

APRIL 2021 SMNCC CONSULTATION

Frontier Report

15 June 2021



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1 INTRODUCTION

- 1.1.1 Centrica has commissioned Frontier Economics to act as its advisors in respect of the recent consultations on the SMNCC allowance.¹ In this role we have had access to the Disclosed Model and the Disclosed Data on Centrica's behalf.
- 1.1.2 In the course of our work we have identified specific errors Ofgem's approach in the following areas:
- calculation of sunk installation costs;
 - application of a rollout profile;
 - PPM CTS benefit; and
 - assumptions on traditional PPM asset lives.
- 1.1.3 The aggregate impact of these specific errors is significant. The table below shows the impact on the SMNCC of correcting for all of the errors together.

Figure 1 Aggregate impact on Credit SMNCC

	Condoc Credit SMNCC (Electricity)	Corrected Credit SMNCC (Electricity)	Condoc Credit SMNCC (Gas)	Corrected Credit SMNCC (gas)
Cap 7	£10.26	£11.71	£3.33	£5.09
Cap 8	£9.78	£10.08	£1.99	£2.75
Cap 9	£9.89	£10.14	£1.65	£2.47
Cap 10	£10.00	£10.20	£1.32	£2.18
Cap 11	£10.00	£10.20	£1.32	£2.18

Source: SMNCC Condoc Tables 5 & 6 and Frontier Analysis

Figure 2 Aggregate impact on PPM SMNCC (post-offset)

	Condoc PPM SMNCC (Electricity)	Corrected PPM SMNCC (Electricity)	Condoc PPM SMNCC (gas)	Corrected PPM SMNCC (gas)
Cap 7	£0.00	£0.00	-£6.86	-£1.81
Cap 8	£0.00	£0.00	-£9.16	-£4.64
Cap 9	£0.00	£0.00	-£11.98	-£6.88
Cap 10	£0.00	£0.00	-£14.80	-£9.12
Cap 11	£0.00	£0.00	-£14.80	-£9.12

Source: PPM SMNCC Condoc Tables 6 & 7 and Frontier Analysis

- 1.1.4 In addition, we have raised concerns about the quality of data that Ofgem is relying on to set the PPM SMNCC. We believe that this could further impact on the PPM SMNCC calculations. Using \propto instead of those derived by Ofgem from its data would further reduce the gas PPM SMNCC as shown in Figure 3 below.²

¹ Final consultation on updating the credit SMNCC allowance, Ofgem, April 2021 and Final consultation on updating the prepayment SMNCC allowance, Ofgem, April 2021

² No impact is presented for the electricity PPM SMNCC because changes are fully offset by opposing changes in the electricity PPM offset.

Figure 3 Aggregate impact on gas PPM SMNCC (post-offset)

	Condoc PPM SMNCC (gas)	Corrected PPM SMNCC (gas)
Cap 7	-£6.86	-£1.05
Cap 8	-£9.16	-£3.71
Cap 9	-£11.98	-£5.74
Cap 10	-£14.80	-£7.77
Cap 11	-£14.80	-£7.77

Source: PPM SMNCC Condoc Tables 6 & 7 and Frontier Analysis

- 1.1.5 In the rest of this report we address each of these identified issues in turn by:
- explaining the error in Ofgem's approach;
 - explaining how Ofgem's approach can be corrected; and
 - illustrating the impact on Ofgem's modelling and SMNCC of correcting the error.

2 SUNK INSTALLATION COSTS

- 2.1.1 Ofgem recognises that suppliers have been unable to install as many smart meters as expected due to COVID-19. Ofgem also recognises that suppliers may not have been able to scale down their cost base to match the lower install numbers. Therefore, Ofgem provides an allowance for costs that suppliers incurred in relation to meters which could not be installed.
- 2.1.2 We have identified an error with the approach that Ofgem has taken to calculate “sunk installation costs” associated with COVID. This error affects the cost assessment in 2020 and has a knock-on impact on the allowance that Ofgem provides for 2021.
- In 2020 Ofgem overstates the costs that suppliers have been able to amortise over a 15-year period. As a result Ofgem underestimates the costs that suppliers incurred immediately in 2020 and reduces the SMNCC below the level needed to cover the market leader’s efficient costs.
 - Ofgem then uses its calculation of sunk costs in 2020 as a cap on the sunk costs it allows in 2021. This leads Ofgem to also understate sunk costs in 2021.
- 2.1.3 This section sets out our evidence for identifying this error and the impact of correcting it.

2020 sunk costs

- 2.1.4 Ofgem issued suppliers with an RFI on the smart meter installation costs that they incurred in 2020 and requested that suppliers apportion their total costs into ‘productive’ and ‘sunk’ costs.
- a. Ofgem defined ‘productive’ installation costs as *“those which relate to actual installations”*³
 - b. Ofgem defined ‘sunk’ installation costs as *“installation costs which do not relate to actual installations”*⁴
- 2.1.5 Under what Ofgem refers to as its preferred ‘method one’ approach Ofgem allows suppliers to recoup those costs that suppliers categorised as sunk as if they were expensed in 2020. For those costs that suppliers categorised as ‘productive’, Ofgem assumes that suppliers are able to add all of these costs into the meter rentals that suppliers agree with MAPs. On that basis Ofgem then allows these as an amortised cost over 15 years.
- 2.1.6 The problem with this is that Ofgem failed to ask the correct question to identify which costs can be amortised and which must be expensed in year.
- 2.1.7 Just because installation costs ‘relate to actual installations’ does not mean that suppliers will be able to amortise these costs over the life of a smart meter. The correct question to have asked would have been ‘what installation costs have you been able to reflect in your meter rental payments with MAPs?’ This would have allowed Ofgem to treat sunk and amortised costs in a manner that reflects

³ SMNCC review February 2021 RFI letter, Ofgem (1 February 2021), page 6

⁴ Ibid, page 7

commercial reality for suppliers and correctly differentiates between costs that must be expensed in year and those that can be amortised through meter rentals.

2.1.8 Because Ofgem doesn't do this, it incorrectly assumes that suppliers will have agreed significantly higher meter rentals for those meters installed in 2020 compared to meters installed in 2019. ✗.

2.1.9 Figure 4 shows ✗.

2.1.10 ✗.

Figure 4 Meter rental real cost change between 2019 and 2020

Meter Type	Ofgem's assumed increase in meter rental Ofgem Model	✗ actual change in meter rental
SMETS1 Electricity Meter	10.3%	0.34%
SMETS1 Gas Meter	7.7%	0.64%
SMETS2 Electricity Meter	15.2%	4.01%
SMETS2 Gas Meter	16.9%	-0.10%

Source: ✗.

Note: ✗ is calculated as the percentage change in rental costs between 2019 costs and 2020 costs CPI deflated to 2019 prices.

2.1.11 Given the evidence presented ✗, Ofgem's current 'method one' approach cannot be considered suitable because it does not reflect the commercial reality faced by suppliers.

2.1.12 Ofgem's alternative 'method two' for calculating the costs suppliers expensed in 2020 uses the same total costs as method one but assumes no increase in meter rentals for meters installed in 2020. In the absence of Ofgem gathering evidence to identify the actual proportion of COVID-related 2020 installation costs that have been amortised through meter rentals, the 'method two' approach is more reflective of commercial reality and better supported by the available evidence we have seen.

2021 sunk costs

2.1.13 Ofgem has calculated a COVID sunk cost for the industry in 2021 of £120.5m based on the following assumptions

- 2021 rollout is 80% of a normal level;
- almost all installation costs of lost installs are sunk; and
- 2021 costs per install (absent the effects of COVID) would be equal to suppliers' forecasts of 2020 install costs (also absent the effects of COVID).

2.1.14 Ofgem argues that it is not credible that sunk costs due to COVID in 2021 exceed those in 2020. Therefore, it has decided to cap sunk costs in 2021 at the levels it has estimated for 2020.

- 2.1.15 We agree that COVID related sunk costs in 2020 are a relevant benchmark for 2021 sunk costs.⁵ However, as explained above, Ofgem has erred in its calculation of 2020 sunk costs. Once 2020 sunk costs are calculated correctly, it is clear that there is no need to cap 2021 sunk costs at 2020 levels because they are already calculated to be significantly below 2020 levels.
- 2.1.16 Figure 5 shows that once Ofgem has corrected its approach to calculating sunk costs in 2020, this reduces 2021 sunk costs as a share of 2020 sunk costs to 68%.

Figure 5 Comparison of installation costs under method 1 and method 2

Method applied for 2020 sunk costs	2020 Sunk costs	Implied 2021 Sunk cost allowance	2021 sunk costs as a proportion of 2020 sunk costs
Method 1	£38.7m	£38.7m (capped at 2020 levels)	100%
Method 2	£176.2m	£120.5m (based on Ofgem's bottom up estimate)	68%

Source: Final consultation on updating the credit SMNCC allowance, Ofgem, April 2021, Table 3, paragraph 4.32 and Frontier Analysis

Impact on SMNCC

- 2.1.17 The impact of Ofgem's errors in 2020 and 2021 is material. Figure 6 and Figure 7 below show the impact of adopting the more appropriate method 2 on the SMNCC.

Figure 6 Impact of alternative sunk cost approach on Credit SMNCC

	Condoc Credit SMNCC (Electricity)	Corrected Credit SMNCC (Electricity)	Condoc Credit SMNCC (Gas)	Corrected Credit SMNCC (gas)
Cap 7	£10.26	£11.86	£3.33	£4.63
Cap 8	£9.78	£10.27	£1.99	£2.27
Cap 9	£9.89	£10.39	£1.65	£1.95
Cap 10	£10.00	£10.52	£1.32	£1.63
Cap 11	£10.00	£10.52	£1.32	£1.63

Source: SMNCC Condoc Tables 5 & 6 and Frontier Analysis

⁵ Whilst 2020 sunk costs are a relevant benchmark for 2021 sunk costs, it is not clear that 2021 sunk costs could not exceed 2020 sunk costs without further analysis. This is because there are offsetting factors. For example, while the lockdown periods in 2020 were longer, there may have been greater furlough claims by suppliers in 2020 that could offset this effect.

Figure 7 **Impact of alternative sunk cost approach on PPM SMNCC (post offset)**

	Condoc PPM SMNCC (Electricity)	Corrected PPM SMNCC (Electricity)	Condoc PPM SMNCC (gas)	Corrected PPM SMNCC (gas)
Cap 7	£0.00	£0.00	-£6.86	-£6.39
Cap 8	£0.00	£0.00	-£9.16	-£9.67
Cap 9	£0.00	£0.00	-£11.98	-£12.49
Cap 10	£0.00	£0.00	-£14.80	-£15.31
Cap 11	£0.00	£0.00	-£14.80	-£15.31

Source: PPM SMNCC Condoc Tables 6 & 7 and Frontier Analysis

3 ROLLOUT PROFILE SPLIT

- 3.1.1 Gas and electricity smart meters have different costs and benefits. Ofgem recognises this by using different cost and benefit assumptions for the separate fuels and by setting separate SMNCC values for each fuel. It is also the case that suppliers have rolled out gas and electricity smart meters at different rates.
- 3.1.2 In all previous iterations of the SMNCC model Ofgem has recognised this by adopting fuel-specific smart rollout profiles. However, in this iteration of the SMNCC model Ofgem has switched to use a combined rollout profile for both fuels. To do this, Ofgem assumes that gas and electricity smart meter penetration rates are equal in all years, past and future. This is despite the fact that the smart penetration of each fuel has been observably different in the past and is expected to be different in the future. Ofgem has provided no explanation or justification for its change in approach.
- 3.1.3 Because suppliers have rolled out gas and electricity meters at different rates, and also have a different mix of gas and electricity customers, efficient suppliers are at risk of being underfunded under Ofgem's approach. This is because Ofgem's application of its 'market leader' principle does not take these facts into account. So while Ofgem says that its intent is for its market leader approach to "*ensure adequate funding to support all efficient suppliers to deliver their rollout obligations*",⁶ its application fails to achieve this.
- 3.1.4 Recognising the different pace of the rollout between gas and electricity is important for three reasons.
 - a. First, as noted above, smart gas and electricity meters have different net costs for suppliers. Therefore, the total net costs to the industry in a given year will depend on how the rollout is split between gas and electricity.
 - b. Second, even if the total net cost to the industry was not affected by the assumed rollout split, assuming the wrong split will underfund suppliers that do not have a 50:50 split of gas and electricity customers. In practice no supplier has a perfect 50:50 split of gas and electricity customers.
 - c. Finally, even if the first two reasons did not apply, assuming gas and electricity smart rollouts are in lockstep will overstate the proportion of smart meter installations that are conducted as dual fuel installs. On a per-meter basis, dual fuel installs are significantly cheaper than single fuel installs. Therefore, overstating dual fuel installs will understate the costs of the smart meter programme each year and over the life of the programme.
- 3.1.5 Given that it is inappropriate to move to assuming a common rollout profile for gas and electricity, Ofgem must return to using separate profiles for gas and electricity rollouts.
- 3.1.6 First, and as a minimum, Ofgem should return to using a split profile for gas and electricity in the baseline year of 2017. Ofgem already has the necessary data on

⁶ Final consultation on updating the credit SMNCC allowance, Ofgem, April 2021, page 4

the market average rollout for each fuel in 2017.⁷ This clearly shows that there was not an equal rollout of gas and electricity smart meters at that time.

- 3.1.7 Second, Ofgem must apply separate gas and electricity rollout profiles from 2018 onwards.
- 3.1.8 For the PPM SMNCC Ofgem should use the market average split of fuels. This is consistent with its market average rollout approach for the PPM SMNCC.
- 3.1.9 For the credit SMNCC, Ofgem must ensure that it is providing sufficient funding for the efficient costs of all suppliers. One way Ofgem could seek to achieve this would be to use the actual rollout profile split of its market leader. This would ensure that the market leader itself would be able to fund its efficient costs.⁸ However, if the market leader were to change in future this would risk swings in the SMNCC between fuels if Ofgem's new market leader had a different rollout profile split to the old market leader. Therefore, a sensible alternative is for Ofgem to use the market average rollout profile split.
- 3.1.10 To the extent that Ofgem does not currently have the necessary data to calculate the smart penetration by fuel and payment type, it can request this from suppliers. The data should be available in a form that is consistent with the data it is currently using but with a split by fuel type and payment type. Indeed we note that the most recent ASR template is already proposing to request this data.
- 3.1.11 We have estimated the impact of this change on the SMNCC in Figure 8 and Figure 9 below. This is based on information already contained within the Disclosed Model for the years until 2017 and based on public information from BEIS for 2018 onwards.

Figure 8 Impact of implementing fuel split on Credit SMNCC

	Condoc Credit SMNCC (electricity)	Corrected Credit SMNCC (electricity)	Condoc Credit SMNCC (gas)	Corrected Credit SMNCC (gas)
Cap 7	£10.26	£10.13	£3.33	£3.86
Cap 8	£9.78	£9.55	£1.99	£2.58
Cap 9	£9.89	£9.60	£1.65	£2.29
Cap 10	£10.00	£9.65	£1.32	£1.99
Cap 11	£10.00	£9.65	£1.32	£1.99

Source: SMNCC Condoc Tables 5 & 6 and Frontier Analysis

Note: Fuel split until 2017 based on BEIS SMIP CBA profile provided in Disclosed Model. Fuel split for 2018 onwards based on split in BEIS Smart Meter Statistics applied to market leader profile in Disclosed Model.

⁷ The data is still within the Ofgem model but is currently unused.

⁸ Although as noted below this would not be sufficient to ensure funding for the efficient costs of all suppliers.

Figure 9 Impact of implementing fuel split on PPM SMNCC (post-offset)

	Condoc PPM SMNCC (electricity)	Corrected PPM SMNCC (electricity)	Condoc PPM SMNCC (gas)	Corrected PPM SMNCC (gas)
Cap 7	£0.00	£0.00	£-6.86	£-5.24
Cap 8	£0.00	£0.00	£-9.16	£-7.58
Cap 9	£0.00	£0.00	£-11.98	£-10.44
Cap 10	£0.00	£0.00	£-14.80	£-13.30
Cap 11	£0.00	£0.00	£-14.80	£-13.30

Source: PPM SMNCC Condoc Tables 6 & 7 and Frontier Analysis

Note: Fuel split until 2017 based on BEIS SMIP CBA profile provided in Disclosed Model. Fuel split for 2018 onwards based on split in BEIS Smart Meter Statistics applied to market average profile in Disclosed Model.

- 3.1.12 Third, Ofgem should instigate a further check to ensure funding is appropriate. Whilst Ofgem should apply a split rollout profile as set out above, this alone will not be sufficient to ensure that all suppliers can recover their efficient smart costs. Suppliers with a different rollout profile split and a different share of gas and electricity customers are still at risk of being underfunded even after this improvement because of limitations in Ofgem's application of its 'market leader' approach.
- 3.1.13 In its modelling, Ofgem selects the supplier whose rollout profile generates the highest cumulative dual fuel SMNCC as the 'market leader'. Under this approach, when Ofgem suggests that using the market leader profile would "*ensure adequate funding to support all efficient suppliers to deliver their rollout obligations*"⁹ it is effectively assuming that £1 of gas SMNCC is a perfect substitute for £1 of electricity SMNCC. This would only be the case if suppliers have a 50:50 split of gas and electricity customers, which no supplier does. This means that, in practice, funding the efficient costs of Ofgem's market leader does not ensure that adequate funding is provided for all efficient suppliers to deliver their rollout obligations.
- 3.1.14 The risk of underfunding efficient suppliers arises because Ofgem's application of the market leader principle does not account for the differences between suppliers in rollout profile split and customer portfolio split between gas and electricity. An efficient supplier that Ofgem's approach would not identify as the market leader could still be underfunded if its own rollout profile leads to a higher *individual* gas or electricity SMNCCs than Ofgem's market leader's profile.
- 3.1.15 Therefore, Ofgem must check that the smart funding implied by its SMNCC is sufficient to ensure that all suppliers are funded for the efficient costs of their rollout. To do this it must confirm, on an individual supplier basis, that the level of SMNCC funds the efficient costs of that supplier given its:
- rollout profile;
 - the split in its rollout profile between gas and electricity; and
 - the split in its customer portfolio between gas and electricity.

⁹ Final consultation on updating the credit SMNCC allowance, Ofgem, April 2021, page 4

- 3.1.16 If Ofgem finds that its estimates of SMNCC do not cover the efficient costs of a supplier's rollout, it will need to make a further adjustment to the SMNCC until the efficient costs are covered for all suppliers.

4 PPM COST TO SERVE

- 4.1.1 The data that Ofgem is relying on to determine the PPM cost to serve is newly available to suppliers' advisors as part of this consultation. On examining the data we note that there is very wide variation between suppliers in the PPM CTS data that Ofgem has collected. At the headline level the range in electricity PPM CTS benefit for suppliers is £114.18.¹⁰ The equivalent statistic for gas is £92.99.
- 4.1.2 Ofgem has stated that it has the “*necessary checks in place on individual cost items to ensure comparability across suppliers*”.¹¹ However, as shown in Figure 10 below, there is very significant variability even at the cost item level.

Figure 10 Range (max value – min value) in reported supplier PPM CTS by cost item

Cost item (per customer)	Traditional electricity	Traditional gas	Smart electricity	Smart gas
Customer enquiry costs	£26.19	£34.94	£82.82	£57.48
Payment service infrastructure costs	£36.41	£21.49	£10.66	£9.49
Cost of issuing payment keys, cards and tokens	£17.53	£8.34	£0.41	£0.39
Payment transaction costs	£36.69	£46.60	£27.25	£26.19
Cost of moving from credit to PPM - debt related	£4.65	£7.56	£1.49	£0.00
Cost of moving from credit to PPM - other reasons	£1.78	£7.14	£0.00	£0.00
Cost of moving from PPM to credit	£1.26	£1.56	£0.00	£0.00
Cost of meter readings	£8.90	£8.90	£0.00	£0.00
Cost of safety inspections	£1.38	£1.38	£1.38	£1.38
Cost of internally changing PPM tariff	£0.00	£0.00	£0.02	£0.02
Cost of manual wind-ons	£5.11	£14.18	£0.32	£0.04
Total	£56.39	£61.88	£73.18	£47.61

Source: Frontier Economics Analysis of Disclosed Data

- 4.1.3 The very significant variation in supplier data observed at the headline benefit level and detailed cost item level raises questions about the comparability of the data

¹⁰ This means that the supplier with the highest electricity PPM CTS benefit has a benefit per smart meter per year that is £114.18 more than the supplier with the lowest PPM CTS benefit.

¹¹ PPM SMNCC April 2021 Consultation Document, para 4.41

that Ofgem has collected and therefore the reliability of the conclusions Ofgem draws. For example, we understand from British Gas that payment service infrastructure costs should be relatively standardised across the industry and subject to little variation between suppliers.

- 4.1.4 We note that this issue could only have been observed through access to the confidential data included in the disclosure process. The only respondents to the consultation that will be able to raise this issue are those who employed consultants to act as their Authorised Advisors and review the Disclosed SMNCC & PPM Data on their behalf.
- 4.1.5 In addition to the concern we have about the quality of data that Ofgem is relying on, Ofgem has made two specific errors in its calculations of the PPM cost to serve (CTS) benefit from smart meters. The first of these is an error that Ofgem has made with its calculation of the weighted average. The second is in the way that it treats fixed costs.

Calculation of the weighted average

- 4.1.6 Ofgem's method of calculating the PPM CTS benefit is flawed because it uses an inappropriate method to weight together cost data from different suppliers.
- 4.1.7 Ofgem's approach consists of the following steps.
 - a. First, it calculates the difference between the CTS for traditional and smart PPM customers for each supplier separately.
 - b. Second, it weights each supplier's CTS difference by its total number of PPM customers.
- 4.1.8 This method is inappropriate because it does not reflect the average benefit to the industry of a traditional PPM customer moving to being a smart PPM customer. This is because Ofgem's methodology places too much weight on the costs of some suppliers. Specifically, it places too much weight on:
 - the costs to serve traditional PPM customers by suppliers with few traditional PPM customers; and
 - the costs to serve smart PPM customers by suppliers with few smart PPM customers.
- 4.1.9 This leads Ofgem to overstate the benefits to industry of the smart PPM rollout.
- 4.1.10 The correct method to weight the data consists of the following steps.
 - a. First, calculate the weighted average CTS of traditional PPM customers for the industry, weighting each supplier's data by the number of traditional PPM customers each supplier has.
 - b. Second, calculate the weighted average CTS of smart PPM customers for the industry weighting each supplier's data by the number of smart PPM customers each supplier has.
 - c. Third, calculate the difference between the two weighted averages.
- 4.1.11 The following stylised example clearly illustrates the weakness with Ofgem's current calculation method.

Stylised example

- 4.1.12 Consider an industry with two suppliers, both with 100 customers. One of the suppliers has a balanced split of customers between smart and traditional whilst the other has an imbalanced split.

Figure 11 Stylised example supplier customer splits

Number of customers	Supplier X	Supplier Y
Traditional PPM customers	1	50
Smart PPM customers	99	50
Total PPM customers	100	100

Source: Frontier Economics

- 4.1.13 In this example the supplier with an imbalanced split of customers has a higher PPM CTS for the customer group that it has relatively few of. This position might reasonably be expected to occur in the real world if suppliers are more set up to serve traditional or smart customers because that is what their current portfolio is.

Figure 12 Stylised example supplier CTS values

PPM cost to serve	Supplier X	Supplier Y
Average CTS traditional	£50	£20
Average CTS smart	£10	£10
Difference in CTS	£40	£10

Source: Frontier Economics

- 4.1.14 Ofgem's approach would weight both suppliers equally because they both have 100 PPM customers. This gives a calculated PPM CTS benefit for the industry of £25.¹² However, this is equivalent to calculating an average traditional CTS for the industry of £35 when the true average CTS for the industry is £20.59.¹³
- 4.1.15 Using the corrected method of calculating weighted average CTS first before calculating the difference between the weighted averages gives a calculated PPM CTS benefit for the industry of £10.59 rather than the £25 calculated under Ofgem's method.

Impact on Ofgem's calculations

- 4.1.16 The impact on Ofgem's estimated PPM CTS benefits per smart meter of correcting for this error alone is shown in the table below. This shows that if Ofgem does not correct for this error, then it will be understating the PPM CTS benefits on electricity, overstating the PPM CTS benefits on gas and overstating the PPM CTS benefits to the industry as a whole.

Figure 13 Comparison of Ofgem's methodology and a corrected weighted average approach

Calculation method	Electricity	Gas	Dual Fuel
Ofgem's Condoc calculation method	£15.43	£21.22	£36.64
Corrected calculation method	£16.41	£17.02	£33.43

Source: PPM SMNCC Condoc, Para 4.51 and Frontier Economics analysis

¹² $100/200 \times £40 + 100/200 \times £10 = £25$

¹³ $1/51 \times £50 + 50/51 \times £20 = £20.59$

Treatment of fixed costs

- 4.1.17 Ofgem also incorrectly treats the fixed cost element of the CTS of PPM customers in its calculation of the smart meter benefits. This is because Ofgem has treated fixed costs as though they were variable costs. It has assumed that, if one traditional PPM customer has a smart meter installed, suppliers can avoid the average fixed costs of one traditional PPM customer and instead will incur the average fixed costs of one smart PPM customer. This fundamentally misunderstands the concept of fixed costs: fixed costs are not avoidable for marginal changes in customer numbers.
- 4.1.18 Ofgem compounds the error in its approach by not only treating fixed costs as variable but by also removing from its modelling a correction that it previously introduced to deal with PPM CTS fixed costs.
- 4.1.19 Ofgem must correct its treatment of fixed costs. To do this Ofgem should use the data that suppliers have provided to it on fixed costs and exclude those costs from its calculation of PPM CTS of benefits. Figure 14 below shows the impact on the PPM CTS benefit of treating fixed costs appropriately.

Figure 14 PPM CTS benefit using different assumptions on fixed costs

Treatment of fixed costs	Electricity	Gas	DF
Current method (treating fixed costs identically to other costs)	£16.41	£17.02	£33.43
Alternative method (treating fixed costs as fixed costs)	£16.12	£16.42	£32.54

Source: Derived from Disclosed Data

Note: Presented numbers are for 2019 and are based on Frontier's corrected calculation method.

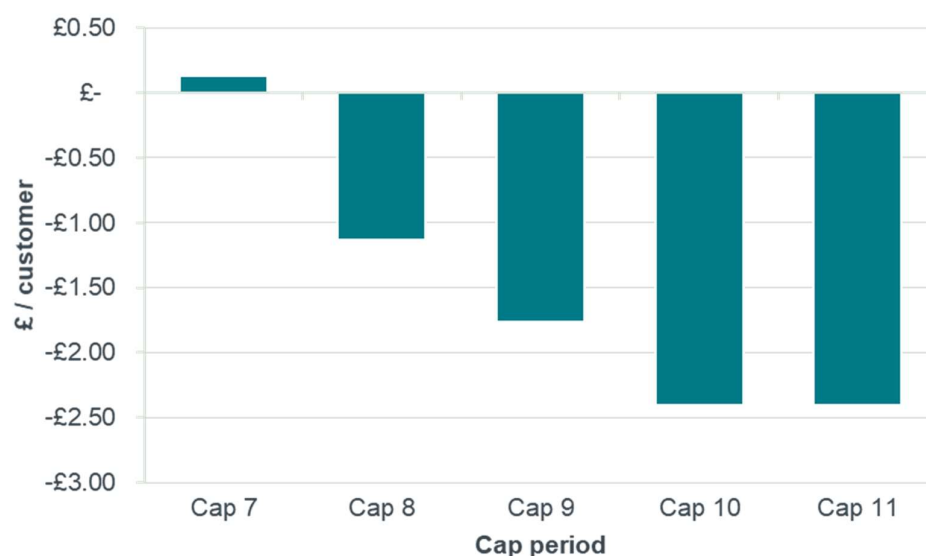
5 PPM ASSET LIVES

- 5.1.1 Ofgem has chosen to increase the assumed asset lives for traditional PPM meters from 10 years to 14 years for electricity and 12 years for gas. Ofgem explained that:

“All else being equal, we expected this to increase the PPM SMNCC as the number of avoided traditional meter installations will decrease and therefore reduce the benefit of installing smart meters.”¹⁴

- 5.1.2 Whilst there is no impact on the final electricity PPM SMNCC (because of the effects of the PPM offset), the actual impact of the change in assumption on the final gas PPM SMNCC is to reduce it by over £1 in cap period 8, over £1.50 in cap period 9 and by almost £2.50 in cap periods 10 and 11.

Figure 15 Impact on post-offset gas PPM SMNCC of extending PPM gas asset life to 12 years

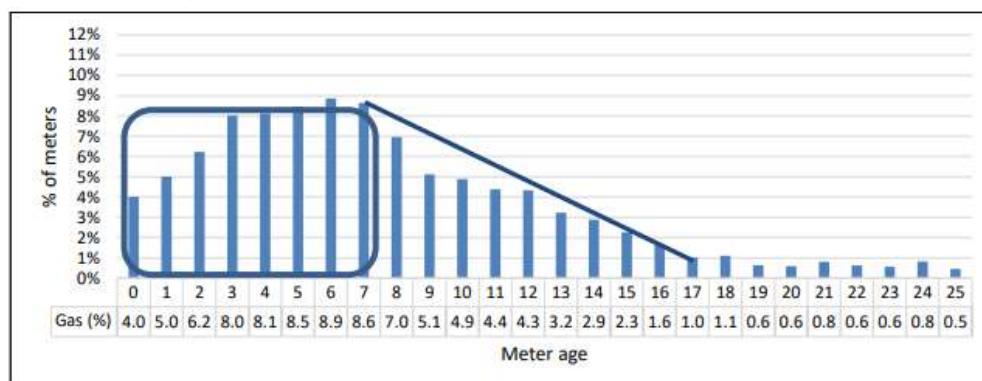


Source: Frontier Economics analysis of the Disclosed Model

- 5.1.3 Ofgem’s choice of a 12 year asset life for gas and 14 year asset life for electricity is based on its interpretation of the distribution of meter ages in 2018, collected as part of a 2019 RFI.
- 5.1.4 In the RFI data Ofgem identifies that the distribution of electricity meter ages for electricity is relatively stable up until 13 years and then drops sharply between 13 and 15 years. This provides reasonable evidence for the assumed traditional prepayment meter asset life of 14 years.
- 5.1.5 For gas meter ages the data is much less clear. Ofgem states that the distribution is relatively stable until 7 years old and then shows a gradual decline in meters until meters reach 17 years old. Ofgem has then simply picked the midpoint of this range at 12 years. Figure 16 below shows the data that Ofgem has presented in support of its assumption.

¹⁴ PPM SMNCC April 2021 Consultation Document, para 4.9

Figure 16 Copy of Figure A2.2: PPM traditional gas distribution by meter age

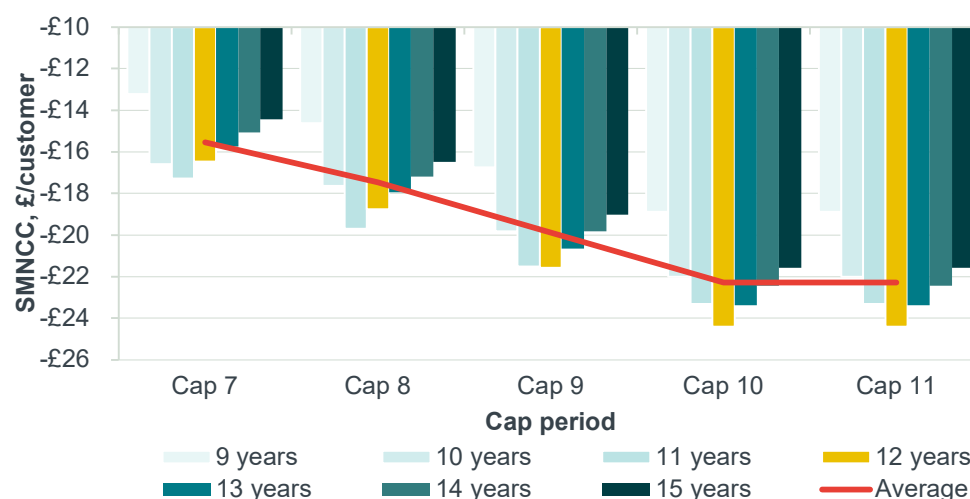


Source:

https://www.ofgem.gov.uk/system/files/docs/2020/11/setting_the_ppm_smart_allowance_in_the_default_tariff_cap_-_working_paper_final_publication.pdf page 38

- 5.1.6 The actual situation is that traditional prepayment meters have a range of asset lives of between 7 years to around 17 years. Ofgem's selection of the mid-point of the range is a simplification of this. This might be a reasonable approach if this simplification did not bias the outcome. However, Ofgem's selection of a midpoint of the range of asset lives before modelling the impact does bias the outcome.
- 5.1.7 In Figure 17 we present the impact of modelling the SMNCC for asset lives of between 9 and 15 years. This shows that Ofgem's approach, of taking the average input first rather than modelling the range and taking the average of the output, understates the gas PPM SMNCC by £0.91 in cap period 7, £1.29 in cap period 8, £1.70 in cap period 9 and £2.12 in cap periods 10 and 11.

Figure 17 Calculated gas SMNCC (pre-offset) for a range of traditional meter asset lives



Source: Frontier Economics analysis of the Disclosed Model

- 5.1.8 Looking at SMNCC for asset lives between 9 and 15 years¹⁵ (rather than the full 7 to 17 year period) is conservative. Modelling the full range of asset lives would imply that Ofgem has underestimated the gas PPM SMNCC by an even larger amount in each cap period.¹⁶
- 5.1.9 Ofgem should recognise that:
- a. the data shows that traditional gas prepayment meters have a range of meter lives; and
 - b. its current approach of assuming a 12 year asset life leads it to understate the SMNCC.
- 5.1.10 If Ofgem does not recognise these facts, and does not adjust its modelling approach, it will underfund suppliers for their smart PPM rollout. Ofgem should either model each of the possible meter lifetimes separately or, if Ofgem considers that it is necessary to make a single assumption, it should assume an asset life of 14 years. Based on our analysis, this will most closely replicate the more detailed approach of modelling each of the possible asset lives.¹⁷

¹⁵ This is the middle of the range, as determined by the interquartile range of the distribution identified by Ofgem.

¹⁶ When considering the full range of gas PPM asset lives, between 7 and 17 years, Ofgem's approach understates the gas PPM SMNCC by £3.49 in cap period 7, £3.92 in cap period 8, £4.28 in cap period 9, and £6.95 in cap periods 10 and 11.

¹⁷ This assumes that the middle of the range, as determined in footnote 15, is applied.

