



# Maximising the smart meter rollout for prepayment customers

A report by National Energy Action and Energy Action Scotland

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Action for Warm Homes



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## Summary of findings and recommendations

The rollout of smart meters for prepayment energy customers is key to achieving a more affordable energy future for fuel poor households. It is also a crucial element in delivering net zero.

More than four million households use prepayment meters, and approximately only about three in ten have a fully operational smart meter. Those using traditional, or legacy prepayment meters, rely on old technology that the household has to physically top up to stay on supply. These meters have significant drawbacks, such as the cost of energy, the ability to change meter type, the need to travel to top up, and the ability to self-disconnect.

Many of these issues are either alleviated, or eliminated, with the upgrade to a smart meter. These benefits are wide-ranging, from eliminating the market detriment felt by legacy prepayment users, to unlocking a smart energy future, and reducing the cost faced by suppliers to serve prepayment households. In total, if all legacy prepayment customers upgraded to a smart meter, there would be a total lifetime benefit of £5bn to those households, and a further £1.4bn to energy suppliers. It is vital that throughout the smart meter rollout, the benefits for prepayment users are maximised.

Accessing these benefits will not be completely straightforward, and there are many barriers that need to be overcome. This includes a lack of smart prepay tariffs that reflect the lower cost to serve, customer inertia in requesting smart meters, a lack of awareness of the benefits of smart prepay, and for some a poor customer experience of the rollout to date. Work has already been undertaken to remove some barriers, such as the introduction of the 'New and Replacement Obligation', attempting to ensure that a legacy prepayment meter is always replaced by a smart one, and never like for like. But many more barriers remain, and there must be more progress made if our ambitions on smart prepayment are to be realised.

In order to remove these barriers, and maximise the benefits of smart prepayment, we tested more than 20 possible interventions across a broad range of stakeholders. This resulted in six recommendations to make the most of the smart meter rollout for prepayment users by improving policy and regulation, providing incentives to customers and improving customer awareness and accessibility of smart meters:

	<p><b>Recommendations to improve policy and regulation</b></p>	<p>Department for Business, Energy and Industrial Strategy (BEIS), in the new smart metering framework due to begin in early 2022, should include a mechanism that rewards the replacement of legacy prepayment meters.</p> <p>Ofgem should strengthen, monitor and better enforce the New and Replacement Obligation to ensure that smart meters are used whenever a legacy prepayment meter is replaced or moved.</p> <p>Ofgem should direct suppliers to offer an AIHD to households on the priority services register when they request a smart meter. Smart Energy GB should run further and more prominent campaigns aimed at boosting the awareness of the accessible in-home display.</p>
	<p><b>Recommendations to provide incentives to customers</b></p>	<p>BEIS should implement a rule that suppliers must offer cashback to households, sharing the supplier benefit with a household in a 50/50 split.</p>
	<p><b>Recommendations to improve customer awareness and accessibility of smart meters</b></p>	<p>There should be a concerted effort to improve advice surrounding smart prepayment meters by building on existing advice packages, using data better and leveraging household contacts.</p> <p>Energy suppliers should commit to activities that can help build better trust with their legacy prepayment customers, including specific sessions to discuss the benefits of smart prepayment.</p>

Until these recommendations have been implemented, and the majority of the barriers have been removed, we recommend the continuation of the price protection for prepayment households to ensure that they pay a relatively fair price for energy. NEA and EAS will continue to advocate for the merits of smart prepayment working to drive these recommendations, ensuring that prepayment energy users can have a significantly improved experience in the energy market.

## Introduction

National Energy Action (NEA) and Energy Action Scotland (EAS) are leading fuel poverty charities. Both organisations have a long-standing interest in improving poor outcomes for prepayment customers who need to pay for their energy before they use it – usually by adding money to a ‘key’ which is then inserted into the meter. As this report demonstrates, and other studies have found<sup>1</sup>, this payment method is often very challenging for the poorest consumers. The national and local lockdowns that resulted from the ongoing Covid-19 pandemic have badly exacerbated these challenges, with no ability to top up their meters without leaving the house, despite the Government advising us all to stay at home and stay safe.

Given the opportunities to top up remotely, NEA and EAS believe smart metering has long since offered the potential to provide significant benefits for vulnerable and low-income prepayment customers. Collectively we have worked hard to ensure these individuals are effectively engaged and supported throughout their smart meter journey, but the rollout has been slower than we had hoped.



### What is a prepayment energy meter?

Many households use prepayment meters for gas and/or electricity - according to Ofgem, there are 4.4m electricity prepayment meters across Great Britain, and 3.4m gas prepayment meters. There are disproportionately more prepayment meters in use in Wales and Scotland when compared to England.

Using a prepayment meter means paying for your gas or electricity before the energy is used – on a pay-as-you-go basis. This is done through purchasing credit, usually with a key or smart card, and adding this to the meter.

This is different from credit meters, where the customer pays for the energy after they have used it, based on an actual or estimated consumption.

<sup>1</sup> *Upgrading legacy prepayment meters to smart meters is an important piece of the puzzle for creating a fair market, to protect the interests of consumers and create opportunities to reduce bills, a priority area as outlined in the recent Energy White Paper. This is reinforced by the Competition and Markets Authority (CMA) energy market investigation findings that legacy prepayment meter customers have higher actual and perceived barriers to switching that arise from both lack of internet connectivity and the need to physically change meter to switch to a wider range of tariffs (and associated perceptions of the complexity of this). The CMA said that the best way to remedy this was to enforce a price cap for all prepayment-metered customers which should be active until the smart meter rollout had been substantively completed for this customer set. This view was taken as the CMA believed that the smart meter rollout would substantively remove a significant portion of the market detriment that they found for legacy prepayment customers.*

This research study has been completed with the support of Smart Energy GB to evaluate the potential benefits of smart prepayment, investigate remaining barriers that are preventing further uptake and consider a range of potential interventions to maximise the rollout of smart prepayment in the remaining years of the rollout. It considers benefits, barriers, and interventions that could urgently help boost the deployment and uptake of smart meters for prepayment customers.

The analysis is based on the feedback from a call for evidence which 132 organisations across the United Kingdom responded to, as well as expert interviews with 12 key stakeholders. The research also captures households' own views of the technology, particularly in the context of the current pandemic but we stress the importance of responding to these issues in the aftermath of Covid-19 and the severe restrictions the virus has prompted in all our daily lives. Details of our research methods can be found in Annex 1.

It is hoped the research findings will be relevant to a wide range of actors (the UK Government, devolved governments, local government, energy regulator, energy suppliers, landlords and homeowners). In the conclusions we highlight the interventions that are most likely to have the biggest impact, given the barriers that are perceived to be of the greatest significance. We conclude by urging policy makers and industry participants to make every effort to realise the benefits of smart prepayment and underline the negative consequences if a less proactive approach continues.

## Background to legacy prepayment meters

This report focuses on the benefits of, and barriers to, upgrading legacy prepayment meters to smart meters, before considering interventions to remove the barriers and realise the benefits. Before the report considers the benefits of smart meters compared to legacy prepayment meters, it is important to first understand the history of legacy prepayment meters, so that smart meters have an adequate comparison point.

Prepayment metered customers make up 15% of the electricity market and 14% of the gas market in Great Britain. In Scotland and Wales, a higher proportion of households use prepayment meters, closer to 20%<sup>1</sup>. The number of households using prepayment meters has been slowly reducing since 2015. Within the overall group of prepayment customers, there are over one million smart meters in prepayment mode. This has been growing since 2015. In the BEIS report, 'Smart Meter Statistics in Great Britain: Quarterly Report to end December 2020'<sup>2</sup>, it is reported that:

***“The rollout for smart prepayment is in line with prepayment market share. At the end of 2020, 14% of all smart meters were in prepayment mode, in line with the levels of prepayment meters in the market (also 14%). Of the 22.2 million domestic smart meters operating at the end of 2020, 17.6 million were smart meters operating in smart mode.”***

While it is clear that the smart meter rollout for prepayment customers is proportionally in step with the rollout for credit customers, this comparison assumes that upgrading prepayment meters has equal value to credit and should therefore be rolled out at the same pace. In the past, this has been seen as the case, however, later in the report we highlight areas where BEIS has taken a more proactive approach to ensuring that the upgrading of prepayment meters can move quicker, before identifying areas of further improvement.

Over the last decade, several important pieces of work have been undertaken to understand the experience of prepayment users, with suggestions on how to improve the market. These pieces of work were used as a starting point to understand the limitations of legacy prepayment meters.

This section now considers the reports, and the stakeholder feedback, in turn.

## Previous reports discussing prepayment meters and smart

There have been several useful pieces of work that can be drawn upon when setting this baseline:

- The CMA energy market investigation, within which the prepayment market was a focus area.<sup>3</sup>
- Ofgem's work to address self-disconnection in the energy prepayment market.<sup>4</sup>
- The Fuel Poverty Monitor 2019/20, which provided an analysis of the impact of Covid-19 on energy prepayment households.<sup>5</sup>

## CMA energy market investigation: Prepayment market conclusions

In 2014, the Competitions and Markets Authority (CMA) investigated the supply and acquisition of energy in Great Britain. As part of the investigation, the CMA took an interest in the prepayment energy market, investigating the extent to which any market detriment existed for prepayment users. Through their work, the CMA identified the demographic differences between prepayment users and the market as a whole, finding:

- When compared with both direct debit and standard credit customers, prepayment customers are significantly:
  - Less likely to have an income of over £36,000; and
  - More likely to have an income below £18,000.
- When compared with both direct debit and standard credit customers, prepayment customers are significantly more likely to:
  - Be disabled;
  - Be a single parent; or
  - Be more than one of disabled, single parent or carer.
- When compared with both direct debit and standard credit customers, prepayment customers are significantly:
  - Less likely to have a degree as their highest qualification; and
  - More likely to have a GCSE as their highest qualification.



These findings highlight that households that use prepayment meters are likely to live with a low income and face a range of vulnerabilities that could make engaging with energy, and the energy market, more difficult. The finding that prepayment users are more likely to have GCSEs as their highest qualification shows that prepayment users may have a higher propensity to require additional support when interacting with the energy market.

The CMA also reached the key conclusion that prepayment users face additional barriers to switching when compared to credit-metered customers. In particular, the CMA found that prepayment customers face higher actual and perceived costs and barriers relating to the need to change meter to switch to a wider range of tariffs (where these are available from suppliers), as well as a lack of access to information about switching processes and low access to the internet and confidence in using price comparison websites. The CMA also found that smart meters could be a solution to removing some of these market detriments, saying “suppliers ought to be able to profitably offer smart prepayment meter tariffs that are lower than the current prepayment tariffs based on dumb prepayment infrastructure”. This reflects NEA’s view – that smart meters offer a better chance for prepayment customers to have a greater choice of tariff, and ultimately to save money on their bill.

In response to this market detriment, the CMA imposed a price cap for prepayment users, until the smart meter rollout had been substantively completed in 2020 (as was then the policy). NEA supported this approach and has worked hard to maintain price protection for prepayment customers. As the end of 2020 came close, and with the smart meter rollout not having progressed as planned, Ofgem has decided to continue the cap as part of the default tariff price cap but as noted later on this report, there is still uncertainty for domestic prepayment customers about when this price protection may cease or be extended still further.

## Ofgem’s work to address self-disconnection

Since 2018, Ofgem has been working to understand the scale of self-disconnection in the prepayment energy market, firstly through a call for evidence, and then through a set of consultations. Through this work, it found that:

- One in ten of those with a prepayment meter temporarily disconnected from their energy supply in 2017, which equates to 350,000 gas and 450,000 electricity customers self-disconnecting per year.
- Similarly, consumer survey data from Citizens Advice’s 2018 report estimates that 16% of traditional prepayment meter customers are running out of credit on their meter each year.
- That self-disconnection can lead to significant physical and emotional impacts.
- That many of the issues that cause self-disconnection, such as needing to travel to top up, can be solved by smart metering.

The work resulted in extra protections for prepayment customers, including new licence conditions for suppliers to monitor self-disconnections, and to offer debt repayment plans based on ability to pay.

## Fuel Poverty Monitor 2019/20: Prepayment household findings

In the 2019/20 Fuel Poverty Monitor, the monitor reported on the impact that Covid-19 and the associated lockdowns had on fuel poor households. The research found that:

- Legacy prepayment customers had difficulty keeping their meters topped up, as this often meant leaving the house to go to a shop.
- Emergency and friendly credit were often lifelines for prepayment customers to keep on electricity and gas supply at a time when it was advised to not leave the house. There was however a large variance in the amounts that was provided and how this was applied to accounts.
- Households with prepayment meters suffered significant difficulties during the crisis due to affordability issues and self-disconnections, much of which could have been avoided if they had smart meters.

## The impact of prepayment meters on households

Over the last decade, several in-depth pieces of research have looked to identify the impact that prepayment meters have had on households. Some of the findings have been particularly stark, showing the severe detriment that prepayment meters can cause:

- Christians Against Poverty (CAP) identified<sup>6</sup> that:
  - 29% of prepayment users have mental ill health
  - 63% of prepayment users have at least one key support issue
  - 33% of prepayment users that are CAP clients could not cook hot food
- Marie Curie has found<sup>7</sup> that 87% of households that could not afford to keep their prepayment energy meters topped up were in receipt of welfare benefits
- Citizens Advice found<sup>8</sup> that:
  - 16% of consumers with a prepayment meter are running out of credit on their meter each year.
  - Around 140,000 households could not afford to top up their prepayment meter in 2017, 88% of which contained a child or someone with long-term health issues

## Stakeholder views on legacy prepayment meters

The call for evidence and stakeholder interviews considered the advantages and disadvantages of legacy prepayment meters. Stakeholders generally identified a single benefit of legacy prepayment over legacy credit – that households might have a better ability to budget for their energy needs. It was identified that a part of this was the better visibility of debt that prepayment meters provide when compared to credit meters.

There were several disadvantages found relating to legacy prepayment meters. The four principal disadvantages that were consistently identified in the call for evidence and interviews were:

- A lack of ability to switch between payment types due to upfront costs and a limited selection of retail tariffs, leaving a household on prepayment functionality even if they prefer credit. This was seen as a particular problem in rented accommodation.
- The poor experience of vending, as households often need to leave the house and go to a particular shop to top up.
- The ability to self-disconnect when the meter runs out of credit, leaving a household off supply.
- The lack of physical accessibility of prepayment meters in some households, which makes it physically hard to top up and keep on supply.

One additional insight from interviews was that fuel vouchers often do not work for credit meters and can only be used for prepayment. This was not tested but can be considered a benefit over dumb credit.



### ***Susan's Story – Living with a legacy PPM***

Susan lives with her two children, aged seven and three, in a three-bedroom social rented property. They consider the current home a vast improvement on their last house, which was impossible to heat or keep warm, and was full of damp and mould. However, even in the newer, drier, warmer and more energy-efficient home, energy is still a problem. Keeping the electricity and gas PPMs topped up is a constant strain.

Susan recently had a whole weekend without gas supply having run out of money the week before her next benefit payment. The family used blankets to keep warm, and there had been arguments about using devices and appliances, as the electricity was running low, too. When Monday morning came around, Susan still had three days to wait for her payment:

*“I had tried to get through [to the supplier] and explain, and I just kept getting put, like, ‘Yes, we’ll sort it, we’ll sort it, we’ll sort it.’ Anyway, I finally got through to somebody on the Monday morning, and he was lovely, and he said, ‘Look, I’ll put £30 credit on for now to get you over until you get paid.’ But that weekend it was absolutely freezing.”*

For Susan, however, paying for energy, and other household bills, via a pay-as-you-go mechanism is the preferred option as it allows her to set a rigid budget and stick to that budget, sometimes using elaborate coping strategies to access certain services such as the internet:

*“...it’s a bit like my phone credit really. I get £20 a month and when that’s gone, it’s gone. Some days, I have to walk up to either one of my friends or up to the supermarket or bank or something to connect to Wi-Fi. I’d rather do that than have a rolling contract which I can’t afford.”*

Susan describes managing the PPM day-to-day as stressful. While it offers a level of reassurance and greater sense of control over what is being spent on energy, she finds that when finances are particularly strained, she checks the meters more frequently, sometimes even obsessively: *“I check it all the time anyway”*. When money on the meter runs out and Susan needs to use emergency credit, the stress of this shifts her perceptions of energy use: *“I feel like when you’re in emergency, emergency goes down faster than your actual credit does.”*

In terms of topping up, Susan uses a card at a local shop and tends to top up both gas and electricity around benefit payment cycles. However, at times, one or both have run out unexpectedly, inconveniently, leaving Susan feeling particularly vulnerable:

*“You know, it goes off when you’re in the middle of having a shower and things like that, you know what I mean? It’s annoying, and going to the shop. Sometimes, I don’t want to go out late and go to the shop late on my own. I’m a woman living on my own.”*

Susan explained that she was keen to have smart meters fitted, with a plan to continue paying for energy as a prepayment customer. One benefit of being able to top up remotely is that she will not have to struggle with smaller inaccessible shops when using the pram. However, there have been significant delays with installation, at first due to signal issues in a rural setting – *“in a wee village, apparently smart meters weren’t really suitable”* - and most recently due to Covid-19 restrictions: *“due to Covid...it’s been delayed until they can actually come back out and be in my house to actually install them, kind of thing. So, obviously, I’m just, kind of, stuck with the prepaid meters that I don’t like. I prefer smart meters.”*



### ***Mohsin’s Story – Living with a legacy PPM***

Mohsin is a 62 year-old man living in a one-bedroom flat. He is one of the hundreds of thousands of households in the last year who found themselves without money and unable to top up their meters, therefore experiencing self-disconnection from the gas and electricity supply.

For Mohsin, this is due to challenges in making his income from Universal Credit meet the day-to-day cost of living, and consequently he regularly runs out of money between benefit payment cycles: *“I’ve found that managing near the end of the month [is difficult], the last sort of week when I’m waiting for my money to come through.”*

Mohsin lives alone and has had minimal contact with others, a situation that has become even more extreme as a result of Covid-19 restrictions. Feelings of isolation and loneliness have had significant impacts on his mental and emotional wellbeing: *“Everybody gets down sometimes, I think. But sometimes I get a little bit disturbed by my own loneliness.”*

Alongside this, Mohsin is living with significant physical health issues, including diabetes and COPD. He has also had Covid-19. Combined, these health issues make him feel especially vulnerable when leaving the home and this has had significant impacts on his confidence in going out to top up his meters at the local shop:

*“I had Covid in January and I’ve had two chest infections. So, if you’re ill, safety-wise, you don’t want to go out because I don’t want to catch something else. I think I’ve got long Covid because I’ve got moderate asthma. I’ve not recovered from it since, and that w[ould] be good not to...go to the shops.”*

Despite the challenges and inconvenience associated with topping up a PPM at the local shop, Mohsin describes this as his preferred payment method. While using a prepayment method has enabled him to control energy expenditure more tightly on a day-to-day basis, this is not the main reason. For Mohsin, mistrust stemming from a poor experience dealing with an energy debt in the past means that he opts for a payment method that limits supplier-consumer contact:

*“I had a huge ongoing situation with [energy supplier] that lasted nearly two years until it was sorted out...and after that then I’m more than happy to use a prepayment meter because the experience was awful paying bills and trying to settle things up. So, the majority of people may not be happy with prepayment meters, but because of the situation that I went through, I’m more than happy to be on a prepayment meter to be honest.”*

## Conclusion on legacy prepayment meters

From all four strands of the research, it is clear that stakeholders from all corners perceive that the disadvantages of legacy prepayment meters outweigh any advantages there may be. In particular, the barriers to switching due to upfront costs and a limited selection of retail tariffs, the lack of flexibility in ways to top up, the ability to self-disconnect and, for some households, a difficulty in reaching the meter itself are considered to create significant detriment to prepayment householders. Some of these were exacerbated during the national and local lockdowns in the Covid-19 pandemic.

The next section seeks to identify, and in some cases quantify, the benefits of a household upgrading from legacy prepayment to a smart meter, ultimately looking to understand whether smart metering can overcome the disadvantages felt by legacy prepayment households.

## Assessment of the benefits of smart prepayment

This section seeks to identify the benefits of smart prepayment meters to households, suppliers, and landlords, as well as capturing macro benefits relating to the economy, the environment and society in general. These benefits are then quantified where possible. The section also explores the perceived importance of the benefits from stakeholders from their responses to both the call for evidence and expert stakeholder interviews.

### Household benefits

Initially, seven benefits were identified through desk research, that were applicable to households to be tested with stakeholders. These are shown in the table below with an attempt at a monetisation of the benefit. Each benefit is described as a comparison to the experience that a legacy prepayment meter offers. Quantification is based on the entire prepayment market, 4.4 million customers<sup>9</sup>.

Benefit	Description	Estimated benefit per household per year	Estimated lifetime value of benefit
The choice of energy tariff	As per the CMA findings in their energy market investigation, smart metering should enable a more competitive market for prepayment metered households, giving more choice in energy tariffs, as infrastructure barriers are removed.	£75 <sup>10</sup>	£3,700m
The range of vending options available.	Smart prepayment meters offer more vending options than legacy meters, including online payment options. This could lead to time savings for the household.	£24 in time savings <sup>11</sup>	£1,180m in time savings
Remote top ups	Smart meters offer the ability to top up without leaving the home to purchase any top-up equipment, and the ability to top the meter up without being physically near the meter. This could lead to both time savings, as well as savings on travel costs.	£2.70 in travel savings	£130m in travel savings
The lack of need to change meter to change payment type	Smart meters can operate in either credit or prepayment mode, whereas a legacy prepayment meter would have to be replaced to move to credit payment. This gives households greater flexibility to choose their preferred payment method and reduces the cost for households who are required to be moved to a prepayment option in order to repay energy debt.	£150 <sup>12</sup>	£98m

Benefit	Description	Estimated benefit per household per year	Estimated lifetime value of benefit
The potential for new innovative energy tariffs	Smart meters offer the opportunity for new time of use tariffs, that offer lower prices during some periods, and higher prices in others, with the opportunity for savings for the household. Legacy prepayment meters mostly cannot offer these tariffs.	£5 <sup>13</sup>	£245m
Better information relating to budgeting and financial management	Smart meters can provide more information on energy costs, and remaining credit in an up-to-date manner. This can help households in their budgeting and financial management.	£12	£590m

Through stakeholder engagement in the call for evidence and expert interviews, it has been identified that four of these benefits were considered to be significant:

- The ability to change payment type
- New, innovative tariffs
- Enhanced information to aid budgeting
- Better vending options

Although the desk study identified a significant potential energy price saving for households, due to the more competitive market that smart meters can facilitate for prepayment tariffs, stakeholders consistently rated other benefits of being higher value to households. This could be because the price cap, as enforced by the CMA, and subsequently by Ofgem, has changed perceptions of market detriment caused by ineffective competition. Indeed, the difference in the cheapest tariff offered to prepayment households is now lower than it was at the time of the CMA investigation. This is likely to have been driven by the convergence of methodologies governing price caps across the market. However, price caps are due to end by April 2023, meaning a more competitive market is far from irrelevant in terms of benefits to households.

In addition to the pre-identified benefits above, stakeholders also identified:

- A reduction in social stigma experienced when topping up, as prepayment households would no longer need to go to a public space to top up their meter, which stakeholders felt created social difficulties.
- A better quality of service from suppliers, particularly regarding the ability to identify self-disconnection. This is because smart meters give suppliers significantly more information on household energy usage, and algorithms can be used to predict periods when a household may be more likely to self-disconnect, and to offer them a service to stop this from happening.
- Not having to interact with the meter, meaning that households can engage with their energy use in a far easier way that is more detached from the hardware.

- Smart meters being a relatively inexpensive way to take the first step towards net zero. This is further explored in the macro benefits subsection below.
- One stakeholder, an electricity network, outlined how smart metering could increase the level of service that they could offer to households by:
  - Providing better visibility of when a fault occurs on the low voltage part of the network. This would allow a network to reach out to affected vulnerable households much quicker. They said this process would also be cheaper to administer with smart meters, providing a saving to all households.
  - Acting as a key enabler of the transition of electricity distribution networks becoming much more active participants in the energy market (i.e. the transition to Distribution System Operators).



### ***Ola's Story – Benefits of smart PPM***

Ola is living alone in a one-bedroom housing association flat. She works part time and so is out of the house during the afternoons in the week. Ola feels lonely and isolated from family and friends after having moved to a smaller house, and a new area, following the death of her mum two years ago. Living alone is difficult not only in terms of feeling isolated, but also with regard to meeting the cost of living. Ola has multiple debts, including energy debts of several hundred pounds on each account.

When moving into the flat two years earlier, Ola switched supplier and requested smart meters be installed for both gas and electricity. At the time, these were on a credit function and Ola paid via a monthly direct debit. When debts began accruing on both accounts, Ola made several requests to her supplier to switch the meters to prepayment function, as this was perceived by her to be a better way to manage expenditure and reduce debt.

As well as providing a preferred mechanism for repaying the debts, the switch to prepayment is also valued in that it means Ola no longer has to use her local shop to make very small top-ups, typically of £2-3 and towards the end of periods in between receiving pay from work. Ola describes this as being an embarrassing experience and one that is entirely avoided now that she is able to use a mobile phone app to top up.

The capacity to top up remotely and with ease - *“You can actually click on that and they deduct straight from your bank account...and it is instantly there”* - is also a key feature of the switch to smart PPM for Ola. It is a benefit felt to be even more significant during the Covid-19 pandemic: *“because of Covid and that, having this app has just made life a hell of a lot easier and, let's say, regardless of whether it is ongoing things or let's say, with Covid, I'm not as much at risk. You know what I mean? It's one less thing to put myself at risk for.”*

It also means that she no longer has to leave the house during bad weather: *“you can see the wind gale-forcing through the windows and all that kind of stuff, and the rain's bouncing off it and you just cannot be bothered going out of*



*the house. So, it's just easier to have a smart meter where you can download the app to top up your own gas and electricity, save you having to go out in the cold weather and get yourself a bug or anything like that."*

Interestingly, Ola appreciates the functionality within the app that offers an easier, more convenient mechanism for resolving issues and making contact with her supplier: *"So, the fact that I can use this app as well does make life a lot easier rather than phoning up their customer services, you can leave a message in the app with the chat bot thing. Nine times out of ten, you can solve issues yourself rather than having to speak to anybody."*



### The value of smart metering to energy networks

Over the last decade there have been several network innovation projects that have demonstrated the value of smart metering to Energy Networks. This has included:

**Energywise<sup>14</sup>** - A UK Power Networks-led project exploring how fuel poor customers can benefit from a smart meter and participate in energy saving and demand side response opportunities.

**The Solent Achieving Value from Efficiency (SAVE)<sup>15</sup>** led by Scottish and Southern Energy Networks Distribution (SSE-N) in the Solent and surrounding area. This project focused on how domestic energy saving measures could positively impact the network.

**Less is More<sup>16</sup>** – a project where Western Power Distribution partnered with the Centre for Sustainable Energy to help communities reduce their electricity demand, especially at peak times so that less money was spent on upgrading substations, to cope with rising demand.

**The Power Saver Challenge<sup>17</sup>** - A project with Electricity North West aimed to extend the life of existing network assets by working with customers to reduce the amount of electricity they use, in return for a reward. The aim was explicitly to test the feasibility of avoiding investment in an urban primary substation and extend the life of the existing asset.

## Supplier benefits

Initially, five benefits were identified that were applicable to suppliers to be tested with stakeholders. These are shown in the table below with an attempt at a monetisation of the benefit. Each benefit is perceived as being compared to the cost of having a customer with a legacy prepayment meter. Benefits are quantified using the whole prepayment market where applicable.

Benefit	Description	Estimated value of benefit
Costs to serve customers	<p>Smart meters can reduce the cost for suppliers to serve customers through:</p> <ul style="list-style-type: none"> <li>• Reducing the number of meters required to be installed (as smart meters can switch seamlessly between credit and prepayment mode).</li> <li>• Reducing the requirement for meter maintenance.</li> <li>• Streamlining payment procedures in suppliers' own processes.</li> </ul>	£1.1bn <sup>18</sup>
Debt repayment processes	Smart meters can reduce the costs of debt repayment as they reduce the number of meters required to be installed, through switching seamlessly between credit and prepayment mode.	
Managing costs for when households cannot physically top up	When households cannot physically top up their legacy prepayment meters, there is often an extra cost for energy suppliers in sending top-up infrastructure (such as top-up keys) to households. Smart meters eliminate this need through the ability for suppliers to administer remote top-ups.	
Consumer engagement	Smart meters allow suppliers to communicate with householders in new ways, for example through the in-home display. This is important for prepayment customers, as there is more information to communicate, for example when the balance is running low, or the supplier wants to offer discretionary credit.	£170m <sup>19</sup> from reduced inbound call reductions
Financial resilience	Smart meters could allow better supplier management of customer arrears, as the in-home display allows more up to date information of arrears to the household.	£150m <sup>20</sup>

Through stakeholder engagement in the call for evidence and expert interviews, it has been identified that all the above benefits to suppliers are considered as being significant benefits. This is consistent with the desk study, quantifying each benefit.

Stakeholders also identified additional benefits:

- Increased data on energy use, particularly in the context of helping suppliers to offer a better customer experience, lowering their costs, and offering new products.
- Facilitation of a number of new business models, as smart charging is a key part of the energy supplier offerings for owners of electric vehicles, batteries, heat pumps and smart homes.
- Better perception of the supplier by consumers. The more smart infrastructure a supplier has in place, the more innovative it can be with its offering. This could lead to a perception of the supplier as being a 'smart' company which could be a more attractive proposition for current and prospective customers.
- Smart prepayment meters were seen as key to a better experience offer for prepayment households. It was perceived that this could amount to better retention of prepayment customers.

## Private Landlord Benefits

The private rented sector is of particular importance when considering energy affordability issues. 26% of the private rented sector live in fuel poverty, a higher proportion than any other tenure. 21% of private renters use a prepayment meter to pay for energy<sup>21</sup>.

Initially, five benefits were identified that were applicable to landlords to be tested with stakeholders. These are shown in the table below. Unfortunately, these benefits are difficult to monetise, and there is little or no work to draw on to make an estimate. Therefore, this report has not been able to monetise any of the below benefits to landlords.

Benefit	Description
Frequency of property maintenance	Smart prepayment meters could offer households a better ability to control and meet their energy needs. This could lead to warmer homes, and reduced problems like damp and mould that are costly for landlords to resolve.
Managing rent arrears or void periods	Tenants may be able to better manage their energy costs due to smart meters. This could lead to an increase of disposable income, and fewer issues with rent arrears. Additionally, during void periods, landlords would have an increased ability to keep the meter topped up to avoid a self-disconnection. This can help to avoid the build-up of damp in the property which could require increased maintenance.
Impact on level of administrative or legal costs	Reduced rent arrears could lead to reduced administration or legal costs for landlords.
Frequency of disputes	Issues with final meter readings at the end of a lease should be greatly reduced by the installation of smart meters, leading to lower costs relating to disputes. Avoided disputes include, for example, scenarios where a tenant would like to pay for their energy in a certain way, but the meter does not allow that payment type.
Tenant engagement and support	Smart meters could be easier for tenants to understand, reducing the need for landlords to support them through the moving-in process and reducing issues.

Through stakeholder engagement in the call for evidence and expert interviews, it has been identified that all of the pre-identified landlord benefits were credible, however, only one was thought to have any significance. This was a reduction in the frequency of disputes between landlord and tenant. This view was reflected in responses to the call for evidence, but not the interviews. This may owe to the fact that call for evidence responses were skewed towards charities and not-for-profits, who may have had disproportionately bad experiences with landlord-tenant disputes in their work to support households. This, however, may show the potential importance of this benefit in more acute cases.

Supporting the notion that benefits to landlords are not as significant as many of the others discussed in this section, a separate research project (that referred to smart meters generally and was not specific to prepayment) completed by The Behavioural Architects, commissioned by Smart Energy GB has shown that smart meters don't currently offer clear benefits to landlords. Benefits that landlords perceived as being the most important were the reduction of disputes, and the reduction of tenant engagement with respect to their energy use and bills. However, these benefits were diluted by the fact that the vast majority of landlords surveyed never or rarely experience disputes regarding energy bills at the end of a tenancy, and never or rarely speak to tenants about energy bills at all.

It is important to note, that the relationship between landlords and energy usage can vary significantly across different situations. Notably, for privately rented households of multiple occupancy, the landlord can have the responsibility for paying energy bills, impacting the beneficiary of smart upgrades.

## Macro benefits

In addition to having benefits for different actors in the system, smart meters have higher level benefits that have an impact on the economy, the environment, and society. These benefits are explored below.

## Economic

Initially, six macro-economic benefits were identified to be tested with stakeholders. These are shown in the table below with an attempt at a monetisation of the benefit. Each benefit is as compared to legacy prepayment meters.

Benefit	Description	Estimated value of benefit
Job creation	A greater level of uptake in smart might require an increased number of installers needed to meet the demand. It is assumed that prepayment replacements are additional to replacing credit meters.	1500 jobs <sup>22</sup>
Reduction in energy waste	Smart meters could facilitate more efficient use of energy in the home. This reduction in energy waste could result in lowering overall system costs as, in total, the infrastructure requirement to support the energy system would be reduced.	0.2TWh/year savings in gas and 0.41TWh/year savings in electricity <sup>23</sup> equating to approximately £175M lifetime benefit <sup>24</sup>
Economic growth	Jobs growth, coupled with a potential reduction in consumer debt, could result in an increase of economic growth, as consumer spending power increases.	Difficult to quantify without further primary analysis.
Reduced regional/local economic deprivation	Smart meters could facilitate more efficient use of energy in the home, and therefore lower household costs. Coupled with the need for local jobs creation, this could help alleviate deprivation at a local level.	
Increased spending in the local economy	Reductions in energy usage (and therefore spending) immediately translates into spending on higher value local goods and services <sup>25</sup> , which manifests itself in high levels of further job creation, or 'induced' jobs.	
Reduced energy infrastructure costs	Smart meters could facilitate reduced energy use at home as well as reduced peak use due to time of use tariffs. This reduced peak load could lead to reduced energy infrastructure costs.	£168m <sup>26</sup>

Through stakeholder engagement in the call for evidence and expert interviews, all of the pre-identified benefits were verified as credible. Respondents to the call for evidence said that they thought that reduced energy waste was the most significant macro benefit presented to them.

Interviewees, however, saw it differently, with the consensus being that reduced infrastructure costs were the most important macro benefit arising from smart prepayment meters. This view from interviewees is complemented by the desk analysis, which estimates reduced infrastructure costs as a significant macro-economic benefit in financial terms.

## Social

Initially, six social benefits were identified to be tested with stakeholders. These benefits are all difficult to quantify without further primary analysis, so this report does not aim to provide a quantification to the social benefits. These are however shown in the table below with an attempt at a monetisation of the benefit. Each benefit is perceived as being compared to a legacy prepayment meter. As these benefits have a significant crossover with the benefits felt by individual households, they have not been monetised separately.

Benefit	Description
Healthier workforce	Smart meters could facilitate more efficient use of energy, leading to warmer, healthier homes and more disposable income to access other services.
Reductions in national household debt	<p>According to the Office for National Statistics (ONS)<sup>27</sup>, the poorest 10% of households in Great Britain had debts three times bigger than the value of the assets they own. UK household debts owed to governments and utility providers are soaring due to the impacts of Covid, with an estimated 2.8 million people falling into arrears, 1.2 million with their utilities, 820,000 with their council tax, and 590,000 with their rent; and 3.8 million people having to borrow to make ends meet.<sup>28</sup></p> <p>Smart meters could facilitate a more efficient use of energy, leading to reductions in household debt. National household debt levels are linked to mental and physical wellbeing.</p>
Reduced health and social care costs	The increased mental and physical health and wellbeing that comes from warmer homes and reduced household debt could reduce health and social care costs.
Covid-19 resilience	Legacy prepayment meters have meant that households have sometimes had to leave their homes to top their meter up, even if they are medically vulnerable to Covid-19. Smart meters eliminate this risk, improving national resilience against the virus.
Contribution to meeting fuel poverty targets and related strategies	Smart meters could facilitate more efficient use of energy, leading to warmer, healthier homes. This can contribute towards the fuel poverty strategy.
Reduced public health inequalities	Smart meters are distributed across geographies. As with reducing regional deprivation, they could reduce public health inequalities through facilitating higher temperatures in the home.

Through stakeholder engagement in the call for evidence and expert interviews, all the above social benefits were verified as being credible, although the call for evidence did not find that any of them were particularly significant. Interviewees generally agreed with the call for evidence respondents about the pre-identified benefits.

In addition to those social benefits above, stakeholders identified two further social benefits that could arise from a greater penetration of smart meters in prepayment households:

- A reduction in social stigma, as has been explored in the household benefit section, could be one that has an impact on wider society, particularly as this stigma could lead to other issues such as reduced mental health.
- One interviewee said that smart meters could provide communications infrastructure so that digital technologies could be offered to households that might otherwise be digitally excluded.

## Environmental

Initially, four macro environmental benefits were identified to be tested with stakeholders. These are shown in the table below with an attempt at a monetisation of the benefit. Each benefit is perceived as being compared to a legacy prepayment meter.

Benefit	Description	Estimated value of benefit
Reduction in energy demand	Smart meters could facilitate more efficient use of energy, meaning more sustainable use of resources.	0.2THw/ year gas and 0.41TWh/year electricity
Reduced carbon emissions	A reduction in energy demand could result in lower carbon emissions, as fewer fossil fuels need to be burned to support the energy system.	130,000 tonnes CO <sub>2</sub> e/year <sup>29</sup>
Enhanced rollout of energy-related technology	Smart meters could help to support the rollout of energy-related technology that could have environmental benefits, such as in-home batteries.	Difficult to quantify without further primary analysis.
Greater renewable generation utilisation	Coupled with innovative tariffs, smart meters could help shift demand towards times with high renewable generation, increasing the utilisation of renewable resources.	

Through the call for evidence stakeholders told us that all pre-identified environmental benefits are credible, but none are significant when compared to some of the other benefits considered in this section.

While each of the above environmental benefits is difficult to attribute a monetary value to, these benefits should not be underestimated. Interviewees generally had the view that smart meters were essentially a prerequisite to achieving lower costs while realising our net zero ambitions. They said that smart meters facilitated many technologies, and that especially the facilitation of demand shifting would be valuable. This implies that they believed that two benefits above were significant, namely:

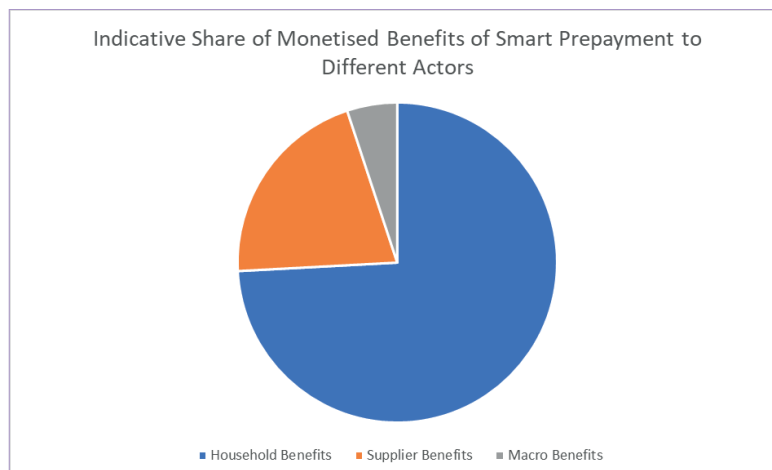
- Enhanced rollout of energy-related technology
- Greater renewable generation utilisation

## Summary of the benefits of Smart Meters for prepayment households

In summary, our analysis of the potential benefits of smart meters for prepayment households has shown that there are 15 significant benefits for households, energy suppliers, landlords and UK plc:



In all, the research found that there were 16 significant benefits to rolling out smart meters to prepayment households, with a lifetime benefit of over £5bn to households and more than £1.4bn to energy suppliers, facilitating a reduction in 0.2TWh/year in gas use, and 0.41TWh/year in electricity use, amounting to 130,000 tonnes of CO<sub>2</sub> saved per year, while contributing 10,000 jobs to the economy.



## Assessment of the remaining barriers to the uptake of smart prepayment

This section seeks to identify the most significant barriers to the uptake of smart meters for households that use legacy prepayment meters.

In order to do this, we tested more than 20 barriers with stakeholders to determine which were the most significant. These are further explored in Annex 2, and are categorised into five areas:

- Technical and physical deployment barriers, relating to the meter itself (either the smart meter or the meter being replaced)
- Policy barriers that arise because of the policy framework set by the UK Government
- Regulatory barriers that arise because of the regulatory framework set by Ofgem
- Possible supply side barriers of the rollout
- Possible consumer side barriers of the rollout.

Several barriers in these categories had been identified prior to both the call for evidence and stakeholder interviews. These barriers were tested with stakeholders to ensure that they were credible. Within the stakeholder engagement activities, participants were also asked to provide a level of significance to the barriers. Where participants identified a barrier as being particularly significant, this is identified below.

In the interviews with householders, legacy prepayment customers were asked if they had heard of or considered a smart meter, and to discuss the reasons for not switching yet. This is reflected below in Philip's Story which draws on several key issues raised by the legacy PPM households interviewed.



### ***Philip's Story – Benefits of smart PPM***

Philip, a 43-year-old man living alone in a three-bedroom social rented property, has recently changed to a gas smart meter, but declined to have his electric meter changed. Both are paid using the prepayment function.

For Philip, the decision to only change the gas meter is rooted in his experience of the day-to-day financial strain of living on a low income from Universal Credit. He describes routinely going without food, often eating only breakfast, or going without for entire days. As a means to alleviate this, Philip's sister has recently begun dropping off pre-cooked meals set to last a couple of weeks. These are stored in an old freezer that Philip has had for decades, and a household appliance that he feels would be permanently broken if it were to be switched off or disconnected. The concern of being without the freezer and unable to buy a new one – *"I can't lose my old freezer that I've got. When it packs in, it will pack in"* - is so significant that when told the installation of the electric smart meter would mean disconnection from the supply, he refused.



Philip lives with serious health issues, both mental and physical, and due to Covid-19 restrictions, he has been shielding, so has gone several months without seeing anyone. He relies heavily on his sister and her husband to provide support with food and topping up the meters, as well as a neighbour that occasionally drops by. Because of his health issues, Philip cannot work and has recently been awarded Personal Independence Payment - but having received only one payment, is yet to feel the benefits of this additional income.

Philip keeps the in-home display for his smart gas meter in the kitchen and thinks it is a good thing to have, “even if it costs a penny or two to run” but does not see the device as having much use to him beyond information about money left on the meter. For him, this is because he does not really understand his energy use and feels that there is no need to. Cost is what matters.

*“...so long as a I can see how much money is on there. I don’t get all that. I did go through it once before and I don’t understand things like that, so I just left it. But I just see the pound signs or the pennies going down, so that does me fine, you know.”*

## The most significant barriers

Through the analysis (which can be found in full in Annex 2), we found that there were nine significant barriers to the uptake of smart meters in prepayment households. These are:



**The lack of tariffs aimed at the smart prepayment market that reflect the lower cost to serve.** While the lack of an availability of smart meters for prepayment customers had already been identified, stakeholders said that a further problem was the lack of smart prepayment tariffs. Furthermore, some stakeholders in interviews said that there was a risk that suppliers would not pass the savings that they see from smart prepayment through to customers.



**Customer inertia.** Domestic customers in the energy market show low levels of market engagement. This has led to several policy and regulatory interventions to ensure that there are adequate protections for consumers, including the default tariff price cap. This could be especially true for legacy prepayment households, who, as per the CMA energy market investigation, are less likely to engage with supplier switching due to the physical constraints of their metering infrastructure. If this lack of engagement translates to the smart meter rollout, then this could lead to low smart meter uptake.



**Perceptions of energy suppliers.** Although for many households, the relationship with energy suppliers is fairly neutral, and sometimes good, there are a significant number of households that have poor perceptions of their energy suppliers and a lack of trust in the market. This was a finding of the CMA Energy Market Investigation, which they found remained an issue even with additional customer protections driven by Ofgem. This might be especially true of prepayment customers, who often use that meter type after falling into arrears with their supplier, an event which can cultivate a poor relationship.



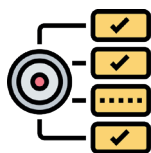
**Hassle/disruption factor.** The installation of a smart meter requires a member of a household to be at home while the smart meter installation takes place. Additionally, sensitive electrical equipment requires to be turned off for the duration of the installation, which could take up to 90 minutes if both gas and electricity meters are being replaced. For many, this could mean taking a day of annual leave, which can be disruptive and a hassle.



**Commercial decisions from suppliers to hold back offering prepayment upgrades.** Some energy suppliers have taken the decision to not offer smart meters to households that use legacy prepayment meters and/or not to offer smart prepayment tariffs. This has been put down to several factors, including the smart metering technology and a need to take care with the rollout and households that have a financial vulnerability, which is more prevalent in prepayment users.



**Awareness of the benefits of smart meters and In Home Displays (IHDs).** As explored in the previous section, the benefits to prepayment households of smart meters are wide-ranging, and much of the benefit is reliant on the in-home display. The take-up of smart meters, which relies on an opt-in process from households, requires a good level of awareness of these benefits for uptake to reach high levels. If households are not aware of the benefits that smart meters present, including from in-home displays, they may be less likely to request a meter when they are available, or accept one if offered.



**A lack of specific targets for suppliers to replace prepayment meters.** Although the high level new smart meter framework has been set, the targets, milestones and tolerances that have now been set; they relate to the rollout as a whole and there are no specific targets for replacing legacy prepayment meters with smart ones. Given that the overall target for the rollout does not necessarily encompass the whole market (with tolerances allowing a rollout of significantly less than 100% by the end date), this could result in a delayed rollout for legacy prepayment customers. At worst, it could result in legacy prepayment customers not receiving an offer of a smart meter at all, while suppliers still meet their statutory targets.



**Customer experiences of the rollout to date.** The experience of others in the rollout can have a profound impact on whether a household chooses whether to ask for a smart meter or not. Unfortunately, there have been many instances of poor customer experience in the rollout, including cancelled appointments, a failed connection to the DCC and the loss of smart features following a supplier switch (for SMETS1 meters). This poor experience, spread by word of mouth, could have a significant impact on the rollout.



**Semi-concealed meters that can be hard for installers to access.** Semi-concealed meters pose a physical barrier to an installer gaining sufficient access to the meter in order to safely disconnect the legacy meter and replace it with a smart meter.

## Barriers already on their way to resolution

Some barriers were identified as significant, but some interviews suggested these were now resolved or soon to be resolved.

- Meters in remote dwellings, apartment block buildings and multi-occupied premises, where AlthANCo, a regulated co-operative of the UK's energy suppliers, is working on the design and manufacture of a range-extending "alternative home area network" solution capable of connecting the devices required for residents to enjoy the full smart metering experience solutions. While the technical solution is in progress, there may be additional barriers encountered when applying this to a diverse set of properties.
- Previous issues with connection to the DCC in the north.
- Complexity in replacing non-standard meter types.
- Interviewees identified that the lack of smart prepay tariffs is a significant barrier to realising the benefits of smart prepay, but some said that they expected smart prepay tariffs to increase in number substantially this year.
- Resource and current installer capacity were identified as a barrier by both the call for evidence and many interviewees, but some had the view that increasing capacity would not be economically viable.

While it is encouraging that work has been undertaken to remove the barriers to upgrading smart prepayment meters, significant barriers remain, and more needs to be done in order to fully unlock the benefits of the rollout. The next section sets out a set of recommendations of what could be done next in order to achieve this.

## Recommendations for maximising the smart meter rollout for prepayment customers

In previous sections, this report has summarised findings from research to determine the benefits of smart meters for prepayment households and the barriers to the uptake of these meters. In addition to this, we investigated an array of possible interventions, asking stakeholders whether they would be likely to be successful in removing the identified barriers. Details of our work to better understand possible interventions can be found in Annex 3.

This section builds on that work to make recommendations that are most likely to have the biggest impact, given the barriers that are perceived to be of the greatest significance.

### RECOMMENDATIONS TO IMPROVE POLICY AND REGULATION



#### RECOMMENDATION 1 | Using policy targets to drive payment uptake

Although evidence from the BEIS smart metering statistics does not show that uptake in smart meters in prepayment households is lagging behind other households, this report has shown the significant benefits that smart metering offers to prepayment households (and in turn, to suppliers and other parts of the economy). This benefit, as well as the prepayment market detriment for prepayment households as found by the CMA and the Covid-19 pandemic, shows the case for going further with the prepayment rollout, ensuring that prepayment households can benefit from early smart meters installation. The research for this report has identified good support for UK Government smart metering targets that are specific to upgrading legacy prepayment meters. More generally, there was support for the UK Government to move away from the notion that progress in upgrading legacy prepayment meters should be proportional to the wider market.

This report recommends that BEIS, in the new smart metering framework due to begin in early 2022, includes a mechanism that rewards the replacement of legacy prepayment meters. There are two ways that this can be achieved:

- Setting a specific target for upgrading legacy prepayment meters, that goes beyond a target that is proportional to progress with the rest of the market. This is the preferred option.
- Giving replacements of legacy prepayment meters a higher weighting when judging whether a supplier has met their target, in order to recognise the benefits of smart prepayment.

#### RECOMMENDATION 2 | Strengthening, monitoring and enforcing then New and Replacement Obligation

As part of stakeholder engagement, we heard several times that a key barrier of prepayment households taking up the smart offer, was that they had not yet been offered a meter, leading to some legacy prepayment meters being replaced with another legacy meter when it reached the end of its life. Although the 'New and Replacement Obligation' is currently in force, and should stop this from occurring, there has yet to be any enforcement on this obligation<sup>30</sup>.

Our engagement with stakeholders also showed that there were significant concerns about legacy prepayment meters being in locations that were not accessible for the user. Our desk research confirmed that the New and Replacement Obligation does not cover instances where a prepayment meter is moved in order to overcome accessibility issues of the current meter placement.

This report recommends that Ofgem strengthens the obligation by incorporating a new rule so that when a legacy prepayment meter needs to be moved, a smart meter is offered in replacement. Circumstances where this might happen are when a household contacts a supplier about accessibility issues with their legacy prepayment meter, or in certain ECO installs where a meter must be moved. In addition to this, Ofgem must ensure that the obligation is effective. To do this, they should ask suppliers to regularly report on how many legacy prepayment meters they install in an open and transparent way, and enforce the New and Replacement Obligation swiftly, where suppliers do not adhere to it.

### **RECOMMENDATION 3 | Continuing to boost awareness of accessible in-home displays**

Stakeholders told us that the accessible in-home display was a crucial element of the offering to many prepayment users that have additional needs due to, for example, being visibly impaired. The CMA energy market investigation revealed that prepayment users were more likely to have a disability than credit customers. We were also told, however, that awareness of this display was low, and that suppliers were not necessarily openly offering them to their customers.

This report recommends that Ofgem direct suppliers to offer an accessible in-home display (AIHD) to households on the priority services register, when they request a smart meter. Additionally, this report recommends that Smart Energy GB run further, and more prominent campaigns aimed at boosting the awareness of the accessible in-home display in order to increase demand for it. This should lead to greater take-up in AIHDs, and a greater chance of realising household benefits.

## **RECOMMENDATIONS TO PROVIDE INCENTIVES TO CUSTOMERS**



### **RECOMMENDATION 4 | Cashback: Sharing the supplier benefit with households**

Several stakeholders, across the spectrum of organisations that engaged in the call for evidence and interviews, said that a key barrier affecting the take-up of smart meters amongst prepayment households was the lack of tariffs available that offered savings when compared to legacy prepayment meters. Analysis of the benefits to suppliers shows that there should be a significant cost reduction in moving a customer from legacy prepayment to a smart meter. Although this report does not conclude it would be fair to offer an incentive to households while not all households can receive a meter (due to the several barriers outlined elsewhere), once these barriers are removed, there is a case for ensuring that this supplier benefit is shared with households.

This report recommends that once barriers to the rollout of smart prepayment are removed, that BEIS implement a rule that suppliers could offer cashback to households receiving a smart meter, sharing the supplier benefit with a household in a 50/50 split, in the form of free credit on a prepayment account. This would give consumers the confidence that they will benefit financially from a smart meter in the immediacy, while allaying concerns that the benefit for suppliers will not be passed through to households. An upfront payment would also be preferable for those prepayment users who struggle the most financially, giving them more confidence to use their heating to keep warm, than if savings were passed through incrementally over the year by way of a lower tariff. In order to achieve this, Ofgem would need to make a small change to the licence condition to allow it, as loyalty payments to customers in this way is currently not allowed.

## RECOMMENDATIONS TO IMPROVE CUSTOMER AWARENESS AND ACCESSIBILITY OF SMART METERS



### RECOMMENDATION 5 | Improving advice: Building on existing advice packages for prepayment users, improving targeting and leveraging household contacts

#### Building on Existing Advice Packages

Evidence collated from stakeholders suggests that there are significant financial and non-financial benefits to prepayment households receiving a smart meter, including through remote top-ups, accessing a more competitive market, and being able to better understand their energy use and energy debt. While these benefits seem to exist, evidence also suggests that there is a lack of knowledge about these benefits, and that this presents a key barrier to legacy prepayment households electing to take up a smart meter.

Additionally, throughout the research conducted for this report, stakeholders told us that poor customer experiences of the rollout to date have made a significant contribution to the barriers that may reduce the uptake of smart. Stakeholders told us that there was poor awareness among consumers of the benefits of smart meters and in-home displays. Stakeholders identified data-sharing as a way of targeting communications to those that need it most, offsetting the poor perceptions of the rollout and communicating the benefits.

Therefore, this report recommends that industry comes together to build on the existing advice package for prepayment users. This should bring together the benefits explored in this report and present them in a way that is accessible to households. This should be done, in particular, when working with customers to establish debt repayment plans. This advice should then be used in a targeted way by energy suppliers, using currently available data.

## **Improving the Targeting of Advice**

The Digital Economy Act is starting to be used to data share between DWP and suppliers' PSR data to indicate whether or not those customers are eligible for wider obligated schemes. Realising the opportunities of this data-matching process in the context of smart metering should support energy suppliers to deliver more holistic support to their customers alongside smart meters for prepayment households. This should make it more attractive for suppliers to deploy this technology.

This recommendation could be taken forward through two means, firstly, by exploring the new licence objective of Smart Energy GB to act as a forum for suppliers to coordinate activity. Secondly, through the BEIS-led Consumer Reference Group, a forum set up by BEIS under the Smart Metering Implementation Programme to provide advice and, where appropriate, solutions to mitigate consumer journey challenges arising from consumer experiences in the smart meter rollout. We hope that this will result in energy suppliers working with support agencies such as NEA and EAS, to target advice on the benefits of smart prepayment for those who would most benefit from it.

Stakeholders also told us that there continues to be a significant barrier to uptake for consumers that live in apartment blocks where the communication between the smart meter and the in-home display fails because of the distance between the two, and the household cannot realise the benefits of smart. While this barrier still exists, we heard that work is already underway to bring about a technical solution to this barrier.

We recommend that once this technical barrier starts to be removed, there is a concerted effort to offer smart meters, and smart metering advice, to consumers in apartment blocks where smart meters become technically feasible. This should build on the learnings from network innovation projects, such as EnergyWise. Energy networks could play a role in this, as while a supplier's consumer base is dispersed, a whole tower block is likely to be served by a single network. To achieve this, the Consumer Reference Group should work with Energy Networks and AltHANCo to ensure that as prepayment households in apartment blocks become feasible targets for smart meter installations, they receive targeted advice on the benefits of smart metering.

## **Leveraging Household Contacts**

Significant evidence has been collected to suggest that customer inertia, a belief that smart meter installations come with significant hassle and disruption to the home, and a poor perception of energy suppliers are all barriers to prepayment households requesting a smart meter. Stakeholders showed preference for an intervention to 'piggyback' on other energy schemes, much like in the Warm Home Discount Scheme 2021/22, to offer smart meter advice, or even integrate smart meter installs. Where this is performed by third parties, it would help with the trust of energy suppliers, and integrating with other schemes could reduce hassle and disruption, as well as tackling inertia. As these schemes are focused on helping fuel poor households, there should be a disproportionate number of prepayment households involved, providing a significant opportunity to maximise the benefit of smart for prepayment users.

This report recommends that BEIS investigates how at a minimum, smart metering advice can be integrated into upcoming energy schemes such as ECO4 and the Home Upgrade Grant Scheme. This would be a logical step, following on from similar rules that have been implemented within the delivery of Warm Home Discount Industry Initiatives and the Gas Networks' Fuel Poor Network Extension Scheme.

Based on the welcome collaboration that was evident in the trial of area-based approaches in Derby, this is a similar model that could be piloted in a limited real-world trial to test the ability of suppliers to deliver advice in their delivery of ECO4. If it proves to be a success, we hope that the UK Government could implement this in time for ECO4.

## **RECOMMENDATION 6 | Building trust with suppliers through customer forums**

Stakeholders repeatedly told us that one of the biggest barriers to making the most of the smart meter programme for prepayment users was a lack of trust between households and their supplier. This is a significant concern, because it requires time and effort to repair this trust, which suppliers must take the initiative to achieve.

This report recommends that as the first part of this process to build trust, energy suppliers commit to activities that can help build better trust with their legacy prepayment customers. This should include specific sessions to discuss the benefits of smart prepayment, as found in this report, as well as the barriers faced by prepayment users in requesting and obtaining a smart meter. Through these forums this would be an opportunity to understand their customers and whether there are any further barriers to smart that are not evidenced in this report, including, for example, where vending distances are long. Such insight should be helpful for suppliers to address these challenges for those customers, building trust along the way.

## **Conclusion**

Through the research conducted for this report, the benefits of the smart meter rollout for prepayment users, the barriers to uptake of smart for prepayment users, and interventions to remove these barriers have all been explored with stakeholders.

In all, the research found that there were 16 significant benefits to rolling out smart meters to prepayment households, with a lifetime benefit of over £5bn to households and more than £1.4bn to energy suppliers, facilitating a reduction in 0.2TWh/ year in gas use, and 0.41TWh/year in electricity use, amounting to 130,000 tonnes of CO<sub>2</sub> saved per year, while contributing 10,000 jobs to the economy.

A total of nine significant barriers were found to achieving these benefits, spanning the availability of smart prepayment tariffs, the policy design of the smart meter framework going forward, the historic customer experience to date, and the lack of trust between prepayment users and their suppliers. Interventions were tested to resolve these barriers, resulting in six recommendations covering Improve Customer Awareness and Accessibility of Smart Meters, incentives to help household uptake of smart, and changes to the policy and regulatory framework.

The changes proposed in this report may take time to progress, and while we are confident that the changes that are taken forward will ultimately have a significant impact, those households that remain using legacy prepayment meters must be protected against the detriment they naturally face in



the market. Currently, the default tariff price cap provides a good level of protection to prepayment households by ensuring that they at least pay a fair price for their energy, stopping energy suppliers from making excess profits from prepayment tariffs. It is important that Ofgem commit to extending the cap, at least for all prepayment households, at least until the next phase of the rollout is complete at the end of 2025.

The current phase of the smart meter rollout is due to complete at end of 2025, and we hope that our recommendations are taken on board. If they are not, we fear that some, if not many prepayment households may not have had the opportunity to have a smart meter installed. This, however, may not be the case, and price caps should not be in place indefinitely in order to solve an issue where the technology already exists as a solution. Therefore, the last recommendation in this report is for the UK Government to commit to a post-2025 approach to replacing legacy prepayment meters with smart meters, where legacy prepayment customers who have not yet received a smart meter are given the right to have one installed beyond the end of the rollout obligation.

We do, however, believe that if the right steps are taken, including the recommendations made in this report, this special measure approach will not be needed. There must, however, be a backstop. The detriment faced by legacy prepayment customers cannot continue to exist, and this report has shown the multitude of ways in which smart meters bring value to struggling households' energy suppliers, and the country as a whole.

As a result of this report, and in the coming months and years, NEA and EAS will work with stakeholders spanning governments, regulators, Smart Energy GB and private companies to ensure that the recommendations we make are embraced. We will look to communicate the benefits found to our partners, stakeholders, and households, so that these important benefits of the rollout can be maximised for prepayment households.

## Annex 1 | Research methodology

### Research objective

The primary objective for the research is to evaluate the potential of smart prepayment to deliver a holistic set of benefits to vulnerable energy consumers, to identify the existing barriers to achieving this and set out what steps would help make the most of the rollout for prepayment households. Therefore, the research consists of three parts:

1. An assessment of possible benefits, including:
  - a. Household benefits
  - b. Supplier benefits
  - c. Landlord benefits
  - d. Macro benefits (including macro-economic, environmental, and social benefits)
2. An assessment of barriers to uptake of smart meters for prepayment households, including:
  - a. Policy barriers
  - b. Regulatory barriers
  - c. Technological and physical deployment barriers
  - d. Supplier barriers
  - e. Awareness barriers
3. Potential Interventions to realise the full benefits of the rollout, including:
  - a. Interventions to improve customer awareness and the accessibility of the programme
  - b. New or modified policies or regulation
  - c. Incentives to increase take-up

### Research methods

As noted above, to meet these objectives a range of research methods have been used:

- A call for evidence to obtain views from 132 stakeholders
- A set of 12 stakeholder interviews
- A set of 15 household interviews
- Desk analysis to quantify the benefits identified through other methods.

An explanation of these methods is explained below in turn.

## Call for evidence

Between 8 February and 12 March 2021, NEA and EAS issued a call for evidence questionnaire, seeking feedback from a wide range of stakeholders across England, Wales, Scotland and beyond. The survey asked whether respondents had any evidence on the benefits and barriers of smart prepayment deployment and ideas for how to drive their take-up.

The survey received 132 unique respondents from energy suppliers, energy networks, charities and not-for-profits that work in the energy space, local authorities, and housing providers. While the majority of respondents represented charities and not-for-profits, there was a good spread across types of stakeholders. Across the nations, the split was broadly representative, with 13% of respondents operating in Wales, 20% in Scotland and 60% in England.

The questions for the survey were designed to reduce bias however it did explore whether respondents agreed with pre-identified benefits of smart prepayment, barriers to the uptake of smart prepayment, and interventions to overcome the barriers and make the most of the rollout. In addition to commenting on pre-identified elements, respondents were invited to provide any evidence they were aware of to support their own views. This element to the research was extremely valuable and where possible NEA has embedded this insight to strengthen our findings. Respondents were also asked to provide any additional benefits, barriers and interventions that had not been mentioned in the survey.

## Stakeholder interviews

In addition to the call for evidence, several stakeholders, who had been identified as having a particular expertise regarding the smart metering programme, were invited to an interview for a more in-depth conversation of the topics that were covered in the call for evidence.

Interviewees remain anonymous, but the spread of interviewees covered:

- Smart Energy GB
- Energy suppliers
- Governments across GB
  - The UK Government Department of Business, Energy, and Industrial Strategy
  - The Welsh Government Department of Environment, Energy and Rural Affairs
  - The Scottish Government Department of Energy and Climate Change
- The Data Communications Company
- Energy networks
- Consumer advocates
- An IHD Provider

## Householder interviews

To bring the subject area to life and foreground the views of those with direct experience, NEA conducted 15 in-depth semi-structured interviews with households. The interviews were completed by telephone and lasted between 15–45 minutes. Interviewees were asked about how they came to use a prepayment meter (legacy or smart), their experiences and routines related to paying for energy this way, challenges they may have faced, their understanding of consumption and billing, and general views on prepayment as a method of paying for energy.

The interview sample was drawn proportionally from across the GB nations and included a mix of those using legacy and smart prepayment. The sample split is set out in the table below.

Nation	Total number of interviews	Legacy prepayment	Smart prepayment
England	9	5	4
Scotland	3	3	0
Wales	3	2	1
All	15	10	5

There are a number of composite case studies included in this report and these have been derived from the household interviews. This approach means that case studies draw on a number of real cases (and use real quotes), but by pulling their information together into a ‘composite’ household makes it difficult to identify any real household or its members protecting anonymity. Across the four composite case studies, we have ensured that the examples and details we emphasise are not unique, nor the most extreme, but reflect the experiences of many in our broader sample.

Throughout the report, pseudonyms have been used to protect the anonymity of the interviewees.

## Desk-based analysis to quantify benefits

Alongside seeking stakeholder views on the range of benefits that are presented to householders, energy suppliers, landlords and UK plc of the smart meter rollout for prepayment households, a desk-based analysis was completed to try and quantify the identified benefits, where possible. This secondary research drew from a number of different credible sources to attempt to allocate benefits to the smart meter rollout. In the main, and unless otherwise identified in the report, quantified benefits are derived from the Department for Business, Energy, and Industrial Strategy (BEIS) Smart meter rollout: cost-benefit analysis 2019<sup>31</sup>. Where benefits from the BEIS analysis have been allocated to the prepayment portion of the market, this has been done proportionally<sup>2</sup>. according to the market share of prepayment meters, as reported on in the latest Ofgem report on “Vulnerable consumers in the energy market”<sup>32</sup> Lifetime benefits are calculated using the same methodology as the BEIS cost benefit analysis and consistent with the Treasury Green Book Method<sup>33</sup>

The remainder of the report focuses on describing each of the identified benefits, barriers, and interventions, alongside a summary of stakeholder views for each.

<sup>2</sup> While this is unlikely to give an exact answer of the benefits attributable to prepayment households, as the BEIS cost benefit analysis contains more complexity than is publicly available, we expect that the result will be in the correct order of magnitude.

## Annex 2 | Full analysis of the barriers to uptake of smart prepayment

### Technological or physical deployment barriers

The research initially identified six barriers that relate to the smart metering technology, or physical constraints of the building or existing metering infrastructure:

#### Dwelling/meter type

Remote dwellings, apartment block buildings, and multi-occupied premises might require extra effort to install a smart meter because of a number of attributes of the property and existing infrastructure. This includes:

- Remote dwellings are by definition more difficult and expensive to access, meaning that, on average, it is likely to cost more to install a smart meter. Additionally, remote dwellings are less likely to have a good level of connectivity (this is explored under the heading below 'connection with the Smart DCC').
- Multi-occupied premises, and remote dwellings that rely on electric heating, can often have more complex metering arrangements. Traditionally, there have been technical constraints when replacing some kinds of complex meters.
- In apartment blocks, the location of the meter is often a larger distance from the use of energy, meaning that a connection between the smart meter and the in-home display cannot be achieved. This means that the full functionality of the meter, and the benefits coming from the meter, cannot be realised.

Barriers relating to dwelling and meter type were identified as having high significance by the respondents to the call for evidence. This was broadly corroborated by the experts in the stakeholder interviews, although some of the specific issues identified above relating to connectivity and complex metering are well on their way to being solved (more detail in sections below).

#### Connection with the Smart DCC

There have been issues with smart meters in some geographic locations that have meant that a connection between the Smart DCC and the smart meter itself has been impossible.<sup>34</sup> This lack of connection has meant that in some instances, an installation is not possible.

Respondents to the call for evidence identified that connectivity issues were a significant barrier to the rollout. However, our expert interviewees were less concerned, with the consensus being that these issues had broadly been solved at this point, and that the DCC had a contractual arrangement to serve more than 99% of households in Great Britain<sup>35</sup>.

While this has now seemingly been resolved, responses to the call for evidence suggest that the poor experiences of the past may have had a residual impact on attitudes towards this barrier, and that while the technical issue has been fixed, the concerns that were initially created have resulted in a lasting barrier to uptake.

## In-home display (IHD)

While the IHD undoubtedly provides more information, in a more accessible way to householders using smart meters (compared to legacy prepayment meters), the information is not necessarily meaningful to users. A lack of utility of the standard in-home display for certain groups of householders could result in lower uptake.

The call for evidence presented mixed views on this barrier, and it was not identified as a significant barrier by respondents. Interviewees broadly agreed with this sentiment, but in some interviews, it was suggested that for some households with additional needs, a more accessible IHD is required. This is an issue that is meaningful for prepayment households, where household members are more likely to have a disability, more likely to be less educated, and more likely to have lower income. Each of these attributes suggests that prepayment users require additional needs that the IHD needs to meet to realise the benefits of smart metering.

One interviewee said that while accessible IHDs do exist, suppliers are often reluctant to actively promote them to their customers. This, they said, led to a significant barrier for those households that rely on accessibility functionality to achieving the benefits explored in the previous section.

## Integration with microgeneration

Our interviews also highlighted that SMETS1 meters have had some integration issues with microgeneration. Meters could not always, for example, measure the generation and the export of on-site generation and communicate this with the relevant energy supplier, requiring more meters to be in use at the property to access government support schemes such as the feed-in tariff. Whilst this issue seems to have been addressed by newer smart meters, this issue could cause a barrier to the uptake of smart meters for prepayment customers where their landlord has installed or plans to install, microgeneration at home.

## Difficulty in upgrading certain meter types

Historically, some meter types have been harder to upgrade to smart meters than others. These include:

- Radio tele switch meters that are linked to multi-rate tariffs such as Economy 10. This is a particular issue in Scotland, where around 11% of households rely on electricity for heating<sup>36</sup>
- Other complex metering arrangements, where one property is served by several MPANs.

Respondents to the call for evidence told us that these constraints had often stopped households from receiving a smart meter after they had requested one, leading to a poor customer experience. They identified this as a significant barrier to uptake. Expert interviewees took a similar view, suggesting that technical constraints had proven to be a significant barrier to rolling out smart meters to households with more complex metering arrangements in the past. Several interviewees said that these issues had now been fixed, and a new iteration of SMETS2 meters would allow all meter types to be replaced but this report has been unable to determine if this is a common view or whether key technical barriers to installing smart meters for some meter types remain.

## Semi-concealed meters

Semi-concealed meters pose a physical barrier to an installer gaining sufficient access to the meter in order to safely disconnect the legacy meter and replace it with a smart meter.

Although this might be less prevalent for prepayment meter customers, who generally need better access to their meters in order to be able to top the meter up, respondents to the call for evidence identified this as a significant barrier to the prepayment cohort. Our interviews confirmed that this is the case for some households as, some prepayment meters had previously been installed in hard-to-reach places regardless of whether a customer was on the Priority Services Register (PSR).

## Policy barriers

### Policy certainty on the smart meter framework

The smart meter rollout has seen significant delays in its lifetime. The Energy Act 2008 gave powers to begin a smart meter rollout. Since then, successive UK Governments and Ofgem (the energy regulator) have been working on a rollout programme, which started in 2011. Most recently, whilst the Conservative Party manifesto 2016 pledged that every home would be offered a smart meter by 2020, as the late 2010s approached, it was clear that this target would not be met. In September 2019, the Government consulted on the broad terms of a new framework, with outcomes published in June 2020. In addition, due to the Covid-19 pandemic, the UK Government delayed the start of the new framework to 2021. Subsequently, the UK Government has consulted on the details of the new framework in November 2020. To date, there has been no Government response to this consultation or decisions on the detail, meaning there continues to be a lack of certainty over the long-term framework of the rollout. Significantly, two key issues have yet to be concluded:

1. The overall targets for each supplier to install smart meters over the period; and
2. The mechanism for attributing a tolerance to this target, in case of underperformance.

Although some call for evidence respondents believed that policy uncertainty had frustrated efforts to roll out smart to prepayment customers, they did not generally identify it as a significant barrier in relation to others presented. Expert interviewees took a similar view, on the whole not believing that a lack of policy certainty created one of the main barriers to the rollout of smart meters to prepayment households. One interviewee, however, thought that policy was a significant barrier, and that mandating would eventually be key to a successful rollout.

### A lack of prepayment focused targets

Although the high level new smart meter framework has been set, the targets, milestones and tolerances that have been consulted on within it relate to the rollout as a whole and there are no specific targets for replacing legacy prepayment meters with smart ones. Given that the overall target for the rollout does not necessarily encompass the whole market (with tolerances allowing a rollout of significantly less than 100% by the end date), this could result in a delayed rollout for legacy prepayment customers. At worst, it could result in legacy prepayment customers not receiving an offer of a smart meter at all, while suppliers still meet their statutory targets.

Call for evidence respondents identified this as a barrier of relatively high significance. Interviewees saw it slightly differently, with the general belief that this did not represent a barrier to rolling out smart meters to prepayment households. However, participants did agree that if more focused targets were in place, prepayment households would be more likely to receive a smart meter sooner.

Some interviewees had the view that setting targets did not necessarily mean that they would be met, as evidenced by the smart meter rollout to date. However, there was also an agreement that the balance of a prepayment target against a target to upgrade credit meters may have an impact on prioritisation.

### **Competing policy objectives**

While the smart meter framework is a key part of the overall energy policy landscape in the UK, there are some areas where the objectives of the rollout could compete with other government policy objectives. One example of this could be the perception that the UK Government has a desire to keep consumer energy bills low, as evidenced through the price cap legislation. This objective could be seen to compete in the short-term, with the smart meter rollout, which is paid for through bills and requires upfront investment in order to return the long-term value.

Call for evidence respondents identified this to be relatively significant as a barrier. Interviewees did not share this opinion, with many suggesting that this was not a barrier, and none suggesting that it was significant.

### **Coordination with other actors**

The smart meter rollout requires the UK Government to work closely with Ofgem, Industry and other actors in the energy space for the rollout to be effective. While in some areas the coordination has been visible (for example within the Smart Systems element of energy policy, where BEIS has jointly consulted with Ofgem on proposals that will impact both regulation and policy), this has not always been as evident in policy relating to smart meters. While there are groups in existence, for example the BEIS Consumer Reference Group, which represents joint working between UK Government and several other actors, this could slow the policy-making process down. At worst, it could lead to policy and regulation working against each other.

Neither call for evidence respondents, nor interviewees identified that this was a barrier of particular significance for the rollout of smart meters to prepayment households. A number of other cross-actor groups were identified, including the Smart Metering Delivery Group and the Smart Metering Operations Group.

### **A lack of political will**

For policy to be effective, there must be political will behind it to ensure that it is as strong as possible. Without political leaders' backing, policy often falls short which leads to poor outcomes. Although there is cross-party consensus, unfortunately, the politics surrounding smart meters is mixed, and this may have impacted the strength of policy making.



Call for evidence respondents identified this as a relatively significant barrier. Interviewees saw it differently, with most believing that this did not have a material impact on the rollout.

## Regulatory barriers

### Regulatory uncertainty on the smart meter framework

Much like the policy framework explored as a barrier above, until recently, there has been a lack of certainty on the regulatory framework for rolling out smart meters for households in the next framework period, as this cannot happen without the policy framework being in place. For example, a lack of clarity in the rules surrounding the Smart Meter Installer Code of Practice could create uncertainty in the delivery of the rollout, and this lack of certainty could cause delays in suppliers' rollout plans. Additionally, a lack of certainty on the enforcement regime could have a significant impact on supplier operations.

Neither call for evidence respondents, nor interviewees identified that this was a barrier of particular significance for the rollout of smart meters to prepayment households.

### The level of regulatory intervention

To date, there has been little compliance action taken regarding the rollout of smart meters<sup>37</sup>. While the lack of regulatory intervention may be a positive sign that there are no compliance issues to do with the rollout, it could also mean that although customer outcomes had been evident Ofgem had typically found in favour of suppliers and their efforts to comply with the general spirit of their obligations.

Irrespective, neither call for evidence respondents, nor interviewees identified that this was a barrier of particular significance for the rollout of smart meters to prepayment households.

### Competing regulatory objectives

Much like the similar policy barrier, while the smart meter framework is a key part of the overall energy regulatory landscape in the UK, there are some areas where the objectives of the rollout compete with other regulatory objectives. One example of this is that Ofgem has a statutory requirement to set the level of the price cap in such a way that an energy supplier can adequately finance their activities. While this does not directly adversely impact the smart meter rollout as a whole, it potentially stops Ofgem from setting the cap to intentionally incentivise the replacement of legacy prepayment meters with smart meters.

Neither call for evidence respondents, nor interviewees identified that this was a barrier of particular significance for the rollout of smart meters to prepayment households.

### Availability and transparency of supplier rollout plans

Up to now, suppliers have not had a regulatory obligation to publish their smart meter rollout plans. This lack of transparency means that households do not see in advance when they may be eligible to

receive a smart meter and makes it difficult for third sector organisations to fully support the rollout of smart meters in their areas. Although Ofgem has recently made steps to close this gap, there is still more to do to achieve full transparency.

Neither call for evidence respondents, nor interviewees identified that this was a barrier of particular significance for the rollout of smart meters to prepayment households. However, in other work, NEA has found that the issue was more significant for advice agencies, as they had poor visibility of suppliers' company-specific plans to be able to advise their clients.

## Supplier barriers

### Smart meters not yet offered to prepayment customers by suppliers

Some energy suppliers have taken the decision to not offer smart meters to households that use legacy prepayment meters and/or not to offer smart prepayment tariffs. This has been put down to several factors, including the smart metering technology and a need to take care with the rollout and households that have a financial vulnerability, which is more prevalent in prepayment users.

Respondents from both the call for evidence and the interviews identified this as one of the most significant barriers to prepayment households accessing the benefits of smart metering, with some saying that even when prepayment meters had reached the end of their life, they are sometimes replaced like for like with a legacy meter. Additionally, NEA has previously highlighted that despite this, prepayment customers were still being charged for the rollout irrespective of whether they could benefit from it, something that is accentuated when smart prepayment tariffs are not available.

There was however a level of sympathy for suppliers who had chosen to delay the rollout of smart meters to prepayment households to protect vulnerable consumers from teething problems. As one respondent said, if the technology fails, it presents a much greater risk for a prepayment user, who might not be able to top up, than a credit user, who might have to give a meter reading. Although some respondents suggested that significantly more suppliers would offer smart prepayment tariffs this year, this has not yet been realised at the time of publication.

A representative from BEIS suggested that "a range of approaches had been taken by energy suppliers to rolling out smart prepayment, with some taking the commercial decision to focus on SMETS2 for these consumers and others rolling out smart prepayment earlier and installing SMETS1. Data from the end of 2020 shows that over 99% of prepayment meters are supplied by an energy supplier offering smart prepayment." In an interview with representatives from Ofgem, they said that "Ofgem wanted suppliers to be confident that they had their systems and processes working with smart credit first before moving carefully into smart prepay, testing at every stage, and scaling up once they were confident issues had been mitigated. Suppliers should now overcome remaining barriers and provide smart to prepayment customers as quickly as possible."

### Resource and current installer capacity

A potential constraint on the rollout for all meter types is installer capacity. The rollout can only progress as quickly as the number of installers allows.

Interviews with stakeholders suggested that this is a key constraint, particularly given the geographic nature of it (installers can only work in an economically sustainable way within a certain radius of their base). However, the prevailing consensus between interviewees, was that installer capacity was currently at or near its peak, and a new framework with more funding would be required to increase installer capacity, implying that the barrier lays elsewhere.

Covid-19 has presented an additional barrier to installs, particularly the ability for installers to enter homes, something that has not been allowed at all times in Scotland, which determined that this was a non-essential activity at the height of restrictions. While this is important, it is expected that these rules will be relaxed in the near future, and so should be resolved imminently, albeit with a backlog of installations.

## **Customer inertia**

Domestic customers in the energy market show low levels of market engagement. This has led to several policy and regulatory interventions to ensure that there are adequate protections for consumers, including the default tariff price cap. This could be especially true for legacy prepayment households, who, as per the CMA energy market investigation, are less likely to engage with supplier-switching due to the physical constraints of their metering infrastructure. If this lack of engagement translates to the smart meter rollout, then this could lead to low smart meter uptake.

Customer inertia was identified to be a barrier of high significance by the respondents to the call for evidence and the expert interviewees. In the call for evidence, it ranked particularly highly in terms of its significance.

## **Awareness barriers, consumer perceptions and inertia**

### **Perceptions and trust of energy suppliers**

Although for many households, the relationship with energy suppliers is fairly neutral, and sometimes good, there are a significant number of households that have poor perceptions of their energy suppliers and a lack of trust in the market. This was a finding of the CMA Energy Market Investigation, which they found remained an issue even with additional customer protections driven by Ofgem. This might be especially true of prepayment customers, who often use that meter type after falling into arrears with their supplier, an event which can cultivate a poor relationship.

Respondents to the call for evidence identified this as the most significant barrier to the uptake of smart meters for prepayment households, with some respondents specifically stating that a lack of trust in the use of data was an issue, while others said that the negative trust surrounding the rollout had eroded customer confidence in suppliers to deliver a good smart metering experience. There was a mixed response from interview participants, but where experts thought this was a barrier, they said it was a significant one.

## **Awareness of the benefits of smart meters and in-home displays**

As explored in the previous section, the benefits to prepayment households of smart meters are wide-ranging, and much of the benefit is reliant on the in-home display. The take-up of smart meters, which relies on an opt-in process from households, requires a good level of awareness of these benefits for uptake to reach high levels. If households are not aware of the benefits that smart meters present, including from in-home displays, they may be less likely to request a meter when they are available, or accept one if offered.

Respondents to the call for evidence identified this as a significant barrier to uptake of smart meters in prepayment households. The results shown in the benefits section may be evidence of this assertion, as respondents to the call for evidence were unaware of the significant benefit that could come from a competitive prepayment market facilitated by smart meters. Although interviewees did not necessarily see this as a significant barrier, there were no disputes that it was a barrier to uptake. An expert from Smart Energy GB said that although levels of awareness of the smart meter programme are high for prepayment customers, that this level of awareness was lower than for the market as a whole.

One expert said in an interview that there was a specific issue with a lack of awareness of accessible in-home displays, leading to this barrier being particularly acute for some households with additional needs.

Households interviewed who had legacy PPM were asked why they did not have a smart meter, and about their awareness of and attitudes towards them. A number noted that they had never had a conversation about smart meters with their supplier or anyone else, or that they could not remember having done so. Others perceived smart meters to have little or no benefit to them, particularly in terms of energy saving and keeping records of energy expenditure:

***“If I’m being honest, I know it sounds stupid, but I don’t see the point of a smart meter. I don’t understand who it benefits. It doesn’t benefit me because if I see there is a light on and I’m not in the room, I switch it off. I keep all the tickets that I put my credit into my meter on and I staple them into my diary, and I write every other day how much electricity I’ve used. So, apart from doing all those things myself, what does a smart meter benefit me? I don’t see it really”***

Another interviewee highlighted that it is not only an issue of raising awareness in terms of maximising the benefits of the IHDs. For this person, a move to a new property meant they no longer had access to an IHD, despite having been told that smart meters were fitted at the property:

***“I think it’s a smart meter, they told me that it’s a smart meter, but I don’t know if that’s little... Where I was before, I used to have that little box, but then here I don’t have a little box.”***

## **Perception of hassle or disruption of getting a smart meter installed**

The installation of a smart meter requires a member of a household to be at home while the smart meter installation takes place. Additionally, sensitive electrical equipment requires to be turned off for the duration of the installation, which could take up to 90 minutes if both gas and electricity meters are being replaced. For many, this could mean taking a day of annual leave, which can be disruptive and a hassle.

Respondents to the call for evidence identified this as a significant barrier to the uptake of smart meters for prepayment households, with some respondents specifically mentioning the difficulties in taking time off work to be in for an installation. This was a view that was shared by expert interviewees, some of whom even shared their personal reluctance to request a meter install because of the perceived hassle.

The experience of hassle or disruption as a reason to refuse a smart meter installation extends beyond the implications for taking time off work. Having gas and electricity disconnected, even for a short period of time, was described as a significant enough source of stress and worry to refuse, despite some awareness of the benefits. Households interviewed described feelings of vulnerability in terms of having people in the home and having a loss of supply to the property.

## **Hassle factor associated with the in-home display**

Although the in-home display presents an opportunity to engage with the energy market, and can help facilitate reducing energy waste, for some households, particularly those that are already struggling with finances, it could present an extra hassle factor, and something extra to worry about. For other households it can present something new to learn that they may not have time to do.

Neither call for evidence respondents, nor interviewees identified this barrier as having particularly high significance for the rollout of smart meters to prepayment households.

Some of the households interviewed discussed that at times, they would frantically check their PPMs and the amount of money left on them, suggesting that information about their energy use and costs was a source of stress. However, the same behaviour with the IHDs was not reported by those interviewed who had a smart PPM. This is not to say it does not occur but that it was not disclosed in the interviews.

## **Health and safety e.g. electromagnetic sensitivity**

Smart meters give off low frequency, low energy electromagnetic radiation. While this does not have any impact on health<sup>38</sup>, there have been several reports that suggest the contrary, which could create negative perceptions in the minds of householders.

Neither call for evidence respondents, nor interviewees identified that this was a barrier of particular significance for the rollout of smart meters to prepayment households. Only one respondent to the call for evidence reported that they had heard of households with this particular concern. However, another reported that they had not heard the concern in 18 months.

Among the households interviewed, none reported this as a reason for not having a smart meter installed or a concern with their current smart meter.

### **Customer experiences of the rollout to date e.g. cancelled appointments and failed connection to DCC**

The experience of others in the rollout can have a profound impact on whether a household chooses to ask for a smart meter or not. Unfortunately, there have been many instances of poor customer experience in the rollout, including cancelled appointments, a failed connection to the DCC and the loss of smart features following a supplier switch (for SMETS1 meters). This poor experience, spread by word of mouth, could have a significant impact on the rollout.

As one interviewee told us:

***“...we moved to this address about five months ago, and it had a prepayment meter. The first day we applied to change this meter to a smart meter exactly the date that we moved to this address, but they told me that because of Covid it is like we should wait. After three different appointments and three months they came to change the meter, but they told us that there isn't signal for a smart meter. Yesterday as well, yesterday again they came to check for a smart meter but unfortunately, they couldn't find any signal. It's again back to a prepayment meter, the problem is this prepayment meter costs a lot for us and we had a really bad winter because of that.”***

Respondents to the call for evidence identified this as a significant barrier to the uptake of smart meters for prepayment households, with some respondents specifically mentioning cancelled appointments as having a significant impact. This was a view that was shared by expert interviewees.

### **Additional Barriers Discovered**

Through the process of stakeholder engagement, several additional barriers were discovered that were not tested as part of the call for evidence. These are:

- Several barriers that exist solely within the private rented sector, as have been found through work commissioned by Smart Energy GB:
  - Confusion over who has the responsibility to request a smart meter installation can cause inertia for privately rented homes.
  - Landlords can request a meter themselves, but there are only short windows of time for landlords to install a smart meter (i.e. void periods), and there may not be an available meter installation within that period.
  - The benefits to landlords that have been discussed in the previous section are not clear to landlords themselves, or are not seen as a priority.

- In some cases, clauses exist in a tenancy agreement that could lead to a lack of clarity over whether a smart meter can be requested, causing a barrier for private renters in requesting a smart meter.
- While the lack of an availability of smart meters for prepayment customers had already been identified, stakeholders said that a further problem was the lack of smart prepayment tariffs. Furthermore, some stakeholders in interviews said that there was a risk that suppliers will not pass the savings that they see from smart prepayment through to customers.
- Stakeholders said that while it wasn't a specific barrier, the consequence of many of the barriers explored is a bad experience for householders, and that this can translate into sharing this poor experience with friends and family. Stakeholders said that this propagation of bad experiences created a significant barrier in engaging with certain households.
- One stakeholder, an electricity network, suggested that in their own work to assess the barriers of the smart rollout, there were several barriers to uptake:
  - Concerns about the accuracy of the meter compared to traditional meters
  - The belief that smart meters wouldn't enable them to save money, and indeed, that costs may increase as a result
  - A regulatory barrier whereby Ofgem do not give clarity to networks on what smart metering activities can be funded, leading to a lack of ambition from electricity networks in this area

Other research completed by The Behavioural Architects, commissioned by Smart Energy GB, and shared with this report, has shown that there are specific barriers in the private rented sector:

- Confusion over responsibility for smart meter installation causes inertia
- There are only short windows of time for landlords to install a smart meter
- Smart meter benefits aren't clear to landlords
- Tenancy clauses could create a barrier for householders

## Annex 3 | Potential interventions to realise the full benefits of smart prepayment

The research has identified several possible interventions to realise the full benefits of smart prepayment. These have been split into three different areas:

- Improving customer awareness and accessibility of the programme
- New or modified policies or regulation
- Incentives

Interventions in each of these areas are explored, before using the evidence collected from stakeholders in the call for evidence and expert interviews to set out the interventions that would most likely remove the barriers identified in previous sections, to realise the benefits of smart prepayment.

### Interventions tested in the call for evidence and interviews

#### Improving customer awareness and accessibility of the programme

Intervention	Description
Enhancing existing channels of coordinated consumer engagement activities	<p>To improve awareness, a range of actors could work to enhance the existing ways in which they communicate with householders to ensure that the benefits of the rollout for prepayment customers is better known, and therefore drive uptake. For example, this could include several consumer groups coordinating their smart meter advice to engage a certain cohort of prepayment households.</p> <p>Stakeholders felt that although viable, this was not one of the interventions that was most likely to succeed.</p>
New methods for communicating benefits to households and tackling misinformation	<p>As well as using existing ways of communicating with households, new methods could be trialled to help households understand the benefits of smart meters and to tackle misinformation. For example, this could include trialling different channels of communication, including SMS, social messaging apps, and email.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>
More ways to engage a wider range of relevant audiences	<p>New audiences could be targeted to ensure that the appropriate messages regarding smart metering effectively penetrated the prepayment meter market. This could have a particular focus on adapting messaging for different tenures or groups.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>



Intervention	Description
<p>Opportunities for ‘piggybacking’ delivery of associated service delivery</p>	<p>There are several touchpoints that households go through within the energy market that are not currently utilised for smart meter advice. Recently, BEIS took the decision to ensure that all households receiving a Warm Home Discount Industry Initiative would also receive smart meter advice. This could be replicated at other touchpoints including receiving advice as standard during the new connection process or within the design requirements of upcoming energy efficiency schemes such as the new phase of the Energy Company Obligation (ECO).</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>
<p>Engagement opportunities to support customers with SMETS 1 meters once they have been enrolled into the DCC</p>	<p>Millions of households have SMETS 1 meters that have not yet been enrolled into the DCC. Engaging these households to make them aware of enrolment and the benefit that this gives them could help increase the perception of smart meters in communities and counteract the narrative of poor experience associated with SMETS 1 meters.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>
<p>Improve public availability of information on suppliers’ rollout plans</p>	<p>Improving the transparency of information on rollout plans could help third parties to align their activities to support uptake more closely with suppliers’ own activities.</p> <p>Stakeholders outlined that this was already being progressed.</p>
<p>A ‘special measures’ provision for prepayment customers who may not receive a smart meter at the end of the rollout</p>	<p>The current policy framework for rolling out smart meters runs the risk that not all households with legacy prepayment meters will receive an upgrade to a smart meter. A special measures provision could mitigate this risk by offering the right to a smart meter for all consumers that still have a traditional prepayment meter at the end of the next phase of the rollout at the end of 2025.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>
<p>Development of information and support for accessible in-home displays (AIHD) for households with different need</p>	<p>The in-home display is crucial for households to access the benefits of smart metering, yet in their current forms they are not accessible to the population as a whole. Developing new, accessible displays could be especially useful for prepayment customers, who have a higher propensity to be in vulnerable situations. One stakeholder told us an intervention may be needed to make more households aware of the existence of AIHDs, in order to drive uptake.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>

Intervention	Description
<p>Development of new technology to integrate with the smart meter and show energy information on personal devices</p>	<p>For some households, the in-home display will not be fully integrated with their digital life. The development of, for example, mobile apps to integrate with the smart meter could give more engagement opportunities for more people, and make the customer experience a more attractive one.</p> <p>Stakeholders felt that although this was viable, it was not one of the most likely interventions to succeed.</p>
<p>Identification of opportunities to integrate support from other organisations to provide pre- and post-installation support</p>	<p>Some of the challenges with realising the benefits of smart prepayment comes from a lack of support for the household around the time of the installation. Better use of existing support agencies throughout the process could help solidify the benefits for householders, for example, through coordination of face-to-face advice after the install in order to ensure that the household is fully aware of the benefits.</p> <p>Stakeholders felt that although this was viable, it was not one of the most likely interventions to succeed.</p>
<p>Data-sharing to support hard-to-reach prepayment customers.</p>	<p>Ensuring that households with the most need receive a meter can be difficult as they can be difficult to identify. Using existing data-sharing powers in the digital economy act, suppliers could access data on consumers in receipt of certain benefits, as is currently done to administer the Warm Home Discount, to identify their most financially vulnerable customers to target with smart meter information.</p> <p>Additionally, during the pandemic, the sharing of the shielding patients list with some key stakeholders was carried out with significant success, allowing those who were shielding to access services such as supermarket delivery. This type of agreement could be replicated in the future for the benefit of vulnerable energy consumers.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>
<p>Better use of existing data to target households</p>	<p>Ensuring that households who could benefit the most from smart metering receive an upgrade can be difficult without using data to identify them. Data that suppliers already hold relating to their customers' situations, such as the priority services register and information on debt could help to target certain customer groups with smart meter propositions. In an interview, one participant commented that they were already able to use data in this way and were investigating doing this for smart meter advice in the near future.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>

Intervention	Description
<p>Working with energy networks to promote smart prepayment and enhance awareness.</p>	<p>Energy networks currently have a constrained role in the rollout to “support with issues on the network equipment, when identified during an install of smart meters”. However, they have a relationship with energy customers and have several touchpoints with them. Coordinating more with energy networks could present more opportunities to engage with more households.</p> <p>This intervention had a mixed reaction from stakeholders. While it was seen as viable, it was generally seen as less likely to succeed. However, some, including energy networks, were particularly keen for this to be taken forward.</p>

**New or modified policies or regulation**

Intervention	Description
<p>New rules to ensure that suppliers when installing prepayment for the purpose of debt collection to install smart prepayment and not traditional prepayment meters where feasible</p>	<p>Currently suppliers still install legacy prepayment meters when there is a need to switch payment type to collect debt. Introducing new obligations to stop this would ensure that these new, legacy meters do not need to be replaced in the future. It would also mean that more smart meters were installed more quickly, for less money than a legacy prepayment meter.</p> <p>Stakeholders outlined that this had already been progressed as part of the ‘New and Replacement Obligation’.</p>
<p>Changes to suppliers’ targets and annual milestones, including a target to convert a specified number of traditional prepayment meters every year</p>	<p>Suppliers’ smart metering targets do not include an obligation to replace a proportion of legacy prepayment meters every year. A target that encompassed this could have an impact on the replacement of legacy prepayment meters.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>
<p>Measures to enhance the delivery of smart prepayment by smaller suppliers</p>	<p>Smaller suppliers are less experienced with the smart meter rollout and could have less experience with vulnerable consumers. Measures to support them and enhance their delivery could have a meaningful impact on achieving the benefits of smart prepayment.</p> <p>Stakeholders felt that although this was viable, it was not one of the most likely interventions to succeed.</p>

Intervention	Description
<p>Installation of smart prepayment meters in all but exceptional circumstances so that they do not need to be replaced in the future</p>	<p>As above, some anecdotal evidence suggests that suppliers are still often installing new legacy prepayment meters. A policy/regulation that explicitly stops this practice would have a significant impact.</p> <p>Stakeholders outlined that this had already been progressed as part of the 'New and Replacement Obligation'.</p>

## Incentives

Intervention	Description
<p>Consistently apply current good practice on incentives adopted by some suppliers, and/or issue guidance</p>	<p>Although price incentives can be effective to increase uptake, they often serve to increase costs for households that cannot access smart meters, exposing issues of fairness. Creating and applying a good practice guide could mitigate the risks and increase the effectiveness of incentives.</p> <p>Stakeholders felt that although this was viable, it was not one of the most likely interventions to succeed and that any intervention would need to go further.</p>
<p>Alternative methods to apply tolerances around annual targets for suppliers to install meters</p>	<p>Altering the methodology to the application of tolerance around the new annual targets could incentivise different behaviours from suppliers towards replacing legacy prepayment meters with smart meters. This could be done, for example, by giving an increased weighting to a replaced legacy prepayment meter compared to a credit meter.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>
<p>Stimulate the development of a greater range of smart prepayment tariffs</p>	<p>There are a very limited range of prepayment tariffs available on the market, and there are no prepayment tariffs that are innovative, or have time of use elements. A greater number of these tariffs could make smart meters more attractive to legacy prepayment households and help to drive demand.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>

Intervention	Description
Integrating smart meter installation with energy efficiency retrofit works.	<p>Through the Green Homes Grant, the Home Upgrade Grant scheme, and an expanded Energy Company Obligation (ECO), the UK Government has committed billions towards energy efficiency in this parliament. This presents significant touch-points to vulnerable and fuel poor households, where smart meter installs could be coupled with retrofit works to increase demand.</p> <p>Stakeholders generally felt that this was viable, and likely to succeed as an intervention. While some, working at the sharp end of delivery, outlined that this could be challenging, but did not say it was not viable.</p>
Maximising trigger points to maximise installs.	<p>There are many other trigger points that could be utilised in order to increase the demand for installs, for example where there is a fault with a legacy prepayment meter that therefore needs to be replaced.</p> <p>Stakeholders felt that this was viable, and likely to succeed as an intervention.</p>

## Insights on interventions from the call for evidence, interviews and desk research

### Top interventions from the call for evidence

Within the call for evidence, respondents were asked to rate each proposed intervention on a scale from being very unlikely to succeed, to very likely to succeed. Using the results from this, 10 of the tested interventions were identified as most likely to succeed, and therefore are the interventions that are the most viable, and the best candidates for consideration of being taken forward.

1. Opportunities for ‘piggybacking’ on delivery of associated service delivery.
2. Development of information and support for accessible in-home displays (AIHD) for households with different needs.
3. Stimulate the development of a greater range of smart prepayment tariffs.
4. Integrating smart meter installation with energy efficiency retrofit works.
5. Engagement opportunities to support customers with SMETS 1 meters who have recently been enrolled into the DCC i.e. advice to understand why enrolment is happening and communicate the benefits.

6. More ways to engage a wider range of relevant audiences (with a particular focus on adapting messaging for different tenures or groups).
7. Better use of data and data-sharing to support hard-to-reach prepayment customers, e.g. sharing of data on consumers in receipt of certain benefits, as is currently done to administer the Warm Home Discount.
8. Maximising trigger points to maximise installs (e.g. faults with legacy prepayment meters).
9. Changes to suppliers' targets and annual milestones, including a target to convert a specified number of traditional prepayment meters every year.
10. A 'special measures' provision for prepayment customers who may not receive a smart meter at the end of the rollout. This could include the right to a smart meter for all consumers that still have a traditional prepayment meter at the end of the next phase of the rollout in 2024.

During the process of completing the research, several additional interventions have been identified. Where possible, these interventions have been tested with stakeholders, who perceived them to be relatively likely to succeed:

- In order to ensure that the full benefits to energy networks can be captured, Ofgem could give a clear signal, as part of the new RII0-ED2 price control for electricity distribution networks, on what role that networks have to play in the rollout of smart meters.
- While the New and Replacement Obligation (see below) should ensure that all prepayment meter replacements are smart meters, there is no such rule for when an existing meter is moved in the property, for example to mitigate accessibility problems. This is an important touchpoint between customer and supplier, and an opportunity for the supplier to offer a smart meter. Such an intervention could provide significant benefits for households that previously found it difficult to use their meter.
- To increase trust between energy suppliers and their customers, some suppliers have used customer forums to better understand the issues that their customers face, and to build trust between industry and households. Such activities have often been successful and could help to remove the significant trust barrier that exists, particularly for indebted prepayment households.
- In order to ensure that the savings that suppliers see from the smart meter rollout are adequately passed on to customers, it was suggested that this could be done upfront, as part of a 'cashback' model, where the supplier could pass on a set amount of the per-household benefit as a condition of receiving a smart meter.

A combination of desk research and interviews has revealed that some of the pre-identified interventions had already been at least partially achieved:

- Improving public availability of information on suppliers' rollout plans so that third parties can align their activities to support uptake more closely with suppliers' own activities – as noted above, Ofgem will require suppliers to publish information on their rollout on their websites.
- Installation of smart prepayment meters in all but exceptional circumstances so that they do not need to be replaced in the future. This should be covered by the 'New and Replacement Obligation', a relatively new obligation overseen by Ofgem that prohibits suppliers from installing legacy meters in all but exceptional circumstances. It is however not clear if this is being applied when customers on the PSR make requests to move their energy meter.
- New rules to ensure that suppliers when installing prepayment for the purpose of debt collection to install smart prepayment and not traditional prepayment meters where feasible. This should also be covered by the 'New and Replacement Obligation'.

This progress in removing barriers shows that the UK Government, Ofgem and energy suppliers all take the rollout of smart meters to prepayment households seriously and are willing to act to ensure that the benefits of the rollout can be maximised. This progress, however, will not be enough and significant barriers remain.

## Endnotes

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- 5 Fuel Poverty Monitor 2019-20, NEA, 2020 <https://www.nea.org.uk/wp-content/uploads/2020/07/UK-FPM-2019.pdf>
- 6 The Poor Pay More, Christians Against Poverty, 2015 [https://capuk.org/downloads/policy\\_and\\_government/poor-pay-more-2015.pdf](https://capuk.org/downloads/policy_and_government/poor-pay-more-2015.pdf)
- 7 The vicious cycle of fuel poverty and terminal illness, Marie Curie, 2020 <https://www.mariecurie.org.uk/globalassets/media/documents/policy/policy-publications/2020/fuel-poverty-and-terminal-illness.pdf>
- 8 Switched on, Citizens Advice, 2018 <https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/PPM%20self-disconnection%20short%20report.pdf>
- 9 Ofgem's Vulnerability report 2019 [Reference ii] states that in 2018 there were 4.4m electricity, and 3.4m gas customers using prepayment in 2018. This is the most up to date data available.
- 10 Estimate deriving from the prepayment price cap as originally administered by the CMA, using the assumption that the CMA price cap adequately simulated the prices achieved in a competitive market. As per the press release for the CMA cap, savings were estimated as £300m/year for approximately 4m prepayment customers, averaging £75 per customer. For the press release, see <https://www.gov.uk/government/news/cma-puts-300m-saving-in-place-for-prepayment-energy-customers>
- 11 Smart Meter Rollout Cost Benefit Analysis 2019, BEIS, 2019 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/831716/smart-meter-rollout-cost-benefit-analysis-2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/831716/smart-meter-rollout-cost-benefit-analysis-2019.pdf)
- 12 The per customer figure is the avoided cost of warrant charges to switch from a credit meter to a prepayment meter. The total figure, is the total cost in the whole market of such warrant costs, from <https://www.ofgem.gov.uk/publications-and-updates/ofgem-caps-prepayment-meter-warrant-charges-indebted-customers> and the number of warrant charges from Ofgem Vulnerability report (reference ii),
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- 18 From the prepayment section of the BEIS Cost Benefit Analysis (reference xiv)
- 19 Based on the BEIS Cost Benefit Analysis (reference xiv), applying to the prepayment proportion of the market using the Ofgem report 'Vulnerable consumers in the energy market: 201' (reference iv)
- 20 Based on the BEIS Cost Benefit Analysis (reference xiv) section on debt handling, applying to the prepayment proportion of the market using the Ofgem report 'Vulnerable consumers in the energy market: 201' (reference iv)
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- 22 Based on the BEIS Cost Benefit Analysis (reference xiv), applying to the prepayment proportion of the market using the Ofgem report 'Vulnerable consumers in the energy market: 2019' (reference iv)
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- 24 Calculated using baseline wholesale electricity and gas prices, sourced from the BEIS 2018 Energy and Emissions Projections <https://www.gov.uk/government/publications/fossil-fuel-price-assumptions-2019>
- 25 The macro-level and sectoral impacts of Energy Efficiency policies, European Commission, 2017 [https://www.theeig.co.uk/media/1098/eeg\\_report\\_turning\\_stimulus\\_into\\_recovery\\_pages\\_0920.pdf](https://www.theeig.co.uk/media/1098/eeg_report_turning_stimulus_into_recovery_pages_0920.pdf)
- 26 Based on the BEIS Cost Benefit Analysis (reference xiv), applying to the prepayment proportion of the market using the Ofgem report 'Vulnerable consumers in the energy market: 201' (reference iv)
- 27 ONS, Household debt in Great Britain: April 2016 to March 2018, December 2019.
- 28 Surviving the Wilderness, NEA, 2020 <https://www.nea.org.uk/research/surviving-the-wilderness/>
- 29 Using calculated energy savings alongside calorific values from fuels from BEIS <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>
- 30 While Ofgem has investigated a supplier based on non-compliance with the New and Replacement Obligation, and that Ofgem were satisfied that in contravention of standard licence conditions 39.7 and 33.7 of the electricity and gas supply licences, Utilita was failing to take all reasonable steps to ensure that any new or replacement electricity and gas meters it installs into domestic premises are SMETS2 meters, new enforcement action was taken. <https://www.ofgem.gov.uk/publications-and-updates/utilita-energy-supply-limited-final-order>
- 31 Smart meter rollout: cost-benefit analysis 2019, BEIS, 2019 <https://www.gov.uk/government/publications/>



[smart-meter-rollout-cost-benefit-analysis-2019](#)

32 Vulnerable Consumers in the Energy Market, Ofgem, 2019 <https://www.ofgem.gov.uk/publications-and-updates/vulnerable-consumers-energy-market-2019>

33 The BEIS Cost Benefit analysis uses the Treasury green book methodology for calculating lifetime benefits. This is namely a net present value calculation, with a lifetime ending in 2035, and a discount rate of 3.5%. For the Treasury Green Book, see [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/938046/The\\_Green\\_Book\\_2020.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938046/The_Green_Book_2020.pdf)

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