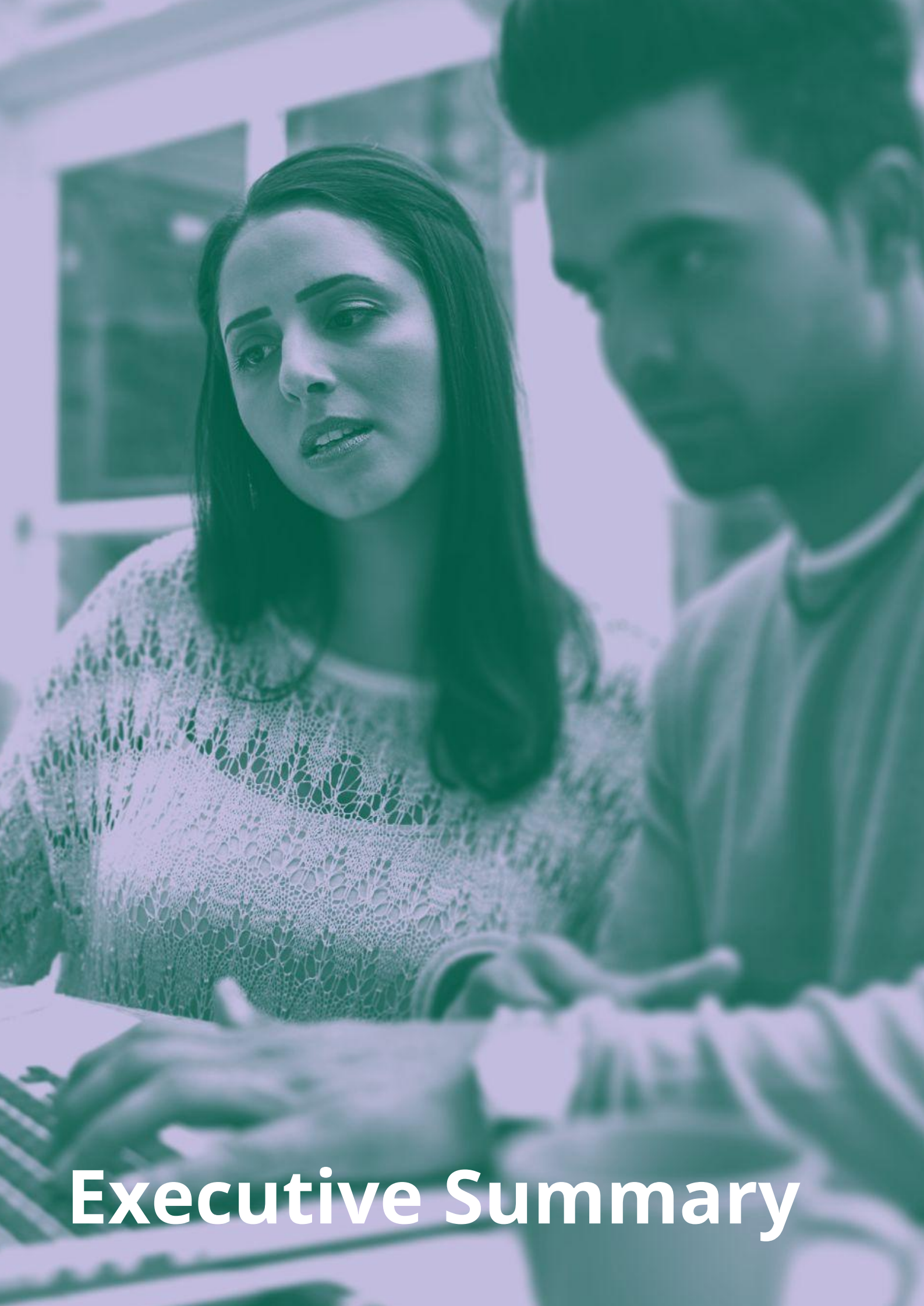
The Great Grid Switch Off

How to fairly manage the transition away from gas

Contents



Executive Summary

85% of homes in the UK are currently on the gas grid[1], primarily using gas for heating and cooking. To reach net zero targets by 2050, households will have to decarbonise their heating by moving away from fossil fuels. Government policy direction and independent advisers suggest that most consumers are likely to move to electrified heat sources such as heat pumps, and disconnect from the gas grid.[2]

If people move away from using gas in their homes, the costs associated with funding and maintaining the gas grid will be shared across a decreasing number of households and businesses. This means gas consumers' bills will increase, particularly from 2040 onwards. There are other factors that could also increase consumers' gas bills in the future. This includes how the costs of disconnecting households from the grid and decommissioning parts of the gas grid are paid for, and how quickly investment made into the gas grid is paid off by consumers.

The main finding of this research is that the business as usual approach to maintaining and financing the gas grid will become unsustainable. It will not be possible for all the costs discussed in this report to be recovered from consumers' gas bills. Some element of public funding and development of other alternative funding models will be essential to achieve a cost-effective and efficient transition away from using gas.

It is Citizens Advice's view that there is little realistic prospect of the numbers in this report happening in the real world. **The gas bill projections we present are a worst case scenario that might occur if the government takes no action to mitigate the impacts on household bills.**

Overall, moving to an electrified economy should be more efficient and reduce the cost to consumers, who will no longer need to pay for both gas and electricity networks to provide energy to their homes.

In order to maintain consumer confidence throughout the transition, the **government must develop a clear strategy for this transition that prioritises consumer engagement and provides people with timely protection from escalating costs**. This must be an essential part of the future heat decarbonisation roadmap.

Our Research

We commissioned Frazer-Nash Consultancy to create a model to understand how gas bills could change in the future, and how different policy decisions could impact them. In a future where millions of consumers are disconnecting from the gas grid, **we found that gas bills start to rise in 2040 and continue to increase rapidly until all consumers are disconnected from the gas grid**.

The main driver for this increase in gas bills is that the same network charges for maintaining the gas grid are being spread across fewer and fewer consumers. This research does not consider how increasing gas bills would affect the rate at which people disconnect from the grid. In reality, as gas bills increase there will be a greater financial incentive for consumers to decarbonise their homes. This could mean people disconnect at a faster rate and bills spike earlier than suggested in this research. Alternatively, if a date later than 2050 is targeted for decarbonising households and consumers leave the network more slowly, gas bills will still increase to unaffordably high levels, but at a slower rate than projected in this research.

As part of this research, we also looked at the effect other policy choices have on gas bills:

- **Recovering disconnection costs through gas bills:** The current regulatory framework allows the costs of disconnecting homes from the gas grid to be socialised. This means that the costs of removing gas pipes to individual homes are spread among all the households remaining on the gas grid. Our research found that if this approach continues then disconnection costs will dramatically increase gas bills in the 2040s as more households disconnect from the grid.
- **Recovering decommissioning costs through gas bills:** Currently the UK government hasn't yet allocated any specific funds for decommissioning the gas grid. Decommissioning legacy infrastructure is not unusual. The UK has previously decommissioned town gas, nuclear, oil and gas power stations and mines - with some of these at significantly greater cost than expected cost for decommissioning gas networks. We looked at the effect that recovering decommissioning costs from gas consumers would have on gas bills and found that it would further increase the post-2040 spike in gas bills for consumers.
- **Increasing the rate at which investment in the gas grid is paid off:** Gas network regulation is currently based on a 45 year asset depreciation timeline, i.e. an investment made today will not be fully paid off by consumers until 45 years from now. We looked at the effect accelerating depreciation to pay off investment sooner would have on gas bills. We found that accelerating depreciation has a less substantial effect on bills. We estimated that gas bills would be increased slightly until the late 2030s, at which point they would become cheaper than if depreciation was not accelerated. This suggests that accelerating depreciation does not address the fundamental problem of paying for the gas grid in the 2040s.

Choices about levy rebalancing and how this will affect gas bills in the future are not considered in this report. Levy rebalancing refers to adjusting the distribution of policy and environmental levies, such as those funding renewable energy subsidies, energy efficiency schemes, and social support, between gas and electricity bills. Currently in the UK a greater share of policy levies is placed on the electricity unit rate. This imbalance means that low-carbon electricity is made more expensive relative to gas, which may disincentivise people from adopting low carbon technologies, particularly heat pumps.

Recommendations

The figures in this report show that the business as usual approach to maintaining and financing the gas grid is unsustainable. Policy choices about disconnection and decommissioning costs and depreciation timelines could affect who pays for the gas grid, when they pay and how much it costs. **Ofgem and Government should work together to ensure that the costs of decarbonising homes are distributed fairly.** In particular, we recommend the following:

- Ofgem is currently reviewing the gas disconnections framework. Ofgem needs to use this review to ensure that the disconnections framework delivers a fair way for costs to be recovered, and a clear customer journey for households who wish to disconnect. **Government needs to consider ways to support households wishing to decarbonise their home, but who cannot afford the upfront costs of disconnection.** On average consumers currently pay £1950 to disconnect their home from the gas grid and this is predicted to rise to £2300 by 2030.[3]
- **The Government needs to urgently begin work to review the potential decommissioning costs associated with the decline of the gas grid, and identify appropriate ways for this to be paid.** This review needs to include mapping of where gas networks will need to be decommissioned and where they still have potential value, for example by potentially repurposing them for hydrogen or other uses. Delaying this work will result in confusion for industry participants, and make it harder to manage decommissioning in a cost-effective and efficient way.
- The Government has announced their intention to work with Ofgem and industry to explore options about how best to recover the remaining investment in the gas networks, with the aim to decide on policy to inform investment recovery prior to the start of the RIIO-4 price control in 2031. **We welcome the opportunity to determine an approach to investment recovery that is fair, affordable and resilient.**

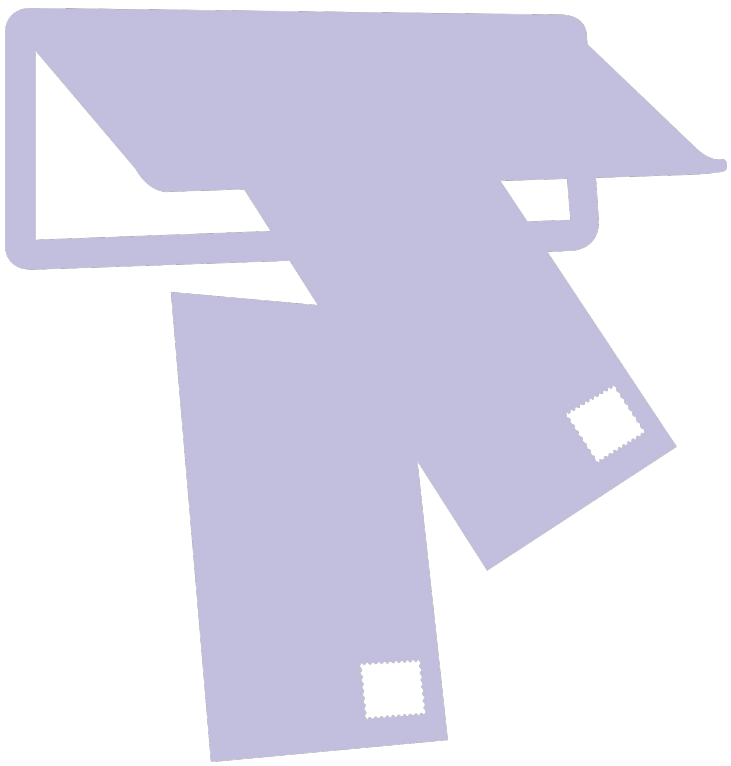
However these policy interventions are still not enough to sufficiently reduce the spike in gas bills throughout the 2040s. **The current approach to reaching net zero relies on consumers making individual choices about their home heating system in response to market indicators such as price signals and one-off government grants.** These signals need to improve, to enable consumers to be able to access the benefits of transitioning to clean heating. However, over the longer term this model will result in an uncoordinated decline in the demand for gas. The reduction in gas users will occur unevenly across different consumer groups, and different regions of the UK. Without intervention, this would result in escalating gas bills, which would disproportionately impact those who are unable to switch fuel, for instance because they are unable to afford the upfront costs or make changes to their home.

To avoid consumers facing a future spike in gas bills, the government will need to move towards a more coordinated approach to the transition to ensure a managed decline in the usage of gas. Transitioning away from gas requires not just individual action but coordinated infrastructure planning, workforce development, supply chain scaling and consumer and community engagement. Leaving this to evolve organically through consumer demand could result in delays and inefficiencies. **A planned, government-led approach is essential to ensure the transition is fair, efficient, and timely.** There is precedent for this approach in how the government is looking to expand the electricity grid and renewable generation, and in the previous transition from town gas.

The Government has acknowledged that it will need to play a key role in planning what a phased, well-paced transition away from gas might look like and that it needs to work closely with consumers, industry and stakeholders.[4] They have announced their intention to publish a call for evidence in 2026 that seeks views on how to ensure the transition is conducted in a way that is fair, planned and orderly.[5]

Citizens Advice intends to do further research to establish what type of framework for transitioning away from gas would be cost effective, minimise unnecessary disruption and best ensure consumer protection. We believe the following principles should underpin the government's approach to transitioning away from gas:

- Early policy intervention that will make sure that households are protected in the transition. The government needs to provide reassurance that they will act early to protect consumers from any potential gas bill spikes.
- Ensuring the costs of transitioning away from gas are shared fairly across investors, taxpayers, and both current and future gas consumers.
- Prioritising consumer protection and engagement.
- Clear planning and coordination across government, regulators, industry, and local authorities to ensure the success of the transition



Methodology

Methodology

We commissioned Frazer-Nash Consultancy to build a Bayesian network model, a type of probabilistic graphical model, to forecast future gas bills. This approach produces a probabilistic forecast, which considers a range of future possibilities. Bayesian network models provide a robust method for solving complex problems and are suited to incorporating uncertain data.

The model is underpinned by a dependency map, which is used as the basis for the modelling framework. The dependency map captures the key elements, and relationships between these elements, that determine the calculation of gas bills. This dependency map was developed through research and conversations with Citizens Advice and external stakeholders, including Ofgem, NESO, National Gas Transmission and gas distribution networks. Data was inputted into the model as probability distributions, capturing the uncertainties in market behaviour, network charges and policy effects.

A more detailed explanation of the model's assumptions and limitations can be found in Appendix B.

Accelerated depreciation

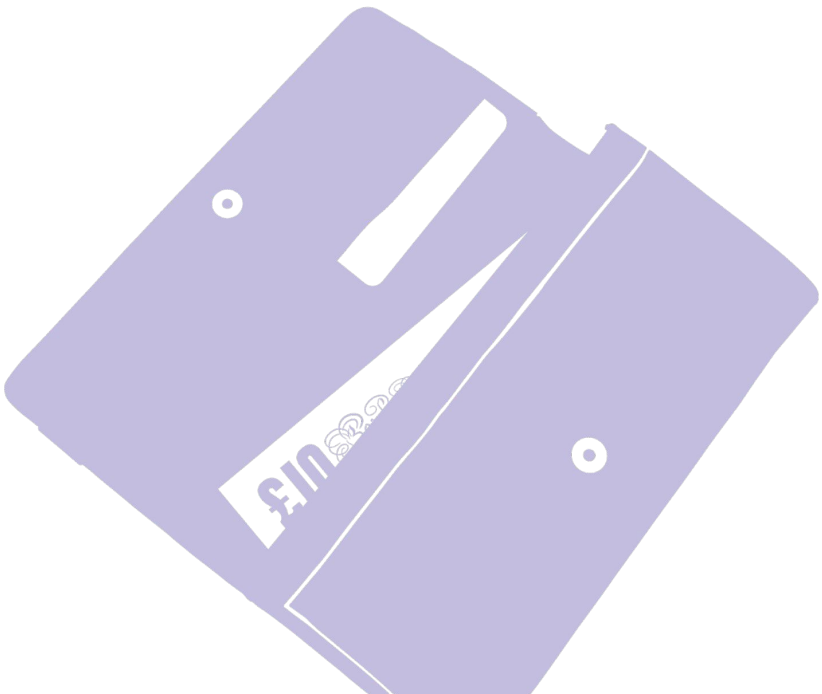
Accelerated depreciation

The amount of outstanding capital value in networks which has not been paid for by consumers is referred to as the Regulated Asset Value (RAV). Gas network regulation is currently based on a 45 year asset depreciation timeline, i.e. **investment made in the grid today will not be paid off by consumers until 45 years from now**. If net zero targets are met via electrifying demand, then there will be no domestic gas consumers by 2050, meaning that there are no consumers left to recover the remaining asset value from. The Regulatory Assistance Project estimated even if there was no further investment in the network beyond 2026, then the gas networks' RAV would be around £4 billion in 2050.[6]

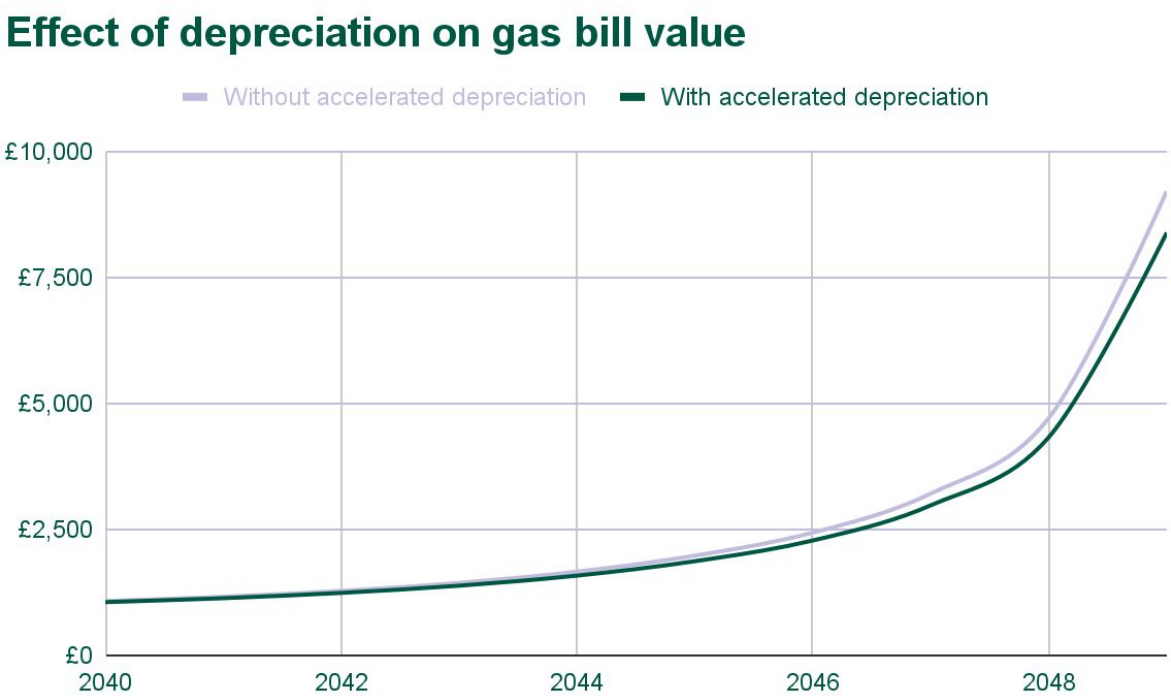
This could create a risk of asset stranding, meaning that the value invested in the gas network assets cannot be recovered. Citizens Advice has previously stated that we believe this is only a perception of stranded asset risk. We aren't convinced that the RAV needs to be fully depreciated by a certain date and that other solutions can be developed, including funding through taxation.[7] We don't believe that reducing the RAV should be the driver for making decisions about accelerating depreciation.

However, to combat this perception of risk of asset stranding, **Ofgem have decided to introduce accelerated depreciation in the next price control period**. In their draft determinations for the RIIO-3 price control period, Ofgem has stated that their intention is to retain the current depreciation profile for existing assets. However depreciation for new investments will be accelerated to ensure investment is returned by the government's net zero target date of 2050.[8] The final decisions on the pace and form of regulatory depreciation for the gas distribution and gas transmission networks will be taken at the RIIO-3 final determinations in late 2025.

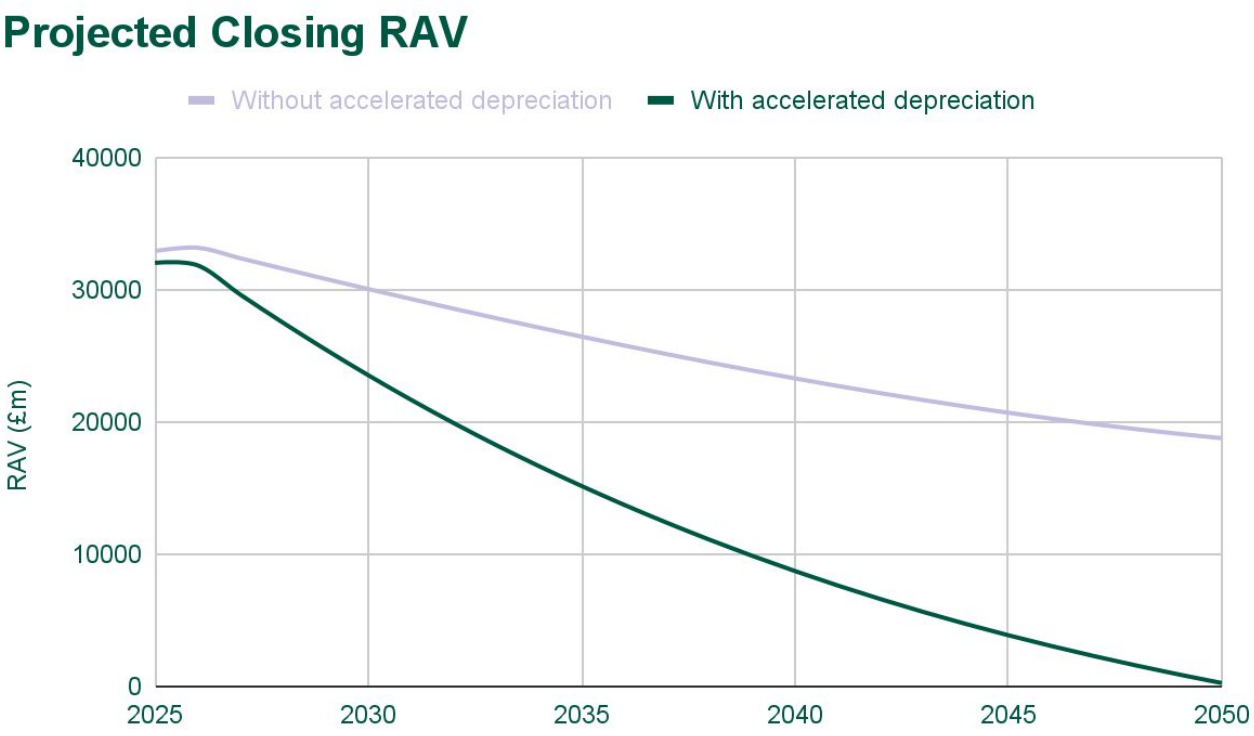
In our research we looked at the effect that accelerated depreciation would have on consumer bills. In this modelling we assumed that the existing RAV would be depreciated on a 24 year timeline to ensure it was fully paid off by 2050, and with a variable depreciation factor meaning that more of the RAV is paid off earlier. We also assumed that new investment would be depreciated with asset lives set to end in 2050. This type of accelerated depreciation is one of the options Ofgem outlined in their RIIO-3 Sector Specific Methodology Decision[9] and is more aggressive than the form Ofgem have outlined in their draft determinations.



We found that this form of accelerated depreciation does not have a substantial effect on bills. We estimated that gas bills would be increased very slightly until the late 2030s, at which point they would become cheaper than if depreciation was not accelerated. The significant spike in gas bills witnessed in the 2040s is reduced slightly. However **as gas consumer numbers reduce the gas bill still reaches unaffordable values**.



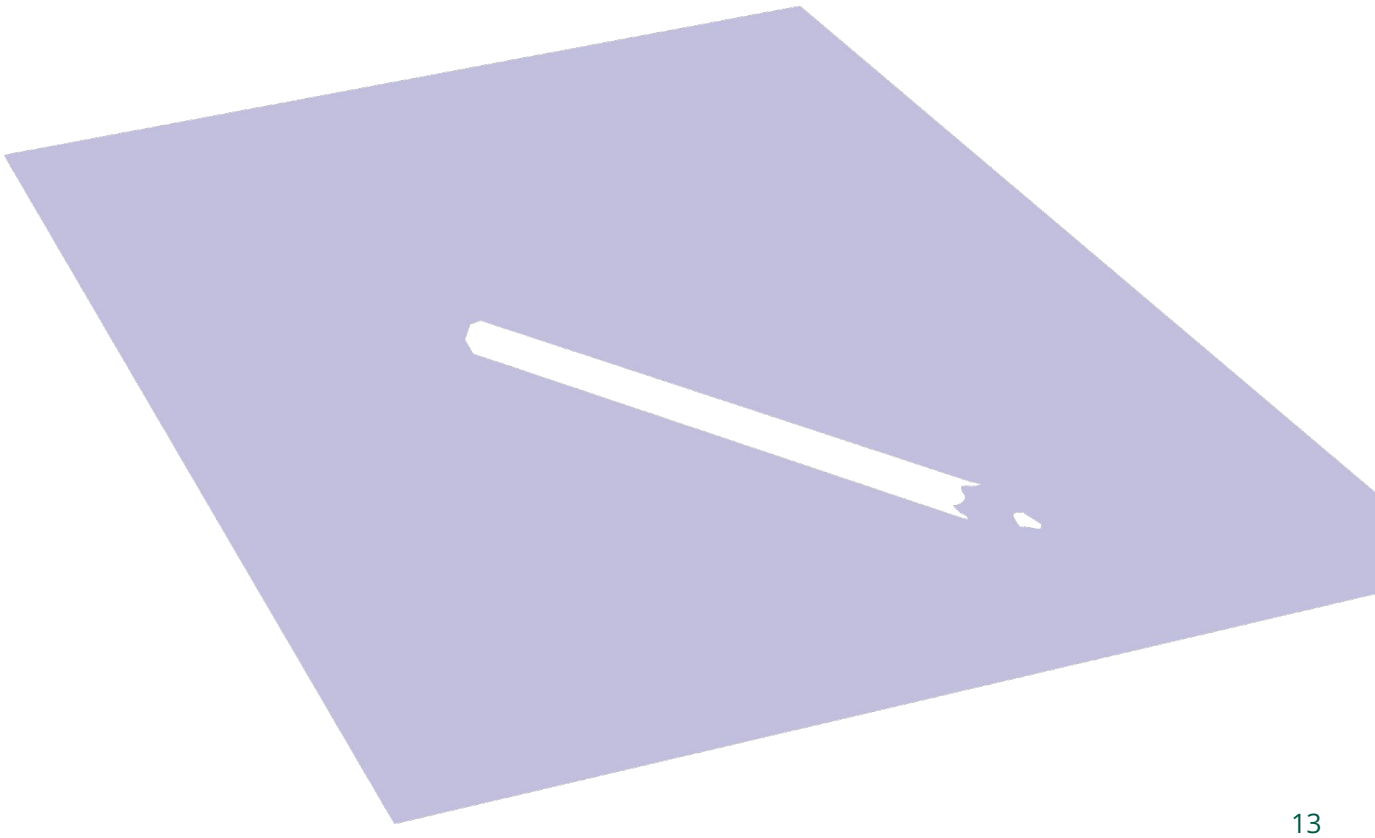
We also found that the impact of accelerated depreciation on the closing RAV from 2024 to 2050 was significant. The below graph shows that introducing this form of accelerated depreciation significantly increases the likelihood of clearing the RAV balance by 2050.



Recommendations

Accelerating depreciation reduces the potential risk of future asset stranding, however there may be alternative methods to recover the RAV. Government has announced their intention to work with Ofgem and industry to explore these options, with the aim to decide on policy to inform investment recovery prior to the start of the RIIO-4 price control in 2031.[10] Government will publish a call for evidence on network investment and affordability in autumn 2025 to seek views on potential investment recovery options. We welcome the opportunity to engage in this discussion. We believe that the approach to investment recovery in future price control periods should be underpinned by the following principles:

- **Intergenerational Fairness:** The depreciation schedule should ensure that the costs of gas infrastructure are fairly distributed between current and future consumers. Those who benefit most from the network today should contribute proportionally to its costs, avoiding a situation where future consumers are left paying for assets that are no longer in use.
- **Affordability:** Any changes must consider the impact on consumer bills, especially for low-income and vulnerable households. Measures such as targeted support may be necessary to mitigate disproportionate cost burdens
- **Flexibility and Adaptability:** The approach should allow for periodic review and adjustment in light of technological developments (e.g. if networks can be repurposed), changes in demand patterns, or policy shifts.



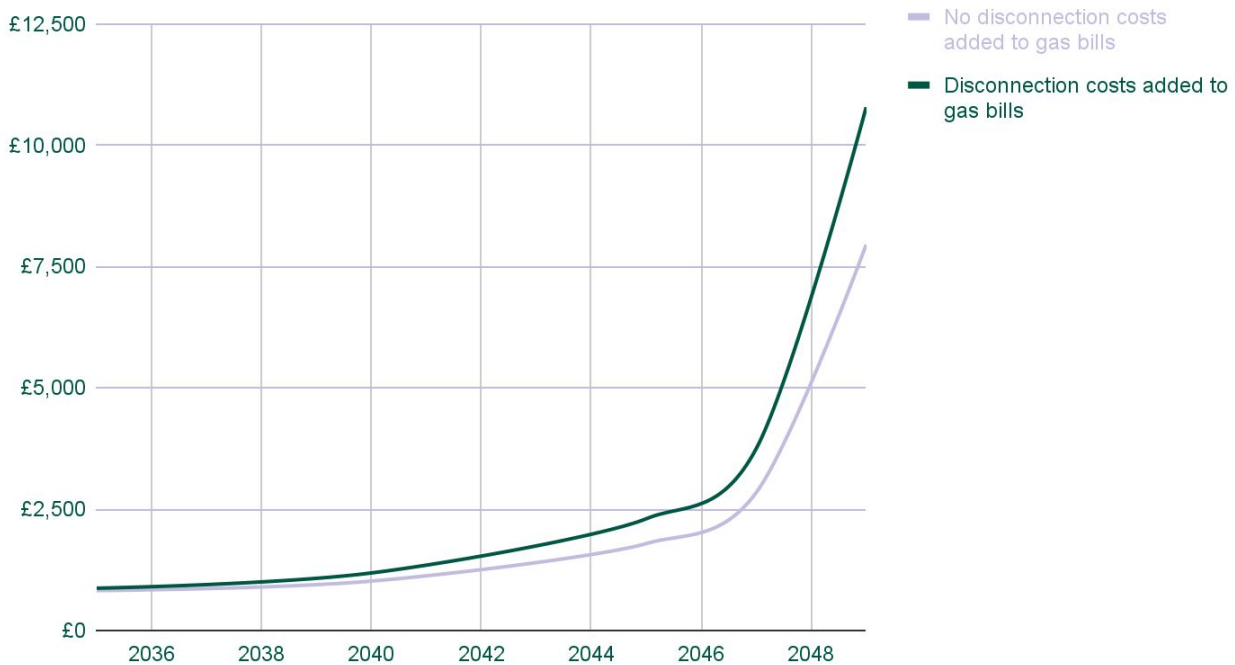
Disconnection costs

If consumers switch to electric heating and hot water systems, then they will need to disconnect from the gas grid. In the current gas disconnections policy framework there are two routes for consumers to disconnect from the gas grid.

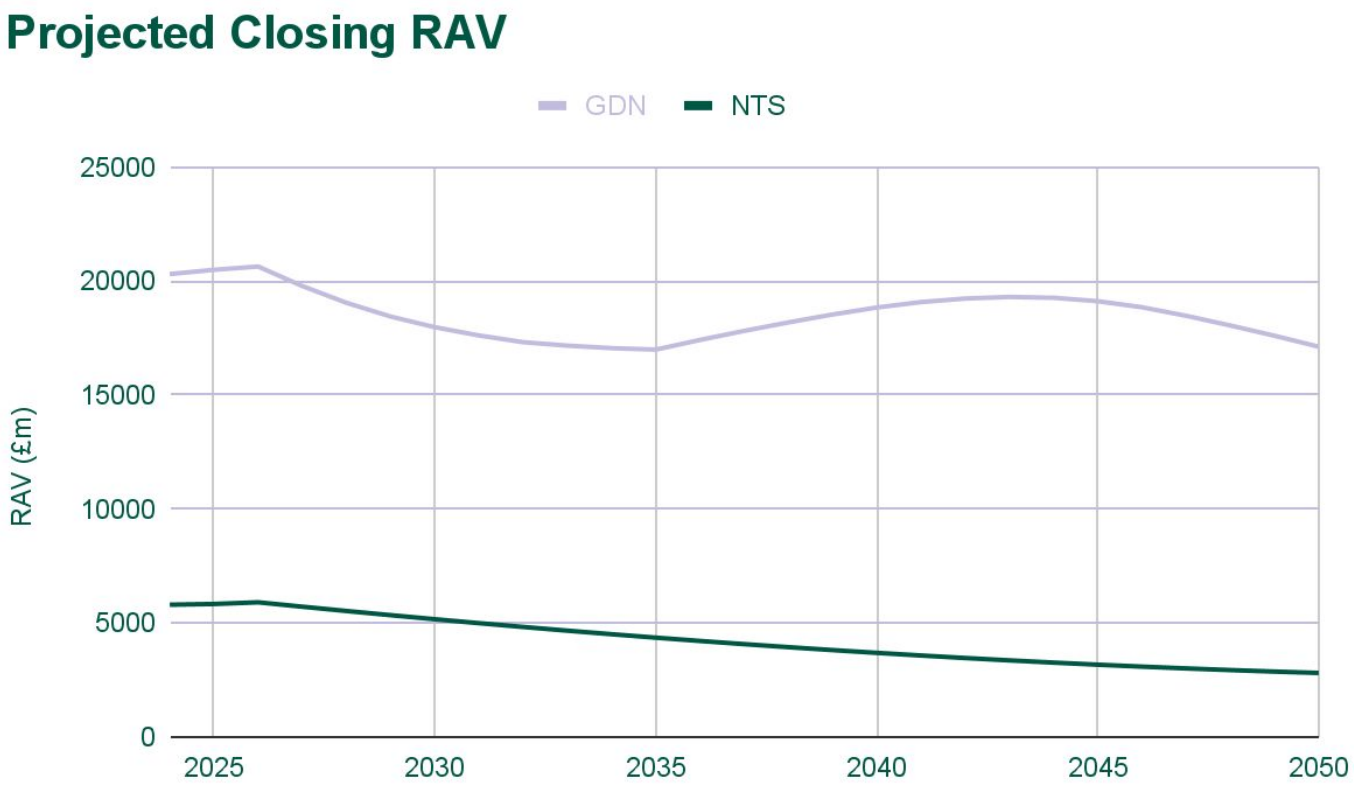
- **Voluntary disconnection:** Consumers can pay upfront for a 'voluntary disconnection'. The amount consumers pay for this disconnection can vary according to the circumstances of the disconnection and the gas distribution network's charging methodology.[11] This appears to lead to significant regional variations in disconnection costs. **Ofgem has reported that the average cost to the consumer for a disconnection in 2025 is around £1950, an increase of around £400 compared to 2019.** Ofgem also projects that this could increase to around £2300 in 2030.[12]
- **Health and Safety Disconnection:** The 'health and safety disconnection' route means that consumers do not have to pay upfront for a disconnection. In this case the consumer would ask their supplier to remove their gas meter. After 12 months, health and safety legislation requires the gas network to ensure that the disconnection is safe. This may involve capping and disconnecting pipes which supply the property. Gas distribution networks are not able to charge customers for work required under health and safety legislation. **These costs are ultimately passed through to consumers who remain on the gas grid through higher network charges which increase consumers' gas bills.**

In our research we looked at what the effect would be if all consumer disconnection costs were socialised, meaning that the costs are spread amongst remaining gas consumers. **We found that socialising disconnection costs substantially increases gas bills, especially as the rate of disconnection from the gas network increases.** This difference begins to be noticeable in 2040, where socialising disconnection costs onto gas bills could increase a gas bill by over £150 a year. This difference in bills further increases throughout the 2040s. In 2045 a gas bill could be over £500 more expensive if disconnection costs are socialised.

Gas bill value in different scenarios



We looked at the effect it would have if socialised disconnection costs were added to the RAV. The RAV is the monetary value of investment in the gas network that has not been recovered through consumers' gas bills. If the RAV is not fully paid off by the time there are no more gas consumers, then another method will be needed to pay off the remaining investment. This may mean funding the remaining costs through general taxation, or other public money. We estimated that if socialised disconnection costs are added to the RAV nearly £20 billion of the RAV will remain in 2050.

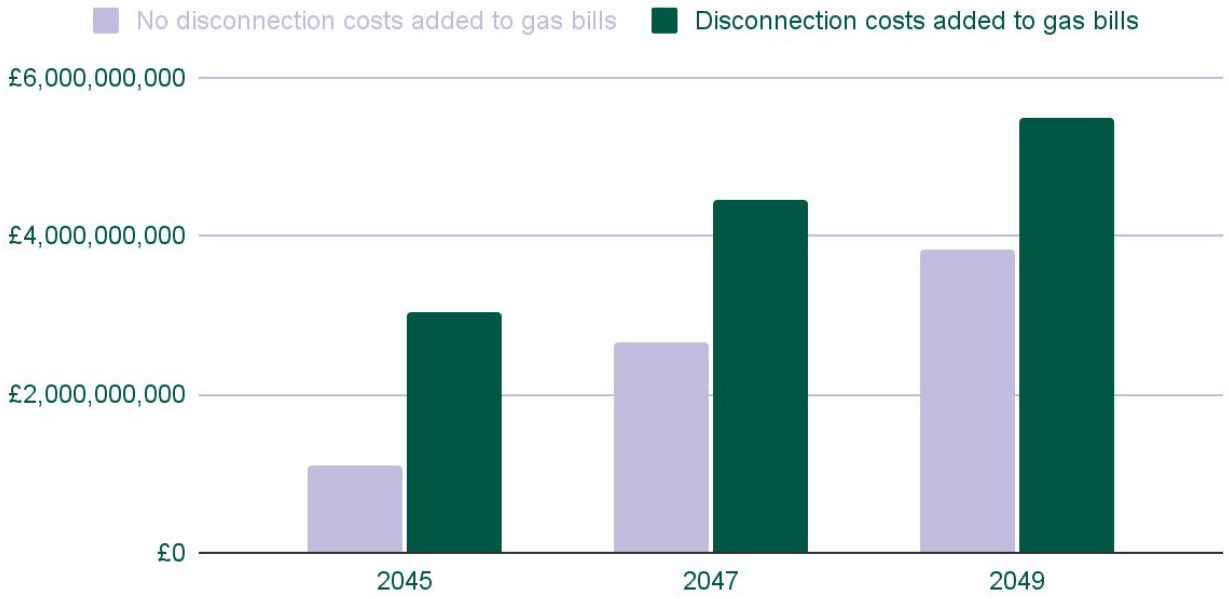


What are the options for paying for disconnection costs?

Socialising disconnection costs represents an unfair distribution of the costs of reaching net zero. This is because socialising costs would mean they are spread amongst a declining customer base, causing a sharp increase in bills as more households disconnect from the gas grid. This could particularly impact lower-income consumers still on the gas grid who are already struggling to afford their energy bills.

This problem could be mitigated by ensuring appropriate bill support for households. However, given how much disconnection costs increase consumer bills, the cost of providing appropriate bill support could be very high. We looked at how much bill support would cost if gas bills were capped at £1500. There is precedent for bills being capped when they become unaffordably high. In 2022 the government introduced the Energy Price Guarantee in response to increasing energy prices. This capped the typical household's energy bills at £2500.[13] **If disconnection costs were socialised on to gas bills, providing bill support would cost over £3 billion in 2045, rising to nearly £5.5 billion in 2049.**

Total annual projected bill support costs if gas bills are capped at £1500



Alternatively, **the gas disconnections framework could be redesigned to mean that individual households will have to pay for their own disconnection.** The current ability to socialise disconnection costs is an unintended consequence of a legacy policy framework that was not designed for a circumstance where multiple consumers disconnect from the gas network at the same time. **Redesigning the framework would eliminate the unfairness of the higher bills caused by socialising disconnection costs.** However the high cost of disconnecting means that some households will be unable to afford to disconnect from the gas grid. The **government will need to ensure that there is appropriate financial support for lower-income households to decarbonise their home heating system**. Existing grants, such as the Boiler Upgrade Scheme and the Warm Homes Local Grant, do not cover disconnection costs and were not designed for this purpose.

Recommendations

- Ofgem is currently reviewing the gas disconnections framework. Government has also announced that it intends to work with Ofgem and the Health and Safety Executive to assess how gas distribution network disconnections and the policies relating to them operate.[14] Government and Ofgem need to use this opportunity to investigate further why disconnection costs are so variable and what is causing the increase that has outstripped inflation. **The review should ensure that the disconnections framework delivers a fair way for costs to be recovered, and a clear customer journey for households who wish to disconnect.**

- **Government must develop solutions to support households wishing to decarbonise their home, but who cannot afford the up front costs of disconnection.** Failing to provide appropriate support risks undermining the transition to net zero, as some consumers will be left behind. There are different options to offer to support consumers with disconnection costs. This could include funding through grants, or offering consumers low cost finance options.

Decommissioning

Decommissioning

When parts of the gas network are no longer in use they will need to be safely decommissioned. The potential scale of decommissioning will be determined by the government's policy decision on the role of hydrogen for heat, due in 2026 and with a consultation expected before this. However, there is consensus that the scope for use of hydrogen in home heating is low.[15] This means that **many parts of the existing gas network will need to be decommissioned**. Though many smaller pipes used in the distribution network may be safe to be left in the ground, this is not the case for larger pipes used in the national and local transmission network. These pipes pose a risk as the steel may degrade and cause subsidence, and so need to be appropriately decommissioned to address this safety risk.[16]

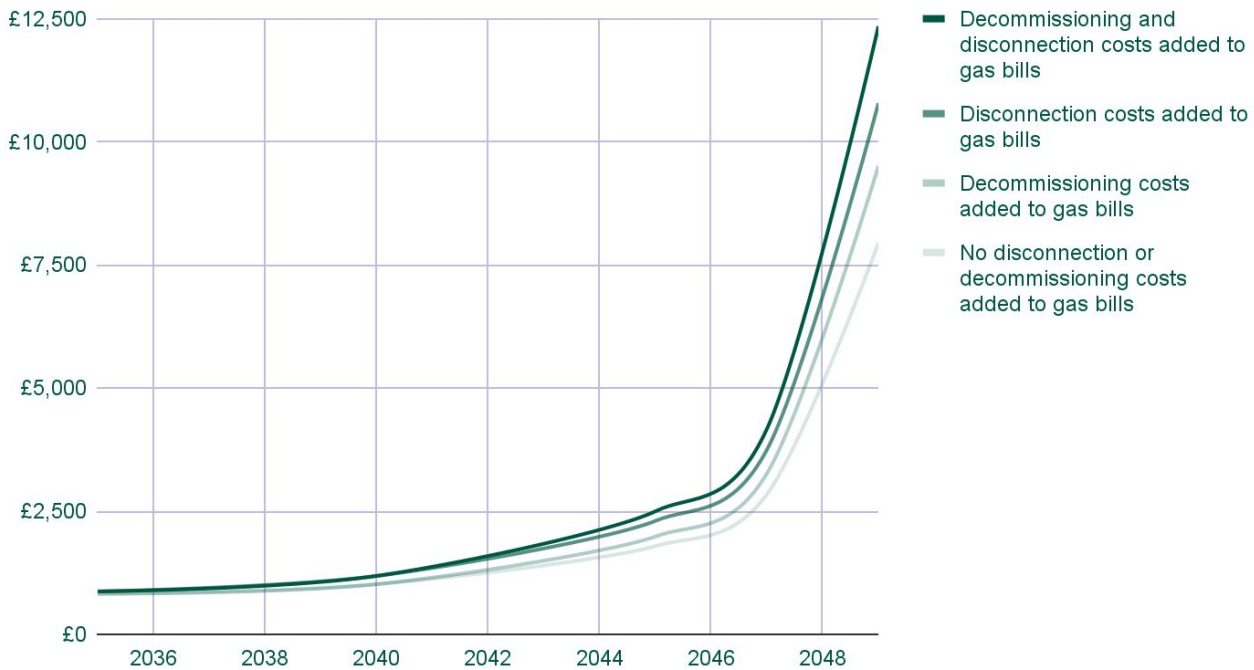
Arup estimates that the cost of decommissioning in a scenario where there is low hydrogen usage (i.e. no domestic hydrogen usage and 60% of industrial consumers use hydrogen) could be as much as £25 billion.[17] The total cost of decommissioning and transition to a low hydrogen/high electrification scenario could be nearly £70 billion.

We looked at the effect recovering decommissioning costs from gas consumers would have on gas bills. In this modelling the decommissioning costs are assumed to be added to bills from 2040, as this is when the research from Arup assumes that decommissioning will begin to take place.

Socialising decommissioning costs across gas consumers increases bills. This impact is less than disconnection costs, however decommissioning costs are less well known and may be higher than predicted. Additionally if a decision is taken to begin recovering costs earlier than 2040 to build up a decommissioning fund, the increase in bills would start earlier. Our research found that adding decommissioning costs to bills would increase bills by around £200 in 2045, rising to a £1500 increase in 2049.

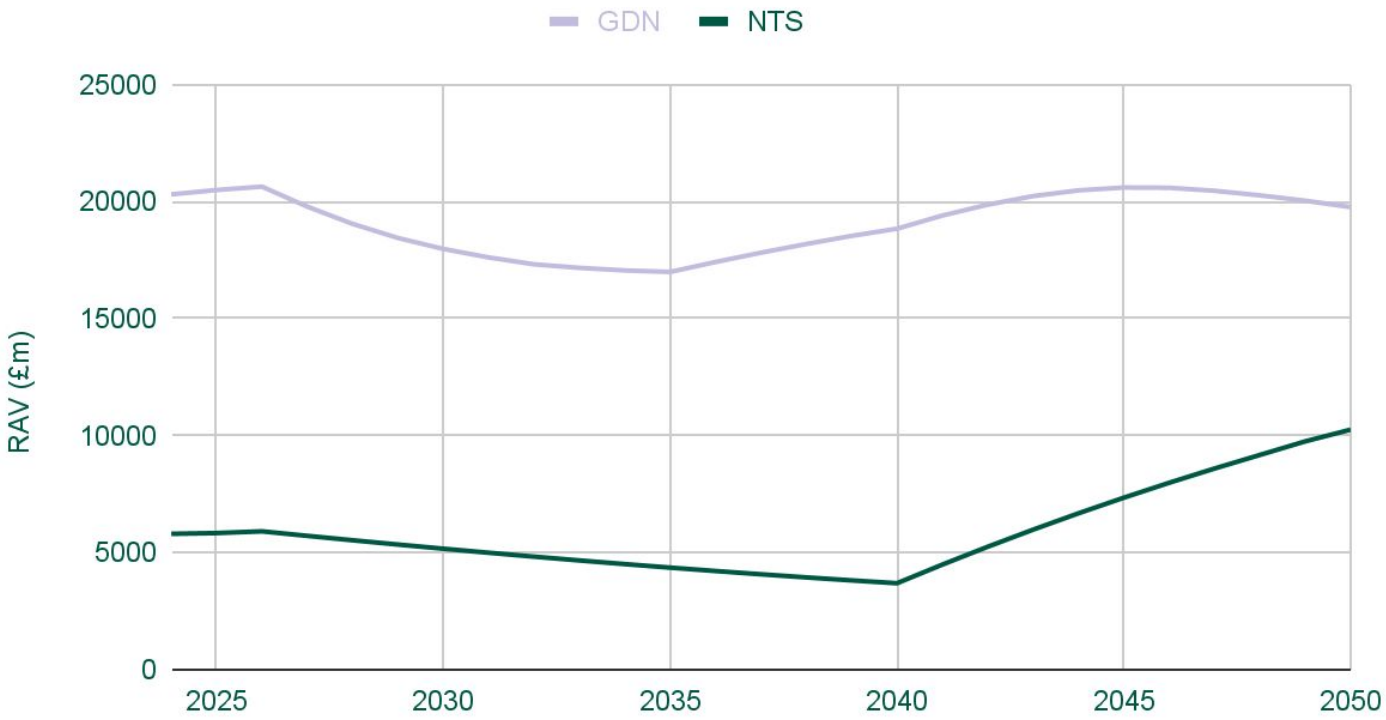
The increase in bills is further compounded if both disconnection costs and decommissioning costs are added on to gas bills. In this scenario bills would be increased by around £700 in 2045, and over £4000 in 2049.

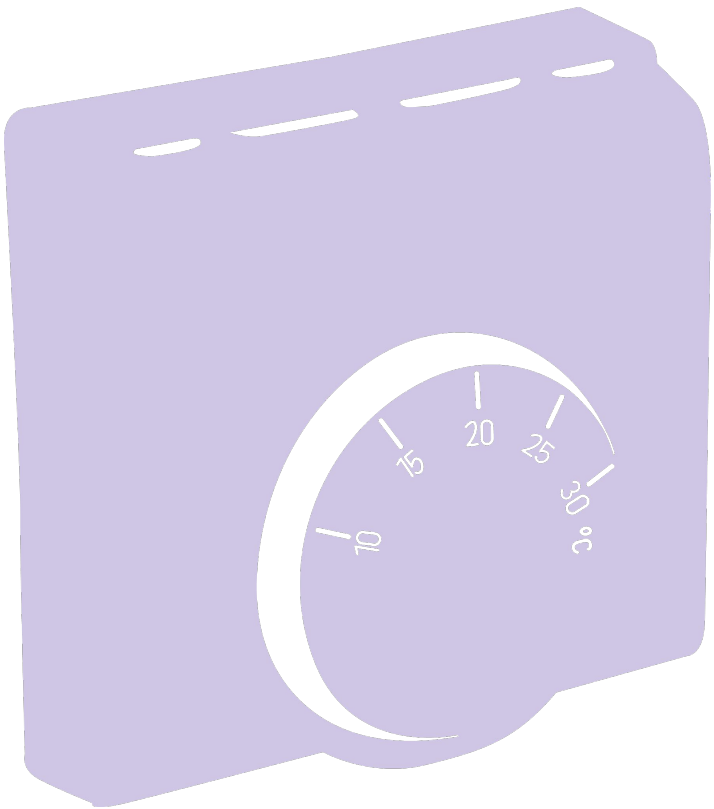
Projected gas bill value in different scenarios



Adding decommissioning costs to the gas network total expenditure recovered from bills further increases the value of the RAV that will not be paid off. We estimated that if decommissioning costs are socialised around £18.5 billion of the RAV will remain in 2050. The below graph shows the effect that socialising both disconnection and decommissioning costs onto gas bills would have on the RAV. In this scenario we estimate that a little over £30 billion of the RAV would remain.

Projected Closing RAV



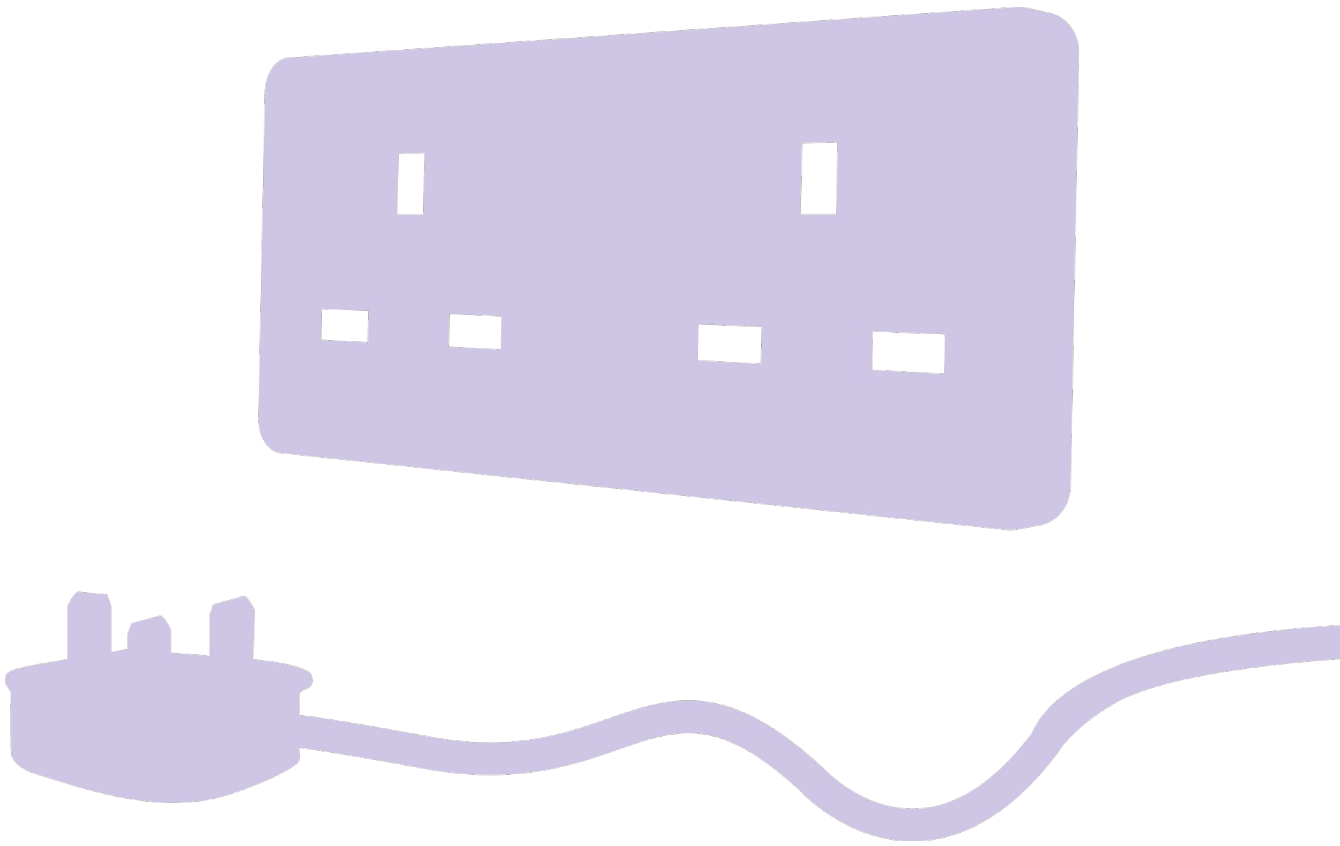


Who should pay for decommissioning?

Gas networks:

Decommissioning funding for other types of energy infrastructure, such as nuclear power plants or offshore oil and gas assets, is usually handled according to the 'polluter pays principle'. This principle means that 'where possible, the costs of pollution should be borne by those causing it, rather than the person who suffers the effects of the resulting environmental damage, or the wider community'.[18] For example the UK decommissioning statutory liability regime, as defined in the Petroleum Act 2008, ensures that those who benefit from oil and gas assets are responsible for decommissioning costs, rather than the taxpayer.[19] In the nuclear industry, decommissioning funds must be set up before new power plants are built, but the government does cover costs for older plants that do not have these funds established.[20]

While it may be reasonable to expect gas network investors to contribute to the costs of decommissioning, the current regulatory framework is not designed with this in mind. Gas network investors operate within a system that has historically guaranteed stable returns, underpinned by an assumption of long-term asset use. **Gas networks may demand higher returns to compensate for the risk associated with funding decommissioning work, effectively passing the burden of decommissioning costs back to consumers through increased network charges.** This creates a situation where the cost of decommissioning is ultimately borne by households and businesses rather than those who have profited from the asset base.



Consumers

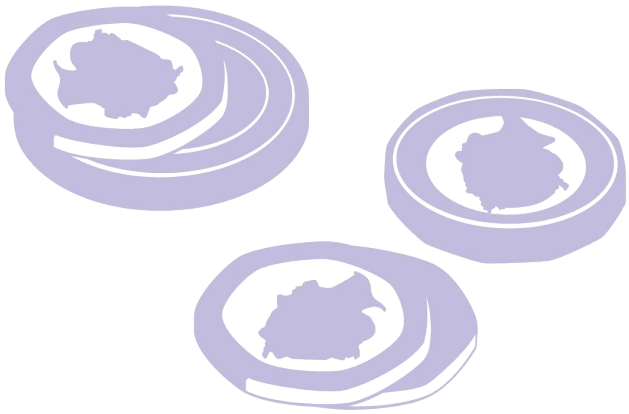
It would be unfair to place the financial burden of gas network decommissioning on current gas consumers. Ofgem states that a core principle of intergenerational fairness is that consumers should 'pay network charges broadly in proportion to the value of the network services they receive'.[21] However, there is no benefit to natural gas consumers associated with being charged for future decommissioning costs. Funding decommissioning through gas bills would create a situation where consumers are both paying to use, and to eventually not use, the gas network.

Funding decommissioning from future gas consumers would further undermine the principle of fairness, as the costs would fall on a declining consumer base. Our research has shown that this would lead to rapidly escalating bills for those who remain on the network, who may already be struggling to afford their energy bills or may be the least able to disconnect from the network due to financial, technical, or housing-related barriers. Recovering costs from consumers is also unlikely to be a complete solution to funding decommissioning. It is unlikely that all the costs associated with decommissioning would be able to be recovered from this consumer base, leaving the remainder to be picked up by network companies or the public purse.

Some decommissioning costs could be recovered through electricity bills. The number of people connected to the electricity grid will not reduce in the same way as the gas grid, while the volume of electricity used will grow significantly. This means that the costs of decommissioning would be spread across more people - most of whom will have formerly used the gas system - and have a less substantial impact on bills. The CCC has also found that the costs associated with the electricity system may reduce from 2040 onwards.[22] This means adding decommissioning costs on to electricity bills in the 2040s would result in a less significant impact on consumers' bills. However, this would reduce the financial benefit to consumers of a low carbon power system and, depending on the approach to fixed cost recovery, is likely to be more regressive than public financing.

Public money

Currently the UK government hasn't allocated any specific funds for decommissioning gas networks. If networks and consumers are unable to cover decommissioning costs, the most appropriate and equitable approach would be to use public money. The requirement to decommission gas infrastructure arises directly from the Government's target of achieving net zero emissions, which is to the benefit of all energy consumers, not just gas consumers. **Funding decommissioning through public spending ensures that the costs are distributed fairly across the population, reflecting the collective benefits of the transition.**



Recommendations

After the 2026 decision on the scope for hydrogen to be used for home heating, **the Government should begin work to review the potential decommissioning costs**. This review needs to include mapping of where gas networks will need to be decommissioned and where they still have potential value, for example by repurposing them for hydrogen. It is likely that some of this planning will fall within the remit of the Regional Energy Strategic Plans (RESPs) coordinated by the National Energy System Operator (NESO). The approach the RESPs take to local area energy planning need to be aware of decommissioning issues, and ensure consumer protection is at the heart of these plans.

Government, Ofgem and wider industry need to work together to identify appropriate ways for decommissioning costs to be paid. We consider public spending to be the most equitable way to fund decommissioning costs. However, exploring all options and determining a fair way to distribute the costs of decommissioning that does not overly impact the affordability of energy bills should be central to this review.

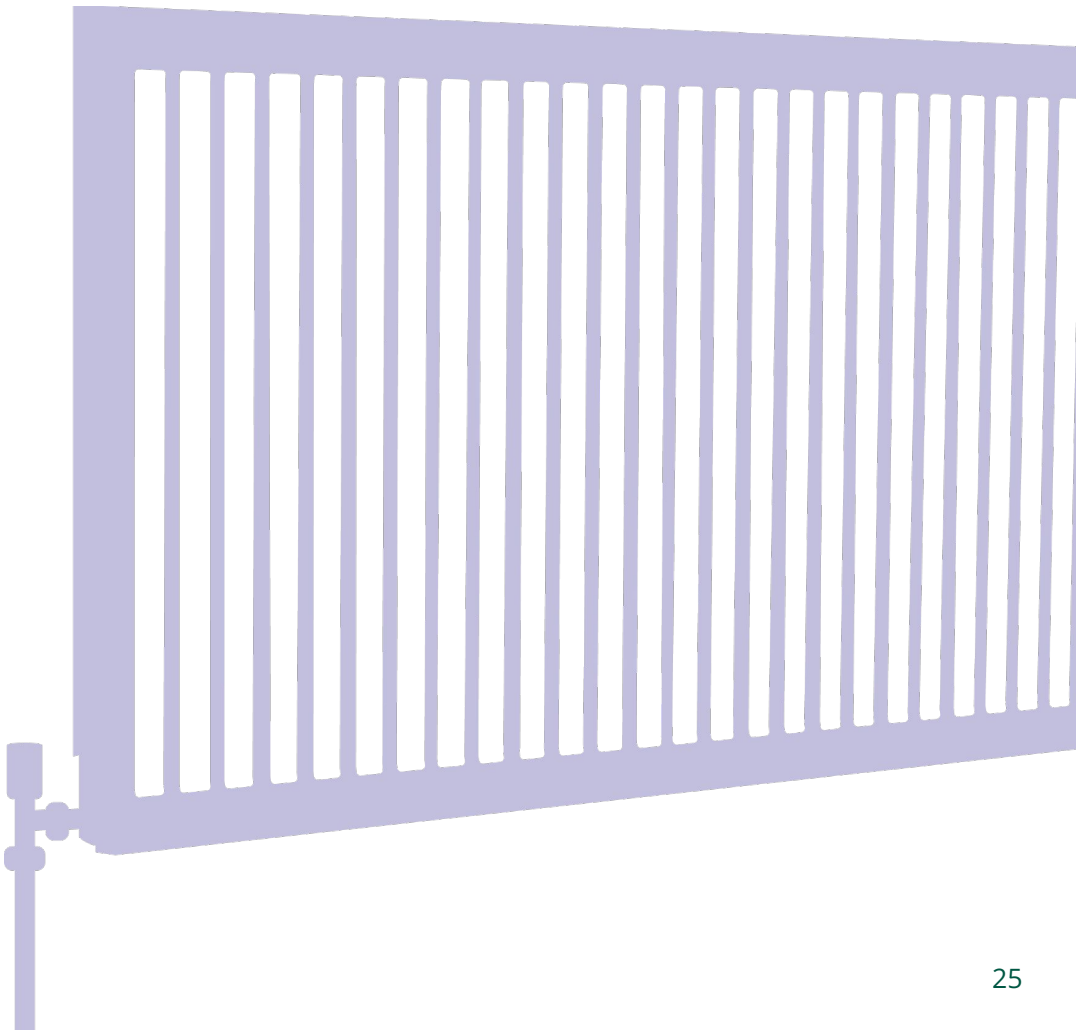
How can bill spikes be mitigated

How can bill spikes be mitigated?

In all scenarios we've analysed in this research, there becomes a point where gas bills spike to an unacceptably high level, and would be unaffordable to many households. The policy choices we've considered in this report, i.e. the extent to which depreciation is accelerated and whether disconnection and decommissioning costs are socialised on to gas bills, can reduce or increase the peak of that spike, potentially by thousands of pounds each year.

However, the ultimate driver of the spike in gas bills is the declining number of consumers remaining on the gas network. Even if a date later than 2050 is targeted for reaching net zero, gas bills will still increase to unaffordably high levels, just at a slower rate than projected in our research. This is because **the increase in bills is caused by the same network charges being spread across fewer consumers**.

Within this research we've assumed that disconnection from the gas network will be an unmanaged decline, with different areas of the country all moving away from the gas network at the same rate. We've also assumed that the transition will progress in the largely market and consumer choice led way that it has up until now - i.e. that individual households will make the decision to disconnect in response to price signals. However **a more coordinated approach, which utilises regional energy governance systems to adapt to the needs of local communities, could have a less substantial impact on gas bills.**



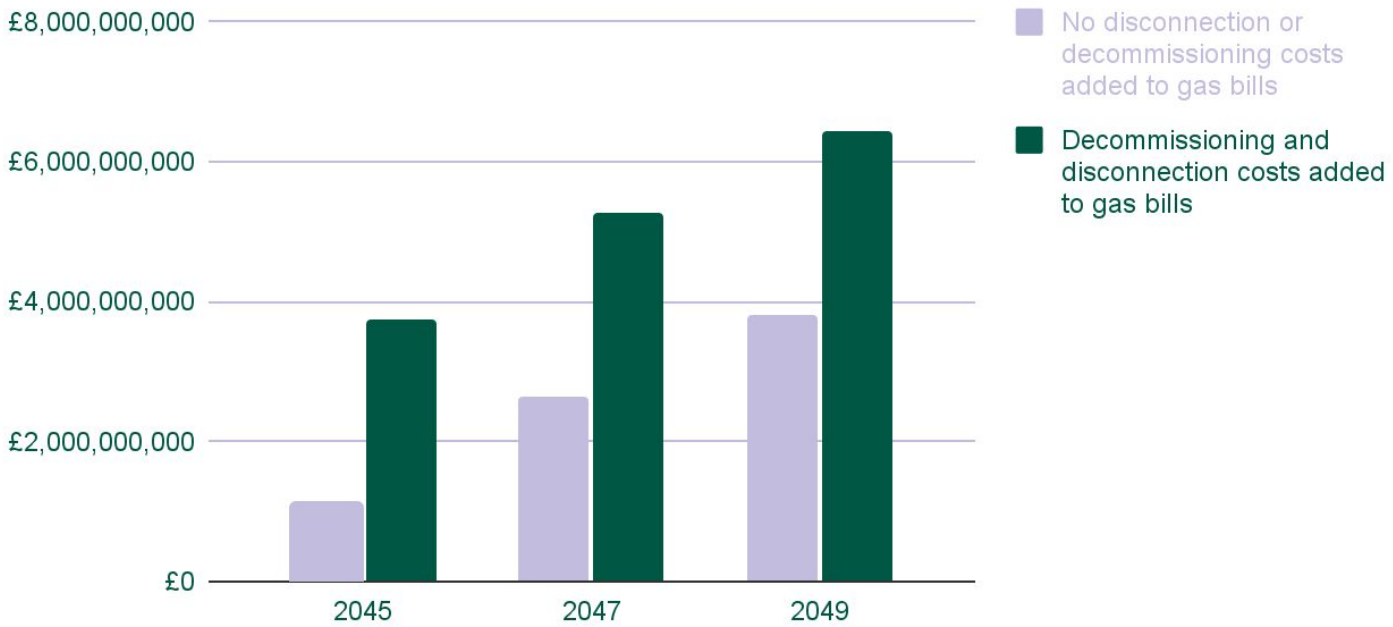
It appears that the government have two main options to consider in how to transition away from gas:

Maintain a consumer choice and market led approach to heat decarbonisation but accept that this will likely cause incredibly high bill increases from those left on the gas grid

This approach is unlikely to deliver a cost-effective and efficient transition due to the inherently uncoordinated nature of gas demand decline under such a model. If households are left to transition away from gas heating at their own pace, the reduction in gas users will occur unevenly across different consumer groups. This will result in escalating bills, which could disproportionately impact those who are unable to switch due to not being able to afford the upfront costs or not being able to make changes to their home.

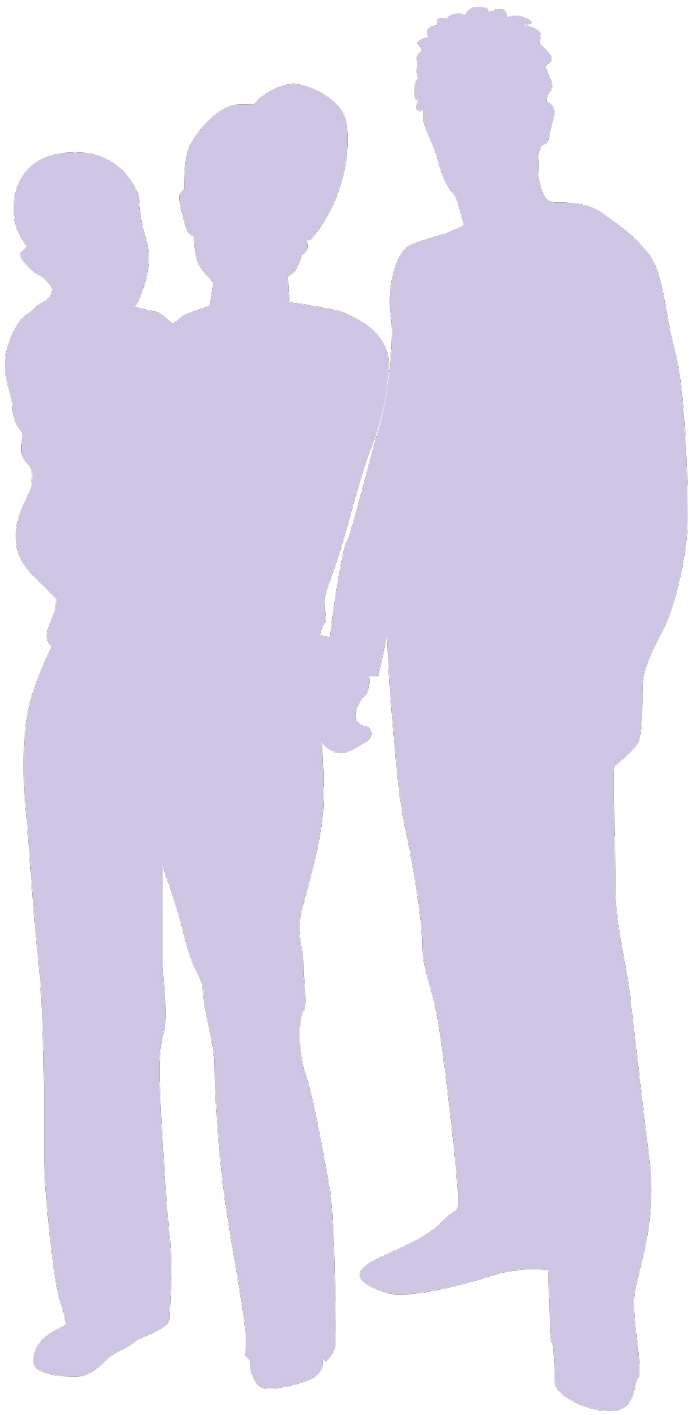
In response to these increasing bills, the government would likely need to introduce bill support to protect consumers from excessive costs. This will result in significant and ongoing public expenditure that may have been avoided through a more coordinated transition strategy. We looked at how much it would cost if gas bills were capped at £1500, and bill support from government covered the remainder. **We estimated that even if disconnection and decommissioning costs were not recovered from bills, bill support would cost over £1 billion in 2045, rising to nearly £4 billion in 2049. If disconnection and decommissioning costs are recovered from bills this would increase the cost of bill support - bringing the annual cost up to nearly £6.5 billion in 2049.**

Total annual projected bill support costs if gas bills are capped at £1500



How can bill spikes be mitigated?

Relying on market mechanisms such as price signals and one-off government grants may not be able to deliver the scale or speed of decarbonisation required. For example, the government's Boiler Upgrade Scheme has underperformed - installing just under 19,000 heat pumps between May 2022 and December 2023, compared to the expected 50,000 installations.[23] While grants and action to reduce running costs can help increase heat pump uptake, these figures suggest that they are unlikely to provide sufficient incentive on their own, particularly in lower-income households or those in rented accommodation. Schemes such as the Warm Homes Plan and the Clean Heat Market Mechanism, an initiative to accelerate the uptake of heat pumps by placing obligations on manufacturers of gas boilers, will help to address these issues. However, **improving market mechanisms to increase heat pump uptake will not address the core issue of increasing bills due to declining gas usage. To protect consumers from escalating costs, a clear coordinated strategy for the end of the gas network is needed.**

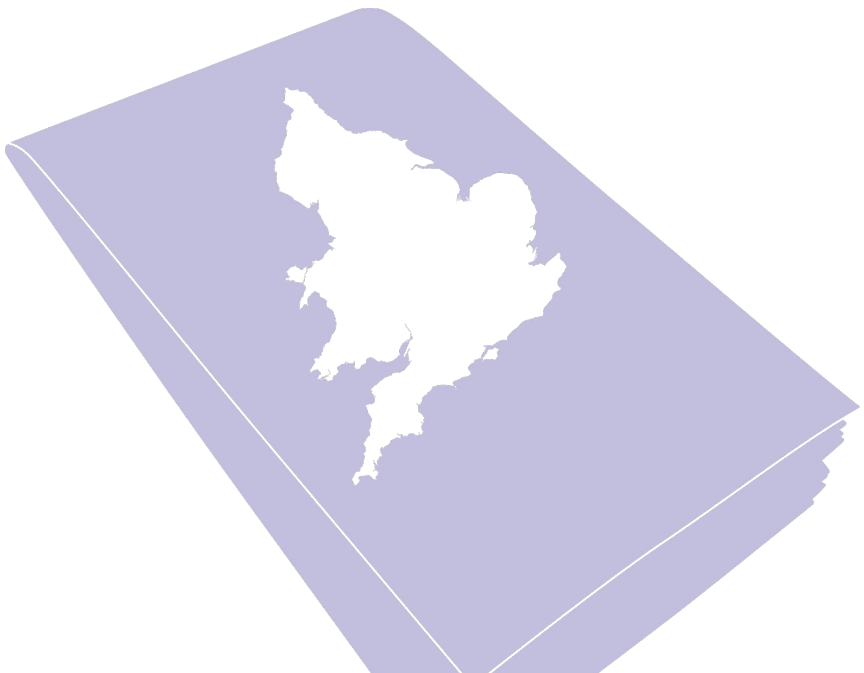


Take a more coordinated approach to the transition to ensure a managed decline that reduces the spike in gas bills

Transitioning away from gas requires not just individual action but coordinated infrastructure planning, workforce development, supply chain scaling and consumer engagement. Leaving this to evolve organically through consumer demand will almost certainly result in delays and inefficiencies. **A planned, government-led approach is essential to ensure the transition is fair, efficient, and timely.**

There are likely many different approaches that could be taken to achieve this aim. Several European countries are leading the way in transitioning from gas-based home heating to low-carbon alternatives. For example the Netherlands has introduced a national plan to phase out natural gas from homes by 2050, replacing it with district heating systems, heat pumps, and electrification. The Dutch government banned the installation of gas connections in new buildings in 2018 and is investing heavily in retrofitting older housing stock.[24] Gas distribution networks in the Netherlands are provided with compensation for the costs of disconnecting homes and dismantling the gas grid.[25] Similarly, in Denmark the Danish government renationalised the gas grid and has set up a decommissioning fund to cover costs associated with disconnecting homes from the grid, with the aim that all homes will rely on heat pumps or heat networks by 2030.[26] These countries demonstrate the importance of coordinated policy, infrastructure investment, and public engagement in successfully transitioning away from gas-based home heating.

The UK's own conversion from town gas to natural gas in the 1970s may also offer important lessons for today's transition towards low-carbon heating. During this conversion the government took the lead in planning and executing the project and the rapid transition was possible because of this centrally coordinated and state led approach. Coordinated planning, strong collaboration between industry and public bodies, and workforce training were central to ensuring smooth delivery.[27] Clear communication at a national level by both government and industry was vital to successful public engagement, and the conversion also benefited from community level involvement with consumers.[28] As the UK now aims for net zero, a similar level of ambition and coordination will be essential - particularly in managing the technical complexity of retrofitting millions of homes, standardising new heating technologies, and ensuring affordability and public support.



How can bill spikes be mitigated?

Government has acknowledged that it will need to play a key role in planning what a phased, well-paced transition away from gas might look like and its need to work closely with consumers, industry and stakeholders.[29] They have announced their intention to publish a call for evidence in 2026 that seeks views on how to ensure the transition is conducted in a way that is fair, planned and orderly.[30] Citizens Advice intends on doing further research on this to establish what type of framework for transitioning away from gas would be cost effective, minimise disruption and ensure consumer protection. **We believe the following principles should underpin the approach to transitioning away from gas:**

- Early Intervention: The research in this report has shown that clear and early intervention from the government is vital to ensure that households are protected in the transition.
- Affordability and Fairness: The costs of transitioning away from gas should be shared equitably across industry, taxpayers, and both current and future gas consumers. Particular care should be made to ensure vulnerable households are protected from fuel poverty.
- Consumer Protection and Engagement: Consumer and community engagement is essential for building trust, with clear communication about timelines, choices, and support available.
- Clear planning and Coordination: Planning and coordination across government, regulators, industry, and national governments, local authorities and other devolved bodies, will be critical to avoid fragmented efforts, ensure efficient investment, and synchronise the roll-out of technologies, infrastructure upgrades, and skills development.

Appendix A - Model Assumptions and Limitations

Model Assumptions:

- All components of the model are calculated relative to 2024 prices. This means that 2024 is used as a baseline year for the model, and any future costs are expressed in relation to the 2024 level.

- **Wholesale Component:**
  - This component is calculated relative to the average 2024 values, annual demand and National Balancing Point (NBP) wholesale prices. The 2024 Quarter 1 data was excluded as it was statistically anomalous, due to legacy high prices caused by the impact of the Ukraine war.
  - NBP wholesale costs were extracted from the 2024 Future Energy Scenarios (FES) data workbook.[31]

- **Network Component:**
  - Revenues are calculated by summing returns, depreciation allowance, fast money, pass-through, incentives and tax allowance.
  - The network cost is directly proportional to the revenues for a constant number of consumers, meaning that as network revenues increase so do costs.
  - The network cost is inversely proportional to the number of consumers, meaning that the number of consumers reduces as the network cost reduces.
  - Consumer numbers were extracted from the 2024 FES data workbook.[3]

- **Policy Component:**
  - This component is based on summation of existing gas policy levies.

- **Supplier Component:**
  - This component is based on supplier operating costs and headroom.
  - Operating costs were assumed to be relatively consistent from the 2024 values. Headroom was calculated as a percentage of the entire gas bills, and is consistent with 2024 values.
  - Supplier cost calculation and modelling was less detailed than network components, as calculating this was not a primary objective of this research.

Limitations:

- The analysis only considers domestic consumer numbers and does not take into account industrial and commercial customers' contributions towards payment of gas network revenue.
- Consumer numbers are direct inputs taken from the FES data workbook. In this model the rate of consumers leaving the gas network is not influenced by gas bill prices. In reality, it is likely that rising gas bills would encourage more rapid adoption of low carbon technologies.
- Total expenditure assumptions from 2027 onwards are based on a constant percentage of RIIO-2 spend to generalise specific scenarios. In reality, total expenditure is likely to be more transitional.

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