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Consultation

Reviewing smart metering costs in the default tariff cap: May 2020 statutory consultation

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We are consulting on our review of the allowance in the default tariff cap for the change in efficient net costs to suppliers of the smart meter rollout since 2017. We would like views from people with an interest in the level of the default tariff cap. We particularly welcome responses from suppliers and consumer groups. We would also welcome responses from other stakeholders and the public.

This document outlines the scope, purpose and questions of the consultation and how you can get involved. Once the consultation is closed, we will consider all responses. We want to be transparent in our consultations. We will publish the non-confidential responses we receive alongside a decision on next steps on our website at **Ofgem.gov.uk/consultations**. If you want your response – in whole or in part – to be considered confidential, please tell us in your response and explain why. Please clearly mark the parts of your response that you consider to be confidential, and if possible, put the confidential material in separate appendices to your response.

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Executive summary

Installing smart meters

Allowing for the net costs of the smart meter rollout

Suppliers must take 'all reasonable steps' to install smart meters in their customers' homes, and they incur costs when doing so. They also incur benefits from operational changes and avoiding the cost of installing new traditional meters.

In this consultation, we propose to update allowances in the default tariff cap ("the cap") that reflect the net impact of those costs and benefits on the efficient operating costs of a supplier with an average smart meter rollout profile (see Tables 1 and 2).

Ongoing uncertainty

We must set an allowance to include in the cap that protects default tariff customers and has regard to the efficient net costs of the rollout. However, the progress of the rollout and its net impact on suppliers' efficient operating costs is uncertain. In particular, the post-2020 policy framework has not been announced, progress up to and including 2019 lagged behind expectations, and arrangements to mitigate the impact of the coronavirus (COVID-19) pandemic have meant that installation numbers have dropped significantly.

Future reviews

In light of that uncertainty, we consider further reviews are inevitable to protect customers and have regard to the efficient net costs of the rollout. We propose to review the smart meter allowances every 12 months. In each review we propose to refresh our estimates of suppliers' efficient net costs with the latest official data on suppliers' net costs and progress.

Setting the Smart Metering Net Cost Change allowance

The Smart Metering Net Cost Change (SMNCC) allowance

The SMNCC allowance accounts for (a) the change due to smart metering in efficient net operating costs relative to 2017 for a supplier with an average smart meter rollout profile and (b) the difference between our assessment of efficient smart metering net costs in 2017 and costs we already allow for in the operating costs allowance.

Benchmarking the efficient net costs and benefits of the rollout

We have assessed the efficient net cost to suppliers of replacing traditional meters with smart meters. We have taken BEIS's 2019 cost benefit analysis ("2019 CBA") as a starting point, and adjusted it for our purposes, using supplementary data we have gathered from suppliers and their views on our October 2019 proposals.

We propose to benchmark 'efficient' cost and benefit categories to suppliers' average experience. At the aggregate level this means the allowances should reflect suppliers' combined net costs; we make no downward adjustment for inefficiency.

A single rollout profile based on average progress

We propose to have regard to net efficient costs for a supplier with an average rollout profile. Suppliers with above average rollout profiles will have higher efficient costs than we allow for. This is an unavoidable consequence of setting a single allowance that protects customers.

For historical periods up to the end of 2019, we use data on suppliers' progress. For future years, we propose to project a rollout profile and installation productivity rate that reflects suppliers' historical performance between 2017 and 2019 (under the current obligation).

To approximate the impact of COVID-19 in 2020, we have assumed that suppliers will install 30% of the meters they would have installed in normal circumstances, and that most of their installation costs are sunk. In practice, we know suppliers have limited the impact of COVID-19, by reducing their costs. We propose to assess the impact of COVID-19 when data is available and make an adjustment to the SMNCC allowances in future periods if necessary.

Updating our assessment of efficient net costs

The most significant changes we have made to our assessment of efficient net costs are (beyond the changes in rollout):

- including an additional year of Annual Supplier Return ("ASR") data on suppliers' costs (affecting both the cost and benefit calculations);
- increasing installation and asset costs in the light of suppliers' evidence on their meter rental charges;
- correcting our assessment of the avoided rental costs of traditional meters; and
- a series of adjustments that are individually minor but materially increase our assessment of efficient net costs collectively.

We provide detailed explanations in a technical annex, published alongside this consultation.

Excluding advanced payments

For a variety of reasons, the rollout has lagged behind the expected profile we used to set the SMNCC allowance in the first four cap periods. Suppliers pricing at the level of the cap have charged the SMNCC allowance in full, but in aggregate will not install some of those meters until future periods. To avoid double counting a proportion of the ongoing costs of those installations, we propose to exclude from future periods the advanced payments suppliers have charged customers since 1 October 2019.

Table 1: Proposed non-pass-through Smart Metering Net Cost Change allowance - electricity (£ per account)

Period[1]	Change in efficient net costs since 2017 [2]	Adjustment to baseline [3]	Adjustment for advanced payments [4]	Electricity non-pass-through SMNCC allowance	Single collective rollout profile[5]
Jan 19 - Mar 19	4.42	1.59	0.00	6.02	32%
Apr 19 - Sep 19	4.42	1.59	0.00	6.02	36%
Oct 19 - Mar 20	6.53	1.61	0.00	8.14	39%
Apr 20 - Sep 20	8.64	1.62	0.00	10.27	41%
Oct 20 - Mar 21	5.63	1.63	-0.07	7.19	43%
Apr 21 - Sep 21	2.61	1.65	-0.07	4.19	48%
Oct 21 - Mar 22	2.23	1.66	-0.07	3.82	52%
Apr 22 - Sep 22	1.85	1.68	-0.07	3.45	57%
Oct 22 - Mar 23	1.93	1.70	-0.07	3.56	61%
Apr 23 - Sep 23	2.02	1.72	-0.07	3.67	65%
Oct 23 - Dec 23	2.02	1.72	-0.07	3.67	68%

Notes

1. **Cap period.** The default tariff cap may end in December 2020, or it could be extended annually up to the end of 2023.[1] We present non-pass-through SMNCC allowance values for each potential cap period. However, we only propose to use this analysis to set the SMNCC allowance for the next two cap periods. We intend to review the SMNCC allowance for subsequent cap periods.
2. **Change in suppliers' efficient smart costs since 2017.** Suppliers' operating costs in 2017, including those related to the smart meter rollout, are already allowed for in the operating cost allowance. The non-pass-through SMNCC allowance allows for the change in the net costs of the smart meter rollout since 2017, excluding industry charges. Negative values denote that the net costs in that year are lower than net costs in 2017.
3. **Adjustment to base line.** We make an adjustment for the difference between the amount already included in the operating cost allowance for the net impact on operating costs of installing smart meters and replacing traditional credit electricity meters.
4. **Adjustment for advanced payments.** The non-pass-through SMNCC allowance in the first four cap periods provided sufficient money for suppliers installing smart meters in 74% of customers' homes, having already installed smart meters in 30% of customers' homes before we introduced the cap. Suppliers have charged customers for the net impact of those installations, but many of the installations are delayed. To avoid double counting we account for the advanced payments (since 1 October 2019 only).
5. **Single average rollout profile.** We set the non-pass-through SMNCC allowance by reference to efficient costs using a single rollout profile reflecting suppliers' weighted average progress (in other words, their aggregate progress). We must set the same allowance for all suppliers. Suppliers will have different rollout profiles, so their operating cost profiles will differ from the profile of the allowances (operating costs and SMNCC). We do not expect suppliers' costs to match the allowance in each cap period.
6. **Prices.** Prices are in nominal terms.

[1] Domestic Gas and Electricity (Tariff Cap) Act, section 8. http://www.legislation.gov.uk/ukpga/2018/21/section/8/enacted

Table 2: Proposed non-pass-through Smart Metering Net Cost Change allowance - gas (£ per account)

Period[1]	Change in efficient net costs since 2017 [2]	Adjustment to baseline [3]	Adjustment for advanced payments [4]	Gas non-pass-through SMNCC allowance	Single collective rollout profile[5]
Jan 19 - Mar 19	2.65	1.54	0.00	4.18	29%
Apr 19 - Sep 19	2.65	1.54	0.00	4.18	33%
Oct 19 - Mar 20	2.52	1.55	0.00	4.07	36%
Apr 20 - Sep 20	2.39	1.56	0.00	3.95	38%
Oct 20 - Mar 21	0.13	1.58	-2.29	-0.58	41%
Apr 21 - Sep 21	-2.12	1.59	-2.31	-2.84	45%
Oct 21 - Mar 22	-3.21	1.60	-2.33	-3.93	49%
Apr 22 - Sep 22	-4.29	1.62	-2.35	-5.03	53%
Oct 22 - Mar 23	-4.87	1.64	-2.38	-5.61	57%
Apr 23 - Sep 23	-5.45	1.66	-2.41	-6.20	61%
Oct 23 - Dec 23	-5.45	1.66	-2.41	-6.20	63%

Notes

1. **Cap period.** The default tariff cap may end in December 2020, or it could be extended annually up to the end of 2023.[2] We present non-pass-through SMNCC allowance values for each potential cap period. However, we only propose to use this analysis to set the SMNCC allowance for the next two cap periods. We intend to review the SMNCC allowance for subsequent cap periods.
2. **Change in suppliers' efficient smart costs since 2017.** Suppliers' operating costs in 2017, including those related to the smart meter rollout, are already allowed for in the operating cost allowance. The non-pass-through SMNCC allowance allows for the change in the net costs of the smart meter rollout since 2017, excluding industry charges. Negative values denote that the net costs in that year are lower than net costs in 2017.
3. **Adjustment to base line.** We make an adjustment for the difference between the amount already included in the operating cost allowance for the net impact on operating costs of installing smart meters and replacing traditional credit gas meters.
4. **Adjustment for advanced payments.** The non-pass-through SMNCC in the first four cap periods provided sufficient money for suppliers installing smart meters in 74% of customers' homes, having already installed smart meters in 29% of customers' homes before we introduced the cap. Suppliers have charged customers for the net impact of those installations, but many of the installations are delayed. To avoid double counting we account for the advanced payments (since 1 October 2019 only).
5. **Single average rollout profile.** We set the non-pass-through SMNCC allowance by reference to efficient costs using a single rollout profile reflecting suppliers' weighted average progress (in other words, their aggregate progress). We must set the same allowance for all suppliers. Suppliers will have different rollout profiles, so their operating cost profiles will differ from the profile of the allowances (operating costs and SMNCC). We do not expect suppliers' costs to match the allowance in each cap period.
6. **Prices.** Prices are in nominal terms.

[2] Domestic Gas and Electricity (Tariff Cap) Act, section 8. http://www.legislation.gov.uk/ukpga/2018/21/section/8/enacted

1. Introduction

What are we consulting on?

1.1. This statutory consultation sets out how we propose to update the non-pass-through Smart Metering Net Cost Change ("SMNCC") allowance in the default tariff cap ("the cap"). This consultation does not propose or consider changes to other allowances in the cap. The levels of those allowances are outside the scope of this review.

1.2. The non-pass-through SMNCC allowance accounts for the net impact that the smart meter rollout has on the operating costs of an efficient energy supplier during the cap periods. Replacing traditional meters with smart meters affects suppliers' operating costs. Suppliers install smart meters in their customers' homes, and they incur costs in doing so (for example, purchasing meters and employing installers). They also reduce their costs, by changing their operations and by avoiding the cost of traditional meters. (They avoid both the costs of installing new traditional meters, and the ongoing rental payments for traditional meters they have removed in previous years).

1.3. We exclude benefits to consumers (such as energy savings) and the net benefits to suppliers after 2023. We also exclude smart meter industry charges from our review. We include those costs in a different allowance.

1.4. This document is split into eight chapters:

- **Chapter 1**: this consultation, background, and disclosure arrangements
- **Chapter 2**: key methodological considerations
- **Chapter 3**: future reviews
- **Chapter 4:** our proposed methodology – the average rollout profile
- **Chapter 5**: our proposed methodology – reviewing efficient net costs
- **Chapter 6**: our proposed methodology – setting the SMNCC allowance
- **Chapter 7**: our proposed methodology – considering advanced payments
- **Chapter 8**: contingency arrangements for the fifth and sixth cap periods

1.5. We have provided access to the model and data that inform our proposals. Access to the model and data can still be made by application. Please see our website for details.[3]

1.6. Our proposed changes to the SMNCC allowance would be made in 'Annex 5 – Methodology for determining the Smart Metering Net Cost Change' of standard condition 28AD of the electricity and gas supply licences. We present the changes we propose to make to Annex 5 in Appendix 1.

1.7. The consultation constitutes this document and disclosed models and data. We do not, as a matter of style, ask questions explicitly about each specific aspect of our proposals and methodology. We present our proposals, the reasons and modelling underpinning them, and the issues we have considered. We invite stakeholders to comment on the contents of the consultation, providing their views and evidence as appropriate.

Smart meters

A supplier-led rollout

1.8. Smart meters will bring net benefits to consumers, businesses and the nation as a whole – worth £6bn up to 2034.[4] They are an important feature for modernising the retail energy market. They help decarbonise the energy sector, enable energy suppliers to offer new products and services to customers, and allow consumers to take control of their energy consumption.

1.9. Under the current licence obligations, suppliers must take 'all reasonable steps' to deliver the smart meter rollout by the end of 2020.[5] The rollout will continue after 2020, potentially under new or extended licence obligations.

[3] Ofgem (2020), May 2020 consultations on changes to the default tariff cap: Disclosure arrangements. https://www.ofgem.gov.uk/publications-and-updates/may-2020-consultations-changes-default-tariff-cap-disclosure-arrangements
[4] Net Present Value.
[5] Standard licence condition 33 of the gas supply licence and standard licence condition 39 of the electricity supply licence.

Uncertainty about progress and costs

Lags in performance

1.10. Installations have lagged expectations. Government expected suppliers to complete the smart meter rollout by the end of 2020.[6] At the end of 2019, suppliers had installed smart meters in just under 40% of energy consumers' homes. The progress made by different suppliers varies.

1.11. The reasons for delays vary, including variations in suppliers' performance and approaches, low consumer take-up of installation appointments, and technical issues. Some delays are in suppliers' control and others are not. Up to the end of 2019, the rollout rate achieved, accounting for delays, is reasonably consistent. On average, suppliers have installed a similar number of smart meters each year between 2017 and 2019 (4.2 m smart meters in credit mode, or about 9% of customers, per year).

1.12. Lags in the rollout affect suppliers' operating costs. Suppliers will take longer to complete the rollout so incur programme costs for longer. This increases their lifetime costs, but not their costs per cap period. In principle, suppliers should not incur costs or benefits for smart meters they do not install. However, depending on their operating structure, and their ability to anticipate or mitigate the impact of delays, suppliers can incur sunk installation costs. For example, a supplier might employ sufficient installers to install 100,000 smart meters, and still incur those costs if it faces unforeseen delays and installs fewer meters.

The post-2020 policy framework

1.13. At present, BEIS has not published its plans for the post-2020 policy framework. In 2019, BEIS consulted on a number of proposals to inform its post-2020 policy framework for energy suppliers to continue installing smart meters after 31 December 2020, when the current rollout duty ends.[7] BEIS consulted on replacing the current 'all reasonable steps' obligation with annual installation targets for each energy supplier,

[6] Suppliers are obliged to "take all reasonable steps to ensure that a Smart Metering System is installed on or before 31 December 2020 at each Domestic Premises or Designated Premises in respect of which it is the Relevant Electricity Supplier". Standard licence condition 33 of the gas supply licence and standard licence condition 39 of the electricity supply licence.
[7] BEIS (2019), Smart meter policy framework post 2020.
https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020

based on a straight-line delivery trajectory towards market-wide smart meter coverage by the end of 2024.

The impact of coronavirus (COVID-19)

1.14. Social distancing arrangements, to combat the coronavirus (COVID-19) pandemic, have increased uncertainty about the progress and costs of the smart meter rollout. In response to the implementation of social distancing measures, Energy UK has announced that its members will halt "all non-essential field activities" and major suppliers have indicated that only emergency installations will go ahead.[8] At present, it is unclear when suppliers will be able to continue with the smart meter rollout unconstrained. BEIS and Ofgem are working closely with industry to ensure they are ready to scale their operations up rapidly when restrictions are lifted.

1.15. The financial implications of social distancing measures are also unclear. Suppliers are installing fewer meters. Unlike the causes of 'normal' delays, one could not reasonably expect suppliers to have anticipated and prepared for an event of this scale. Suppliers might reduce their costs (in proportion, or partially) if they redeploy staff and resources to other activities. Otherwise, the finances suppliers had already committed to the rollout would remain and be 'sunk' (unproductive), increasing the costs expensed in 2020. Different suppliers will be affected to different extents. The extent to which a supplier can mitigate the impact of COVID-19 on its smart-meter-related costs, compared with other suppliers, may not indicate, or only partly indicate, a difference in suppliers' efficiency.

The default tariff cap ("the cap")

The cap

1.16. We introduced the cap on 1 January 2019, protecting over 11 million customers on standard variable and default tariffs (which we refer to collectively as "default tariffs").[9]

1.17. The cap ensures default tariff customers pay a fair price for the energy they consume, reflecting its underlying costs. These underlying costs change over time, so we update

[8] Ofgem (2020), Ofgem information for energy licensees on coronavirus (COVID-19) response. https://www.ofgem.gov.uk/publications-and-updates/ofgem-information-energy-licensees-coronavirus-covid-19-response
[9] Ofgem (2018), Default tariff cap: decision – overview. https://www.ofgem.gov.uk/publications-and-updates/default-tariff-cap-decision-overview

the cap every six months to reflect this. We will announce the next cap update by 7 August 2020. This will have effect for the fifth cap period – between 1 October 2020 and 31 March 2021.

1.18. The cap is temporary. By this summer, we must review whether the conditions are in place for effective competition, and publish a report, including a recommendation on whether the cap should be extended or not.[10] The Secretary of State will then decide whether to extend the cap. If the cap is not removed, this process will be repeated in 2021 and 2022. If the cap is not removed in 2022, it will cease to have effect at the end of 2023.[11]

The Domestic Gas and Electricity (Tariff Cap) Act 2018 ("the Act")

1.19. We set the cap in accordance with the Act. Section 1(6) states that we must protect existing and future domestic customers who pay standard variable and default rates.[12] In doing so, we must have regard to the following matters:

- the need to create incentives for holders of supply licences to improve their efficiency;
- the need to set the cap at a level that enables holders of supply licences to compete effectively for domestic supply contracts;
- the need to maintain incentives for domestic customers to switch to different domestic supply contracts; and
- the need to ensure that holders of supply licences who operate efficiently are able to finance activities authorised by the licence.

[10] In October 2019, we published our decision on the framework that we will use to assess whether the conditions are in place for effective competition.
Ofgem (2019), Framework on conditions for effective competition in domestic supply contracts. https://www.ofgem.gov.uk/publications-and-updates/framework-conditions-effective-competition-domestic-supply-contracts
[11] Domestic Gas and Electricity (Tariff Cap) Act 2018, Section 7, http://www.legislation.gov.uk/ukpga/2018/21/section/7/enacted
[12] Domestic Gas and Electricity (Tariff Cap) Act 2018, Section 1(6). http://www.legislation.gov.uk/ukpga/2018/21/section/1/enacted

1.20. In setting the cap, we may not exempt holders of supply licences from their application, or make different provision for different holders of supply licences.[13] This means that in practice, we must continue to set a cap level for the duration of the cap and we cannot set a separate higher cap level for suppliers with higher costs.

Allowing for the net impact of the smart meter rollout on suppliers' costs

Costs and benefits of the smart meter rollout

1.21. Suppliers incur costs and benefits when replacing traditional meters with smart meters. The categories are:

- **The gross cost of purchasing and installing smart meters**: Suppliers incur costs for the smart meters (and associated assets) they install and the staff who install them. Suppliers pay these costs through Meter Asset Provider (MAP) rental charges over the life of the smart meter. Therefore these costs are (mostly) ongoing and increase as suppliers install more meters. Some costs are expensed in-year, such as charges for replacing traditional assets prematurely and the cost of purchasing In-Home Displays (IHDs).

- **The avoided cost of installing new traditional meters**: Each year a proportion of suppliers' traditional meters expire, reducing their operating costs. Suppliers would have incurred costs replacing expired meters with new traditional meters, which they no longer need to do due to the smart meter rollout. These benefits are ongoing and increase over time.

- **Programme and IT costs to support the rollout and operation of smart meters**: These are broadly fixed costs (non-variable).

- **Operational benefits**: Smart meters should change how customers behave and how suppliers operate, reducing their costs. These benefits, in general, are ongoing and increase as suppliers install more smart meters.

1.22. The interaction between the costs and benefits above means that there is not a simple relationship between installing smart meters and the net impact on suppliers' operating

[13] Domestic Gas and Electricity (Tariff Cap) Act 2018, Section 2(2). http://www.legislation.gov.uk/ukpga/2018/21/section/2/enacted

costs. Broadly speaking, we estimate that replacing traditional credit meters with smart meters is an ongoing net cost to suppliers.

Allowing for the net impact of the rollout on efficient operating costs

1.23. The cap includes allowances for the net impact of the costs and benefits of the smart meter rollout on the efficient operating costs of a supplier with an average rollout profile (or, in other words, all suppliers taken as a whole). This allows suppliers to recover the efficient gross cost of installing smart meters, accounts for the lower and avoided rental costs for traditional meters, and ensures customers with default tariffs are protected, paying a fair price.

1.24. We set separate allowances for default gas tariffs and default electricity tariffs. In each cap period, for each fuel, we split the net cost of the smart meter rollout between two allowances in the cap.

- **Operating cost allowance**: This allowance includes funding relating to the net costs of smart meters in 2017. The costs were part of our benchmark of suppliers' total operating costs in 2017, so they do not isolate the impact of replacing traditional credit meters or define 'efficiency' as leniently as we propose in our assessment of smart metering costs. We index the operating cost allowance over time with inflation.

- **The non-pass-through SMNCC allowance**: The net impact of smart meters on operating costs is not constant in real terms (i.e. increases or decreases in smart metering costs do not track inflation). In this allowance, we account for net costs not accounted for in the operating costs allowance. We include (a) the *change in our assessment of the efficient net cost of introducing smart meters since 2017* (i.e. the change in efficient operating costs and benefits relative to 2017) and (b) the difference between our assessment of the efficient net costs and benefits in 2017 of installing smart meters and the amount included in the operating cost allowance. We update this allowance using the values calculated in the SMNCC model and discussed in this consultation.

1.25. The cap also includes a **pass-through SMNCC** allowance. This is an allowance for changes in industry body charges since 2017 (such as those from the Data

Communications Company (DCC) and Smart Energy GB).[14] We estimate the net change in costs using sources including: the latest charging statements, forecasts, and budgets.[15] In the operating cost allowance we include industry body charges at the level incurred in 2017. Together, that proportion of the operating cost allowance and the pass-through SMNCC allowance equals the total industry body charges. The pass-through SMNCC allowance is outside the scope of this review, and we do not discuss these costs in the remainder of this consultation. The remainder of this consultation therefore relates to the non-pass-through SMNCC allowance. For brevity, we refer to this as the SMNCC allowance.

Developing these proposals

Our November 2018 decision on the first two cap periods

1.26. In our November 2018 decision we set the non-pass-through SMNCC allowance for the first two cap periods only. We recognised that the cost and pace of providing smart meters was uncertain. Therefore, we decided to review the smart meter allowance in time to inform the third cap period (October 2019 to March 2020).[16]

Our April 2019 consultation

1.27. In our April 2019 consultation we proposed to review smart metering costs on the basis of BEIS's cost-benefit analysis ("2019 CBA") for the smart meter rollout, which would be published later that year. In the interim we proposed to set the allowance for the third cap period using the original SMNCC model and adjust allowances from the fourth cap period onwards for advanced or lagged payments in previous periods.

Our October 2019 consultation

1.28. In September 2019, BEIS published its 2019 CBA. This analysis is the most robust and comprehensive assessment of the financial impact of the rollout, including the impact

[14] During our October 2019 consultation on this review, one stakeholder queried whether industry charges in 2017 were included in the operating cost allowance. We confirm that they are.
[15] We carry out this calculation in the document Annex 5 referred to in the cap licence conditions (standard licence condition 28AD of the gas and electricity supply licences).
[16] Ofgem (2018), Default tariff cap: decision – overview. https://www.ofgem.gov.uk/publications-and-updates/default-tariff-cap-decision-overview

on suppliers' costs.[17] We proposed to use the 2019 CBA as the starting point for our review of the non-pass-through SMNCC allowance.[18]

1.29. We presented our proposals in our October 2019 consultation.[19] In summary, stakeholders responded that the rollout assumptions underpinning our proposals were too high and that the net costs *per installation* were too low. In December 2019 we decided to make further enquiries to assess whether we should amend our proposals.[20]

Contingency allowances in the third and fourth cap periods

1.30. For the third and fourth cap periods (between October 2019 and September 2020) we implemented contingency non-pass-through SMNCC allowances. In both cases, we stated that the contingency allowances were likely to exceed the efficient costs of a supplier with an average rollout profile, and that we would adjust future allowances to take account of that advanced payment. In doing so, we would seek to ensure that the allowances a customer is charged over the lifetime of the cap reflect the efficient costs of an average supplier over that period of time.[21]

Related publications

1.31. The main documents relating to the cap and Smart Meter Implementation Programme are:

- Domestic Gas and Electricity (Tariff Cap) Act 2018: http://www.legislation.gov.uk/ukpga/2018/21/contents/enacted

[17] BEIS (2019), Smart meter roll-out: cost-benefit analysis 2019. https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019
[18] Ofgem (2019), Smart metering costs in future Default Tariff Cap periods. https://www.ofgem.gov.uk/publications-and-updates/smart-metering-costs-future-default-tariff-cap-periods
[19] Ofgem (2019), Reviewing smart metering costs in the default tariff cap: October consultation. https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-october-consultation
[20] Ofgem (2019), Reviewing smart metering costs in the default tariff cap: Contingency decision for Cap period four https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-decision-cap-period-four
[21] Ofgem (2019) SMNCC: Approach to the third cap period for the default tariff cap https://www.ofgem.gov.uk/publications-and-updates/decision-approach-third-cap-period-default-tariff-cap
Ofgem (2019), Reviewing smart metering costs in the default tariff cap: Contingency decision for Cap period four.

- The Default Tariff Cap Decision: https://www.ofgem.gov.uk/publications-and-updates/default-tariff-cap-decision-overview

- The Default Tariff Cap Decision, Appendix 7 – Smart metering costs: https://www.ofgem.gov.uk/system/files/docs/2018/11/appendix_7_-_smart_metering_costs.pdf

- Smart meter policy framework post 2020: https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020

- The new smart meter roll-out: cost-benefit analysis 2019: https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019

1.32. We launched our review of the SMNCC allowance in April 2019 with an initial consultation, leading to a statutory consultation in October 2019.

- Reviewing smart metering costs in the default tariff cap ("the April consultation"): https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap

- Response Papers 1 and 2: https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-response-papers-1-and-2

- Response Paper 3: https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-response-paper-3

- Response Paper 4: https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-response-paper-4

https://www.ofgem.gov.uk/system/files/docs/2019/12/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_decision_for_cap_period_four_v2_002.pdf

- Disclosure Arrangements for the October 2019 consultation: https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-disclosure-arrangements

- October 2019 consultation: https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-october-consultation

1.33. In June 2019, we published our approach to setting the SMNCC allowance for the third cap period. In December 2019, we published our decision on setting the SMNCC for the fourth cap period. We published a response to other elements of the October consultation in January 2020.

- SMNCC: Approach to the third cap period for the default tariff cap https://www.ofgem.gov.uk/publications-and-updates/decision-approach-third-cap-period-default-tariff-cap

- Decision for fourth cap period: https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-decision-cap-period-four

- January response: https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-update-and-response-october-2019-consultation

1.34. Alongside this consultation, we are also consulting on changes to the cap in order to protect default tariff customers with prepayment meters and to adjust the cap following reconsideration of the wholesale allowance during the first cap period:

- Statutory consultation on protecting prepayment customers;

- Statutory consultation on reassessing the wholesale allowance in the first default tariff cap period.[22]

[22] Both these consultations can be found on our website.

Consultation stages and our approach

Stages

1.35. This consultation will remain open for **six weeks**, closing on **26 June 2020**. Please provide responses by 11pm. We appreciate that some consultees are focussed on responding to COVID-19. The deadline reflects that we must publish a decision on our proposals by the end of July 2020, to take effect in the next cap period (1 October 2020 to 31 March 2021).

1.36. We intend to announce our decision at the end of July 2020.

This consultation

1.37. This is a substantive consultation. It presents proposals which, subject to considering stakeholders' responses to this consultation, could be implemented and included in the next cap update on 7 August 2020 and take effect on and from 1 October 2020.

1.38. Our proposals have been informed by our current approach to setting the SMNCC allowance, consultation and working papers, and BEIS's publication of its 2019 CBA.

1.39. It is possible that we will not implement the proposals set out in this consultation. Due to the formative nature of the consultation and depending on the stakeholder responses we receive, we might make changes to our proposals if that is appropriate. If we change our proposals to the extent that we need to consult on those changes, we expect to present new proposals in the autumn.

Contingency allowance

1.40. If we do not implement the proposals in this consultation, then we propose to set a contingency allowance in order to update the cap on 7 August 2020. Once the new methodology is confirmed, we propose to take into account any disparity between the contingency allowance and the efficient costs in setting future allowances. In Chapter 8, we discuss how we propose to set the contingency allowance.

Disclosure arrangements

1.41. Alongside this consultation we have disclosed, through a confidentiality ring:

- **Our modelling ("Disclosed SMNCC & PPM Model")**: This includes the full SMNCC model, in the form which has informed the proposals we are consulting on. This is being made available to suppliers, upon application and subject to agreeing confidentiality arrangements.

- **Underlying data ("Disclosed SMNCC & PPM Data")**: This includes underlying data that we have used to calculate inputs in the SMNCC model. This data includes specific information from individual suppliers and is commercially sensitive. This is being made available to suppliers' advisers, upon application and subject to agreeing confidentiality arrangements.

1.42. The disclosure arrangements enable suppliers to understand our proposals and respond intelligently to them. Stakeholders can:

- understand how we have modelled costs and benefits and make representations on whether the approach is appropriate;

- replace inputs with their own data to understand and assess whether the model is particularly sensitive to variation in certain variables, and make representations on the impact and likelihood of potential variations;

- compare their costs and benefits with the model (at an aggregate and granular level) and make representations on those differences and their impact;

- assess whether the model has weaknesses or computational errors.

How to respond

1.43. We want to hear from anyone interested in this consultation. Please send your response to the person or team named on this document's front page.

1.44. We've asked for your feedback in each of the questions throughout. Please respond to each one as fully as you can.

1.45. We will publish non-confidential responses on our website at www.ofgem.gov.uk/consultations.

Your response, data and confidentiality

1.46. You can ask us to keep your response, or parts of your response, confidential. We'll respect this, subject to obligations to disclose information, for example, under the Freedom of Information Act 2000, the Environmental Information Regulations 2004, statutory directions, court orders, government regulations or where you give us explicit permission to disclose. If you do want us to keep your response confidential, please clearly mark this on your response and explain why.

1.47. If you wish us to keep part of your response confidential, please clearly mark those parts of your response that you do wish to be kept confidential and those that you do not wish to be kept confidential. Please put the confidential material in a separate appendix to your response. If necessary, we'll get in touch with you to discuss which parts of the information in your response should be kept confidential, and which can be published. We might ask for reasons why.

1.48. If the information you give in your response contains personal data under the General Data Protection Regulation 2016/379 (GDPR) and domestic legislation on data protection, the Gas and Electricity Markets Authority will be the data controller for the purposes of GDPR. Ofgem uses the information in responses in performing its statutory functions and in accordance with section 105 of the Utilities Act 2000. Please refer to our Privacy Notice on consultations, see Appendix 2.

1.49. If you wish to respond confidentially, we'll keep your response itself confidential, but we will publish the number (but not the names) of confidential responses we receive. We won't link responses to respondents if we publish a summary of responses, and we will evaluate each response on its own merits without undermining your right to confidentiality.

General feedback

1.50. We believe that consultation is at the heart of good policy development. We welcome any comments about how we've run this consultation. We'd also like to get your answers to these questions:

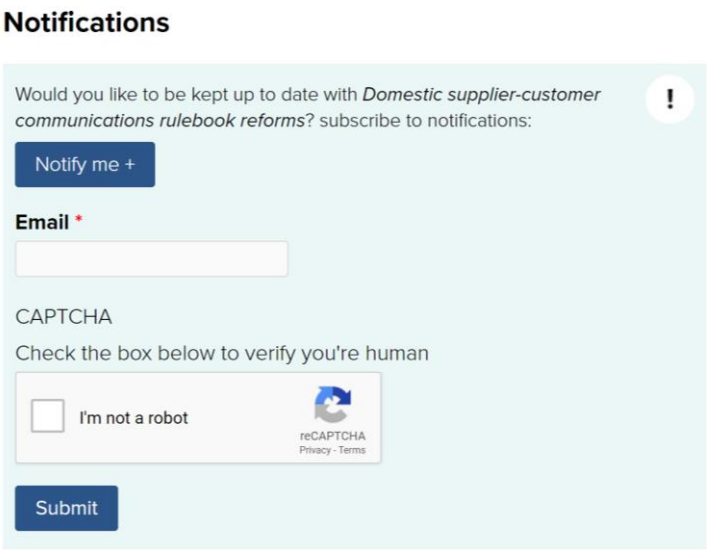
1. Do you have any comments about the overall process of this consultation?
2. Do you have any comments about its tone and content?
3. Was it easy to read and understand? Or could it have been better written?
4. Were its conclusions balanced?

5. Did it make reasoned recommendations for improvement?
6. Any further comments?

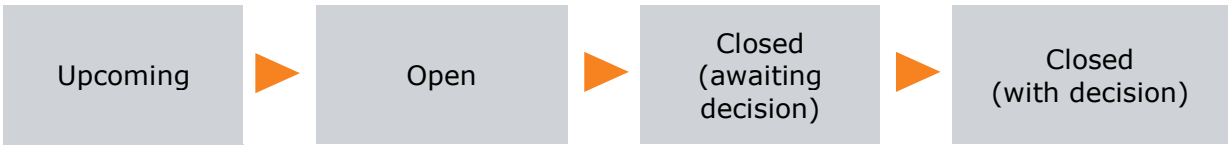
1.51. Please send any general feedback comments to stakeholders@ofgem.gov.uk

How to track the progress of the consultation

1.52. You can track the progress of a consultation from upcoming to decision status using the 'notify me' function on a consultation page when published on our website. Ofgem.gov.uk/consultations.



Once subscribed to the notifications for a particular consultation, you will receive an email to notify you when it has changed status. Our consultation stages are:



2. Methodological considerations

Section summary

In this chapter we explain how we have considered what constitutes an appropriate allowance. We discuss our objective to protect customers, the statutory matters to which we have regard (including efficient costs) and ensuring that our analysis is sufficient for our purposes.

Question: Do you agree with our methodological considerations?

Note that as a matter of style, we do not ask specific questions at each stage. We expect stakeholders to consider our proposals, reasons for them, and methodology, and provide representations explaining if and why they disagree.

Summary of our proposals

2.1. We aim to set the SMNCC allowance so that, in aggregate and over all cap periods, default tariff customers pay an amount that reflects the impact of the smart meter rollout on the operating costs of an efficient supplier with an average rollout profile.

2.2. We propose to set the allowance by benchmarking each benefit and cost category to suppliers' average net cost per customer, weighted for the number of customers each supplier has (which in effect, is the simple mean of the costs associated with each customer).

2.3. We propose to assess costs using the 2019 CBA as a starting point. This is the most robust assessment of smart metering costs available. We propose to modify the 2019 CBA model to suit our purposes (which differ from the purpose of the 2019 CBA), and to include different data where necessary.

The Act

2.4. Our methodology must be consistent with the Act. Below, we discuss the implications of these requirements on our proposals. The Act requires that we:

- protect customers on default tariffs;
- set a single allowance for all suppliers; and

- have regard to the statutory needs.

Protecting customers on default tariffs

Reflecting efficient costs

2.5. The Act requires us to protect current and future customers on default tariffs. This is the objective of the Act. We consider that our proposals must, and do, achieve this objective.[23]

2.6. In order to protect customers, we consider that the allowances relating to smart metering costs should reflect, and not exceed, the efficient costs of rolling out smart meters in aggregate.[24]

2.7. Customers would not be protected if the allowances were greater than the efficient costs of the rollout. Given that most suppliers price their default tariffs at the cap level, a higher allowance would mean customers would likely pay more than otherwise. When setting the cap, we sought to apply a high level of protection, preventing unjustified price increases.[25]

2.8. Considering customers as a whole, we do not seek to set prices below efficient costs.[26] That approach would not protect customers' interests – for example if setting prices below costs in one area could compromise suppliers' ability to deliver a good standard of service to customers. This paragraph is about the relationship between the cap level and efficient costs at an aggregate level – as discussed below, we cannot set different cap levels for different suppliers, and so the cap level may be below certain suppliers' efficient costs.

2.9. We would set allowances below efficient costs for certain groups of default tariff customers where we consider they have specific needs or circumstances requiring additional protection. In those circumstances we would spread efficient costs that

[23] Domestic Gas and Electricity (Tariff Cap) Act 2018, Section 1(6). http://www.legislation.gov.uk/ukpga/2018/21/contents/enacted
[24] Subject to our considerations on the efficient costs of rolling out smart meters in Chapter 4.
[25] Ofgem (2018), Decision – default tariff cap – overview document, p6. https://www.ofgem.gov.uk/system/files/docs/2018/11/decision_-_default_tariff_cap_-_overview_document_0.pdf
[26] We set out our position on the meaning of protection in our November 2018 decision. Ofgem (2018), Decision – default tariff cap – overview document, paragraph 4.14. https://www.ofgem.gov.uk/system/files/docs/2018/11/decision_-_default_tariff_cap_-_overview_document_0.pdf

exceed the allowance across all default tariff customers, or to other customers with lower costs. Considering all customers together, the allowances should reflect efficient costs, but this does not necessarily mean that the allowance for a particular group of customers will reflect their own efficient costs.

Supporting the smart meter rollout

2.10. In protecting customers, we have also considered how our proposals might affect the smart meter rollout. In response to our October 2019 consultation, one supplier told us that suppliers may install fewer smart meters if the allowance was too low, and that this would ultimately harm their customers. It argued therefore, that a high allowance for smart metering costs would protect customers.

2.11. We consider that smart meters should help protect default tariff customers in the long term, as they will deliver benefits to customers. Making progress in the rollout is therefore in customers' interests.[27] On that basis, we agree that supporting an efficient rollout helps protect customers. However, we do not consider that the SMNCC allowance should support the rollout *at any cost.*

2.12. Setting the SMNCC allowance above *efficient* costs would harm customers, as that would reduce the net benefits to customers of installing smart meters. (Customers would still receive the benefits of installing smart meters, but this would be offset by paying more through their tariffs). In seeking to support the rollout, we do not seek to provide suppliers with funding above the net impact of the smart meter rollout on the operating costs of an efficient supplier with an average rollout profile. If we did so, the SMNCC allowance would not protect default tariff customers.

[27] Domestic Gas and Electricity (Tariff Cap) Act 2018, section 7(2). http://www.legislation.gov.uk/ukpga/2018/21/section/7/enacted

Setting a single allowance for all suppliers

2.13. Under the Act we may not make different provision for different holders of supply licences.[28] This is the case, even where suppliers' efficient costs differ. We cannot propose to set a higher individualised allowance for suppliers with higher costs.

2.14. Inevitably, then, the SMNCC allowance will be more generous for suppliers with lower than average efficient costs. Suppliers with higher than average efficient costs will not recover all those costs. (As mentioned above, the situation for individual suppliers is different from the aggregate relationship between the cap level and efficient costs).

Having regard to the statutory needs

2.15. In protecting default tariff customers, we must have regard to four "needs" – which in principle are desirable, but which we are not required to achieve.[29]

2.16. In formulating our proposals we must have regard to efficient costs. We are not required have regard to suppliers' reported or expected costs, unless they are efficiently incurred. An individual supplier's reported and/or expected costs may not be efficient. Below, we consider how we propose to define efficient costs for the purpose of our review.

Conditions for effective competition

2.17. In response to our October 2019 consultation, one supplier said that the Act refers to the smart meter rollout as a mandatory consideration when we are reviewing whether the conditions for effective competition have been met. It said that the cap was intended to be temporary, and so a reduction in funding which led to a slowdown in rollout would "undermine a key objective of the Act".

2.18. We recognise that the Act requires us to consider the rollout of smart meters as part of our assessment of whether the cap should be extended. This is separate to the Act's objective – which contains no mention of smart metering.

[28] Domestic Gas and Electricity (Tariff Cap) Act 2018, section 2(2). http://www.legislation.gov.uk/ukpga/2018/21/section/2/enacted

[29] See for example the interpretation of the statutory wording in: *R (Brown) v SSWP* [2008] EWHC 3158 (Admin); *London Borough of Hackney v Haque* [2017] EWCA Civ 4; *R (Baker & Ors) v Secretary of State for Communities and Local Government* [2008] EWCA Civ 141; *R (Hurley and Moore) v Secretary of State for Business Innovation & Skills* [2012] EWHC 201 (Admin).

2.19. That mandatory consideration does not require that we set the cap in a manner that charges default tariff customers more than the efficient cost of installing smart meters. (In each case, we consider the amount charged and the costs over the life of the cap, rather than looking at any single cap period in isolation). In response to our October 2019 consultation, suppliers argued that delays to the rollout are due to consumer resistance and technical barriers. That would suggest a lack of funds is not a binding constraint. Suppliers have received more than sufficient funding to date, but have still not managed to increase their rollout, which could indicate that other factors are more important at present.

Benchmarking suppliers' efficient costs and benefits

Options

2.20. We must characterise 'efficient' costs for the purpose of setting the SMNCC allowance. For the reasons above, this is the level of costs that we should not exceed, in order to protect customers, and it is the level of costs that we have regard to.

2.21. Suppliers' reported costs vary. To consider what the 'efficient' level of costs and benefits is, we set a benchmark for each cost and benefit category from the range of costs and benefits suppliers have incurred. In this context, we are referring to suppliers' unit costs and benefits, rather than their total net costs.[30]

2.22. We considered four options for setting the 'efficient' benchmark in each cost and benefit category.

- **Lowest observed costs (or 'frontier' costs):** In the absence of evidence to the contrary, we would consider that the supplier with the lowest costs represents the 'efficient frontier' (the costs that competitive companies have shown to be achievable and efficient).

- **An intermediate level of observed costs (such as a lower quartile):** This approach takes into account that using the lowest costs may be inappropriate, for example, if we are concerned about data quality, or if some suppliers have higher

[30] A supplier with high rollout would be likely to have high total net costs, but this would not be a sign of inefficiency in itself. We discuss variation in efficient total net costs below.

efficient costs for reasons outside their control. (We used this approach when setting the operating cost allowance, which is £5 below the lower quartile costs).

- **Average costs:** Setting our benchmark at the average level would mean that the aggregate amount suppliers recover from customers should reflect suppliers' total costs. We would make no downward adjustment to remove inefficient costs.

- **Higher-than-average costs**: Using this approach, suppliers could charge customers collectively more than the aggregate cost suppliers incur.

Proposal

2.23. We propose to use suppliers' average cost per customer, weighted by the number of customers they have. (In other words, this is the simple mean of the costs associated with all customers – total costs divided by total customers).

2.24. This is a relatively generous approach. Under this approach our total benchmarked 'efficient' costs reflect suppliers' total observed costs. At the aggregate level, we therefore make no downward adjustment for inefficient operations. At the supplier level, those with below average costs would be able to recover more than they require (with respect to the specific cost or benefit category). Suppliers with above average costs would recover part of their observed costs only.

Overview of suppliers' views

2.25. Most suppliers supported our previous proposals to set the 'efficient' benchmark at the average level. Of those suppliers, some emphasised that the approach was practical, but not generous.

2.26. Some suppliers stated that we should allow suppliers with above average costs to recover their costs. They either considered that all suppliers had efficient costs in principle, or that their own costs were efficient in practice (even if they were above average). They considered we should set the (single) cap level at that highest level of costs (or in line with their own costs).

Our considerations

Efficiency

2.27. For any cost or benefit category, it is inherently uncertain what the efficient level is. Efficiency cannot be directly observed. Suppliers report their actual costs, but these reported costs may be inefficient. Most suppliers consider their own costs to be efficient, but that is not conclusive.

2.28. Given that uncertainty, the 'true' level of efficient cost may differ from our benchmark. If, for instance, competition is ineffective, then in principle the 'true' efficient level could be lower than the average – or even frontier – cost observed in the market.

2.29. In proposing to benchmark costs and benefits at the average level, we do not intend to imply that a supplier with average costs is necessarily efficient – some suppliers may have achieved a greater level of efficiency and lower costs. Rather, looking across the industry, we consider that an average cost efficiency benchmark is a prudent and practical simplification that allows us to consider costs and set an allowance in line with the requirements in the Act, given that we can only set a single cap level.

Variation in efficient costs

2.30. Suppliers' costs vary. They vary at the aggregate level (costs per customer). Costs also vary for individual cost and benefit categories, such as the costs of each smart meter (i.e. the costs of the asset they install).

2.31. Some of that variation will be due to differences in suppliers' efficiency. For example, some suppliers appear to have procured better value smart meters than others. Comparing the range of suppliers' costs or benefits can reveal which supplier operates efficiently and the level of costs it achieved.

2.32. However, we consider that efficient costs may vary from supplier to supplier. On that basis, we do not consider that every supplier could have achieved the costs achieved by the frontier supplier (the supplier with the lowest observed costs). For example:

- **Different customer portfolios**: Some suppliers have suggested that, at least in part, a customer's circumstances affect the efficient costs of providing that customer with a smart meter. (For instance, costs may depend on their geographical location, the technical feasibility of installing a smart meter in their

home, or their availability for an installation). Customers' average circumstances can vary between suppliers, and are not necessarily within suppliers' control.

- **Different rollout profiles**: A supplier that has installed more smart meters would have higher in-year total net costs, as it pays for more meters than other suppliers. In principle we do not consider that differences in costs due to rollout profiles are a matter of efficiency – a supplier is not inefficient for rolling out smart meters earlier or later than suppliers on average. However, this does mean that in specific periods of time, some suppliers will have above average or below average total costs to date.

2.33. This is relevant because in having regard to an efficient supplier's ability to finance its activities, there is no single cost level that we can have regard to. Yet, we must set a single cap level.

Considering frontier costs

2.34. We do not propose to benchmark cost and benefit categories to the frontier costs for that category (or to the costs of the frontier supplier).[31]

2.35. Firstly, some suppliers will have higher unit costs for reasons outside their control, such as their customers' circumstances. For instance, variation in costs per installation will partly reflect variation in suppliers' ability to plan their installation workforce efficiently, but could also reflect their customers' propensity to accept or cancel appointments.

2.36. Secondly, we benchmark each benefit and cost category separately. While the achievable costs for many of those categories should be independent, this may not be the case for all categories. It is possible that suppliers can only achieve low costs in one category by investing heavily in another category (for instance very efficient installation productivity may require a lot of investment in call centres to manage

[31] The frontier costs in each cost category do not belong to the same supplier. On that basis, the combined costs of using the lowest costs in each category is lower than any individual supplier has achieved. If each cost category is independent, this would suggest that a single supplier *could* be efficient in all activities, but no supplier actually is. However, if each some or all cost categories are linked, then a supplier might only have low costs in one category if it also had high cost in another category. To avoid 'cherry-picking' costs that are impossible to achieve simultaneously, we can select the 'frontier supplier' (the supplier with the lowest aggregate costs).

appointments). Selecting the lowest costs for each category may result in a combination that no single supplier could achieve.

Considering above average costs

2.37. We do not propose to set our benchmark at a level higher than the average costs suppliers incur. This approach would not protect default tariff customers. In aggregate it would allow suppliers to charge customers more than the total observed cost of the smart meter rollout. That would overcharge customers even if the total costs of every supplier were efficiently incurred (which is implausible).

2.38. Smart metering costs vary between suppliers even where suppliers are conducting similar activities in similar ways, meaning that a common and efficient level should have emerged. More generally, the Competition and Markets Authority (CMA) identified considerable inefficiency in large suppliers' operations due to their market power over disengaged customers.[32]

Considering lower quartile or average costs

2.39. We consider it would be reasonable to benchmark costs to either an intermediate reference (such as a lower quartile) or to average costs. In proposing to use average costs, we err on the side of caution for the following reasons.

- Suppliers have different rollout profiles, which vary around the average situation. This affects their total efficient costs. Allowing for a more generous efficiency benchmark is one way of mitigating the impact on suppliers with above average rollout. It also mitigates against the possibility that suppliers with early progress do not have lowest unit costs, which may have only been achievable once capacity developed.

- Although we receive actual data from suppliers, this occurs with a lag. When setting the allowance for a future cap period, we are therefore making a

[32] CMA (2016), Energy market investigation – final report. https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf

projection. There is some risk that costs may change. Using average costs guards against increases in 'true' efficient costs.[33]

- The SMNCC model draws on considerable information from suppliers, and we consider it is a suitable way of estimating the net costs of smart metering. Nevertheless, it is still a simplification compared to suppliers' actual costs. Using average rather than a lower benchmark provides insurance against imprecision in the model (compared with 'true' efficient costs).

- The operational benefits of smart metering are a significant part of the net impact the smart meter rollout has on suppliers' efficient operating costs. This is particularly the case in the later years of the cap, once suppliers have rolled out a larger number of smart meters. However, there is a degree of inevitable uncertainty about the timing and size of benefits. This is particularly given that customers who receive smart meters in future may have different characteristics to customers who currently have smart meters, affecting the available benefits.

2.40. We note that selecting average costs is still a conservative approach.

- There are many categories where we would expect that suppliers could achieve the same outcomes as the suppliers with low unit costs. These are cases such as buying meters, where a supplier's unit costs should not be significantly affected by its circumstances. In these cases, variation in costs may be more likely to indicate inefficiency, rather than unavoidable variation in the efficient costs that each supplier can achieve.

- The reasons above for adopting an average cost approach apply to specific cost and benefit categories. However, we take a uniform approach, setting *each* category at the average costs. That is likely to overstate efficient costs for those categories.

- We consulted in October 2019, and disclosed the SMNCC model to suppliers. We have taken their feedback into account when updating our analysis. This scrutiny should have reduced the degree of uncertainty about our estimate. We have not,

[33] We also include optimism bias in the SMNCC model to account for the risks around projections – see the technical annex for more detail.

however, reflected that in our choice of benchmark (see Chapter 6 and our technical annex for further details).

2.41. We have not seen a persuasive reason why any individual supplier would have efficient unit costs which are above suppliers' average unit costs. In particular, average unit costs are likely to include a degree of inefficiency.

Estimating smart metering net costs

Options

2.42. In our June 2019 and October 2019 consultations we considered how we might estimate suppliers' costs. We considered:

- using the 2019 CBA, with modifications to make it suitable for our purposes; or
- building a separate model from suppliers' data.

Proposal

2.43. We maintain our previous proposal to use the 2019 CBA as a starting point for our proposals. It is a robust, comprehensive, and detailed assessment of smart metering costs, constructed in line with best practice.

2.44. As previously stated, we recognise that the 2019 CBA was designed for a different purpose. We must modify it to ensure that is it suitable for our purposes. We have:

- removed irrelevant cost and benefit categories;
- updated the model with the latest Annual Supplier Return ("ASR") data, detailing the actual costs suppliers incurred in 2019; and
- considered further modifications in light of suppliers' comments on the SMNCC model we disclosed in October 2019 and the evidence we subsequently requested from them.

2.45. In Chapter 5, we set out the results of our cost assessment, and explain the main changes we have made. In our technical annex, we explain our approach and respond

to suppliers' views in detail, including in relation to using the 2019 CBA as a starting point.

Overview of suppliers' views

2.46. Suppliers supported our previous proposals to use the 2019 CBA as a starting point. However, in practice most disagreed with individual judgements on when it was appropriate to modify the 2019 CBA assumptions (or not modify them). In general, suppliers favoured making additional modifications to recognise greater costs.

2.47. Firstly, some suppliers disagreed with our judgement on the level of precision that is required and the level of approximation that is acceptable. As one supplier illustratively put it, some circumstances require an egg-timer, whereas others require the precision of a stopwatch. In general, suppliers favoured a more precise approach than we judge to be practical or necessary.

2.48. Secondly, suppliers raised concerns about the 2019 CBA's estimates for several specific cost and benefit categories. Concerns included noting errors and points of principle. Suppliers also simply noted differences between their own costs and the average costs in the SMNCC model.

Considerations

Approximation and simplification

2.49. We consider that the 2019 CBA is a high quality piece of analysis, and a suitable starting point for our work. (We discuss the process BEIS followed to produce the 2019 CBA further in our technical annex). We have a different purpose from BEIS, and so we make modifications to reflect this.

2.50. All models are a simplification of reality. This applies particularly where the underlying processes being modelled are complex. The smart meter rollout is a complex activity, with impacts on many areas of a supplier's operations. In theory, this could lead to the creation of an extremely detailed model – and there would always be additional information which we could add.

2.51. In practice, having an increasingly detailed model would not help us to deliver our purpose more successfully. The additional detail would have diminishing benefits in terms of accuracy, and could even *reduce* accuracy by making the model more difficult

to check and scrutinise. Beyond a certain point, any benefits from increased complexity would also not be proportionate given the resources required, and the delays in protection to customers.

2.52. We appreciate that suppliers – whose revenues we constrain through the cap – may consider that a very high degree of complexity is required to set the SMNCC allowance. Ultimately, we need to take a judgement about the level of detail which is sufficient in the circumstances.

Additional enquiries and adjustments

2.53. We have carried out significant work since the October 2019 consultation. Aside from incorporating the latest ASR data,[34] we have also gathered additional data through a Request for Information (RFI) in February 2019.

2.54. In several cases, this has led to us making adjustments to the SMNCC model. We have also made adjustments following comments by suppliers in response to the October 2019 consultation, and following our own additional reviews. We set out the results of our analysis and summarise the main changes in Chapter 5. We provide a detailed explanation in our technical annex.

[34] This became available to us in spring 2020, after BEIS had carried out data cleaning on suppliers' responses.

3. Future reviews of the SMNCC allowance

In this chapter, we consider our approach to future reviews of the SMNCC allowance.

Question: Do you agree with our review proposals?

Note that as a matter of style, we do not ask specific questions at each stage. We expect stakeholders to consider our proposals, reasons for them, and methodology, and provide representations explaining if and why they disagree.

Summary of our proposals

3.1. We propose to review the SMNCC allowance every 12 months, updating the SMNCC model with latest data. We propose to conduct and consult on our first review in time to update the SMNCC allowance for the seventh cap period, effective 1 October 2021, using the next ASR update on suppliers' costs, benefits, and progress in 2020.

3.2. The progress of the rollout and its impact on suppliers' efficient operating costs remains uncertain. Reviews should reduce the risk that customers are overcharged if the net impact of the rollout on operating costs deviates from expectations. However, there is also a substantial risk that reviews of the SMNCC allowance will double count the costs and benefits of smart meters that suppliers were expected to install in previous periods, but will install at a later point in time due to delays. That would be a clear, material, and systematic error, which would fail to protect customers.

3.3. When reviewing the SMNCC allowance, we propose to reassess past cap periods, starting from 1 October 2019, considering the latest data on rollout progress and its net impact on operating costs. We would then ensure that in future cap periods we do not double count the costs and benefits that have already been accounted for in past cap periods, deducting advanced payments in previous periods from the allowance in future periods. If suppliers' costs have been higher than the allowances since 1 October 2019, we would add that lagged payment to the allowances in future periods.

3.4. In Chapter 7 we estimate the advanced payment that, on average, default tariff customers will pay between 1 October 2019 and 30 September 2020 and propose to remove that payment from future allowances. In our April 2019 consultation we proposed to deduct advanced payments from the SMNCC allowance in future cap periods to avoid double counting those costs (and would add lagged payments if suppliers had incurred costs not considered in the previous SMNCC allowances).

Reviews and correcting forecast errors in general

Our November 2018 decision

3.5. In our November 2018 decision[35] we stated that:

- we would not have a specific review of the cap level or methodology (apart from a review of smart metering costs); and
- we would review the cap level, or aspects of the methodology, if specific systematic errors were unforeseen, clear, material, and necessitated changes.

3.6. In addition, we decided not to correct forecast errors, on the basis that:

- long run, non-systematic forecast errors should net out; and
- suppliers already, before the introduction of the cap, managed short term forecast risks, and even with default tariffs rarely adjusted their prices more than twice a year.

3.7. We did not specify, in general or in the context of smart meters, that we might correct forecast errors, even where deviation from expectations was partly, or wholly, in suppliers' control.

Our April 2019 consultation on reviewing the SMNCC allowance

3.8. In our April 2019 consultation[36] we:

- explained that in our 2018 decision we had set the SMNCC allowance in line with suppliers' rollout targets,[37] but that the number of smart meters installed in 2019 was likely to be lower than those expectations;

[35] Ofgem (2018), Decision – Default tariff cap – Overview document, paragraphs 3.6 to 3.17. https://www.ofgem.gov.uk/system/files/docs/2018/11/decision_-_default_tariff_cap_-_overview_document_0.pdf
[36] Ofgem (2019), Reviewing smart metering costs in the default tariff cap: April consultation. https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap
[37] In this case, we set the profile for both fuels in line with the EU target for installing smart meters in 80% of electricity customers' homes by the end of 2020.

- stated that we viewed any excess in the allowances (i.e. customers paying more that suppliers' efficient costs) as paying suppliers in advance for installations that suppliers would achieve at a later point in time (either in a subsequent cap period, or after the cap expires); and

- we proposed to set the SMNCC allowances in the fourth cap period and beyond having regard to any substantial advance payment (or lagged payment) in first three cap periods, reducing future allowances to remove advanced payments and increasing them to include lagged payments.

3.9. We developed these proposals in a working paper and presented them in our October 2019 consultation.[38]

Suppliers' views

3.10. In response to our consultations discussing advanced payments in the SMNCC allowance for credit customers, suppliers have argued that either:

- we should not include any kind of correction mechanism for smart meters, as we ruled it out in our 2018 decision; or

- if we correct allowances for smart meters we should also make corrections in other areas.

3.11. Some suppliers argued that they had a legitimate expectation that we would not correct forecast errors. In particular that, relating to smart meters, we would both: (a) not consider or 'claw back' any money they had charged customers in previous cap periods that related to the impact of smart meters they were yet to install, and (b) assess the efficient costs of the smart meter rollout going forward, including the net costs of meters they had not yet installed but had received payment for (in part).

[38] Ofgem (2019), Response paper #3: reviewing smart metering costs in the default tariff cap – having regard for carry forward balances.
https://www.ofgem.gov.uk/system/files/docs/2019/08/response_paper_3_-_carry_forward_balances.pdf
Ofgem (2019), Reviewing smart metering costs in the default tariff cap, chapter 4, p91 onwards.
https://www.ofgem.gov.uk/system/files/docs/2019/10/smart_metering_review_in_the_default_tariff_cap_-_october_consultation.pdf

Our considerations

Clear systematic material errors

3.12. In our November 2018 decision, we did not rule out the possibility of carrying out reviews or making corrective adjustments. We indicated that we would not usually make corrective adjustments for ordinary forecast error. This did not preclude us from making adjustments for serious and systematic errors, as we made clear. Furthermore, we did not exclude the option to identify specific types of errors in future and give notice that they might be subject to review.

Delays rolling out smart meters

3.13. We stated in our November 2018 decision that we did not intend to review the cap, but would do so if there were specific systematic errors that were unforeseen, clear, material, and necessitated changes.[39] We explain below that if the smart meter rollout continues to lag behind expectations (due to delays of the scale we have seen between 2017 and 2019, or due to COVID-19) then we would risk systematically misstating the allowance in a clear and material way that we consider necessitates a change in approach to protect customers. The risk of overcharging customers could be exacerbated by reviews, if we were to double count net costs that we included in the allowance for previous periods, but relate to delayed installations.

3.14. As we explain below, forecast errors due to lags in performance will not net out over time; performance has consistently been below expectations, it does not vary around an average expectation. Neither can we set more plausible forecasts, based on suppliers' likely performance and not their targeted performance, without risk. That approach could make those targets may be harder to achieve, as suppliers have argued.

3.15. On that basis we propose to adjust the SMNCC allowance to remove advanced payments made in previous periods, protecting customers from double counting costs, and ensuring that we set the cumulative allowances in line with suppliers' cumulative efficient net costs.

[39] Ofgem (2018), Decision – Default tariff cap – Overview document, paragraph 3.16. https://www.ofgem.gov.uk/system/files/docs/2018/11/decision_-_default_tariff_cap_-_overview_document_0.pdf

Considering other cost categories

3.16. We maintain the principles that we set out in our November 2018 decision in relation to whether reviews are needed, as explained and elaborated in this chapter.

3.17. In our November 2018 decision we considered that scheduled reviews could undermine suppliers' incentives to improve their efficiency. We still consider this to be the case. The net impact of changes to minor cost categories (such as changes to individual line items within suppliers' operating costs) and the long-run impact of non-systematic volatility (such as wholesale demand forecasting) are judgemental and uncertain. Detailed and frequent corrections could undermine incentives to improve efficiency and fail to protect consumers.

3.18. In our November 2018 decision we considered that we would not review or correct forecast errors. We considered these were uncertain, judgemental, and would net out in the long-run where error was non-systematic. We still consider this to be the case, but recognise that not all forecast errors have impact of that kind. We still consider that clear, material, unforeseen errors that necessitate changes to protect customers should be corrected, including retrospective corrections.

3.19. It is possible that, applying those principles, other costs categories would warrant review and adjustment in future. For example:

- **Impact of COVID-19 on other costs**. Suppliers have likely incurred additional costs due to COVID-19. This is an unforeseen event that may have clear material net costs that necessitate changes. Suppliers have already requested that we ensure the price cap reflects those costs (such as higher bad debt costs), some of which will be in past cap periods by the time we introduced any adjustment. At the moment, data on the scale of the net impact is too uncertain. However, when and if data shows a clear material increase in efficient net costs, we would consider a correction in arrears.

- **The net impact of delayed ECO installations**: The allowance for ECO (a programme requiring suppliers to install insulation in certain customers' homes) works in the same way as smart meters. Suppliers receive an allowance to install insulation in a certain number of properties. We base the allowance on the latest government assessment of expected installations and their associated costs. Government's assessment of the total lifetime costs has not changed considerably. However, its assessment of the costs in each remaining period has

increased substantially, because suppliers' installations were fewer than expected in the first ECO3[40] phase, so they did not incur those costs. The cap now reflects the increased costs in each remaining phase, but not the fact that customers have paid for those a portion of those costs already. This is a clear and systematic error. It is less material than that for smart meters. If the issue becomes material, as the advanced payments accumulate over time, we may need to address it to protect customers, particularly in light of COVID-19 further delaying installations. We would reduce the allowance to account for advanced payments made since 1 October 2020.

Suppliers' arguments on legitimate expectations

3.20. We will not consider advanced payments made in the first two cap periods for the net impact of installing smart meters. Although we consider this a clear, material, and systematic error that necessitates change, we did not specify in our November 2018 decision that our review of smart meters would correct for forecast errors. On that basis, we are proposing not to correct for advanced payments in the allowances we set in our November 2018 decision – that is to say for the first and second cap periods.

3.21. In our April 2019 consultation, we explicitly stated that we would review and account for the impact of advanced payments when setting the SMNCC allowance in future periods. We set out the estimated impact of those proposals in our October 2019 consultation. On that basis, suppliers could have no legitimate expectation that we would leave overpayment to suppliers unaddressed in subsequent periods. Overpayment is self-evidently not in the interests of customers, and our objective under the Act is to protect customers.

3.22. We will only consider advanced payments from 1 October 2019, the start of the third cap period (which we announced on 7 August 2019). In Chapter 7 we explain how we have calculated the advanced payments suppliers will receive from customers between 1 October 2019 and 30 September 2020.

[40] ECO3 is the version of ECO which runs from December 2018 to March 2022.

Future reviews of the SMNCC allowance

Options

3.23. We have considered setting the SMNCC allowance for the remaining cap periods with and without subsequent reviews.

3.24. In our October 2019 consultation we proposed SMNCC allowances for the remainder of the potential lifetime of the cap (up to the end of 2023) and sought not to review them. We recognised that the pace and costs of the rollout were uncertain, and so we could not rule out further reviews.

3.25. We noted that uncertainty worked in both directions. Suppliers may incur lower costs than we anticipate, in particular if they continue to install fewer smart meters than expected and than we allow for in the SMNCC allowances. Alternatively (or in addition), costs per installation may increase. For example, if customers towards the end of the rollout profile may be less likely to book an installation, then suppliers may incur greater costs to encourage take-up.

Our proposal

Reviewing progress and net costs

3.26. We propose to review the SMNCC allowance every 12 months. We propose to conduct and consult on our first review to update the seventh cap period, effective from 1 October 2021. That review will be informed by the latest ASR data on suppliers' costs and benefits in 2020, which should make the impact of COVID-19 on suppliers' net smart metering costs clearer. In that review we will consider updates relating to the post-2020 policy framework.

3.27. In the review we propose to update the SMNCC model with latest data on:

- the rollout profile, using data published by BEIS;
- the costs of smart meters, communications hubs, and IHDs, using the latest ASRs from suppliers;
- smart meter installation costs, using the latest ASRs from suppliers; and

- the number and cost of avoided site visits, using the latest ASRs from suppliers.

Adjusting for lags between when suppliers' incur net costs and when they charge customers

3.28. We propose to calculate the value of advanced (or lagged) payments since 1 October 2019, and deduct advanced payments from the SMNCC in future allowances (or add lagged payments). In doing so, we propose to ensure that cumulative allowances between 1 October 2019 and 31 December 2023 reflect the cumulative comparable net costs in that period for a supplier with an average rollout profile (or, in other words, suppliers as a whole).

3.29. To not do so would double count the costs and benefits of installations that suppliers are expected to achieve in a specific period, but do not install until a later period. That would allow a systematic, material, and clear error that would misstate the SMNCC allowance. This would fail to protect customers.

Overview of suppliers' views

3.30. In response to our October 2019 consultation, suppliers considered that we must have reviews in future, due to uncertainty about the cost and pace of the rollout, and specifically because the post-2020 policy framework was unknown.

3.31. In January 2019, we agreed with suppliers that further review(s) of the SMNCC allowance are inevitable and that they offer a preferable and practical approach to dealing with ongoing uncertainty. We noted that reviews may be necessary at times when we could consider the impact of major policy decisions (including, but not limited to the post-2020 policy framework for rolling our smart meters). Periodic reviews may also be necessary to consider the inherent uncertainty of the cost and pace of the rollout in the medium to long term.

3.32. Suppliers disagreed that we should adjust the SMNCC allowance in future periods to remove costs that they had already charged customers in advance for. This was because they considered that customers had not been charged in advance, we had decided not to correct errors in the cap, or it would reduce investment in future periods.

Our considerations

Framework for reviews

3.33. We have considered a high-level framework for future reviews. We intend to provide a further update on our thinking alongside our decision.

- **Timing:** We expect reviews to be carried out every 12 months, in line with the availability of official data updates (primarily ASRs each year in April). This means that we would intend for reviews to take effect (subject to consultation) in the winter cap update, which we announce in early August each year.

- **Scope:** We do not expect to carry out future reviews with the same level of detail as this consultation. We consider that this would be disproportionate, because the potential gains in accuracy would not justify the significant amount of resources required (both from Ofgem and industry). Rather, our current view is that we would update significant parameters based on the ASRs. This would allow us to take into account new data, and therefore improve the accuracy of the cap.

3.34. We expect that we would update the following parameters:

- **the rollout profile**. We would set the rollout using weighted average installations for the years published data is available from BEIS. For future years, we would set the profile consistent with suppliers' performance to date and their expected performance in light of rollout obligations.

- **the costs of smart meters, communications hubs and IHDs**. We would take the latest data from suppliers, in their ASRs. We would maintain the methodology proposed in this consultation to model these costs.

- **smart meter installation costs.** We would take the latest data from suppliers, in their ASRs. We would maintain the methodology proposed in this consultation to model these costs.

- **the number and cost of avoided site visits**. We would maintain the methodology proposed in this consultation to model these benefits.

Uncertain pace and impact of the rollout

3.35. In their response to our October 2019 consultation suppliers noted that the pace and costs of the rollout were uncertain. They considered that future reviews would be necessary to ensure that the SMNCC allowance tracked the change in their efficient costs accurately.

3.36. As we set out in Chapter 1, the pace of the smart meter rollout is uncertain, as is its net impact on suppliers' efficient operating costs. This uncertainty substantially increases the risk that the SMNCC allowance misstates the net impact of the rollout on an efficient supplier's operating costs. For example, if suppliers install fewer smart meters than we account for in the SMNCC allowance, then the allowance will overcharge customers. If suppliers' costs per installation increase above the level we assume in the allowance, then all else being equal, the allowance will be too low.

Risk of systematic errors in future reviews

3.37. We agree that reviews are inevitable and a potentially useful way to address uncertainty. However, future reviews could increase the risk of misstatement, rather than reduce it as intended.

3.38. In each review we would need to set a rollout profile for future cap periods. We could forecast the expected number of installations based on suppliers' targets and obligations. However, suppliers have previously fallen behind those expectations. It is possible that expectations might continue to be consistently higher than actual rollout.

3.39. Continued delays would mean that we would materially misstate the allowances. Suppliers would charge customers for the costs and benefits of installing a certain number of smart meters in one period, but would not actually incur those costs and benefits in that period if their performance lagged expectations.

3.40. In future reviews, if we then considered suppliers' updated position at that point, we would assess the costs and benefits of installing the smart meters they were now expected to install. Those net costs would include the impact of smart meters they were expected to install in previous periods, and had charged customers for already. Including those costs and benefits a second time would double count a proportion of suppliers' efficient costs and benefits.

Double counting costs and benefits

3.41. The key issues regarding double counting costs and benefits are:

- **Costs expensed in the year a meter is installed, such as IHDs and Premature Replacement Charges** (PRCs, see Chapter 5): It is straightforward that these costs would be double-counted in future periods. When we set the allowance we would set the rollout profile in line with expectations and obligations. For example, it might assume that suppliers will install 500,000 smart meters in the next year and set the allowance accordingly. Suppliers would charge customers for 500,000 IHDs and the PRCs for replacing 500,000 traditional meters. If suppliers only installed 300,000 smart meters, they would not incur those costs. In the next cap period, suppliers would still be obliged to install smart meters, so we would include in future periods the delayed 200,000 installations from the last period. Customers would have already paid the IHD and PRC costs for those installations, and would now be charged a second time.

- **Costs that are spread over time, such as rental payments for smart meters**: Suppliers pay rent on the smart meters they install. If suppliers' performance lagged, they would charge customers for the rent due in that year for smart meters they had not actually installed. In reviewing the SMNCC allowance and the installations that remained, we would then include the costs of that rental period a second time. In effect, customers would pay two years' rent for meters in place for a fraction of that time.

- **Benefits:** In setting the SMNCC allowance we would account for benefits suppliers incur. If we set the rollout in line with suppliers' expectations and suppliers underperformed against those expectations, then the SMNCC allowance would reduce faster than the operating costs of an efficient supplier with an average rollout profile would actually reduce. Upon review, we would then account for those benefits again, double counting them (analogously to in-year expense or rental payment, depending on the benefit).

3.42. The issues above are clear and systematic misstatements. The bias works in the same direction at each review. So far, installations have fallen short of expectations each year, they have not exceeded them. So, the error of double counting the net costs would not net out over time. The errors would accumulate.

3.43. Replacing a traditional credit meter with a smart meter increases a supplier's costs by more than it reduces them. If we left that systematic risk of error unaddressed, the allowances would fail to reflect suppliers' efficient costs, and fail to protect customers.

Avoiding error

3.44. The problem of double counting, caused by delays, requires adjustment.

3.45. Firstly, we do not consider that the impact of forecast errors net out in the case of delays to the smart meter rollout. Continued underperformance in the rollout is a systematic error, the impact of which will not net out in the long-run. Unlike when suppliers forecast demand for energy, we have no reason to believe that forecast errors for smart meters would vary around a central expectation. In fact, experience suggests the opposite. So far, suppliers' rollout has not varied around expectations. It has fallen below expectations each year.

3.46. Secondly, we cannot set more plausible forecasts without risk. We must have regard to the legal obligations and expectations placed on suppliers. In the consultation process preceding our November 2018 decision, suppliers argued that we must align the allowances for net smart metering costs with their rollout obligations or we might prevent suppliers from meeting those expectations. That is reasonable and we give it consideration. However, it does not guarantee that suppliers meet those expectations. It also does not justify double counting costs and benefits in a manner that fails to protect customers and does not reflect efficient costs for a supplier with an average rollout profile.

Adjusting for advanced or lagged payments

3.47. We can address this risk of misstatement in a straightforward way. In our April 2019 consultation we first proposed to adjust the allowances in future cap periods to account for advanced payments (or lagged payments) in previous periods. In doing so, we would seek to align the allowances over the lifetime of the cap with the comparable efficient costs of a supplier with an average rollout profile. We developed those proposals in a working paper before including the adjustment in our October 2019 consultation.

3.48. That approach would:

- assess the total amount that suppliers have charged customers since 1 October 2019, through the SMNCC allowance. Suppliers charge at the level of the cap, so customers pay the SMNCC allowance in full.

- assess the net impact on the efficient operating costs of a supplier with an average profile in the same cap periods, based on the latest data regarding what suppliers actually delivered, not what they were expected to. We would also reassess their efficient unit costs, based on the latest ASR submissions, as lags in performance can also increase efficient costs *per installation*.

- calculate the difference between the amount suppliers charged (for what they were expected to deliver) and the efficient costs of what they actually delivered; and

- adjust future allowances to remove advanced payments or add lagged payments.

3.49. If suppliers' costs were less than the allowances, customers would have paid in advance for the net impact of smart meters suppliers will install at a later point in time (either a subsequent cap period, or after the cap expires). We would deduct that advanced payment from the SMNCC allowances in future cap periods to avoid double counting.

3.50. If the cumulative costs were higher than the cumulative allowances, then customers would have either (a) received a benefit in advance of when suppliers actually incur it, or (b) not yet paid for the net impact of smart meters that a supplier had installed, but we had not accounted for in the allowance (i.e. average performance exceeded expectations). We would increase future SMNCC allowances to deduct that advanced benefit or include that lagged payment.

3.51. In Chapter 7 we calculate the advanced payment suppliers will charge customers between 1 October 2019 and 30 September 2020.

Obligation to set the cap and protect customers

3.52. In their responses to our October 2019 consultation, some suppliers stated that we could not, or in any case should not, take a decision on the SMNCC allowance in circumstances where the underlying rollout obligations are uncertain. In particular,

they felt we must, or should, wait for a decision by BEIS on the post-2020 rollout obligation, and adopt a contingency allowance in the meantime.

3.53. This is not a practical suggestion. Despite uncertainty, we have a continuing obligation to set the cap, and in doing so, to protect default tariff customers as well as having regard to the matters in section 1(6) of the Act. It would also be inappropriate to set an SMNCC allowance at a level that substantially differed from our current understanding of suppliers' efficient costs (in either direction), to the detriment of consumers.

3.54. The relevant question is therefore at what level we should decide to set the allowance, acknowledging that suppliers' future costs are uncertain. Most suppliers acknowledged this, noting that future reviews were likely and would prevent the money provided by the SMNCC allowance deviating significantly from suppliers' efficient costs.

4. Considering suppliers' average rollout

Section summary

In this chapter we explain the rollout profile we propose to use when assessing suppliers' efficient costs. We discuss the uncertainties around suppliers' rollout.

Question: Do you agree with our rollout proposals?
Note that as a matter of style, we do not ask specific questions at each stage. We expect stakeholders to consider our proposals, reasons for them, and methodology, and provide representations explaining if and why they disagree.

Summary of our proposals

4.1. We propose to assess the net impact of the smart meter rollout on the efficient operating costs of a supplier with a weighted average rollout profile (the weighted average progress of each supplier is, in effect, the aggregate progress of all suppliers).

4.2. We propose to set a single rollout profile, representing average progress, so that:

- for years up to and including 2019: the rollout profile for each type of meter reflects suppliers' weighted average cumulative progress as a proportion of mandated meters for each fuel type, as shown by data published by BEIS;

- for subsequent years: we set the rollout profile for each type of meter in 2020 at 30% of the average annual installations between 2017 and 2019 (to approximate the impact of COVID-19), and at 100% of that level in 2021 and subsequent years.[41]

4.3. The net impact of the rollout in 2020 on the efficient operating costs of a supplier with an average rollout profile is unavoidably uncertain. Due to COVID-19, suppliers are installing fewer smart meters. That reduced activity means that suppliers avoid costs in

[41] We expect to review the SMNCC before setting the allowance for the seventh cap period (1 October 2021 to 31 March 2022). On that basis, our estimate for 2022 may be replaced by a future review. See Chapter 8 for more information on our proposal relating to future reviews.

some areas, but some suppliers will incur sunk installation costs to an extent. To set an appropriate allowance for the next two cap periods, we have sought to approximate the impact of COVID-19 on installations, adopted a conservative assumption that all installation costs (except tools and materials) will be sunk, and will consider making a retrospective corrective adjustment in future cap periods to account for any inaccuracy in the assumptions (see Chapter 3 on future reviews).

4.4. We must set a single cap level, but suppliers' efficient net costs vary because their progress with the rollout varies. Suppliers with above average rollout profiles will have higher efficient costs than we allow for. This is an unavoidable consequence of setting a single allowance that protects customers, in accordance with section 1(6) of the Act.

4.5. Below, we:

- consider the relationship between suppliers' rollout progress and its impact on suppliers' efficient net costs (including costs and benefits per installation; lags in performance; potentially sunk costs in light of COVID-19; and variation in performance);
- set out our proposals for setting the average rollout profile in the SMNCC model; and
- consider the impact on the efficient costs of suppliers with an above average rollout profile.

Suppliers' rollout and efficient net costs

The relationship between rollout and net costs

4.6. As discussed in Chapter 1, suppliers incur costs and benefits when replacing traditional credit meters with smart meters. The total net impact on a supplier's efficient net operating costs depends on its rollout profile (i.e. the number of smart meters it has installed and when it installed them as a proportion of mandated meters). This profile acts as a multiplier, increasing certain costs and benefits in line with the number of meters it has installed up to that point in time. Other costs and benefits do not depend on a supplier's rollout profile.

4.7. In this chapter we discuss suppliers' rollout profiles and their relationship with total net costs. In the next chapter (Chapter 5) we discuss specific cost and benefit categories. The net cost of replacing traditional credit meters with smart meters depends on:

- **The asset and installation cost of smart meters.** These costs scale with the rollout profile. They include (a) the costs expensed in the year of installation (b) ongoing costs of smart meters installed in prior years (i.e. rental payments) and (c) the net impact of premature replacement charges (PRCs), which compensate Meter Asset Providers (MAPs) for the foregone rental payments of the traditional meters being replaced, and thereafter a supplier incurs no rental charge for meters it has removed.

- **The operational benefits of installing a smart meters**. These benefits scale with the smart meter rollout.

- **The avoided costs of installing new traditional PPM meters**. These are benefits and do not scale with the smart meter rollout. Each year a portion of a supplier's traditional meters would have expired. Due to the rollout, a supplier no longer incurs the costs of installing a certain number of new traditional meters. Except in a few rare cases, suppliers do not have to install these meters and therefore, they do not incur those costs, because they have installed a smart meter instead.

4.8. Broadly speaking, suppliers that have installed more smart meters will have higher efficient costs than suppliers that have installed fewer smart meters. That is because replacing traditional credit meters with smart meters is an incremental net cost to suppliers. It is also an on-going cost, as suppliers spread the cost of purchasing and installing a smart meter over its life (by paying rental charges).

4.9. That relationship creates three challenges when selecting the single rollout profile we use to assess the net impact of the smart meter rollout on suppliers' efficient costs:

- delays against rollout expectations;

- sunk installation costs; and

- variation in suppliers' progress.

Delays against rollout expectations

4.10. As discussed in Chapter 1, on average, suppliers have installed smart meters at a slower rate than expected. Government placed an obligation on suppliers to take all reasonable steps to complete the rollout by the end of 2020. The EU set a target that suppliers install smart meters in 80% of electricity consumers' homes by the end of 2020. Neither expectation will be met.

4.11. Delays against expectations are a challenge when forecasting the net impact that replacing traditional meters with smart meters will have on operating costs in the future. If we set the allowance in line with expectations that are not met, then suppliers can charge customers more than the efficient costs for the impact of meters they have not installed yet. As discussed in Chapter 3, we proposed to adjust the SMNCC allowances in future cap periods to correct for this risk, but in principle we would prefer to avoid overcharging in the first place.

4.12. If we set more realistic forecasts for the installations suppliers are likely to achieve (given historical performance), then we should better protect customers, ensuring they are charged a realistic amount. However, suppliers have argued that this approach might restrict their ability to install meters at a faster rate, unless they can improve their productivity.

Sunk installation costs

4.13. When suppliers install fewer smart meters than expected it affects the costs and benefits they incur. For some cost and benefit categories, they will not incur the costs and benefits they would have incurred had they installed more meters. For instance, PRCs (paid for terminating rental contracts early) cannot be incurred on traditional meters that have not been replaced. In most cases, suppliers will not pay the asset costs of smart meters and IHDs they have not installed.

4.14. In the short term suppliers' installation costs are not necessarily variable. A supplier may incur unproductive sunk installation costs if it installs fewer smart meters than it expected to. For example, if a supplier employs its own installers, it may carry the financial risk of lags in performance. It may have built capacity (i.e. employed enough installers) for a certain number of installations in the coming year. If it then failed to meet those installation plans, it may still incur the cost of employing installers in full, rather than the amount it needed with the benefit of hindsight.

4.15. In response to our October 2019 consultation, suppliers were concerned that we did not account for sunk costs when reviewing the costs in previous periods where rollout was slower than expected. We allow suppliers to recover only their efficiently incurred costs. For example, we would not increase the allowance if a supplier installs fewer meters than it expects to due to poor operational decisions, or if it failed to appropriately manage foreseeable risks.

4.16. Exposure to sunk installation costs will differ between suppliers, depending on their operating structure and commercial arrangements. Some suppliers outsource volume risk, employing third party installers, and only paying for installations that are completed. Others employ their own installers. Most suppliers, as shown in ASR data, have a mix of both approaches.

4.17. Exposure to sunk costs also depends on whether suppliers can anticipate, avoid, or mitigate the impact of delays. Suppliers' progress has lagged behind expectations for a variety of reasons, from variation in their productivity and low customer take-up, to technical difficulties and global pandemics. Crucially, the likelihood and impact of these delays are not equally easy for suppliers to control, anticipate, or mitigate.

4.18. Up to the end of 2019, an efficient supplier should have been able to anticipate and manage the installation resources it required. In normal circumstances, suppliers have installed smart meters at a stable rate between 2017 and 2019. A supplier should expect a degree of volume risk (that it might install fewer smart meters than expected), have experience of mitigating the impact of delays and barriers (either outsourcing that risk, or planning for it), and good estimates of the resources it will likely require. Sunk costs should be low or avoidable in normal circumstances.

4.19. Unlike other sources of delay, COVID-19 is a uniquely unanticipated, large, and sudden constraint. Due to social distancing, suppliers have reduced the rollout, for all but emergency cases. Consequently, some suppliers may have incurred costs efficiently preparing for rollout activities that are no longer possible, due to events beyond their control. Those costs may be sunk, to some extent, but not inefficient.

4.20. No supplier anticipated COVID-19, and their ability to mitigate the impact of it on their operating costs varies. We know that some suppliers have reduced their costs by redeploying or furloughing staff, but experiences will vary for reasons that may not relate to efficiency. For that reason, we propose to account for sunk costs in 2020, and we consider various options for doing so below.

The significance of different rollout profiles between suppliers

4.21. Each supplier has a different rollout profile. By necessity, we use a single rollout profile in the SMNCC model[42] to assess suppliers' costs; some suppliers will be ahead of this profile (i.e. they have installed smart meters in a higher proportion of their customers' homes than other suppliers at this point in time), and others are behind.

4.22. The higher we set that single profile above the average level, then the less we protect customers. This is because suppliers with slower progress can charge more than they require. The closer we are to the average profile, the better we protect customers. However, suppliers with above average progress would only recover part of their costs.

4.23. All suppliers must install smart meters, so in principle, timing differences between when suppliers incur costs and when they collect payment should not matter significantly. However, timing differences will not net out across the lifetime of the cap, as (among other reasons) the rollout started before we introduced the cap, and will continue after it. Suppliers will make different levels of progress during the cap periods and incur different efficient costs.

4.24. This difficulty is not unique to the cap. In a competitive environment, a supplier with above average rollout would only be able to recover costs reflected in competitively set prices. Those should reflect the costs of suppliers with average or even below average progress and costs.

Considering efficient suppliers with an average rollout profile

4.25. In this section we consider how to set the average rollout profile for our assessment of the efficient net costs of the smart meter rollout.

4.26. COVID-19 makes forecasting accurately the average rollout profile in 2020 and 2021 and any associated sunk installation costs difficult. We seek to approximate rollout and costs as accurately as possible, but acknowledge this is a developing and uncertain situation. In Chapter 7 we explain that we will review the accuracy of our

[42] There are four domestic rollout profiles in the SMNCC model - a single rollout profile is used for each fuel and meter-type.

approximation when data is available and consider making retrospective corrective adjustments in future cap periods to account for any inaccuracy in the assumptions.

4.27. We have considered whether the best approximation of suppliers' net costs in 2020 and 2021 may not require us to use an accurate rollout profile at all. If for example, suppliers' costs are largely sunk, then an estimate of the costs they would have incurred in the absence of COVID-19, may be preferable to a rollout profile that accounts for the reduction in installations. We conclude such an approach would provide a less realistic assessment of costs for a supplier with an average rollout profile that accounting for COVID-19 directly.

Options

4.28. We must include a rollout profile for each year as suppliers costs depend on (a) the smart meter they install in-year and (b) the smart meters they have installed in previous years for which they pay ongoing rental charges, and incur ongoing benefits.

4.29. For previous years, we propose to include suppliers' historical rollout progress for the years we have data (up to the end of 2019). We receive data updates around April each year. Our proposals therefore include an additional year of rollout data (2019) compared with the proposals we presented in our October 2019 consultation.

4.30. For subsequent years, we have considered the following options:

- **Option 1: An 'adjusted 2019 CBA' profile, not accounting for COVID-19**. This maintains the rollout profile and productivity assumptions from the 2019 CBA, except that (a) we replace the expectation for 2019 with data on suppliers' actual progress and (b) we include an adjustment so that the profile "catches-up" with the policy proposal, achieving market-wide rollout by the end of 2024 (and the same interim milestone for 2023 as included in the 2019 CBA). We adjust productivity in 2019 by using actual data, but otherwise maintain the productivity assumptions from the 2019 CBA.

- **Option 2: An 'all reasonable steps' profile, not accounting for COVID-19**. This approach assumes suppliers maintain their 'business as usual' installation rate and productivity under the current rollout obligation. We use actual progress up to 2019, and assume that the rollout in 2020-2023 continues at the same average rate as 2017-2019. The model assumes that all installations occur and that associated costs and benefits are productive. In practice, this is not the case,

but we assess whether it calculates a level of net costs that approximates the combination of actual productive costs and sunk costs.

- **Option 3: A 'delayed' profile ('all reasonable steps', accounting for COVID-19)**. This approach seeks to approximate a more plausible rollout profile than the options above, given the impact of COVID-19 on installations. (We recognise that any attempt to forecast the impact at this stage is subject to a wide range of uncertainty). We assume that the installation rate in 2020 reduces to 30% of the average rate, per year, between 2017 and 2019, and then continues in 2021 at the average rate between 2017 and 2019. We assume that productivity for meters installed in 2020 (and thereafter) is the same as the average productivity in 2017-2019. We include a separate estimate of the sunk installation costs suppliers could incur.

4.31. Tables 4.1 and 4.2 shows the SMNCC allowance using the different rollout profiles considered above.

Table 4.1: SMNCC using different rollout profiles – electricity

Profile	2017	2018	2019	2020	2021	2022	2023
2019 CBA	1.55	4.68	6.02	8.34	7.01	5.43	4.54
'All reasonable steps', absent COVID-19	1.55	4.68	6.02	5.84	5.30	4.52	4.75
Delayed rollout, accounting for COVID-19	1.55	4.68	6.02	10.27	4.26	3.52	3.74

Notes: All values nominal. Before consideration of advanced payments.

Table 4.2: SMNCC using different rollout profiles – gas

Profile	2017	2018	2019	2020	2021	2022	2023
2019 CBA	1.49	2.71	4.18	6.31	3.57	-0.30	-3.23
'All reasonable steps', absent COVID-19	1.49	2.71	4.18	1.81	0.10	-2.08	-3.17
Delayed rollout, accounting for COVID-19	1.49	2.71	4.18	3.95	-0.53	-2.67	-3.79

Notes: See Table 4.1.

Our proposal for subsequent periods

4.32. We propose to set the average rollout profile using the delayed profile, accounting for COVID-19 including sunk costs (i.e. option 3).

4.33. An accurate forecast is impossible, given the ongoing and developing uncertainty caused by COVID-19. However, we consider this approach to represent the most plausible approximation of the net impact of the rollout on efficient operating costs in 2020 and 2021 for a supplier with an average rollout profile. In any event we propose to assess the impact of COVID-19 in arrears, when ASR data for 2020 is available, making retrospective corrective adjustments in future cap periods for any error in our assumptions.

Rationale

4.34. We discount using an adjusted 2019 CBA profile to approximate the net costs of a supplier with an average rollout profile (i.e. option 1). Even before COVID-19, the 2019 CBA profile overstated the amount of smart meters that suppliers were likely to roll out in 2020. As such, we do not consider it a good approximation of either the installations suppliers will achieve, nor a good indication of the installation costs they have committed and could be sunk. Using this profile would significantly overstate the net cost of replacing traditional meters with smart meters.

4.35. We consider that the installation rates suppliers achieved between 2017 and 2019 are a good indication of what they would have achieved under the current policy framework and rollout obligations, absent COVID-19. Clearly, COVID-19 means that suppliers will install fewer meters, so option 2 ('all reasonable steps', absent COVID-19) would not be a good indicator of the installations that will occur in 2020. However, we do consider it a useful indicator of the maximum installation costs that could have been committed and sunk to some extent. We use this rollout profile in our estimate of potentially sunk costs.

4.36. We consider option 3, the 'delayed' profile, including sunk installation costs, the best approximation of the impact the smart meter rollout could have on the operating costs of a supplier with an average rollout profile.

Considering rollout projections

The 2019 CBA profile

4.37. The 2019 CBA profile was in line with the proposals set out in BEIS's consultation on its post-2020 policy framework. At present, no decision has been made on the post-2020 policy framework. Rather than anticipate whether a new policy framework will be in place in 2021, requiring and supporting suppliers to increase their installation rates, we consider it better protects customers to update our estimates when those arrangements are confirmed.

4.38. In response to our 2019 October consultation, before the impact of COVID-19, suppliers considered that the profile in the 2019 CBA was unachievable. In particular, suppliers argued that the profile assumed they could improve substantially the *conversion rate* of customers who do not yet have a smart meter. Without additional policy tools, suppliers expected the opposite to be true; that the conversion rate would reduce, as the remaining customers would be more resistant to receiving a smart meter and the policy tools for conversion remained the same.

4.39. The 2019 CBA assumed that suppliers would increase their domestic installation rates by 31% in 2019 (on 2018 installs) and again by 21% in 2020 (on 2019 installs). In practice, suppliers installed around 27% fewer domestic smart meters in 2019 than the 2019 CBA profile assumed, which (before we consider COVID-19) makes the 2020 CBA forecast even less likely to be achieved. Suppliers' response to the October 2019 consultation suggest they were not committing resources that would improve their performance to the extent required to do this.

4.40. Using the 2019 CBA profile in our cost assessment, whether directly or to estimate sunk costs as a result of COVID-19, would significantly overestimate suppliers' efficient costs.

'All reasonable steps', absent COVID-19

4.41. We consider that using an 'all reasonable steps' profile (based on the average rollout achieved in 2017-2019) provides a good approximation of the installations that suppliers on average would have achieved in 2020, in the absence of COVID-19. We have a good understanding of the installation rates that suppliers have achieved under the current policy framework and rollout obligations. In addition, suppliers responded

to our October 2019 consultation by providing estimates and explanations of what they could achieve, which is consistent with their performance to date.

4.42. Given COVID-19, it is clear that suppliers will install fewer meters. We consider that an 'all reasonable steps' profile is still useful to estimate the installation costs that could be sunk as a result of COVID-19, but that the scenario itself is unsuitable as the basis for the SMNCC. As many other cost and benefit categories would not be sunk, to a material extent, this scenario would overstate net costs.

A 'delayed profile'

4.43. This approach seeks to estimate efficient costs by setting a rollout profile as close to what may occur under COVID-19 conditions as possible for the average supplier, given the high degree of uncertainty.

4.44. For 2020, we assume that suppliers will install 30% of the smart meters they installed annually, on average, from 2017 to 2019. This is an approximation. Suppliers installed smart meters in January and February 2020. At different points in March 2020, suppliers reduced their rollout, only installing meters in emergency cases. In the first few months of the year, suppliers would have installed 15-20% of the smart meters they intended to install in 2020, based on historical trends.

4.45. We do not know when the rollout will restart, or what constraints may apply when it does restart. Installation rates, at least initially, may be less than in previous years if precautions are in place, or if consumer willingness to accept a smart meter is temporarily reduced.

4.46. On that basis, we approximate total smart installations in 2020 to be at 30% of 2017-2019 levels. This is, of necessity, an approximate projection. As part of the consultation response, suppliers should set out their specific circumstances with respect to likely installation volumes in 2020, in light of COVID-19. We will consider the aggregate impact across all suppliers in our decision.

4.47. For 2021, we assume that suppliers will install smart meters at the same rate they achieved between 2017 and 2019 under 'all reasonable steps'. Currently, no rollout obligation has been announced for the post-2020 period.

4.48. For 2020 and subsequent years we assume that suppliers achieve the productivity (meters installed per installer per day) that they did on average across 2017-2019. This figure (3.1) replaces the 2019 CBA estimate for 2020 (5.0).

Considering net costs

Considering productive cost and benefits

4.49. Even accounting for COVID-19, suppliers will still incur productive costs and benefits for the meters they install. The delayed profile will account for these productive costs and benefits more accurately, as the SMNCC model only accounts for installations that are likely to occur. The 'all reasonable steps' absent COVID-19 scenario (option 2) accounts for those costs and benefits, and also accounts for the costs and benefits of installations that are unlikely to happen (by our approximation, 70% of the installations that would have happened absent COVID-19).

4.50. We have considered the impact of the two rollout profiles in each category.

- **Installation costs**. Using a delayed profile, the SMNCC model reduces installation costs in proportion to the rollout, assuming suppliers avoid all costs of installation for meters they do not install as a result of COVID-19. In practice, this is incorrect, as (in addition to the installation costs for meters they install in 2020) suppliers will also incur sunk costs for installation staff who are not installing meters. The 'all reasonable steps', absent COVID-19 scenario provides a maximum estimate of the installation costs that could be incurred (productively and sunk). However, it does not recognise them in the right time-period, spreading sunk costs over the life of smart meters that will not be installed, rather than incurring the costs in 2020. Below we estimate sunk costs in year, to better account for these costs.

- **Asset costs**. Using a delayed profile, the SMNCC model assumes suppliers avoid all costs of smart meter assets, communication hubs, and IHDs they do not install as a result of COVID-19. Suppliers will eventually install these assets, at which point we would recognise the costs. Some suppliers may incur costs prior to the point of installation, so this approach will slightly understate the average case. The 'all reasonable steps', absent COVID-19 scenario will recognise the costs of all assets, even though we expect 70% of those assets will not be installed.

- **PRCs**. Using a delayed profile, the SMNCC model only recognises the PRCs of traditional meters replaced by smart meters. This is as it should be. Suppliers would not incur PRCs for traditional PPMs that remain in place. The 'all reasonable steps', absent COVID-19 scenario accounts for PRCs that will not be incurred.

- **Operational benefits**. The SMNCC model includes operational benefits for the smart meters suppliers install. Using a delayed profile, the SMNCC model does not include benefits for smart meters that suppliers are unlikely to install.

- **The avoided costs of installing new traditional meters**. These avoided costs are the biggest source of savings to suppliers, and they do not scale with the rollout. Under our 'delayed rollout' scenario, these avoided costs are larger than under the 'all reasonable steps', absent COVID-19 scenario. That is because suppliers have stopped all non-emergency installations, including the installation of traditional meters. On that basis, suppliers' operating costs still decrease when old meters expire, but they avoid the costs of replacing them with a meter of any type (smart or traditional).

Considering sunk installation costs, due to COVID-19

4.51. Suppliers, in aggregate, would have installed a given number of smart meters in 2020, absent COVID-19; we have assumed this to be equal to the number of meters installed per year on average in 2017-2019. In practice, suppliers will install fewer meters than this. We have assumed they will install 30% of the 2017-2019 annual average, for the reasons outlined above. Suppliers will incur the costs (and benefits) of installing those meters, and will incur additional costs of staff who have been hired to complete installations at the planned rate, but who are no longer able to do so. These costs are "sunk" – i.e. they are incurred, but there is no associated meter installation as a result.

4.52. As discussed above, suppliers' exposure to sunk costs will vary, depending on their operating structure and commercial arrangements. They will also have varying abilities to avoid sunk installation costs through a combination of furlough, redeployment of staff, commercial arrangements with Meter Operators, and other means.

4.53. Some suppliers have been able to redeploy or furlough staff, reducing their installation costs. For some suppliers, a significant proportion of installation costs could be sunk – i.e. suppliers still incur costs for meters they were planning to install, related to installer wages, leases on vehicles, completed recruitment and training activities,

logistics, field management, and appointment setting. These costs would likely not reduce in proportion to installation performance.

4.54. We have examined three scenarios for suppliers' ability to avoid each of the sub-categories of installation costs (on average). Scenario A assumes that suppliers are exposed to sunk installation costs and unable to mitigate them (except for tools and materials). Scenario B assumes suppliers are able to avoid a proportion of some elements of installation cost (through flexible operating structures, or taking mitigating actions such as redeploying staff). Scenario C assumes suppliers have outsourced installations, and therefore any sunk cost risk does not sit with the supplier. These are illustrated in Table 4.3.

Table 4.3: Proportions of sunk cost by category for different scenarios

Installation cost sub-category	% of total installation cost	Scenario A: sunk costs	Scenario B: sunk costs	Scenario C: sunk costs
Installer wages	41.4%	100%	30%	0%
Vans (fuel, maintenance)	11.5%	100%	80%	0%
Tools and materials	7.0%	0%	0%	0%
Recruitment and training	1.8%	100%	30%	0%
Logistics	7.2%	100%	30%	0%
Field management	8.0%	100%	30%	0%
Appointment setting	8.4%	100%	30%	0%
Other	14.6%	100%	100%	0%
Total proportion of installation costs that are sunk		**93%**	**44%**	**0%**
Sunk costs per electricity account		£7.38	£3.38	£0.00
Sunk costs per gas account		£6.80	£3.08	£0.00

Notes: Costs in nominal (2020) prices.

4.55. We recognise that the situation of individual suppliers will be more complex than our scenarios. We are considering the aggregate effect of COVID-19 on sunk costs; as part of their consultation responses, suppliers should set out their specific circumstances with respect to likely sunk installation costs in 2020. We will consider the aggregate impact across all suppliers in our decision.

4.56. We have applied Scenario A in our proposals. First, we are aware from discussions with suppliers that many suppliers have been able to mitigate and avoid sunk in-house

installation costs by redeploying or furloughing staff, but we are not able to make a firm and reliable estimate for sunk costs across the board at this stage. In addition, for suppliers that do incur substantial sunk costs, that will not (or may not) be a mark of any inefficiency. On that basis, we consider the best approach is to adopt a conservative interim assumption that all costs (save those for tools and materials) will be sunk and to consider making a retrospective corrective adjustment in future cap periods to account for any inaccuracy in the assumption.

4.57. The above analysis demonstrates the estimated proportion of planned but not executed installation costs that we assume will be sunk, and incurred in 2020. We apply this proportion of installation costs to the number of meters that COVID-19 has caused not to be installed in 2020, with reference to the 'all reasonable steps' profile above. This results in sunk costs of 97% of installation costs for 70% of the 2017-2019 annual installation volume, to be incurred in 2020 (and not annualised through the MAP charge).

Considering efficient suppliers with an above average rollout profile

Our approach

4.58. As discussed above, suppliers have different rollout profiles, and therefore different efficient costs. We must set a single allowance which applies to each supplier.

4.59. A supplier with above average progress with its rollout will have higher efficient costs than a supplier with an average rollout profile. In response to our October 2019 consultation, some suppliers considered that we must, or at least should, allow suppliers with above average rollout profiles to recover their efficient costs.

Considerations

Impact

4.60. As discussed above, replacing a traditional credit meter with a smart meter is a net cost to suppliers, and an ongoing one. On that basis, suppliers that have installed more meters will have higher efficient costs.

4.61. Conversely, suppliers that have installed fewer smart meters with have lower efficient costs than suppliers that have installed an average proportion of smart meters.

The Act

4.62. In Chapter 2, we explain that we must protect default tariff customers and set a single allowance for all suppliers. In doing so, we must have regard to the costs of an efficient supplier.

4.63. This is a challenge when suppliers' efficient (total) costs vary. If we set the allowance at the level of the supplier with the highest efficient costs (in this case, the supplier that has replaced the most credit meters with smart meters) then all other suppliers could overcharge customers, and customers as a whole would pay more than the efficient aggregate costs of the rollout.

4.64. If we set the allowance at the lowest level of efficient costs (in this case the suppliers with the least advanced rollout), then all other suppliers would under recover their costs, and customers as a whole would pay less than the aggregate efficient costs of the rollout. We do not consider that would protect customers or have regard to suppliers' efficient costs.

4.65. On that basis, in accordance with section 1(6) of the Act, we consider it protects customers and has regard to efficient costs to set the allowance considering an average rollout profile. That ensures that customers as a whole pay allowances that align with the aggregate net costs of the rollout.

Stakeholders' views

Suppliers with above-average rollout profiles

4.66. In the context of adjusting for advanced payments, one supplier told us our approach penalised a supplier with faster than average rollout, as it said that a smart meter has higher costs on an ongoing basis.

4.67. As discussed above, suppliers with higher than average rollout will have higher efficient costs, above the level we allow for. If we set the allowance at that higher level of efficient costs, customers as a whole would pay more than the aggregate costs of the rollout.

4.68. All suppliers must roll out smart meters, so to some extent, different rollout profiles reflect the different timing in suppliers' costs, not different levels of costs. However, suppliers have rightly pointed out that the variation in suppliers' costs will not net out

during the cap periods. The key reason is that the life of the cap is shorter than the life of the rollout. Suppliers had made different progress when we introduced the cap and their progress will not be complete when it ends. Some suppliers will have incurred more costs in the combined cap periods than others. Timing differences mitigate variation in suppliers' costs, but they do not remove it.

4.69. A supplier with above average progress in the rollout would face the same constraints in a competitive market. A supplier with a faster than average rollout would not have been able to recover costs from customers in a competitive market other than the costs its competitors reflected in prices (which may reflect the average level, or even the lowest cost level in the market – that of the supplier which had installed the fewest smart meters).

4.70. A supplier with above average costs could only recover all of those costs if customers actively valued that additional service offer, or the supplier had market power over disengaged customers (as the CMA found in its investigation), allowing the supplier to charge prices above the competitive level. We do not consider that we are obliged to insure suppliers for the sunk costs of strategic decisions made before the introduction of the cap, especially where that protection for suppliers would not be provided by a competitive market. In line with the objective of the Act, we must protect customers.

Higher costs for suppliers with early progress

4.71. One supplier noted that it had higher efficient costs per installation because it had made early and above average progress in the rollout. It argued its early progress had reduced cost for others (for instance, by building capacity). On that basis, it considered we should not penalise suppliers that have installed more meters.

4.72. In Chapter 2, we explained that we benchmark cost and benefits categories to the average levels achieved by suppliers, rather than a stricter measure of efficiency such as lower quartile. This recognised, in part, that suppliers' efficient costs varied due to rollout profiles. Having taken that approach, we do not consider there is additional need to increase our assessment of efficient costs further, to the detriment of consumers. Note that wherever we set a single allowance, suppliers that have installed more meters will be *relatively* worse off compared with suppliers that have installed fewer meters and incurred lower costs.

Early progress supporting government objectives

4.73. One supplier said that early rollout supported the objectives of the government and Ofgem, and so penalising suppliers who rolled out smart meters earlier would be unfair.

4.74. The smart meter rollout is a government objective, as it brings benefits to customers. As explained above, we have set our benchmark for efficient costs at the average level, rather than frontier or lower quartile costs (as we do for operating costs in general). In aggregate, than means we make no downward adjustment for efficiency. This mitigates the impact on suppliers with higher costs, recognising that efficient costs vary and that we seek to support the rollout generally. However, as we specify in Chapter 2, we do not seek to support the rollout *at any cost;* that would erode its benefit for customers and be counterproductive.

4.75. All suppliers must meet their licence obligations to rollout smart meters and in doing so, make strategic decisions as they see fit. Early rollout supported government objectives. Some suppliers may have considered it delivered strategic benefits (relative to a later rollout), and installed meters at faster rate than other compliant suppliers did. For example, installing smart meters may allow a supplier to offer new propositions to customers and access benefits sooner. As stated above, a competitive market would not provide additional support to early adopters. We do not consider that the market, or the cap in this context, 'penalises' early adopters for those decisions, and neither would be expected provide additional funding for early progress.[43]

4.76. Furthermore, suppliers with early progress have a proportion of their life time rollout costs in the period of time before the price cap protected customers (prior to 1 January 2019) and before the period from which we propose not to double count the net impact of meters that were intended to be installed, but delayed until later periods. On that basis, suppliers with early rollout would have collected the additional costs in those periods, unconstrained by either market forces or the cap.

[43] See paragraphs 4.69 to 4.70.

5. Reviewing net impact of the smart meter rollout

Section summary

We summarise the key cost and benefit areas, and explain the main changes since our October 2019 consultation. (We provide further detail in the accompanying technical annex).

Question: Do you agree with our review of efficient costs and its underlying methodology?

Note that as a matter of style, we do not ask specific questions at each stage. We expect stakeholders to consider our proposals, reasons for them, and methodology, and provide representations explaining if and why they disagree.

5.1. We conduct our review of the SMNCC allowance in two steps:

- a review of the efficient net smart metering costs to suppliers of the rollout in each calendar year, which we discuss in this chapter; and
- an assessment of the appropriate level to set the SMNCC allowance in each (potential) cap period, which we discuss in Chapter 6.

Summary of our proposals

5.2. We have assessed the net impact of the smart meter rollout on the efficient operating costs for a supplier with an average rollout profile for each year between 2017 and 2023 (Table 5.1 and Table 5.2 below). On average, replacing traditional credit meters with smart meters is a net cost to suppliers in each year between 2017 and 2023. Suppliers incur costs purchasing and installing smart meters. These costs increase as they install more meters. Suppliers avoid the cost of purchasing and installing new traditional meters that they otherwise would have installed when the previous meter expired. That reduction in their efficient operating costs increases over time. In addition, suppliers incur operating benefits and incur fixed IT and programme management costs.

5.3. In light of suppliers' comments on our October 2019 proposals we have made further enquiries and adjusted our assessment of smart metering costs in several areas. We

have made the following significant changes since our October 2019 consultation, all of which increase net costs on a like-for-like rollout comparison. These are:

- an additional year of ASR data on suppliers' installation and asset costs;
- increasing installation and asset costs in the light of supplier's evidence on their meter rental charges;
- removing a large fraction of the debt handling benefit, as we no longer assume that suppliers implement more frequent billing for their standard credit customers;
- replacing the assumption for suppliers' operating and maintenance costs with new information we gathered from suppliers; and
- the accumulation of multiple changes that are minor individually, but significant collectively.

5.4. We have made four significant changes which decrease net costs on a like-for-like rollout comparison:

- increasing installation and asset costs for certain traditional meters in light of evidence on meter rental charges (i.e. increasing the benefit for avoided new traditional meter installations);
- removing an unnecessary adjustment we made in the October 2019 consultation to IT costs in 2017 to account for uncertainty in suppliers' amortisation policies;
- replacing our estimate of suppliers' IT operating costs with new information we gathered from suppliers; and
- accounting for the fact that removing a meter prematurely is not just an immediate cost, but also avoids having to pay rental charges in future years on those replaced meters.

5.5. As discussed in Chapter 4, we also use a lower rollout profile. This reduces our assessment of net costs.

5.6. In our technical annex we set out our approach for each cost and benefit category. We also consider suppliers' responses to our October 2019 consultation and explain how we have taken these into account when formulating our proposals.

Our analytic approach

5.7. We have taken the following approach to our review of the net impact of the smart meter rollout on the efficient operating costs of a supplier with an average rollout profile (which we term, for the remainder of this document, as "efficient net costs"):

- we use the 2019 CBA as a starting point (see Chapter 2);
- we exclude or apportion costs and benefits not relevant to suppliers' efficient net costs of serving default tariff customers with credit meters;[44]
- we have reviewed cost and benefit categories in the 2019 CBA, and made modifications where this is more appropriate for our purpose (setting the SMNCC allowance);[45] and
- we use the average rollout profile up to 2019, project rollout for 2020 using an adjusted profile for the effects of COIVID-19, and project rollout for 2021 using the average installation rate between 2017 and 2019 (see Chapter 4).

5.8. Our technical annex provides much more detail on our overall approach, as well as on the specific design features we discuss below.

Assessment of efficient net costs

Overview

5.9. Table 5.1 shows a breakdown of cost and benefits in our review for electricity accounts, after modifications, and the change in those efficient net costs since 2017. Table 5.2 shows for the same information for gas accounts.

[44] We discuss the prepayment meter SMNCC allowance in a separate consultation document. This document is available on our website, and we welcome feedback from stakeholders.
[45] These modifications do not mean that the assumptions in the 2019 CBA are inappropriate for its purpose, which differs from the purpose of our review.

Table 5.1: Change in efficient net smart metering costs to suppliers (£ per electricity account) [1][2]

Cost and benefit categories	2017	2018	2019	2020	2021	2022	2023
In-premises: installation and asset net costs (including PRCs)	6.06	8.59	9.49	14.51	10.39	11.17	12.36
Other costs[3]	2.84	3.57	3.96	3.55	3.42	3.51	3.71
Operating benefits	-0.88	-1.47	-2.05	-2.46	-3.01	-3.79	-4.46
Total efficient net costs excluding IT	**8.02**	**10.68**	**11.40**	**15.60**	**10.80**	**10.89**	**11.61**
Change in total efficient net costs excluding IT		2.67	3.38	7.58	2.78	2.87	3.59
Change in IT costs		0.12	0.52	-0.08	-0.55	-1.32	-1.93
Change in efficient net operating costs	**0.00**	**2.79**	**3.90**	**7.50**	**2.23**	**1.55**	**1.66**
Single notional rollout[4]	20%	30%	38%	41%	50%	59%	68%

Notes:

(1) Costs and benefits are in 2011 prices, as per the 2019 CBA.

(2) The 2019 CBA estimates the solely additional costs for rolling out smart meters (ie costs that suppliers incur over and above the costs that they would have incurred in a world without the smart meter rollout). Isolating the additional costs of IT investment is particularly challenging. Our analysis is less sensitive to the allocation between counterfactual and additional IT costs, because the total combined costs are included in the operating cost allowance. For that reason we track the change in IT costs.

(3) "Other costs" include operating and maintenance costs, communication hub operating costs and amortised costs (SMETS1), legal and organisational costs, marketing costs, pavement reading inefficiency costs, and disposal.

(4) The rollout profile shows the collective progress of suppliers at year end.

Table 5.2: Change in net smart metering costs to suppliers (£ per gas account) [1][2]

Cost and benefit categories	2017	2018	2019	2020	2021	2022	2023
In-premises: installation and asset costs (including PRCs)	6.96	7.80	8.79	4.04	7.18	6.78	6.94
Other costs[3]	2.68	3.31	3.70	3.25	3.07	3.12	3.28
Operating benefits	-0.75	-1.27	-1.78	-2.15	-2.62	-3.28	-3.86
Total efficient net costs excluding IT	**8.89**	**9.84**	**10.70**	**5.14**	**7.63**	**6.62**	**6.36**
Change in efficient net costs excluding IT		0.95	1.81	-3.75	-1.26	-2.27	-2.53
Change in IT costs		0.12	0.52	-0.08	-0.55	-1.32	-1.93
Change in efficient net operating costs	**0.00**	**1.07**	**2.33**	**-3.83**	**-1.81**	**-3.60**	**-4.47**
Single notional rollout[4]	18%	26%	36%	38%	47%	55%	63%

Notes:

(1) Costs and benefits are in 2011 prices, as per the 2019 CBA.

(2) The CBA estimates the solely additional costs for rolling out smart meters (ie costs that suppliers incur over and above the costs that they would have incurred in a world without the smart meter rollout). Isolating the additional costs of IT investment is particularly challenging. Our analysis is less sensitive to the allocation between counterfactual and additional IT costs, because the total combined costs are included in the operating cost allowance. For that reason we track the change in IT costs.

(3) "Other costs" include operating and maintenance costs, communication hub operating costs and amortised costs (SMETS1), legal and organisational costs, marketing costs, pavement reading inefficiency costs, and disposal.

(4) The rollout profile shows the collective progress of suppliers at year end.

In-premises costs

5.10. In-premises costs have a net impact on suppliers' operating costs. Table 5.3 shows the following key points.

- Suppliers incur gross costs purchasing and installing smart meter assets. These costs largely increase in proportion to suppliers' cumulative progress installing smart meters (though In-Home Display costs depend on the number of installations in that year). Each year, suppliers install new assets, and continue to pay rental charges on the smart meters they installed in previous years.

- Suppliers avoid the cost of replacing expired traditional meters with new traditional meters, because they install smart meters instead. Each year, suppliers would have purchased and installed a certain number of traditional meters to replace meters that expired that year. Due to the smart meter rollout, suppliers avoid the costs of replacing traditional meters. The avoided cost builds up over time in line with the cumulative number of traditional meters that suppliers would have needed to install. The larger benefits in later years also reflect that suppliers were still installing some traditional meters in 2017, the year of the operating cost benchmark.

- Suppliers incur charges for replacing traditional meters prematurely. In the year of replacement they pay the remaining cost of the prematurely replaced meter. In subsequent years, they have the benefit of no longer paying rent included in our operating cost allowance baseline.

Table 5.3: The net impact of replacing traditional credit gas meters on in-premises costs (£ per gas account)

Allowance	2017	2018	2019	2020
Smart meter asset and installation costs (including IHDs)	6.22	9.03	11.55	11.20
Avoided costs of new traditional asset and installation costs	-2.13	-2.87	-3.61	-4.47
Premature replacement charges for traditional meters	5.04	4.78	5.00	1.00
Avoided rent on traditional meters prematurely replaced in previous years	-1.47	-2.37	-3.29	-3.28
Total	**7.66**	**8.57**	**9.65**	**4.45**

Notes: Values in 2017 prices. Installation costs do not include the special adjustment for sunk costs in 2020. Does not include SMETS1 communications hub capital expenditure.

5.11. The net impact of avoiding new traditional meter installations depends on the asset's life. This is because the asset life affects the proportion of traditional meters that need to be replaced each year. In line with the 2019 CBA, we assume that traditional meters last 20 years, which mean suppliers would have typically replaced 5% of their traditional meters each year. If asset lives are longer, then fewer meters would have been replaced each year (in the absence of smart meter rollout), and the actual benefit will be lower. We consider the average case – clearly circumstances differ for individual suppliers. In choosing to maintain the 2019 CBA assumption in relation to traditional credit meters, we have considered supplier data on the distribution of meter asset ages (as of 2018). The average asset life in the data appears somewhat older than the average value implied by the 2019 CBA assumption. This reflects that: a) traditional meter installs are fewer in recent years due to the smart meter rollout, skewing the average age upwards, and b) there are some meters which are much older than the assumed life, skewing the average age upwards.

5.12. The majority of costs relate to the net impact on operating costs of replacing traditional credit meters with smart meters. At a high level, these are the net costs of: installing the meters, paying for the meters and other assets, and paying off any remaining costs for the meters replaced early (PRCs). Each of these categories are net costs, because suppliers benefit from: avoiding the costs of installing and purchasing new traditional meters they would have otherwise installed (in a counterfactual without smart metering), and avoiding the rent on meters they have paid PRCs for in previous years.

Table 5.4: In-premises costs - electricity (£ per account)

	2017	2018	2019	2020	2021	2022	2023
Net installation cost	2.28	4.06	5.18	11.78	6.43	7.42	8.38
Net asset costs	3.03	4.07	4.67	3.96	4.96	5.40	5.87
PRCs, including avoiding rent	1.31	1.29	0.61	-0.34	-0.13	-0.84	-1.10
Total net in-premises costs	**6.62**	**9.42**	**10.46**	**15.40**	**11.25**	**11.97**	**13.15**

Notes: All figures in 2011 prices. Installation and asset costs do not include PRCs.

Table 5.5: In-premises costs - gas (£ per account)

Cost and benefit categories	2017	2018	2019	2020	2021	2022	2023
Net installation cost	1.10	2.11	3.13	8.83	3.55	4.10	4.65
Net asset costs	2.99	3.93	4.61	3.80	4.77	5.19	5.63
PRCs, including avoid rent	3.43	2.59	2.00	-1.80	-0.27	-1.70	-2.54
Total net in-premises costs	**7.52**	**8.63**	**9.75**	**10.84**	**8.05**	**7.59**	**7.73**

Notes: All figures in 2011 prices. Installation and asset costs do not include PRCs.

Net installation costs

5.13. Net installation costs consist of two sets of costs.

- **Smart meter installation costs:** These are the costs of paying for staff to install smart meters in customers' homes, providing them with the equipment they need (e.g. vans), and organising back-office support. We do not immediately recognise these costs in our review. These costs are capitalised and amortised (spread) over the life of the assets being installed.

- **Avoided costs of installing new traditional meters:** Each year suppliers would have incurred costs installing new traditional meters to replace meters that have expired.[46] Due to the smart meter rollout, suppliers do not need to install as many new traditional meters, if any, so they avoid the cost of doing so.[47]

[46] The annual cost of the expired meter was accounted for in the operating cost allowance and is no longer incurred. Prior to the smart meter rollout, a supplier would have incurred costs replacing that expired meter with a new traditional meter. It no longer incurs those replacement costs, due to the smart meter rollout. Suppliers would have incurred some traditional meter installation costs in 2017, given that their smart metering programmes were (generally) only in the process of ramping up. This means that some traditional meter installation costs would be reflected in the 2017 operating cost benchmark.

[47] Suppliers do not avoid installing new traditional meters entirely. In some cases during the rollout a supplier cannot install a smart meter when a traditional meter expires. In that case it would install a new traditional meter. However, the number of new traditional meters installed is much less than it would have been without the smart meter rollout. Suppliers are now subject to a New and Replacement Obligation. This requires them to take all reasonable steps to install a compliant smart meter when replacing a meter or installing one in new premises.

5.14. For years up to and including 2019, we use actual costs from the ASRs. These are the average costs per successful installation, and therefore include the cost impact where suppliers have installed fewer meters than expected but have not scaled their total costs down accordingly ('sunk costs').

5.15. For future years, we project costs forward from 2019 using an assumption based on historical productivity. For both historical and future periods, we then amortise costs and recover them over a number of years. We now apply a meter rental uplift in certain cases[48] to reflect any significant differences between this bottom-up approach (which reflects the true economic costs of the installation costs) and the data we collected on suppliers' meter rental payments (i.e. the amounts they actually pay).

5.16. Table 5.6 shows installation costs for electricity. Table 5.7 provides the equivalent information for gas.

Table 5.6 – Net installation costs – electricity (£ per account)

Installation category	2017	2018	2019	2020	2021	2022	2023
Installation costs for smart meters	2.95	4.96	6.31	13.18	8.10	9.35	10.58
Avoided costs for installing traditional meters	-0.67	-0.90	-1.13	-1.40	-1.67	-1.93	-2.20
Net installation costs	**2.28**	**4.06**	**5.18**	**11.78**	**6.43**	**7.42**	**8.38**
Rollout	20%	30%	38%	41%	50%	59%	68%
Productivity (meters installed per installer per day)	3.4	3.0	2.8	3.1	3.1	3.1	3.1
Source	Actuals	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast

Notes: All figures in 2011 prices. Installation costs for smart meters include sunk installation costs in 2020. Does not include PRCs.

[48] We apply an uplift to SMETS1 meters and traditional gas meters. Based on our review of suppliers' data, we do not apply uplifts to SMETS2 meters and traditional electricity meters.

Table 5.7 – Net installation costs – gas (£ per account)

Installation category	2017	2018	2019	2020	2021	2022	2023
Installation costs for smart meters	2.58	4.11	5.64	11.95	7.25	8.40	9.52
Avoided costs for installing traditional meters	-1.48	-2.00	-2.51	-3.11	-3.71	-4.30	-4.87
Net installation costs	**1.10**	**2.11**	**3.13**	**8.83**	**3.55**	**4.10**	**4.65**
Rollout	18%	26%	36%	38%	47%	55%	63%
Productivity (meters installed per installer per day)	3.4	3.0	2.8	3.1	3.1	3.1	3.1
Source	Actuals	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast

Notes: See Table 5.6.

Net asset costs

5.17. Net asset costs consist of:

- **Smart meter costs:** Suppliers have to pay the cost of the smart meter. We use supplier data from the ASRs. We amortise these costs to spread them over the average smart meter rental period.

- **Communication hubs:** Communications hubs send information from a smart meter to suppliers (via other organisations, such as the DCC). The cost of communications hubs for SMETS2 meters are recovered in DCC charges. (SMETS stands for Smart Metering Equipment Technical Specifications). These are included in the pass-through SMNCC allowance and therefore we do not include them in our review. We include the cost of SMETS1 communications hubs from the ASRs, and amortise the costs in the same way as for smart meters. We include these costs here because they are not included in the pass-through SMNCC allowance.

- **In-Home Displays (IHDs):** Suppliers install IHDs which display information to customers about their energy use. We base the calculation on supplier data from the ASRs, and include a downward adjustment to reflect that several suppliers have purchased IHDs with enhanced functionality above the SMETS requirements

at an additional cost. We expense these costs in the year of installation (rather than amortising them).

- **Avoided costs of traditional meters:** As with installation costs, suppliers avoid having to pay for new traditional meters that they would have needed in the counterfactual.[49] We maintain the 2019 CBA assumptions for these costs.

5.18. See our technical annex for more detail and consideration of supplier's views.

5.19. Table 5.8 shows a breakdown of suppliers' net asset costs for electricity. Table 5.9 shows the equivalent information for gas.

Table 5.8: Net asset costs – electricity (£ per account)

Asset category	2017	2018	2019	2020	2021	2022	2023
Smart meters	1.60	2.50	3.13	2.98	3.44	3.87	4.29
Communication hubs	0.55	0.80	0.92	0.86	0.85	0.83	0.83
IHDs	0.97	0.89	0.76	0.30	0.87	0.94	1.02
Avoided traditional meter costs	-0.08	-0.11	-0.14	-0.17	-0.20	-0.24	-0.27
Net asset costs	**3.03**	**4.07**	**4.67**	**3.96**	**4.96**	**5.40**	**5.87**
Rollout	20%	30%	38%	41%	50%	59%	68%
Source	Actuals	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast

Notes: All figures in 2011 prices. Does not include PRCs.

[49] Suppliers do not avoid purchasing new traditional assets entirely. In some cases during the rollout a supplier cannot install a smart meter when a traditional meter expires. In that case it would install a new traditional meter. However, the number of installations of new traditional meters is much less than it would have been without the smart meter rollout. Suppliers are now subject to a New and Replacement Obligation. This requires them to take all reasonable steps to install a compliant smart meter when replacing a meter or installing one in new premises.

Table 5.9: Net asset costs – gas (£ per account)

Asset category	2017	2018	2019	2020	2021	2022	2023
Smart meters	1.94	2.87	3.70	3.59	4.18	4.73	5.26
Communication hubs	0.55	0.80	0.92	0.86	0.85	0.83	0.83
IHDs	0.97	0.89	0.76	0.30	0.87	0.94	1.02
Avoided traditional meter costs	-0.46	-0.62	-0.77	-0.95	-1.13	-1.31	-1.48
Net asset costs	**2.99**	**3.93**	**4.61**	**3.80**	**4.77**	**5.19**	**5.63**
Rollout	18%	26%	36%	38%	47%	55%	63%
Source	Actuals	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast

Notes: All figures in 2011 prices. Does not include PRCs.

Premature replacement charges

5.20. Suppliers incur a charge for replacing a meter before the cost of that meter has been paid off – a PRC. The level of the PRC depends on a number of factors including the contract with the meter owner and (in particular) the age of the meter. Generally, the PRC a supplier faces decreases as the meter ages.

5.21. PRCs could apply for replacing traditional, SMETS1, or SMETS2 meters. Tables 5.10 and 5.11 show the costs of PRCs for electricity and gas respectively.

5.22. We propose to include PRCs for traditional meters. We propose to model PRCs using the distribution of traditional meter asset lives, based on a previous RFI from 2019. We assume that the age of the meters replaced reflects the age of the population of meters. We assume that the PRC decreases linearly over a 15-year period. We use the same meter asset and installation costs as for the traditional meter costs above (based on 2019 CBA data, with a meter rental uplift applied where relevant). However, we do not include financing costs within the amount to be recovered through the PRC.

5.23. We propose to include PRCs for SMETS1 meters. We model the age profile of SMETS1 meters using the number of installations from the SMNCC model. Again, we assume that the age of the meters replaced reflects the population. We assume that the PRC

decreases over a 12-year rental period, based on a previous RFI. We use the same meter, communications hub and installation costs as discussed above. (As for traditional meters, we do not include financing costs within the amount to be recovered through the PRC). The number of SMETS1 meters replaced is a combination of assumptions from BEIS about the proportion of SMETS1 meters that will fail enrolment with the DCC, data we collected about the proportion of SMETS1 meters replaced historically for other reasons, and assumptions about how that proportion replaced for other reasons will evolve in future.

5.24. Once a supplier pays the PRC, it pays no rent in subsequent years for the meter it removed. For both traditional and SMETS1 meters, we propose to include the offsetting asset and installation costs that a supplier avoids in future years after replacing a meter early. We calculate this by looking at the annual charges that a supplier would have faced in future years (including financing costs and, where relevant, a meter rental uplift).

5.25. We do not propose to include PRCs for SMETS2 meters. This reflects that very few SMETS2 meters should be replaced prematurely.

5.26. Table 5.10 shows the electricity PRCs in each year for a supplier with average rollout. Table 5.11 shows the equivalent information for gas.

Table 5.10 – PRCs – electricity (£ per account)

	2017	2018	2019	2020	2021	2022	2023
Traditional meters	1.66	1.66	1.14	0.28	0.89	0.72	0.58
SMETS1 meters	0.19	0.57	0.70	0.72	0.56	0.13	0.06
PRCs (gross)	**1.85**	**2.23**	**1.85**	**1.00**	**1.45**	**0.85**	**0.63**
Traditional rent avoided	0.52	0.81	1.00	0.99	1.13	1.21	1.23
SMETS1 rent avoided	0.03	0.12	0.23	0.36	0.46	0.49	0.50
Total rent avoided	**0.54**	**0.93**	**1.24**	**1.34**	**1.59**	**1.69**	**1.73**
Net PRCs	**1.31**	**1.29**	**0.61**	**-0.34**	**-0.13**	**-0.84**	**-1.10**
Rollout	20%	30%	38%	41%	50%	59%	68%
Source	Actuals	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast

Notes: All figures in 2011 prices.

Table 5.11 – PRCs – gas (£ per account)

PRC category	2017	2018	2019	2020	2021	2022	2023
Traditional meters	4.59	4.35	4.55	0.91	3.16	2.72	2.35
SMETS1 meters	0.21	0.49	0.66	0.59	0.57	0.15	0.07
PRCs (gross)	**4.79**	**4.85**	**5.21**	**1.50**	**3.73**	**2.87**	**2.42**
Traditional rent avoided	1.34	2.15	2.99	2.98	3.58	4.12	4.51
SMETS1 rent avoided	0.03	0.11	0.22	0.31	0.42	0.45	0.46
Total rent avoided	**1.37**	**2.26**	**3.21**	**3.29**	**4.00**	**4.57**	**4.97**
Net PRCs	**3.43**	**2.59**	**2.00**	**-1.80**	**-0.27**	**-1.70**	**-2.54**
Rollout	18%	26%	36%	38%	47%	55%	63%
Source	Actuals	Actuals	Actuals	Forecast	Forecast	Forecast	Forecast

Notes: All figures in 2011 prices.

IT costs

5.27. We expect suppliers to incur additional IT costs related to the smart meter rollout, over and above the expenditure they would have incurred without the smart meter rollout. We recognise three groups of IT system costs (Table 5.12):

- amortised investment in hardware and software, excluding enrolment;
- amortised investment in enrolment costs (the costs suppliers are expected to incur to enrol SMETS1 meters in the DCC);
- ongoing operating expenditure.

Table 5.12 – IT costs (£m)

IT category	2017	2018	2019	2020	2021	2022	2023
Trend in amortised hardware and software, excluding enrolment	204	216	206	179	146	105	72
Trend in amortised investment in enrolment costs	0	0	30	30	39	39	39
Trend in on-going operating costs	26	21	23	19	14	10	7
Trend in IT costs	**230**	**236**	**259**	**227**	**199**	**155**	**119**

Notes: All figures in 2011 prices.

Amortising IT capital expenditure

5.28. We base our assessment of amortised IT costs on the change in suppliers' average amortised smart metering related IT charge since 2017. We calculate that change by:

- calculating the smart metering related IT capital expenditure costs from data provided by suppliers in an RFI;
- amortising these costs over five years, starting in the year after the capital expenditure occurred.

5.29. We are concerned that the reported smart metering related IT costs do not reflect the genuinely *additional* smart metering related IT costs. (In other words, IT costs that would have occurred anyway are reported as related to smart metering). This scope of the figures provided is understandable. As suppliers integrate smart meters, that will have an effect on IT systems that would have required investment in any case. For their own internal purposes, suppliers may see this investment as related to smart metering. However, we are only interested in the additional spending beyond the costs suppliers would have incurred in a counterfactual without smart metering. This is unavoidably difficult to disentangle.

5.30. However, for our purposes, we are interested in the *trend* in additional amortised costs related to smart meters, not the absolute level of expense. We use this approach to reflect the change in efficient IT costs in a reasonable and conservative way. We recognise that not all suppliers may have seen the same decrease in smart meter IT

investment in recent years – but our figures reflect the overall pattern, based on actual data across suppliers. See our technical annex for further detail.

5.31. In the years after our historical data stops (from 2019[50] inclusive), we project a 33% year on year decrease in smart meter IT investment. This reflects our assessment of information provided by suppliers.

Amortising DCC enrolment and adoption costs

5.32. The 2019 CBA provides additional funding for the costs suppliers are expected to incur to enrol SMETS1 meters in the DCC.[51]

5.33. We propose to use the capital costs in the 2019 CBA, and amortise them using the approach we discuss above. The amortisation period starts in 2019, which is when suppliers began enrolling SMETS1 meters with the DCC.

IT operating costs

5.34. Suppliers incur IT operating expenditure in order to maintain their IT systems relating to smart metering.

5.35. At a high level, we assess IT operating costs by:

- for historical years (up to and including 2019[52]), using the weighted average costs in suppliers' data on IT operating expenditure; and
- for 2020 and onwards, we assume a 25% year-on-year decrease in smart metering IT operating expenditure, following consideration of suppliers' descriptions of how these costs might change in future.

[50] For IT capital expenditure, our historical data runs up to 2018 only.
[51] BEIS (2019), Smart meter roll-out: cost-benefit analysis 2019, pages 28-29: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/831716/smart-meter-roll-out-cost-benefit-analysis-2019.pdf
[52] Our IT operating expenditure data comes from a separate RFI compared to our IT capital expenditure data, and covers a different period.

Other costs

5.36. There are other cost categories beyond installation costs, asset costs and IT costs. The technical annex provides information about the costs we have amended or where we received feedback in response to previous consultations.

Assessment of efficient benefits

Overview

5.37. Smart meters save suppliers money in some areas. In this section we summarise the benefit categories in our SMNCC model.

5.38. Table 5.13 shows our assessment of benefits in each category for electricity. Table 5.14 shows our assessment of benefits in each category for gas.

Table 5.13 – Supplier benefits from smart metering - electricity (£ per account)

	2017	2018	2019	2020	2021	2022	2023
Avoided site visits	0.46	0.75	1.02	1.17	1.31	1.53	1.73
Customer switching	0.00	0.01	0.04	0.11	0.25	0.38	0.45
Inbound customer calls	0.23	0.40	0.59	0.72	0.86	1.13	1.41
Debt handling	0.05	0.07	0.10	0.11	0.15	0.20	0.23
Reduced theft	0.06	0.11	0.14	0.16	0.19	0.22	0.26
Remote Change of Tariff	0.08	0.13	0.17	0.19	0.25	0.33	0.38
Operational benefits	**0.88**	**1.47**	**2.05**	**2.46**	**3.01**	**3.79**	**4.46**

Notes: All figures in 2011 prices.

Table 5.14 – Supplier benefits from smart metering - gas (£ per account)

	2017	2018	2019	2020	2021	2022	2023
Avoided site visits	0.46	0.75	1.02	1.17	1.31	1.53	1.73
Customer switching	0.00	0.01	0.04	0.11	0.23	0.35	0.42
Inbound customer calls	0.20	0.36	0.52	0.66	0.81	1.06	1.32
Debt handling	0.04	0.06	0.09	0.10	0.13	0.17	0.20
Reduced theft	0.05	0.09	0.11	0.11	0.14	0.17	0.19
Remote Change of Tariff	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operational benefits	**0.75**	**1.27**	**1.78**	**2.15**	**2.62**	**3.28**	**3.86**

Notes: All figures in 2011 prices.

Avoided site visits

5.39. Smart meters can provide remote meter readings. Suppliers will avoid the cost of sending meter reading operatives to properties in order to read traditional meters.

5.40. We propose to calculate both the number of avoided meter reading visits and the cost of these visits using ASR data.

Customer switching

5.41. Smart meters will deliver benefits when customers switch suppliers.

5.42. We propose only to include a benefit from smart metering reducing the cost of obtaining a change of supplier meter reading. This is based on ASR data for the cost of a change of supplier meter reading. We propose to include this for enrolled SMETS1 and all SMETS2 meters only.

Inbound customer calls

5.43. Smart meters provide suppliers with accurate billing information. This should reduce the need for customers to contact their suppliers to discuss errors.

5.44. In summary, based on ASR data, we assume that customers with a smart meter will call less often. However, for the first year after a smart meter installation, we assume this is partly offset by an increase in the cost per call, compared to a customer with a traditional meter.

Debt handling

5.45. Smart meters provide suppliers with more frequent, accurate consumption information. This allows them to reduce the costs of handling bad debt and payment in arrears (administrative costs and financing costs, such as working capital).

5.46. We propose to include a benefit from earlier identification of debt issues (and the consequential benefits in other areas). This uses part of the methodology from the 2019 CBA.

Reduced theft

5.47. By providing suppliers with more information about consumption, smart meters can help them detect and resolve energy theft.

5.48. In line with our approach in the October 2019 consultation, we propose to maintain the 2019 CBA's benefit for the reduction in the cost to suppliers of dealing with theft. We do not propose to include the full benefit to suppliers of reduced theft overall.

Remote Change of Tariff

5.49. For traditional meters, suppliers must visit a customer to switch them from a single rate tariff to a multiple rate tariff (e.g. standard to Economy 7) or vice versa. For smart meters, suppliers can do this remotely, saving them money.

5.50. We propose to include this benefit, which is based on ASR data. We propose to allocate the total benefit across electricity meters only.

Significant changes since our October 2019 proposal

5.51. Our October 2019 consultation used the 2019 CBA rollout profile. As explained in Chapter 4, we now propose to use a different profile, which affects the cost assessment.

5.52. As well as rollout, we have made a significant number of changes. This makes direct comparison with the October 2019 model hard. At a very high level, we have made three main changes which reduce our assessment of efficient net costs. These are: reducing rollout, removing the IT cost adjustment we made in October 2019 (to cover uncertainty about whether suppliers had amortised IT costs), and accounting for the avoided rental costs in subsequent years after incurring a PRC.

5.53. The largest single change that we have made which increases our assessment of net costs is (for 2020) to include a special adjustment for sunk costs due to COVID-19. We have also made a number of other changes which collectively tend to increase our assessment of net costs.

5.54. The principal changes (aside from rollout), which we explain in more detail below, are:

- an additional year of ASR data on suppliers' installation and asset costs;
- increasing installation and asset costs in the light of suppliers' evidence on their meter rental charges;
- including a special adjustment for sunk costs in 2020 to account for the impact of COVID-19;
- accounting for the fact that removing a meter prematurely is not just an immediate cost, but also avoids having to pay for asset and installation costs in future years;
- removing the IT cost adjustment we made in October 2019 (to cover uncertainty about how suppliers had amortised costs);
- replacing our estimate of suppliers' IT operating costs with new information we gathered from suppliers;
- removing a large fraction of the debt handling benefit, as we no longer assume that suppliers implement more frequent billing for their standard credit customers;
- replacing the assumption for suppliers' operating and maintenance costs with new information we gathered from suppliers; and

- the accumulation of multiple changes that are minor individually, but significant collectively.

New ASR data

5.55. Suppliers provide ASR data each year to BEIS. This reflects their costs for the previous year in a number of areas. The 2019 CBA used the ASR data available at the time (i.e. up to 2018) to calculate a number of costs and benefits. We are now able to include 2019 ASR data in our analysis – either by amending the 2019 value (where we use a profile of costs), or by updating the input assumption (where we use a single value).

5.56. Overall, the general impact of using ASR data was to increase our assessment of net costs. The main impact is on the cost of installations – the actual cost from the 2019 ASRs was higher than previously forecast. This affects both 2019 and also our projection of installation costs for future years. Asset costs changed to a smaller degree, and whether costs increased or decreased depends on the asset in question. Some benefits decreased as a result of using ASR data.

Meter rental charges

5.57. In line with the 2019 CBA, the October 2019 SMNCC model estimated installation and asset costs on a bottom-up basis. Following feedback from suppliers, we gathered data on the meter rental charges they pay (i.e. a top-down approach).

5.58. We compared the approaches. In some cases the meter rental data validated the bottom-up analysis, but in other cases it was significantly higher. We now apply a meter rental uplift to installation, meter asset and SMETS1 communications hub costs for certain meter types. As a consequence, this also affects our calculation of PRCs.

5.59. Where we have applied a meter rental uplift, this generally increases the net costs suppliers incur in the earlier years of the cap.

5.60. For traditional gas meters, we apply an uplift in both the policy scenario and the counterfactual. Where we apply an uplift in the counterfactual, this reduces net costs, as it increases the benefit of avoiding installing a traditional meter. This means that the net effect of the meter rental uplift is to reduce suppliers' costs in the later years of the cap (under our proposed rollout approach).

Sunk costs

5.61. As discussed in Chapter 4, we include a special allowance for sunk costs in 2020 due to COVID-19. This increases the installation costs suppliers incur.

Avoided costs after replacing a meter early

5.62. As in the October 2019 consultation, we propose to include PRCs. However, we now propose to account for the costs a supplier will avoid as a consequence in future years. (In contrast, the October 2019 consultation model continued to include asset and installation costs in future years based on the number of meters that had been previously installed, without taking account of the meters replaced prematurely).

5.63. In effect, the PRC covers the remaining asset and installation costs that a supplier would otherwise have had to pay off over time in future years. Including those costs in future years as well would therefore create double counting. The comparison is not exact, because the PRC does not cover financing costs.

Removing IT adjustment

5.64. As discussed in the IT costs section of this chapter, our October 2019 consultation included an adjustment to account for uncertainty about how the 2017 operating cost benchmark could have been affected by suppliers' amortisation policies. We have now gathered further information, and this adjustment is not required. This therefore reduces our assessment of suppliers' efficient net costs.

IT operating costs

5.65. As discussed above, suppliers incur IT operating costs. We propose to include IT operating expenditure from a separate 2020 RFI to suppliers. This is a change from our approach in the October 2019 consultation, where we proposed to set IT operating expenditure as 15% of the Net Book Value of the capital expenditure (which we had gathered through a 2019 RFI to suppliers).

5.66. The total level of IT operating costs is lower under our new approach than under our October 2019 consultation approach. (However, as in each case we assume that IT operating costs decline over time, this also increases the change in net costs since 2017. In other words, the absolute value of the cost decrease is smaller under our new approach).

More frequent billing element of debt handling

5.67. In the October 2019 consultation, we proposed to maintain the debt handling benefit calculated in the 2019 CBA. A key element of the total debt handling benefit in the 2019 CBA comes from moving standard credit customers from quarterly to monthly billing.

5.68. In response to the October 2019 consultation, suppliers told us that we should take the costs of more frequent billing into account. We gathered information in this area, and concluded that the costs were likely to exceed the benefits. We have therefore removed this element of the total debt handling benefit (while maintaining the other elements). Note that we do not recognise a cost. If more frequent billing genuinely increased a supplier's cost base, then it should not do it.

5.69. This reduces the debt handling benefit significantly. It therefore increases our assessment of the efficient net costs to suppliers.

Operating and maintenance costs

5.70. The 2019 CBA assumes an annual operating and maintenance (O&M) cost for smart meters of 2.5% of the meter purchase cost. These costs are associated with replacing equipment if found to be faulty. We proposed to maintain this assumption in the October 2019 consultation. After feedback from suppliers, we gathered data in this area. We have updated the assumption in light of this.

5.71. This increases the O&M cost, particularly for electricity smart meters. The consequence is an increase in our assessment of the efficient net costs to suppliers.

Accumulated minor changes

5.72. We have reviewed the extensive comments that suppliers made on the SMNCC model we disclosed alongside our October 2019 consultation. In many of those areas we have changed our approach, increasing our assessment of efficient net costs (all else being equal). We discuss each change in our technical annex.

5.73. We consider the changes conservative in aggregate. While we have little concern about the changes we have made, there is a clear risk of selection bias in the issues suppliers have raised for us to consider. Suppliers have little to no incentive to raise amendments that would reduce our assessment of their costs. Of the extensive

comments suppliers made in response to our October 2019 consultation, few identified where our assessment was higher than their costs.

6. Setting the allowance

Section summary

In this chapter we assess the appropriate level to set the SMNCC allowance in each potential cap period.

Question: Do you agree with how we propose to set the SMNCC allowance and its underlying methodology?

Note that as a matter of style, we do not ask specific questions at each stage. We expect stakeholders to consider our proposals, reasons for them, and methodology, and provide representations explaining if and why they disagree.

6.1. We conduct our review in two steps:

- a review of the efficient net costs to suppliers in each calendar year of the rollout, which we discuss in Chapter 5;
- an assessment of the appropriate level to set the SMNCC allowance in each (potential) cap period, which we discuss in this chapter.

Summary of our proposals

6.2. To set the SMNCC allowance, we propose the following approach:

- recognise the change relative to 2017 in our assessment of the efficient net costs for the smart meter rollout;
- allocate our estimate of the efficient net costs of smart metering in 2017 between (a) costs already included in the operating cost allowance and (b) costs we still need to recognise in the SMNCC allowance (this includes an adjustment for the impact of the stricter definition of the 'efficient benchmark' we used to assess total operating costs in 2017, and an adjustment for the difference between portfolio-wide costs and costs for replacing credit meters in isolation);
- consider whether an additional adjustment is required to account for the combined impact of uncertainty;

- convert our annual SMNCCs into values for six-monthly cap periods, and
- consider the impact of carry forward balances.

6.3. Tables 6.1 and 6.2 show the SMNCC allowance we propose for each cap period (before including carry forward balances), and the significance of the first two factors above.

Table 6.1: Proposed SMNCC allowance before including carry forward balances – electricity (£ per account)

Cap period[1]	Change in efficient net costs since 2017[2]	Adjustment for 2017 baseline[3]	Electricity non-pass-through SMNCC	Average rollout profile[4]
Jan 19 – Mar 19	4.42	1.59	6.02	32%
Apr 19 - Sep 19	4.42	1.59	6.02	36%
Oct 19 - Mar 20	6.53	1.61	8.14	39%
Apr 20 - Sep 20	8.64	1.62	10.27	41%
Oct 20 - Mar 21	5.63	1.63	7.26	43%
Apr 21 - Sep 21	2.61	1.65	4.26	48%
Oct 21 - Mar 22	2.23	1.66	3.89	52%
Apr 22 - Sep 22	1.85	1.68	3.52	57%
Oct 22 - Mar 23	1.93	1.70	3.63	61%
Apr 23 - Sep 23	2.02	1.72	3.74	65%
Oct 23 - Dec 23	2.02	1.72	3.74	68%

Notes:

(1) Cap period. The default tariff cap may end in December 2020, or it could be extended annually up to the end of 2023. We present non-pass through SMNCC values for each potential cap period.

(2) Change in suppliers' efficient net costs since 2017. Suppliers' operating costs in 2017, including those related to the smart meter rollout, are already allowed for in the operating cost allowance. The non-pass-through SMNCC allows for the change in the net costs of the smart meter rollout since 2017, excluding industry charges.

(3) Adjustment for 2017 baseline. We make an adjustment for the difference between the amount already included in the operating cost allowance for the net impact on operating costs of installing smart meters, and the cost of replacing traditional credit electricity meters under our proposed definition of efficiency.

(4) Single notional rollout profile. We set the SMNCC by reference to efficient costs using a single rollout profile reflecting suppliers' weighted average progress (in other words, their aggregate progress). We must set the same allowance for all suppliers. Suppliers will have different rollout profiles, so their cost profile will differ from the profile of the allowance. We do not expect suppliers' costs to match the allowance in each cap period.

(5) Prices. The prices above are in nominal terms.

Table 6.2: Proposed SMNCC allowance before including carry forward balances – gas (£ per account)

Cap period[1]	Change in efficient net costs since 2017[2]	Adjustment for 2017 baseline[3]	Gas non-pass through SMNCC	Average rollout profile[4]
Jan 19 – Mar 19	2.65	1.54	4.18	29%
Apr 19 - Sep 19	2.65	1.54	4.18	33%
Oct 19 - Mar 20	2.52	1.55	4.07	36%
Apr 20 - Sep 20	2.39	1.56	3.95	38%
Oct 20 - Mar 21	0.13	1.58	1.71	41%
Apr 21 - Sep 21	-2.12	1.59	-0.53	45%
Oct 21 - Mar 22	-3.21	1.60	-1.60	49%
Apr 22 - Sep 22	-4.29	1.62	-2.67	53%
Oct 22 - Mar 23	-4.87	1.64	-3.23	57%
Apr 23 - Sep 23	-5.45	1.66	-3.79	61%
Oct 23 - Dec 23	-5.45	1.66	-3.79	63%

Notes: see Table 6.1.

Change in efficient smart metering net costs

Our proposal

6.4. We must not double count the smart metering costs that we already account for in the operating cost allowance. The operating cost allowance in the cap already allows for the efficient level of *total* operating costs in 2017 (£167 for a dual fuel account in 2017 prices); those total costs include the net cost of rolling out smart meters in that year.[53]

6.5. We update the operating cost allowance in line with inflation. However, our assessment of smart metering costs shows that, initially, the rollout increases suppliers' operating costs at a faster rate than inflation, and then reduces them. We propose to recognise the change in our assessment of smart metering costs relative to 2017.[54]

Our approach

6.6. Calculating the change in efficient smart metering costs since 2017 is straightforward. To track the change, we propose to take the difference between our estimate of

[53] Ofgem (2018), Default tariff cap: decision – overview: Appendix 6 – Operating costs, Table A6.2. https://www.ofgem.gov.uk/publications-and-updates/default-tariff-cap-decision-overview

[54] For the avoidance of doubt, we are comparing the costs in 2017 with the costs that apply to a future year (eg 2020). We are not looking at the sum of all the annual costs between 2017 and that future year.

efficient smart metering net costs for 2017 and the relevant year, based on our review of costs in Chapter 5, Table 5.1 and Table 5.2). Table 6.3 shows the change in efficient costs since 2017 for electricity and gas accounts respectively.

Table 6.3: The change in efficient smart metering costs since 2017 (£ per account)

	2017	2018	2019	2020	2021	2022	2023
Electricity	0.00	3.11	4.42	1.26	2.61	1.85	2.02
Gas	0.00	1.20	2.65	-4.41	-2.12	-4.29	-5.45
Implied dual fuel	**0.00**	**4.31**	**7.07**	**-3.15**	**0.49**	**-2.44**	**-3.43**

Notes: Prices in nominal terms. These will not match Tables 5.1 and 5.2, which are in 2011 prices.

Summary of suppliers' views

6.7. We propose to maintain the approach we proposed in our October 2019 consultation. Most suppliers agreed with our approach (notwithstanding their comments on the accuracy of the estimated costs for each year).

6.8. In addition, one supplier said that we should take into account the reduction in average consumption, as reflected in the falling Typical Domestic Consumption Value (TDCV).[55] It said that, as part of the SMNCC allowance is recovered as a variable cost, and the net cost of smart metering generally does not change with consumption, then falling consumption will mean that suppliers will not recover the SMNCC allowance on average.

6.9. We do not propose to adjust for the reduction in the TDCV. Suppliers' cost recovery is driven by the average (mean) consumption of their customers. Suppliers will more than recover the SMNCC allowance where their average consumption is greater than the TDCV used to set the cap. Suppliers' mean consumption remains higher than the TDCV used to set the cap, even if this is to a slightly lesser degree than previously.[56]

[55] In January 2020, we published our decision to reduce the TDCV for single rate (profile class 1) electricity meters.
[56] Ofgem analysis.

Allocating efficient smart metering costs in 2017 between the SMNCC allowance and the operating cost allowance

Overview

6.10. Our assessment of the efficient net smart metering costs in 2017 is not the same as the proportion of the operating cost allowance that relates to the net impact of the smart meter rollout. We propose to adjust the SMNCC allowance to account for the difference (the 2017 baseline).

6.11. There are two reasons our assessment of efficient costs in 2017 differs from the costs we include in the operating cost allowance.

- **Our definitions of 'efficiency' differ in the two analyses.** We benchmark efficient smart metering costs to the average costs suppliers incur with an average rollout profile. To set the operating cost allowance we benchmarked suppliers' costs using a 'stricter methodology' (lower quartile), so we need to recognise the difference.

- **We assess the costs of replacing traditional credit meters only.** The operating cost allowance includes the weighted average cost of replacing all traditional meters, including prepayment meters. That weighted average cost is lower than the cost of replacing credit meters, so we need an uplift.

6.12. Table 6.4 shows the breakdown of the three issues considered and their impact on the proposed SMNCC allowance for each calendar year. This is before allocating into cap periods and considering advanced payments carried forward.

Table 6.4: Proposed SMNCC for calendar years, before considering advanced payment – electricity (£ per account)

	2017	2018	2019	2020	2021	2022	2023
Change in efficient costs	0.00	3.11	4.42	8.64	2.61	1.85	2.02
Adjustment for different definitions of 'efficient' benchmark	1.12	1.14	1.15	1.17	1.19	1.22	1.24
Adjustment for weighted average	0.43	0.43	0.44	0.45	0.45	0.46	0.47
Total	**1.55**	**4.68**	**6.02**	**10.27**	**4.26**	**3.52**	**3.74**

Notes: Nominal prices.

Table 6.5: Proposed SMNCC for calendar years, before considering advanced payment – gas (£ per account)

	2017	2018	2019	2020	2021	2022	2023
Change in efficient costs	0.00	1.20	2.65	2.39	-2.12	-4.29	-5.45
Adjustment for different definitions of 'efficient' benchmark	0.99	1.01	1.02	1.04	1.06	1.08	1.10
Adjustment for weighted average	0.50	0.51	0.52	0.53	0.53	0.54	0.56
Total	**1.49**	**2.71**	**4.18**	**3.95**	**-0.53**	**-2.67**	**-3.79**

Note: Nominal prices.

Adjusting for different 'efficient' benchmark definitions

Options

6.13. The amount included in the operating cost allowance that relates to smart metering is less than the amount we assessed as the efficient smart metering net costs for 2017. Essentially, our operating cost benchmark is less generous than we considered appropriate *for smart metering costs*, so we propose to 'top up' the SMNCC allowance to have regard to that difference.

6.14. In principle there are two ways we could top up the SMNCC allowance. Below we calculate the adjustment using both approaches.[57]

- **A 'stricter' assessment of efficient net costs:** Assess the net smart metering costs in 2017 using a 'stricter' approach that is closer to the spirit of our analysis of operating costs. We would then adjust the SMNCC allowance to account for the gap between our assessment of efficient smart metering costs in 2017 (average costs) and this stricter assessment.

- **Benchmark supplier method:** Estimate the actual smart metering costs in 2017 for the suppliers near our operating cost benchmark. We would then adjust the SMNCC allowance to account for the gap between our assessment of efficient

[57] The methods are not equally reliable. For example, we cannot accurately identify truly additional smart metering costs reliably (as opposed to reported smart metering costs). Therefore we only use the 'benchmark supplier method' to sense-check the results of the 'stricter' assessment of efficient net costs'.

smart metering costs in 2017 (average costs) and our estimate of benchmark suppliers' costs.

6.15. We consider how we would calculate the adjustment factor for each of the two approaches in two parts:

- smart metering net costs, excluding IT costs; and
- smart metering IT costs.

Smart metering net costs, excluding IT costs: the stricter efficiency assessment approach

6.16. For the 'stricter' assessment of efficient smart metering net costs excluding IT costs we use our proposed SMNCC model with the following key inputs.

- **Average rollout profile**. We propose to use the average rollout profile up to the end of 2017 (rather than a lower quartile of progress). The rollout profile is not a matter of efficiency. Lower quartile progress would simply mean that a supplier had installed fewer meters by the end of 2017.
- **Separate lower quartile benchmarks for installation and asset costs**. We calculate the lower quartile for each cost category within installation and asset costs separately. This means that we allow different suppliers to set the lower quartile benchmark for each category. This risks setting an unrealistically low set of benchmarks, as we may pick low costs that no single supplier could achieve at the same time. In our total operating cost analysis we compared suppliers' total costs to avoid cherry-picking.[58] This aspect of our 'stricter' assessment of smart metering costs is conservative, because it biases the lower quartile assessment downwards, which increases the upward adjustment to the SMNCC allowance.

[58] We also benchmark the total additional costs of serving standard credit costs, having proposed to benchmark each cost category separately (in the statutory consultation on the default tariff cap methodology for the Payment Method Uplift). We changed our approach in response to suppliers' feedback that separate benchmarks would bias the cost assessment downwards. Here, we benchmark smart metering costs separately to have a conservative effect on the SMNCC allowance. We are open to benchmarking total costs, and will consider whether suppliers' representations to this consultation are consistent with their previous views on operating costs and additional costs of serving standard credit customers.
Ofgem (2018), Default Tariff Cap: Decision Appendix 8 – Payment method uplift
https://www.ofgem.gov.uk/system/files/docs/2018/11/appendix_8_-_payment_method_uplift.pdf

- **Average benefits.** We maintain average benefits. This reflects the complexity of assessing benefits that are avoided costs. The suppliers with greater benefits (lower quartile) achieve greater cost reductions by avoiding the costs of managing customers with traditional meters. That would make the most 'efficient' suppliers with respect to these benefits the *most* costly suppliers with respect to the costs of managing traditional meters (as they would have the greatest scope for cost reductions). That makes it unlikely their total operating costs would be efficient in our analysis of costs in 2017.

6.17. Table 6.6 compares our standard assessment of efficient smart metering costs (i.e. average costs) and the 'stricter assessment'. It suggests that we should increase the SMNCC allowance by £1.12 for electricity and £0.99 for gas (£2.11 dual fuel). The 'stricter' assessment implies that £7.69 of the electricity operating cost allowance applies to smart metering costs excluding IT costs, and £8.78 for gas. (Note that these figures do not include the effect of calculating a SMNCC allowance specific to credit meters, as opposed to an operating cost allowance across all domestic meters).

Table 6.6: adjustment factor for the difference in definitions of 'efficient' benchmark, excluding IT costs (£ per account)

	Standard assessment	Stricter Assessment(1)	Adjustment factor, excluding IT costs
Electricity	8.81	7.69	1.12
Gas	9.77	8.78	0.99
Dual fuel	**18.59**	**16.48**	**2.11**

Notes:

(1) Effectively this estimates the element of the operating cost allowance that may relate to smart meters, excluding IT costs.
(2) In 2017 prices.

Smart metering net costs, excluding IT costs: the benchmark supplier approach

6.18. To sense-check this adjustment we also used the SMNCC model with supplier-specific input data for installation and asset costs from the ASR data and each supplier's actual rollout profile up to and including 2017 (the benchmark supplier method). This allows us to estimate the impact that installation and asset costs might have had on the selection of the operating cost benchmark itself, and whether suppliers near the lower

quartile had smart metering costs that could have distorted the selection of the benchmark.[59]

6.19. The two suppliers nearest the operating cost benchmark have similar total operating costs to each other after excluding their smart metering costs, and to our benchmark after excluding our standard assessment of efficient smart metering costs. Their net smart metering costs (excluding IT costs) in 2017 have not distorted our operating cost benchmark. If we stripped out their estimated smart metering costs (excluding IT costs) and replaced them with our *standard* assessment of efficient smart metering costs (excluding IT costs), then the operating cost benchmark would be equivalent (i.e. we should not change the operating costs at all, as the efficient smart metering costs are fully included in the operating cost allowance). This analysis suggests that using the 'stricter assessment' method described above is conservative by around £2 (on a dual fuel basis).

6.20. We do not propose to use this 'benchmark supplier' approach to set the SMNCC allowance. There is inherent uncertainty estimating the solely additional costs for individual suppliers and unnecessary difficulty in isolating the costs forensically. We propose to use the 'stricter efficiency assessment' approach. We do not propose to reduce or remove the adjustment factor calculated using this approach to recognise the conservatism identified above, but we consider this conservatism in our review of uncertainty.

Smart metering net costs, excluding IT costs: considering suppliers' views

6.21. One supplier told us that the supplier used for the 2017 operating cost benchmark was behind average rollout at this point. It said that this supplier would therefore see faster growth in smart metering costs in later periods, compared to the assumed average rollout profile.

[59] In our November 2018 decision we benchmarked suppliers' total operating costs. An alternative approach would have been to benchmark suppliers' operating costs excluding their solely additional smart metering costs. We decided that solely additional smart metering costs could not be reliably and robustly removed from suppliers' total operating costs, so we took a different approach. This sense-check allows us to approximate the alternative approach to assess uncertainty in the benchmark. Note that the operating cost benchmark is *not* a specific supplier (ie there is no implication that other suppliers should adopt the approach of another). We set the operating cost benchmark considering the costs and circumstances of the range of suppliers in the sample. See Ofgem (2018), Default tariff cap: decision – overview: Appendix 6 – Operating costs, paragraphs 3.1-11 and 3.15-24. https://www.ofgem.gov.uk/system/files/docs/2018/11/appendix_6_-_operating_costs.pdf

6.22. This mixes the two methods incorrectly. The *actual* benchmark suppliers had lower than average rollout. They also had above average net costs (before considering rollout). So their actual smart costs that are included in the operating cost allowance are equivalent to our assessment of the efficient smart metering costs for a supplier with an average rollout profile. We would not use the *actual* rollout profile and the *efficient (average)* costs to estimate the adjustment.[60] That cherry-picks from the two approaches.

6.23. One supplier said that we had not made the adjustment from lower quartile to average sufficiently comprehensively. It queried why we had only made this adjustment in a limited number of areas, rather than also for other categories like PRCs, and legal and organisational costs.

6.24. In principle, it would be possible to calculate the lower quartile for every input in the SMNCC model. This is not practical. We do not calculate average costs for each cost category from a range of inputs from suppliers. For instance, the supplier specifies PRC costs, which we model (as opposed to calculating a simple mean). We have checked the point on PRCs by looking at the meter age data provided by the suppliers near the lower quartile. Based on their meter ages, we do not have reason to believe that the operating costs of the benchmark suppliers have been biased downwards by having abnormally low PRCs.

6.25. We consider the approach is appropriate. As explained above, although we do not calculate the lower quartile for every input in the model, we do calculate the lower quartile for the material cost categories. In addition, we bias those calculations downward, by taking the lower quartile of each category independently of each other.

Considering the adjustment for net smart metering IT costs

6.26. For the adjustment factor for different definitions of efficient benchmark we also need to consider whether the operating cost allowance has sufficient regard for an efficient supplier's additional smart metering IT costs in 2017. If suppliers had substantially different additional smart metering IT costs per account in 2017, then our operating cost allowance may be too strict compared with our assessment of the efficient smart

[60] This section is solely looking at the adjustment in 2017. We estimate the change in costs in future years using our assessment of efficient costs (for a supplier with average costs and average rollout). We therefore do not need to consider the rollout profile that the benchmark suppliers may have required in years after 2017.

metering costs for 2017. In that case, we should consider an adjustment, increasing the SMNCC.

6.27. In Chapter 5, we explain that we could not isolate solely additional smart metering IT costs from the counterfactual IT costs that would have occurred without the smart meter rollout. This makes any assessment of the IT costs included in the operating cost allowance very uncertain.

6.28. We consider three issues in turn:

- whether to replace suppliers' reported smart metering IT costs with the weighted average smart metering IT costs;
- whether there are differences between suppliers' reported smart metering IT costs which mean that an adjustment is necessary; and
- whether there are differences between the reported and actual smart metering IT costs for the suppliers close to the operating cost benchmark, meaning that an adjustment is necessary.

6.29. We consider that the answer is no in each case.

6.30. To consider the impact of smart metering IT costs in 2017 on the operating cost benchmark, we estimated each supplier's amortised costs in that year using the data they provided on their capital investment in previous years.

6.31. Using the 'benchmark supplier' method, suppliers' data suggests we should *reduce* the SMNCC allowance by about £2 (on a dual fuel basis). If we assumed suppliers' reported smart metering IT costs were solely additional, then we can (a) remove each supplier's reported smart metering IT costs from their total operating costs in 2017 and (b) replace those costs with the weighted average smart metering IT costs. On that basis, the total efficient costs are £2 below the operating costs allowance (i.e. one of the suppliers with highest reported smart metering IT costs would set the lower quartile for total operating costs, excluding smart metering IT costs).

6.32. We do not propose to adjust the SMNCC allowance downwards. Although suppliers have sought to isolate IT expenditure that is solely related to smart meters, this emphasises the difficultly in isolating solely additional costs. We are concerned that

assuming the *reported* data is solely additional could lead to an understatement in the allowance, because it likely includes counterfactual IT costs.

6.33. We estimate that three suppliers in our total operating costs sample[61] have similar smart metering IT costs in 2017 to each other, between £5 and £6 per dual fuel customer. Two of these suppliers are those closest to the lower quartile in our total operating costs benchmark analysis. The other was more advanced in its smart meter rollout. Given the similarity between the cost levels for each suppliers' estimated smart metering IT costs, and the similarity of the total operating costs of the two suppliers closest to the benchmark, we do not consider that differences in smart metering IT costs affect the total operating cost benchmark. That would suggest no adjustment is necessary.

6.34. However, there is a risk that either of the suppliers closest to our benchmark had *actual* smart metering IT costs (amortised and operational costs) in 2017 that differed from our estimate (which is based on their reported smart metering IT capital expenditure, but uses our proposed amortisation approach for a like-for-like comparison).

6.35. One of the two suppliers has confirmed that it did not amortise its smart metering IT investments (i.e. it did not use them) until 2019. The other supplier has confirmed that its amortised costs match our estimates. On that basis, no adjustment is necessary.

Consideration of total costs and credit costs

6.36. The operating cost allowance includes smart metering costs related to replacing traditional meters for all domestic customers, not just those customers with credit meters. We assess the efficient cost of replacing a traditional credit meter with a smart meter. That cost is higher than the net cost of replacing a traditional prepayment meter with a smart meter. As the operating cost allowance will include the weighted average costs of both types of installation, we need to increase the SMNCC allowance to reflect that difference.

[61] Our operating cost analysis considered a sample of ten large and mid-tier suppliers. Ofgem (2018), Default tariff cap: decision. Appendix 6 – Operating costs, paragraph 2.12. https://www.ofgem.gov.uk/system/files/docs/2018/11/appendix_6_-_operating_costs.pdf

6.37. For 2017, we look at the lower quartile cost per credit meter and per prepayment meter. We calculate a weighted average for each fuel based on the number of domestic credit and prepayment meters. For each fuel, we then take the difference between the credit meter figure and the weighted average. On that basis, we increase the SMNCC allowance by the difference, (£0.50 for gas customers and £0.43 for electricity customers).[62]

Considering uncertainty

Our approach

6.38. Any assessment of net costs has a degree of uncertainty. In our October 2019 consultation we considered the extent that our assessment was uncertain, reviewing each aspect of our assessment in turn. We set out where we thought our approach was conservative (increasing the allowance compared to where the 'true' costs likely were) and where our approach may be aggressive ('true' costs could be higher). We considered that our estimate was conservative overall.

6.39. We have reassessed uncertainty in the light of changes we have made (after considering suppliers' views on the SMNCC model we previously disclosed). We consider that the net effect of our assumptions is likely to be conservative. In other words, the change in 'true' efficient costs is likely to be lower than our assessment. We do not propose to reduce the SMNCC allowance. Considering that assessment of uncertainty can never be precise (or there would be no uncertainty in the first place) and that some otherwise efficient suppliers will have high costs due to their rollout profiles, we propose to not make an adjustment for uncertainty.[63]

6.40. In Chapter 3, we explain that we propose to review the SMNCC allowance, ensuring that cumulative allowances from 1 October 2019 reflect the net impact on the efficient operating costs of a supplier with an average rollout profile, adjusting future allowances to account for advanced or lagged payments. This changes the significance of uncertainty and conservatism. Whether our estimate is higher or lower than costs turn out to be, we have the opportunity to adjust the allowances to ensure that

[62] In 2017 prices.
[63] For the avoidance of doubt, this approach mitigates the issue to some extent, but it does not necessarily mean that suppliers with early progress will be completely covered by the allowance in each cap period.

customers are protected and we have regard to efficient costs. The impact of conservative or inaccurate assumptions is temporary, for the aspects that we review.

6.41. See our technical annex for a full discussion of uncertainty and the extent to which our assessment is conservative. Below we highlight the significant changes.

Significant changes to our assessment

Rollout

6.42. The biggest source of conservative uncertainty in our October 2019 consultation was the rollout profile, in particular, the extent to which suppliers would incur lower costs when they installed fewer meters than expected. Our approach in the October 2019 consultation was too conservative. In these proposals, we have adjusted our approach, reducing the extent to which a supplier with an average rollout profile can charge customers in advance of when they install a substantial proportion of their meters.

6.43. COVID-19 means that the suitability of our proposed rollout profile remains uncertain. It is unclear when and how the rollout will accelerate. We assume that nearly all installation costs that suppliers had committed to the rollout in 2020 are sunk, regardless of how suppliers adapt. Many suppliers have been able to redeploy their resources to other areas, or they have furloughed staff. We also assume that suppliers return to past levels of performance in 2021, and that social distancing has no ongoing impact. In practice, arrangements may directly affect performance or costs. Indirectly, consumer appetite for installation visits may be reduced, even after distancing arrangements are not required.

6.44. We will assess the extent of, and variation in, suppliers' ability to mitigate sunk costs when data on costs in 2020 is available. Under our proposal, we are minded to make adjustments to future allowances if necessary, in order to take into account of the revised cost estimates for 2020 once we have further data.

Adjustments to our cost assessment per installation

6.45. The biggest single risk that our October 2019 consultation proposals understated 'true' efficient costs was our assumption that meter rental payments would reflect the underlying economic cost of purchasing and installing smart meters. After reviewing additional evidence on suppliers' payments, we have increased our assessment of

these costs in certain cases. (Installation costs are the largest cost category for suppliers).

6.46. Another major source of uncertainty in our October 2019 consultation proposals was the combined net impact of detailed aspects of the SMNCC model. Each issue may be immaterial, but in combination they could mean that our assessment is materially different to 'true' efficient costs for a supplier with an average rollout profile. Suppliers scrutinised the model we disclosed in October 2019 and proposed extensive changes to detailed aspects of the modelling.

6.47. We have reviewed these issues, and in many areas amended our proposals. The risk here is selection bias in those changes, as a result of suppliers selecting which changes to propose. The impact of these changes materially increases our assessment of costs (on a per meter basis); understandably, suppliers have very little incentive to comment on inaccuracies that overstate their efficient costs, only those that understate them.

6.48. Our changes affect uncertainty asymmetrically. Either our assessment becomes exceedingly conservative, or the adjustments counteract any pre-existing optimism bias that some suppliers suspected the model may contain. Either way, we have significantly reduced the uncertain probability that 'true' efficient net costs of a supplier with an average rollout profile are higher than we estimate.

Allocation into cap periods

Our proposals

6.49. The cap periods are six months in length. We express each cap level in annualised terms. There are three types of cap period.

- **Summer cap periods** (from 1 April to 31 September): We propose to set the SMNCC allowance in line with our assessment of efficient smart metering rollout costs for that year. So the SMNCC allowance in summer 2021 (if the cap is extended) will reflect the assessment for 2021, and so on and so forth.
- **Standard winter cap periods** (from 1 October to 31 March in following year). We propose to set the SMNCC by taking a simple average of the two relevant annual assessments above. So the winter cap in 2020/21 would be an average of the 2020 and 2021 levels.

- **Short winter cap periods** (from 1 October 2023 to 31 December 2023). The cap could be extended to the end of 2023, but not further. If we are required to update the cap level for the final possible cap period, we propose to use the annual assessment for 2023 only. This is similar to the first cap period (1 January 2019 to 31 March 2019), which was also a short winter cap period.

6.50. We have calculated SMNCC levels for all potential cap periods. This does not indicate that we have formed a judgement on whether or not we expect the cap to be extended. Only that, if the cap is extended, then an SMNCC allowance will be required. As discussed in Chapter 3, we intend to conduct reviews when the next set of ASR data is available and the post 2020 policy framework and impact of COVID-19 is clear (or clearer). Under our proposals, we therefore expect a subsequent review to replace the estimated allowances from 1 October 2021 onwards.

6.51. Table 6.7 shows how we calculate the SMNCC allowance for each cap period using the annual cost assessments**.** Note than the cap could end on 31 December during the fifth, seventh, or ninth cap periods. At the point we set the cap level for those periods the Secretary of State will not have published his decision on whether to extend the cap or not. We propose to set the level as though the cap will continue (rather than making adjustments and correcting for them if the cap is extended). This issue is relatively limited, given that we set the cap level on an annualised basis.

Table 6.7: Allocating our assessment into cap periods (£ per account)

Cap period	Method	Electricity	Gas
First cap period (January – March 2019)	2019 assessment	6.02	4.18
Second cap period (April – September 2019)	2019 assessment	6.02	4.18
Third cap period (October 2019 – March 2020)	Average of 2019 and 2020 assessments	8.14	4.07
Fourth cap period (April – September 2020)	2020 assessment	10.27	3.95
Fifth cap period (October 2020 – March 2021)	Average of 2020 and 2021 assessments	7.26	1.71
Sixth cap period (April – September 2021)	2021 assessment	4.26	-0.53
Seventh cap period (October 2021 – March 2022)	Average of 2021 and 2022 assessments	3.89	-1.60
Eighth cap period (April – September 2022)	2022 assessment	3.52	-2.67
Ninth cap period (October 2022 – March 2023)	Average of 2022 and 2023 assessments	3.63	-3.23
Tenth cap period (April – September 2023)	2023 assessment	3.74	-3.79
Eleventh cap period (October – December 2023)	2023 assessment	3.74	-3.79

Notes: Prices are in nominal terms. The cap could end on 31 December during the fifth, seventh, or ninth cap periods.

7. Considering advanced payments carried forward

We explain how we propose to take into account the allowances that suppliers have already received when setting allowances for future cap periods.

Question: Do you agree with our proposals for including carry forward balances?

Note that as a matter of style, we do not ask specific questions at each stage. We expect stakeholders to consider our proposals, reasons for them, and methodology, and provide representations explaining if and why they disagree.

Summary of our proposals

7.1. In Chapter 3, we explain that we seek to protect customers and account for suppliers' efficient net costs by adjusting the SMNCC allowance in future cap periods to remove advanced payments paid by customers since 1 October 2019.

7.2. Between 1 October 2019 and 30 September 2020, suppliers will have charged their customers £248m attributable to the SMNCC allowance.[64] We estimate that their comparable efficient costs in that period will be £165m, as they will install fewer smart meters than expected but incur higher costs per installation than expected.

7.3. We propose to deduct that £83m (£3m electricity and £80m gas) from the allowances in future cap periods, spreading the advanced payment over the maximum possible remaining cap periods to reduce double counting and protect customers. This reduces the SMNCC allowance by about £2.34 for a dual fuel customer per cap period (£0.07 for electricity and £2.27 for gas).[65]

7.4. Below we explain our consideration of:

- the balance of advanced payments collected by suppliers, on average;

[64] This is based on suppliers pricing default tariffs at the cap. This is largely the case for default tariff customers.
[65] All values in this paragraph in 2020 (cap period four) prices.

- whether to account for advanced payments when setting the SMNCC in future periods; and

- what period to spread the advanced payment over.

Advanced payments

Calculating advanced payments

Double counting costs

7.5. In Chapter 3, we explain that when reviewing the SMNCC allowance we risk double counting a portion of the rollout's net impact on the efficient operating costs of a supplier with an average rollout profile. That is because we set the allowance in line with installations we expect suppliers to have achieved by the end of that cap period. If suppliers' performance lags behind expectations, then they can charge customers for the net impact of installations that will not happen until some point in the future. They have been paid by customers in advance of the installations.

7.6. We explain that we propose to deduct advanced payments, made between 1 October 2019 and 30 September 2020, from the SMNCC allowance in future cap periods. To do otherwise would mean we double count the net impact (or a portion of the net impact, as smart meters have ongoing net costs) of the rollout on suppliers' operating costs, failing to protect customers.

7.7. Suppliers also collected advanced payments in the first two cap periods. We set those allowances before we published our proposal to not double count costs when setting the SMNCC allowance for future periods, so we do not correct for that period of overcharging.

Payment from customers since 1 October 2019

7.8. Suppliers charged default tariff customers £248m attributable to the SMNCC allowances in the third and fourth cap periods, between 1 October 2019 and 30 September 2020 (£125m for electricity and £123m for gas).[66]

7.9. As explained in Chapter 3, in cap periods three and four we set contingency allowances, using the same SMNCC model we used to set the SMNCC allowance in the first two cap periods.[67] These contingency allowances were deliberately conservative, on the basis that suppliers' efficient costs may be higher than we expected (as they suggested in their consultation responses), or we would be providing a proportion of SMNCC allowance funding in advance of when suppliers actually incurred the net costs of installing smart meters.

Suppliers' efficient net costs since 2019

7.10. On average, suppliers will install fewer meters in the third and fourth cap periods than expected and incur higher costs per installation. Based on our updated assessment of efficient net costs for a supplier with an average rollout profile (comparable to the SMNCC allowance) we expect suppliers to incur £165m in costs between 1 October 2019 and 30 September 2020, 34% less than customers will pay.

Advanced payments

7.11. Suppliers will install smart meters in future, from 1 October 2020 onwards, including the smart meters not installed in prior periods due to delays. Customers have paid already a portion of the net impact of those installations in advance (£80m for gas and £3m for electricity, see Tables 7.1 and 7.2). It would be a systematic, material, clear error to include those costs in future allowances, charging customers twice. On that basis, we deduct advanced payments from the allowances in future cap periods.

[66] Values in 2020 (cap period four) prices
[67] We set the SMNCC allowances in the first two cap periods to account for the impact on operating costs of suppliers installing smart meters in line with the EU target to install smart meters in 80% for electricity consumers' homes by the end of 2020.

Table 7.1: Advanced payment in the third and fourth cap periods and balances carried forward (electricity accounts)

	Cap 3	Cap 4
SMNCC allowance (TDCV, £ per annum)	9.26	9.50
New assessment of net impact on efficient operating costs of supplier with an average rollout profile (TDCV, £ per annum)	8.14	10.27
Difference (TDCV, £ per annum)	1.12	-0.77
Electricity accounts (m)	13	13
Advanced payment in cap period (£m, cap period four prices)	8	-5
Balance of advanced payments carried forward (£m, cap period four prices)	8	3
Rollout allowed for by end of cap period (%)	46%	54%
Rollout in updated model (%)	39.2%	40.5%
Lag in performance (percentage points)	6.9 pp	13.0 pp

Table 7.2: Advanced payment in the third and fourth cap periods and balances carried forward (gas accounts)

	Cap 3	Cap 4
SMNCC allowance (TDCV, £ per annum)	11.24	11.77
New assessment of net impact on efficient operating costs of supplier with an average rollout profile (TDCV, £ per annum)	4.07	3.95
Difference (TDCV, £ per annum)	7.17	7.82
Gas accounts (m)	11	11
Advanced payment in cap period (£m, cap period four prices)	45	35
Balance of advanced payments carried forward (£m, cap period four prices)	45	80
Rollout allowed for by end of cap period (%)	42%	50%
Rollout in updated model (%)	36.5%	37.8%
Lag in performance (percentage points)	5.8 pp	11.8 pp

Overview of suppliers' views

7.12. Suppliers opposed adjusting future allowances by the advanced payments they carry forward (as a group). Some suppliers considered that there was no balance of advanced payments to carry forward. Suppliers broadly put forward four reasons, which we consider below:

- that suppliers did not collect the allowance, so we cannot compare their costs to the amount they have charged their customers;
- that they incurred higher efficient net costs per installation, so the SMNCC allowance was inadequate;
- that suppliers have invested advanced payments already, so there is no money to carry forward into future periods; and
- that suppliers' circumstances vary, so not all suppliers have costs that lag the allowance, or lag it to a lesser extent than average.

Considering whether suppliers collected the allowance in full

7.13. One supplier argued that we could not demonstrate whether suppliers had collected money from their customers that related to smart meters. On that basis, it suggested that we would be unable to compare the amounts customers had paid with suppliers' net costs.

7.14. Most default tariff customers have suppliers that price at the maximum cap level. Clearly, those customers were charged the SMNCC allowance in full between 1 October 2019 and 30 September 2020. We include the SMNCC allowance in the cap solely to account for the net impact of the smart meter rollout, so suppliers could not legitimately have allocated the allowance for smart metering net costs to other activities.[68]

[68] In our November 2018 decision, we accepted that we were unable to ring-fence funding for smart metering, but stated clearly that inefficient suppliers must not reduce their smart metering plans in order to avoid improving their efficiency.
Ofgem (2018), Default tariff cap: decision – overview document, paragraph 2.64.

Considering whether suppliers incurred higher efficient net costs per installation

7.15. Several suppliers argued that their efficient net costs per installation had increased, so that the SMNCC allowance had been too low. Some suppliers reasoned that installing fewer meters should reduce total costs, but that would be offset as their efficient costs per installation had increased, benefits had been delayed, and installation costs had been sunk. They considered that a reassessment of net costs, including the impact of fewer meters and higher costs per meter, would show that the SMNCC allowance had been inadequate.

7.16. Some suppliers argued that their costs were based on their expectations, not their achievements. They argued that delays brought no cost reductions, as the costs they have *planned* to incur were sunk.

7.17. We have based our proposals on our revised assessment of efficient net costs (set out in Chapters 5 and 6), so we have accounted for higher efficient net costs per installation, delayed benefits, and sunk costs.

7.18. As discussed in Chapter 4, we have considered the extent to which suppliers may have incurred sunk costs. Suppliers state their total costs in their ASR data, whether productive or sunk, so we have considered in our assessment the full costs they, on average, commit and incur each year. In a 'normal' year, suppliers' performance has been relatively consistent and predictable, installing about 4.2m smart meters per year (in credit mode) between 2017 and 2019. An efficient supplier should have been able to anticipate and mitigate the impact of delays in those periods. We consider that suppliers would not have anticipated COVID-19 or be prepared to mitigate the impacts of it in full. As discussed in Chapter 4, we assume that nearly all of the installation costs suppliers would have incurred in 2020 in the absence of COVID-19 will be sunk. We include those sunk costs in our assessment.

Considering whether suppliers have invested advanced payment already

7.19. Some suppliers argued that they (or other suppliers) had already invested the SMNCC allowance in their rollout plans, so they had no balance of advanced payments to carry forward and 'top up' investment in later cap periods.

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https://www.ofgem.gov.uk/system/files/docs/2018/11/decision_-_default_tariff_cap_-_overview_document_0.pdf

7.20. We recognise that some suppliers may have invested the SMNCC allowance in full, and would not have a cash balance to carry forward. That does not affect our assessment of advanced payments they will receive and that we should not double count.

7.21. If a supplier has invested advanced payments, then they must have done so in one of the following circumstances:

- If a supplier had *efficiently* invested the SMNCC allowance in full and maintained efficient costs on a per meter basis, then it must have installed more meters than average. On that basis, that specific supplier does not have a balance of advanced payments to carry forward (or it has a smaller balance than suppliers do on average). That does not mean that our assessment of the advanced payments carried forward by an efficient supplier with an average rollout profile is inaccurate. By definition, not all suppliers can be above average. It is an unavoidable difficulty of setting a single allowance for all suppliers even when efficient costs vary.

- If a supplier has *inefficiently*[69] invested the SMNCC allowance in full, on a per installation basis, then that is not a relevant consideration. We expect suppliers to roll out smart meters efficiently.

- If a supplier has invested advance payments in activities that are not related to the rollout, then we do not consider that a relevant factor. We include the SMNCC allowance for the sole purpose of the smart meter rollout.

Considering variation in suppliers' circumstances

7.22. Some suppliers argued that, even if suppliers had collectively (or, on average) received advanced payments, they had not received one as an individual supplier.

7.23. Suppliers' efficient costs vary, due to their different circumstances (including but not limited to their rollout profile). In Chapter 2 we explain that inevitably, the allowance cannot reflect each individual supplier's efficient costs. The Act requires that we set one allowance for all suppliers, even where their efficient costs differ. This is a clear but unavoidable difficulty when setting the cap.

[69] Relative to the standard we use for the purpose of this smart review – i.e. average costs.

7.24. We have proposed to have regard to the net impact of the rollout on the efficient operating costs of a supplier with an average rollout profile (see Chapter 4). On that basis we have calculated the balance of advanced payments carried forward by an efficient supplier with an average rollout profile.

7.25. As discussed in Chapter 4, suppliers with above average rollout have higher than average costs. In this context, that means that suppliers with higher than average rollout will have a lower balance to carry forward, as they have installed more meters. Suppliers with lower than average rollout will have a larger balance of advanced payments to carry forward. Ultimately, we must set a single allowance that protects customers, even when suppliers' efficient costs vary. We have taken the statutory needs in section 1(6) of the Act into account when considering this proposal, but have to give each of these appropriate weight against the overriding objective of protecting customers.

Considering how to account for advanced payments

Options

7.26. Having valued the balance of advanced payments that suppliers have received in aggregate, we have the option of whether to recognise it in full, only a proportion of it, or none of it when setting the SMNCC allowance in future cap periods.

7.27. As discussed in Chapter 3, we propose only to take account of advanced payments from the third cap period onwards (1 October 2019 onwards). This is a change to the position we set out in the October 2019 consultation, where we proposed to take account of advanced payments from the first four cap periods. This change means there are nine months of advanced payments which we are not proposing to take into account when setting the SMNCC allowance in future cap periods.

7.28. We have considered three options:

- recognising all of the advanced payment since 1 October 2019 (100%);
- recognising none of the advanced payment since 1 October 2019 (0%), in effect writing off the advanced payment;
- recognising a proportion of the advanced payment since 1 October 2019 (such as 50%), to account for mitigating circumstances.

Our proposal

7.29. We propose to recognise the advanced payment in full from the third cap period onwards. We consider that we can, and should, take this approach in order to protect customers from paying more for smart meters during the cap periods from the third cap period until the end of the cap than the efficient net costs suppliers incur.

An overview of suppliers' views

7.30. Suppliers opposed adjusting future allowances to ensure that SMNCC allowances reflect their cumulative efficient costs.

7.31. Some suppliers offered several reasons why we must, or should, set future allowances without regard to the money suppliers have already received (in aggregate), including:

- it would be unlawful;
- it would penalise suppliers in non-average situations;
- it would require suppliers to slow their rollout and break their licence obligations;
- it would rely on estimates of suppliers' efficient cost that were uncertain.

7.32. Some suppliers supported adjustments, but all of those suppliers considered that any adjustment would lead to an increase in the SMNCC allowance in future cap periods, not a decrease. The principle of whether to adjust for advanced or lagged payments does not depend on the direction of the adjustment. It would not protect customers to only adjust their charges when they need to 'catch up' with suppliers' cumulative costs, but not do when suppliers' costs lag behind the allowance.

Considering lawfulness of our proposals

7.33. One supplier told us that our proposal to recognise the average level of carry forward was unlawful, because (among other arguments): it was based on an error of fact and breached legitimate expectations. On that basis this supplier considered it would be irrational to remove advanced payments from the SMNCC in future cap periods.

An alleged error of fact

7.34. One supplier argued that our analysis of advanced payments relies on an incorrect assumption that smart meters do not have ongoing net costs, which it calls a "Net Cost Error" and an error of fact. This is incorrect.

7.35. As set out in Chapter 5, our assessment of the net impact of the smart meter rollout on the efficient operating costs of a supplier with an average rollout profile recognises the manner in which each cost and benefit category affects a supplier's operating costs. Some costs are expensed in-year; others are recognised during the life of the smart meter (such as rental payments). Our assessment recognises each accordingly, and finds that replacing a traditional credit meter with a smart meter incurs an ongoing net cost for suppliers.

7.36. As we discuss above, it is clear from our assessment of efficient costs for a supplier with an average rollout profile that customers have paid in advance for smart meters that have not been installed. That assessment takes into account higher efficient costs per installation than we assumed when we set the SMNCC allowance in our November 2018 decision. It also takes into account delayed benefits and potentially sunk costs in 2020. We therefore consider that there is no error of fact, and that our proposal is consequently rational.

Supplier arguments on legitimate expectations

7.37. Several suppliers consider that we are proposing to "claw back" money that the SMNCC allowance over-allowed for. They argued that we had not consulted on correcting, or 'clawing back', errors in the SMNCC allowance in our November 2018 decision. On that basis, they considered they have a legitimate expectation that we would not now take back the excess payments

7.38. As discussed in Chapter 3, we proposed in our April 2019 consultation that we would account for advanced payments when setting the SMNCC allowance in future cap periods (and set out the impact of those proposals in our October 2019 consultation). We therefore consider that no legitimate expectation can exist in respect of cap periods after that point that we would not adjust the SMNCC allowance to reflect the excess payments.

7.39. We are proposing to only consider advanced payments collected since 1 October 2019, the first cap period set after we specified our approach. This is a change to the

approach we proposed in the October 2019 consultation (which sought to deduct advanced payments in each cap period, to avoid double counting costs).

Supplier arguments on rationality

7.40. We consider that our proposals are rational. Our objective under the Act is to protect customers. We have identified an issue which, if left unaddressed, would run contrary to this objective. We presented proposals on this approach in April 2019, and have since conducted an extensive process, including consideration of stakeholders' representations. In making our proposals in this consultation document, we have reached a regulatory judgement in line with the objective of customer protection.

Supplier arguments on using correction mechanisms

7.41. Several stakeholders noted that we had stated in our November 2018 decision that we were generally opposed to correction mechanisms. They considered that we could not now make corrections. Alternatively, they considered that we should either be consistent or not apply a correction here, or that we should apply corrections in other areas.

7.42. In Chapter 3, we explain that in our November 2018 decision, we did not rule out the possibility of carrying out reviews or making corrective adjustments. We indicated that we would not usually make corrective adjustments for ordinary forecast error. This did not preclude us from making adjustments for serious and systematic errors, as we made clear. Furthermore, we did not exclude the option to identify specific types of errors in future and give notice that they might be subject to review.

7.43. In Chapter 3, we also explain that, in future, other issues (not related to the SMNCC, such as ECO and the impact of COVID-19) may require review and adjustment.

Considering the impact on suppliers in non-average circumstances

Higher costs for suppliers with above average rollout progress

7.44. One supplier told us that reducing the rollout profile penalised a supplier with higher than average rollout, as it said that a smart meter has higher costs on an ongoing basis.

7.45. As we explain in Chapter 4,[70] regardless of the reason for higher than average efficient costs, ultimately the Act requires us to set one cap for all suppliers and protect default tariff customers. In doing so we have regard to an efficient supplier's ability to finance its activities. Where efficient costs differ, we reflect average efficient costs to protect default tariff customers. Setting the allowances above the average level of costs would mean that customers collectively pay more than suppliers in aggregate incur. Our proposal to avoid double counting advanced payments, with respect to a supplier with an average rollout profile, is no different in that respect.

Fast growing suppliers

7.46. Some suppliers referred to the potential for impacts on suppliers depending on how their customer bases changed. One supplier referred to the potential for the inclusion of carry forward to distort competition.

7.47. Some suppliers pointed out that fast growing suppliers (i.e. those whose customer bases were increasing significantly) would not have any advanced payment balances to carry forward from customers they have only recently acquired. Yet, they would receive lower SMNCC allowances in future as a result of us taking into account carry forward in aggregate. This is correct in principle, but the impact is relatively minor. In practice fast growing suppliers tend to price below the cap and serve a small proportion of default tariff customers. On the contrary, applying the same principle suggests that shrinking suppliers, who do price at the cap level, have collected money in advance, but may have fewer costs in the future.

7.48. We also do not consider that the size of the carry forward adjustment is sufficient to distort competition. For default tariff customers considering engaging in the market, the key metric is the saving they can make by switching to cheaper fixed tariffs. This saving is much larger than the carry forward adjustment.

Considering licence obligations

7.49. Some stakeholders considered that taking carry forward into account would harm the continued rollout. One supplier said that suppliers were subject to an All Reasonable

[70] See 4.58 to 4.76.

Steps obligation, and were therefore unable to slow down their rollout. Furthermore, it said that Ofgem had told suppliers not to slow down their rollout.

7.50. We make no suggestion that suppliers should not take all reasonable steps to roll out smart meters. They should meet their licence obligations and do so efficiently. We have assessed suppliers' collective performance and costs under the current rollout obligation and set the allowance to reflect that.

7.51. Our analysis shows that suppliers, on average, have received payments well in advance of the level required to efficiently fund installations at the rate and costs per installation they have achieved under the current licence obligations between 2017 and 2019.

7.52. One supplier considered that the SMNCC allowance defined All Reasonable Steps. It considered that we had set a budget envelope which it would spend to install smart meters, constituting All Reasonable Steps. That is not the case. Suppliers must still rollout smart meters and do so efficiently. If a supplier had higher than average efficient costs per installation and reduced its rollout to fit within the so-called budget envelope that would be inappropriate.

Considering uncertainty

7.53. One supplier said that the uncertainty over efficient costs meant that we should only take a fraction of carry forward into account.

7.54. We have taken uncertainty into account when assessing the efficient net cost, and do not consider it a reason to disregard any proportion of the collective advanced payment. We calculate the advanced payment using our updated assessment of efficient costs. We consider the combined impact of uncertainty in Chapter 6 (see the technical annex for details).

Considering what period to spread the advanced payment over

Options

7.55. We have considered offsetting the advance payment carried forward:

- immediately (in cap period five);

- over the maximum potential life of the cap (up to the end of 2023); or
- a number of cap periods in between.

Our proposal

7.56. We propose to spread the advanced payment carried forward over all of the potential cap periods up to the end of 2023. If the cap is not extended into 2021, 2022, or 2023, then the advanced payment will be partially unrecovered. We acknowledge the risk and consider the reduced volatility in the SMNCC allowance is preferable.

Considerations

Immediate recognition

7.57. We could seek to align as quickly as possible the costs of an efficient supplier with an average rollout profile with the cumulative allowance payments they charge to their customers.

7.58. The advantage of offsetting the advanced payment immediately is that customers would also benefit by receiving the allowance reduction more quickly. However, the benefit in terms of the time value of money is small given that the cap has at most a few years to run. Ultimately, the amount of money a customer pays should reflect suppliers' efficient costs whatever period we spread the payment over.

7.59. The disadvantage is that we would create a substantial short-term reduction in the cap and then a substantial increase in the next cap period. This creates artificial volatility in prices and substantially distorts the comparison with competitively set tariffs.

A slower catch-up period

7.60. We can extend the period over which the costs of an efficient supplier with an average rollout profile would 'catch up' with the cumulative allowance payments they charge to their customers.

7.61. The advantage of spreading the advanced payment over the maximum potential life of the cap is that it makes the least disruption to the SMNCC allowance in each cap period. The quantum is small enough that it would not meaningfully affect comparisons with competitively set tariffs. The disadvantage is that if the cap ends early, customers

will have been overcharged. However, the cap would only end before 2023 if the conditions for effective competition were in place, which would be a benefit to customers, so we are satisfied this is an acceptable risk to take.

7.62. Table 7.3 shows our proposed adjustment. The adjustment is stated in annualised 2020 prices.

Table 7.3: Calculating the carry forward adjustment for future cap periods.

	Electricity	Gas
Carry forward (£m)	2.9	80.0
Proportion to recognise	100%	100%
Accounts (m)	13	11
Total amount to carry forward per account (£)	0.22	7.47
Adjustment per account (£)	0.07	2.29

Notes: Prices in 2020 (cap period 4) terms.

Considering stakeholders' views

7.63. All stakeholders supported aligning their cumulative costs with the cumulative allowances over as long as period as possible (notwithstanding their objections to aligning the cumulative allowance with their costs).

7.64. Stakeholders considered that spreading any carry forward over the remaining cap periods was the least disruptive option.

8. Contingency allowance

We explain how we propose to set a contingency allowance for cap periods five and six, in the event that we cannot use the new methodology we are consulting on.

Question: Do you agree with our proposals for setting a contingency allowance?

Note that as a matter of style, we do not ask specific questions at each stage. We expect stakeholders to consider our proposals, reasons for them, and methodology, and provide representations explaining if and why they disagree.

Options

8.1. We need to set an SMNCC allowance for the fifth cap period, whatever the outcome of this consultation. Our analysis suggests that suppliers will incur higher net costs of rolling out smart meters in the fifth cap period than in 2017. It is possible that, following this consultation, we decide we need to make amendments to the SMNCC model, based on supplier feedback. Nevertheless, the information available to us indicates that including an SMNCC allowance would be more suitable than setting it to zero.

8.2. In addition, we might also set the SMNCC allowance for the sixth cap period at this point, even under a contingency approach. This would be in advance of our next review of the SMNCC allowance.

8.3. We have considered the following options for contingency allowances in the next two cap periods:

- using the original SMNCC model, which we used to set the SMNCC allowance in the first four cap periods;
- freezing the SMNCC allowance at the level we set in cap period four;
- setting the SMNCC allowance we have proposed, without applying the carry forward adjustment; and

- setting the SMNCC allowance we have proposed, as we can review and adjust any discrepancy at a later date.

Our proposal

8.4. Should we need to adopt a contingency approach, we propose to set the SMNCC allowances in the fifth and sixth cap periods as proposed, but delay reflecting the carry forward until a future cap period, following our next review.

8.5. We have estimated that suppliers have already charged customers a substantial advanced payment for the impact of smart meters they are yet to install. If we postpone taking that advanced payment into account until our next review, then suppliers have a buffer against the risk that 'true' efficient costs are actually higher than we assess.

8.6. In addition, as we intend to frequently review the SMNCC allowance using latest data from the ASRs, we can increase the SMNCC allowance in future cap periods if suppliers' cumulative efficient costs run ahead of the cumulative allowance (rather than lag behind).

8.7. Table 8.1 shows the proposed contingency allowance for cap period five and six.

Table 8.1: The contingency allowance for the non-pass-through SMNCC in cap periods five and six (£ per account)

Costs	Cap period five	Cap period six
Electricity	7.26	4.26
Gas	1.71	-0.53
Implied dual fuel	**8.97**	**3.72**

Notes: Figures in nominal terms. This table shows the SMNCC allowance only. It does not show the proportion of the operating cost allowance associated with smart metering costs.

Our considerations

Using the original SMNCC model

8.8. For cap periods three and four, we set the contingency SMNCC allowance using the original SMNCC model.[71] This would therefore be the consistent way to calculate the contingency allowance for the fifth cap period.

8.9. We discount using the original SMNCC model to set the SMNCC allowance in the next cap period. In practice, the rollout and cost assumptions in the original SMNCC model are incorrect. That is the reason for this review. By 1 October 2020 the assumptions in original SMNCC model will be significantly incorrect, as they assume that suppliers will have installed around twice as many smart meters than they actually will have done.

8.10. Given the degree of inaccuracy in the original SMNCC model, we consider that our revised SMNCC model will be more accurate than the original SMNCC model, even in a situation where our proposals need further revisions. (In other words, we do not consider it plausible that there is such a large degree of inaccuracy in our revised SMNCC model which would outweigh the large and known inaccuracy in the original SMNCC model).

8.11. The value from the original SMNCC model for cap period five (£14.90 for a dual fuel customer) is smaller than the contingency allowance provided in cap period four (£21.27 for a dual fuel customer). The main reason for the reduction is that the original SMNCC model assumes that rollout is largely complete by the end of 2020. From 2021, this therefore reduces the new costs of assets and installations, which includes a reduction in the costs expensed in year (PRCs for traditional meters and IHD costs).

8.12. In addition, the original SMNCC model assumes that benefits continue to grow over time as suppliers install more smart meters. These benefits are lagged, and so growth in benefits in 2021 will partly reflect smart meters installed in the previous year. As cap period five spans 2020 and 2021, the allowance calculated for cap period five is

[71] Ofgem (2019), Default tariff cap: approach to the third cap period, https://www.ofgem.gov.uk/publications-and-updates/default-tariff-cap-approach-third-cap-period
Ofgem (2019), Reviewing smart metering costs in the default tariff cap: Decision for cap period four https://www.ofgem.gov.uk/publications-and-updates/reviewing-smart-metering-costs-default-tariff-cap-decision-cap-period-four

the average of these years. It therefore partly depends on the assumed situation for 2021.

Freezing the SMNCC allowance

8.13. We consider that freezing the contingency SMNCC allowance at the same value as in the fourth cap period[72] is feasible, but would set the allowance too high.

8.14. This approach is not accurate. The figure is essentially arbitrary. However, within the logic of the original SMNCC model, we would expect the activity that suppliers had planned in 2020 and 2021 is closer to the activities they had planned for cap period four than it is to an assessment that assumes suppliers have largely completed the smart meter rollout (i.e. using the original SMNCC model).

8.15. We consider this approach to be too conservative and it fails to protect customers. Given that we have already (a) revised our cost assessment in light of suppliers' views and (b) assumed most of the installation costs committed to 2020 will be sunk, we consider this option would increase the SMNCC allowance further without clear rationale nor necessity.

8.16. Setting the allowance deliberately and substantially above our best estimate of suppliers' efficient net costs would significantly increase the extent to which suppliers might charge customers in advance of when they actually incur costs. That growing advanced payment would cause a more sizeable adjustment in future cap periods at the point when we started to take the advanced payment into account in future allowances. We would rather avoid this. Given we can adjust the allowance in future cap periods, we consider it preferable to set allowances in line with our best estimates.

Our current proposal, with carry forward

8.17. The most accurate option might be to have no contingency option at all. We now propose to review the level of the SMNCC allowance every 12 months to ensure that

[72] As this is an approximation, we would not adjust the cap period four SMNCC allowances for inflation when applying them to cap period five. The values would therefore be identical to those for cap period four

the cumulative allowances reflect suppliers' cumulative efficient costs. This means that any imprecision in the assessment of costs could be accounted for at a later date.

8.18. However, if we needed to revise our proposals it is possible that the 'true' net impact of the smart meter rollout on the operating costs of supplier with an average rollout profile would be higher than we currently estimate. On that basis, our proposals may be too low (for the situation where we need to use a contingency allowance).

Our current proposal, without carry forward

8.19. If we need to set a contingency SMNCC allowance, we propose to set it using our revised SMNCC model, but not make any adjustment for advanced payments at this point. We would delay our consideration of advanced payments until a later review. This would mean that suppliers' cumulative costs would continue to lag behind their customers' payments to the same extent as they now do.

8.20. This approach uses our best estimate of efficient costs and also allows an additional degree of prudence. This could be helpful in the event that we consider there are material unresolved issues following the consultation, meaning that there is sufficient uncertainty about 'true' efficient costs for suppliers to require a buffer. If we later find there is any shortfall we could take that into account in reviews of cumulative costs and allowances since 1 October 2019.

Appendices

Index

Appendix	Name of appendix
1	Proposed changes to Annex 5 of SLC28AD
2	Privacy notice on consultations

Appendix 1 – Proposed changes to Annex 5 of SLC28AD

1.1. We propose to make the changes to the SMNCC (as set out in this consultation) in the document 'Annex 5 – Methodology for determining the Smart Metering Net Cost Change' referred to in standard condition 28AD of the electricity and gas supply licences.

1.2. Within that document, we propose to make changes to sheet '2a Non pass-through costs', cells L7:R8.

1.3. The values we propose to insert are set out in the table below. These are the output values from the model we have disclosed.

Table A1: Values to insert into annex 5 of SLC28AD

Cap period	Electricity	Gas
Fifth cap period	7.19	-0.58
Sixth cap period	4.19	-2.84
Seventh cap period	3.82	-3.93
Eighth cap period	3.45	-5.03
Ninth cap period	3.56	-5.61
Tenth cap period	3.67	-6.20
Eleventh cap period	3.67	-6.20

Notes:
All values are £/customer, nominal.
The table in annex 5 has electricity and gas rows (rather than columns). We present it in this format for readability.

Appendix 2 – Privacy notice on consultations

Personal data

The following explains your rights and gives you the information you are entitled to under the General Data Protection Regulation (GDPR).

Note that this section only refers to your personal data (your name address and anything that could be used to identify you personally) not the content of your response to the consultation.

1. The identity of the controller and contact details of our Data Protection Officer

The Gas and Electricity Markets Authority is the controller, (for ease of reference, "Ofgem"). The Data Protection Officer can be contacted at dpo@ofgem.gov.uk

2. Why we are collecting your personal data

Your personal data is being collected as an essential part of the consultation process, so that we can contact you regarding your response and for statistical purposes. We may also use it to contact you about related matters.

3. Our legal basis for processing your personal data

As a public authority, the GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. ie a consultation.

4. With whom we will be sharing your personal data

N/A

5. For how long we will keep your personal data, or criteria used to determine the retention period.

Your personal data will be held for 1 year.

6. Your rights

The data we are collecting is your personal data, and you have considerable say over what happens to it. You have the right to:

- know how we use your personal data
- access your personal data
- have personal data corrected if it is inaccurate or incomplete
- ask us to delete personal data when we no longer need it
- ask us to restrict how we process your data

- get your data from us and re-use it across other services
- object to certain ways we use your data
- be safeguarded against risks where decisions based on your data are taken entirely automatically
- tell us if we can share your information with 3rd parties
- tell us your preferred frequency, content and format of our communications with you
- to lodge a complaint with the independent Information Commissioner (ICO) if you think we are not handling your data fairly or in accordance with the law. You can contact the ICO at https://ico.org.uk/, or telephone 0303 123 1113.

7. Your personal data will not be sent overseas

8. Your personal data will not be used for any automated decision making.

9. Your personal data will be stored in a secure government IT system.

10. More information For more information on how Ofgem processes your data, click on the link to our "Ofgem privacy promise".