossil fuel users, as a result of higher excise duties, taxes and levies.

At the EU level, electricity is subject to a carbon price, as its production falls under the Emissions Trading System, while fossil fuels are not.

In most Member States, taxes and levies on electricity are higher than those on coal, heating oil and natural gas, both in absolute value and as a share of the total price. On average, taxes and levies in the EU represent 40% of the final electricity prices for household consumers, compared to 26% of gas or 32% for heating oil.<sup>27</sup>

As a result of this imbalance, the "true" cost of energy, which also includes the impact of our energy choices on the environment, is not well reflected in energy prices. The EU and Member States should address this imbalance and ensure that consumers receive the right price signals.

The European Commission should ensure that all energy carriers are equally treated when it comes to carbon pricing, addressing the existing imbalance between electricity and fossil fuels.

Member States should reform national taxes and levies to ensure that the burden of the energy transition is spread among all energy carriers in a way that does not discourage consumers from adopting sustainable options.

e. Assess the distributional impact of heating and cooling decarbonisation and protect vulnerable consumers

Rising energy prices linked to an increase in energy production costs or the introduction of a carbon price may have a detrimental effect on consumers, especially those in vulnerable situations and living on a low income. Some consumers will be unable to avoid price increases by switching to low-carbon heating and cooling systems. For example, consumers renting a house with a fossil fuel-based heating and cooling system would be unable to switch to a low-carbon system, as these decisions are made by their landlord.

The distributional impacts of heating and cooling decarbonisation policies should be carefully assessed and detrimental effects on vulnerable consumer groups should be minimised. Effective measures should be put in place to ensure that consumers are

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<sup>26</sup> BEUC, [The future of energy consumers](#), 2019.

<sup>27</sup> European Commission, Energy [Prices and Costs in Europe](#), 2019, SWD (2019) 1.

effectively protected by the detrimental effects that decarbonisation efforts may have on their living standards.<sup>28</sup>

Examples of measures to protect vulnerable consumers include:

- Exemptions/reductions of renewable energy taxes, levies or VAT;
- Lump-sum payments to all households, with a particular focus on low-income households, financed through the income from energy taxation<sup>29</sup>;
- Incentives supporting the switch to low-carbon heating and cooling systems.

f. Apply the 'polluter pays' principle and distribute the costs of the energy transition fairly

A fair distribution of the energy transition costs between consumers and companies is key for its social acceptance. In the energy sector, many energy-intensive industries have been exempted from (some of) these costs, as they have benefitted from state aid or exemptions/reductions from energy taxes or levies. Such discounts or subsidies, which are usually claimed as necessary to keep EU companies competitive, hinder the decarbonisation of the energy sector and harm consumers because they bear a bigger share of the energy transition costs, which results in higher electricity bills.<sup>30</sup> Any unfair distribution of the costs of the energy transition puts the public acceptance of the energy transition at risk. The polluter pays principle should be guiding the upcoming revision of the Guidelines on State aid for Environmental protection and Energy (EEAG).

In the upcoming review of the Energy Taxation Directive, the European Commission should evaluate and reduce the list of exemptions from energy taxation included in the Energy Taxation Directive.

Similarly, the European Commission should regularly review the list of industrial sectors exposed to carbon leakage included in the Emission Trading System (ETS) State Aid Guidelines. State aid measures should be allowed only when it is strictly necessary to maintain international competitiveness. Only a very limited number of sectors should be allowed to receive state aid and there should be strict conditions for companies to step up their decarbonisation efforts. The European Commission should also develop and implement an effective monitoring system to examine whether the state aid actually prevents carbon leakage as companies might move their production facilities to third countries despite having received billions of euros.

In addition, in the next years, we see a risk that households may subsidise the production and distribution of hydrogen, which will be used in the industrial sector, through their gas bills or network charges. In the upcoming Hydrogen and Gas markets Decarbonisation Package, the European Commission should ensure that cross-subsidisation of hydrogen production and infrastructure is avoided. The investments made to produce hydrogen and to develop a hydrogen network for the industrial sector should not be recovered through higher energy and network tariffs for households.

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<sup>28</sup> Portugal recently approved a reform that applies an intermediate VAT of 13% (instead of 23%) to the first 100kWh of electricity consumption used by each household. The threshold is 150 kWh for families of more than 5 elements. The measure is meant to support vulnerable consumers, but the threshold is too low for consumers to gain any tangible benefit.

<sup>29</sup> For example, in Switzerland, the CO<sub>2</sub> price is retroceded to all consumers through a reduction in health insurance premiums, which are mandatory for all Swiss residents. See, for example, IETA, [Switzerland: An Emission Trading Case Study](#), 2015.

<sup>30</sup> For further information, BEUC, [Letter to Mr Johannes Laitenberger – Future State aid decisions related to energy must better protect the interest of consumers](#), 2019, BEUC-X-2019-044/MGO/rs. See also a case study from Austria, AK Wien, [Power Burden - Consumption and Cost Sharing in the Austrian Electricity Sector](#), 2019.

**To ensure that the decarbonisation of the heating and cooling sector is affordable and that low- and middle-income consumers are not left behind, the European Commission and Member States should:**

- Improve the energy efficiency of heating and cooling products and ensure that the benefits of efficient systems are clearly communicated and passed on to consumers
- Promote energy efficiency improvements
- Provide adequate incentives and safeguards to consumers, so that they can provide demand response to the system and reduce the need for infrastructure investments
- Give the right price signals to consumers, by addressing the imbalance in the carbon price and energy taxes and levies between fossil fuels and sustainable energy carriers
- Assess the distributional impact of heating and cooling decarbonisation and protect vulnerable consumers
- Apply the 'polluter pays' principle and distribute the costs of the energy transition fairly

## 5. All consumers should enjoy appropriate rights and protections

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### 5.1. Gas markets

Although the role of gas will decrease in the future, it is important to bear in mind that consumers' rights and protections in gas markets are still lagging behind compared to those in electricity markets, following the latest revision of the Electricity Directive. Billing, easiness to switch and metering are among some of the fields in which consumers are less protected in gas markets than they are in electricity markets. For this reason, we welcome the European Commission's planned revision of consumer rights and protections in gas markets. In the upcoming legislative revisions, the European Commission should seek to:

- Align consumer rights in gas and electricity;
- Where this alignment results in higher costs for consumers (i.e., the installation of a smart gas meter is required to deliver services such as instant metering), make any decision on the basis of a thorough cost-benefit analysis executed in the context of the revision.

In addition, although they are more common for electricity, we observe that, increasingly, gas suppliers are also offering green contracts.<sup>31</sup>

However, misleading and unclear 'green' offers and claims may significantly undermine consumers' confidence and trust in gas markets. When opting for a 'green' tariff, consumers expect that their choice has a positive impact on the environment, and that they contribute financially to an increase in renewable energy production. This is only the case if consumers' decisions lead to the generation of additional green energy and to additional benefits for the environment.

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<sup>31</sup> For example, UK supplier [Green Energy UK](#) and French supplier [Engie](#) (limited to professional customers) offer renewable gas supply contracts to their customers.

In the case of renewable gases, there will be several types of gases advertised as 'green', with different levels of sustainability and different implications for consumers. Consumers should clearly know what the implications of the type of energy they purchase are for themselves and for the environment.

In the upcoming revision of the Hydrogen and Gas markets Decarbonisation Package, the European Commission should ensure that 'green' gas offers are:

- a. Tied to measurable criteria linked to additional environmental benefits

For example, the Danish Consumer Ombudsman adopted national guidelines on green electricity offers. The guidelines foresee that the highest sustainability score is only given when the energy supplied is 100% of renewable origin and when the electricity supplier contributes to the generation of an amount of green electricity at least equal to the amount that it supplies.<sup>32</sup> Similarly, the Austrian Energy Regulator E-Control adopted an ordinance on mandatory disclosure of the origin of gas and a voluntary disclosure of its environmental effects.<sup>33</sup>

The European Commission should not allow gases to receive a green label or be marketed as "green, sustainable" or any other general, non-specific claim, unless they are 100% from renewable sources and their subscription leads to additional generation of renewable energy.

- b. Kept simple: either an offer is sustainable, or it is not;
- c. Pre-approved by National Regulatory Authorities, to avoid greenwashing practices.

In the UK, the energy regulator (Ofgem) requires suppliers to prove the green credential of their products. Suppliers have to submit proof of the renewable energy source of the electricity that they sell, have to invest additional funds to increase renewable energy production and have to inform consumers on how their tariffs benefit the environment.<sup>34</sup>

## 5.2. District heating sector

District heating already provides sustainable heat in several EU countries, such as Sweden, where it satisfies 50% of the country's heating needs in a sustainable way. In addition, the further extension of heat networks will be important to cost-effectively decarbonise the heating and cooling sector.

However, we observe that in several countries there are significant differences between the protections granted to consumers relying on district heating and those who have an electricity or gas supply contract.

The 2018 revisions of the Energy Efficiency and Renewable Energy Directives increased consumer protections in the district heating sector. However, significant differences still exist between the protections granted to consumers relying on district heating and to those who have an electricity or gas supply contract.

Consumer protections in district heating are extremely important because heat suppliers operate under a natural monopoly. The inability to switch supplier means that consumers are in a weak position, as they are not able to choose those companies which set the most

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<sup>32</sup> Forbrugerombudsmanden, [Nye retningslinjer skal gøre det nemmere at vælge grøn strøm](#), 2020.

<sup>33</sup> E-Control, [Ordinance on gas labelling and disclosure](#), 2019.

<sup>34</sup> Ofgem, [Protecting Domestic Consumers in the Green and Renewable Tariffs Market](#), 2014.

favourable prices and conditions. This may lead to unfair practices, which relevant legislation should ban.

BEUC members identified several problems that consumers with a district heating supply contract face in European markets:<sup>35</sup>

- a. Lack of transparency in price structures and billing;
- b. Clauses on price increases are unclear and hard to understand;
- c. Long-term contracts that often consumers cannot terminate for technical or legal reasons. When this is allowed, consumers must provide very long notice periods;
- d. High level of complexity, as there is a high number of contractual partners, which increases final prices to consumers;
- e. Poor price control, as there is no sector-specific oversight and there are only limited price controls in place;
- f. Inadequate consumer protections, for example regarding disconnections;
- g. Lack of extra-judicial dispute resolution mechanisms, as there is no mandatory participation of companies to Alternative Dispute Resolution Schemes, such as arbitration;
- h. Lack of transparency concerning energy sources, emissions and network losses.

To adequately protect consumers engaged in district heating contracts,<sup>36</sup> in the upcoming revision of the Energy Efficiency Directive, the European Commission should introduce the following protections:

- a. Local authorities should carry out a thorough public consultation when they consider developing a district heating network. All affected homeowners, and associations thereof, should be given the opportunity to easily provide their feedback on the plans.
- b. Apartment buildings and single-family houses should be able to opt out from the requirement to a mandatory connection to a district heating and cooling network. While the district heating company is planning the development and deployment of the heat network, apartment buildings should receive an estimation of what the heating costs will be, compared to the costs they incur using the system they currently rely on and should always have the option not to connect to it.
- c. Apartment buildings and single-family houses should have the right to terminate a district heating and cooling supply contract. National authorities should ensure that where the termination of a contract results in direct costs for the district heating and cooling company, the termination fee does not exceed such costs. This should always be granted particularly when it can be demonstrated that the planned alternative solution will result in a better energy performance.
- d. Apartment buildings and single-family houses should be allowed to reduce the contracted heat load, following an energy-focused building refurbishment.
- e. A uniform tariff model and pricing structure should be established, with a compulsory provision of a cost breakdown, clearly showing the amount of the standing charges and the costs related to the heat supply. This would allow consumers to better compare the cost of heat and cool supply with the cost of heating and cooling their homes with alternative systems. Housing providers should provide tenants and buyers clear and accurate information – including on price – before they commit to living in a property with a district heat network.

<sup>35</sup> See, for example AK Europa, [District Heating and Cooling - Demands from a consumer's perspective](#), 2019.

<sup>36</sup> See, for example AK Europa, [District Heating and Cooling. Demands from a consumer's perspective](#), 2019 and vzbv, [Babylonische Preisverwirrung auf dem Fernwärmemarkt](#), 2019.



- f. All district heating suppliers should provide information on the share of fuel used, greenhouse gas emissions and distribution losses. Currently, the Energy Efficiency Directive (Annex VIIa) allows Member States to exempt suppliers with a total thermal input below 20 MW from the requirement to provide information about greenhouse gas emissions.
- g. National Regulatory Authorities should establish price monitoring mechanisms. Consumers should be provided with safeguards and redress mechanisms to prevent and eliminate abusive practices.
- h. Consumers should be regularly billed in a clear and transparent way. Building managers should ensure that district heating bills that they provide to consumers enable them to understand how their bill is calculated, what period the bill covers and how much of their bill is made up of standing charges.
- i. District heating and cooling suppliers should have an obligation to participate in Alternative Dispute Resolution schemes (ADR). This is already the case for electricity suppliers, as a result of the revised Electricity Directive.

**To ensure that all consumers enjoy an appropriate level of protection across all energy markets, the European Commission should:**

- Align consumer rights in gas and electricity, also ensuring that when this alignment leads to higher costs to consumers, the decision is made on the basis of a cost-benefit analysis.
- Ensure that consumers have simple and trustworthy information on the sustainability of the energy that they buy
- Strengthen consumer rights and protections in the district heating sector.

END



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