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Consultation

Smart meter rollout and the default tariff cap: working paper

Publication date:	2 February 2021	**Contact:**	Anna Rossington, Interim Director Retail
		Team:	Retail Price Regulation
Response deadline:	2 March 2021	**Tel:**	020 7901 7000
		Email:	RetailPriceRegulation@ofgem.gov.uk

This working paper is part of the consultation process for updating the smart metering allowance in the default tariff cap in time for winter 2021-22. It is the second in a series of three consultations leading up to the decision in the summer. We would like views from people with an interest in the level of the default tariff cap. We particularly welcome responses from domestic energy 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

This working paper is another step towards updating the Smart Metering Net Cost Change (SMNCC) allowance in the default tariff cap in time for winter 2021-22. We previously published a working paper on non-rollout issues in November 2020. This second working paper now focuses on issues relating to the rollout for smart meters in credit mode. (We have published a separate working paper on the rollout for smart meters in prepayment mode).[1] It follows the Department for Business, Energy and Industrial Strategy's (BEIS) consultation on the minimum annual targets associated with its new smart meter policy framework which will be implemented on 1 July 2021 – i.e. the enforceable obligations that suppliers face.

The rollout profile is a key input to the calculation of the SMNCC. It drives our estimate of suppliers' costs. We currently use a rollout profile for an average supplier. However, at the end of our last review of the SMNCC in August 2020, we said that we would consider whether it is in customers' interests to maintain our current approach, or to use a higher rollout profile than the average.

There are several options for how we set the rollout profile in the SMNCC model. These options are based on the combination of two variables. The first variable is the level of rollout (i.e. the smart meter coverage) at the start of the new framework – this could be an average supplier or a market leader supplier (i.e. the supplier whose rollout profile generates the highest SMNCC). The second variable is the rate of rollout during the new framework – whether suppliers roll out smart meters in line with BEIS's policy ambition of market-wide rollout by mid-2025 (a 'target' approach), or in line with their minimum installation requirements (a 'tolerance' approach).

The options involve different levels of rollout. The same general advantages and disadvantages apply as we increase the level of rollout. Higher rollout profiles lead to a higher SMNCC. This would increase the immediate costs to default tariff customers. However, by allowing suppliers to recover additional revenue, a higher SMNCC could enable them to install more smart meters than otherwise in the remaining life of the cap. This could deliver the benefits of smart metering sooner, including to default tariff customers. However, there is no guarantee that suppliers would spend any additional revenue on smart metering.

[1] Available on our website.

Suppliers are at different stages in their rollouts, which means under the new smart meter framework they will have different legally-binding installation requirements in future. However, we must set a single cap level. This means we cannot align the rollout profile to each supplier's position. A higher rollout profile (up to a market leader tolerance rollout profile) could allow efficient suppliers[2] with above-average rollout positions to recover revenue reflecting the costs of delivering their obligations (without needing to have below-average unit costs).[3] A higher rollout profile would also mean that other suppliers would be able to recover additional revenue above the cost of meeting their rollout obligations. We have not put forward a proposal for rollout.

The rollout profile we decide to use in the SMNCC allowance also has potential implications for other parameters in the model. We discuss these in this working paper:

- the productivity of suppliers' installers;
- the amount that suppliers spend on marketing smart meters to customers; and
- the unit costs to suppliers of smart meter assets or installations.

We seek views from stakeholders on the appropriate level for the rollout profile used to set the SMNCC, as well as on the other issues covered in this paper. We are requesting responses by 2 March 2021. Following our two working papers (published in November 2020 and this one, published in February 2021), we intend to issue a consultation in late spring 2021. This would be followed by a decision in the summer, setting the SMNCC from 1 October 2021.[4]

[2] We define efficient costs using an average efficiency standard for the purpose of the SMNCC review.
[3] If a supplier had above-average rollout but below-average unit costs (for its smart metering activities), its total smart metering costs could still be in line with the revenues it was able to recover under the SMNCC allowance.
[4] We would be setting SMNCC values for the remaining potential life of the cap (October 2021 to December 2023). However, as set out in our August 2020 decision, we will review the SMNCC every 12 months.

1. Introduction

What are we consulting on?

1.1. The default tariff cap ('cap') protects domestic customers on default tariffs, ensuring that they pay a fair price for their energy, reflecting its underlying costs. We set the cap on a bottom-up basis, by considering the different costs suppliers face. The cap is made up of a number of allowances which reflect these different costs.

1.2. One cost to suppliers is the net cost of installing and operating smart meters. We reflect this in the cap through two allowances. The operating cost allowance includes the cost of smart metering in the 2017 baseline year (alongside other operating costs).[5] The Smart Metering Net Cost Change (SMNCC) allowance reflects the change in smart metering costs since 2017. The SMNCC allowance comprises a 'pass through' element covering industry charges relating to smart metering and a 'non pass through' element covering suppliers' own smart metering costs. We update the 'pass through' element as part of the six-monthly price cap updates. We use a forward looking modelled approach to set the non-pass-through element ex ante for future cap periods. This working paper focuses on the non-pass-through SMNCC allowance for customers with credit meters (which we refer to as the SMNCC for the remainder of this document).

1.3. The purpose of this working paper is to give stakeholders the opportunity to comment on the rollout profile we use to set the SMNCC, and on related issues. Specifically to:

- explain the different options for rollout profiles;
- discuss the advantages and disadvantages of the different rollout profile options;
- consider any knock-on effects of the rollout profile chosen (on installer productivity, suppliers' marketing costs, and smart meter asset and installation costs).

[5] We index this allowance with inflation as part of the six-monthly cap update.

1.4. This working paper has the following structure.

- Chapter 1 explains the purpose of this working paper, provides background on rollout, and outlines our consultation process.
- Chapter 2 explains the different options for setting the rollout profile for smart meters in credit mode.
- Chapter 3 discusses how the choice of rollout profile affects other areas in the SMNCC model: installer productivity, suppliers' marketing costs, and smart meter asset and installation costs.

Context and related publications

About this working paper

1.5. We have already consulted on the SMNCC allowance multiple times, and published a decision in August 2020.[6] We published a first working paper for this current review in November 2020, as part of considering whether there are any changes we need to make when setting the SMNCC allowance from October 2021.[7] This focused particularly on the impact of COVID-19 on suppliers' smart meter installation costs.

1.6. This second working paper focuses on the impact of the Department for Business, Energy and Industrial Strategy's (BEIS) new smart metering rollout framework on smart meters in credit mode. (We have published a separate working paper about rollout for smart meters in prepayment mode). In this new framework suppliers will be set individual installation targets subject to an annual tolerance level.[8]

[6] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision. https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf
This decision document contains links to preceding consultations.
[7] Ofgem (2020), Updating the allowance for smart metering costs in the default tariff cap: working paper.
https://www.ofgem.gov.uk/system/files/docs/2020/11/updating_allowance_for_smart_metering_costs_in_the_default_tariff_cap_working_paper.pdf
[8] BEIS (2020), Delivering a Smart System Response to a Consultation on Smart Meter Policy Framework Post-2020.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/893124/delivering-smart-system-post-2020-govt-response-consultation.pdf

1.7. BEIS has now consulted on the annual tolerances associated with this framework.[9] We do not repeat its consultation here, although we would encourage stakeholders to read BEIS's consultation. Key elements of BEIS's proposals are as follows.

- BEIS has proposed tolerances for the first two years of its new framework (July 2021 to June 2023).[10]

- These tolerances are the same for all suppliers: 4% for year one of the framework (1 July 2021 to 30 June 2022), and 5.5% for year two of the framework (1 July 2022 to 30 June 2023).[11]

- Each supplier's rollout target is based on a profile to market-wide rollout by mid-2025.[12] As each supplier will have a different rollout position at the start of the framework, suppliers will have different targets.

- The tolerances are applied to the targets to calculate the minimum annual installation requirements. Suppliers' legal obligations are to meet these minimum installation requirements,[13] calculated after applying the tolerances.[14] Suppliers would therefore have different legally-binding installation requirements.

[9] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers.
https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers
[10] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 8.
https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers
[11] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 77.
https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers
[12] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 5.
https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers
[13] Technically the obligation is to install a certain number of smart meters in a given year (rather than to reach a certain rollout percentage at the end of the year). This is to cover the case where a supplier installs a smart meter and then the customer switches away. This distinction is not significant for our comparison of rollout profile options in this working paper.
[14] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 65.
https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers

1.8. BEIS determined its proposed tolerances by modelling an achievable level of rollout. It took into account: customers' attitudes towards smart meters, suppliers' operational performance in rolling out smart meters, and the industry capacity to roll out smart meters.[15] It moderated the number of installations in each half year based on the current rate of installations to account for operational capability.[16]

1.9. The framework applies to both the domestic and non-domestic rollout. In relation to the domestic rollout, the framework applies without distinction between credit and PPM rollout. The majority of domestic meters are credit (approximately 85%) so the framework is more sensitive to suppliers' decisions on the credit rollout.

Background on rollout

1.10. The rollout profile is a key factor affecting the costs of smart metering (and therefore the SMNCC allowance). There are two main effects.

- Smart meters in credit mode are a net ongoing cost to a supplier. The number of smart meters that a supplier has installed (i.e. the stock) therefore affects its costs. In particular, suppliers have to pay for the cumulative costs of smart meter assets and installations. They pay for these costs through meter rental charges.

- Suppliers pay for some costs in the year of an installation. The number of smart meters installed in-year (i.e. the flow) therefore also affects a supplier's costs. In particular, suppliers pay for the remaining costs of traditional meters which are replaced early (through Premature Replacement Charges), and the costs of In-Home Displays.[17]

1.11. The former effect is generally greater. The supplier with the largest stock of smart meters (as a percentage of its customer base) will generally have the highest net costs per customer in a given year. Another supplier (i.e. one who did not have the largest stock of

[15] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 43. https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers

[16] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers. Annex B: Analytical Evidence, paragraph 24. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937398/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-annex-b.pdf

[17] In-Home Displays are devices which show information to customers about their energy use.

smart meters) would need to roll out a large number of smart meters (as a percentage of its customer base) in a given year to have the highest net costs per customer in that year.

Our current approach to rollout

1.12. The Domestic Gas and Electricity (Tariff Cap) Act 2018 ('the Act') requires us to set a single cap level across suppliers.[18] This means that we must set a single SMNCC allowance across suppliers, and therefore we need to set a single rollout profile.

1.13. The cap methodology uses a rollout profile reflecting average installation progress across suppliers. In our August 2020 decision, we said that we would review whether it was in customers' interests to maintain this approach, or to use a higher rollout profile than the average.[19]

1.14. We also said that we would use an above average rollout profile when assessing advanced payments[20] for the period 1 October 2019 to 31 September 2021.[21]

1.15. When defining an average rollout profile, in our August 2020 decision we excluded data from smaller suppliers who serve around 10% of customers. We said that these suppliers had installed few smart meters, and noted that including these suppliers would reduce the SMNCC to a level significantly below the average costs of the suppliers serving the majority of customers.[22]

[18] Domestic Gas and Electricity (Tariff Cap) Act 2018, section 2(2)(b). https://www.legislation.gov.uk/ukpga/2018/21/section/2/enacted
[19] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraphs 3.2 and 3.3. https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf
[20] Advanced payments are where suppliers have received payment in advance for costs they have not yet incurred.
[21] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraph 2.6. https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf
[22] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraphs 3.15 and 3.22. https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf

1.16. The rollout profile for future years in our August 2020 decision used an endpoint aligned with BEIS's decision on its framework (market-wide rollout by mid-2025).[23] The rollout profile from the start of the framework therefore connects an estimate of average rollout in mid-2021 and market-wide rollout by the end of the framework.

Related publications

1.17. Key related publications:

- August 2020 decision: https://www.ofgem.gov.uk/publications-and-updates/decision-reviewing-smart-metering-costs-default-tariff-cap
- First working paper (November 2020): https://www.ofgem.gov.uk/publications-and-updates/updating-allowance-smart-metering-costs-default-tariff-cap-working-paper
- BEIS June 2020 government response to the consultation on smart meter policy framework post 2020: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/893124/delivering-smart-system-post-2020-govt-response-consultation.pdf
- BEIS November 2020 consultation on post 2020 minimum annual installation requirements: https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020-minimum-annual-targets-and-reporting-thresholds-for-energy-suppliers

[23] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraph 3.61. https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf

Consultation stages

1.18. This is the second of two working papers. As noted above, we previously published a working paper on issues which do not relate to rollout in November 2020.[24]

1.19. We intend to issue a consultation in late spring 2021. This will allow us to take into account feedback on the two working papers, any subsequent data gathering (if required), and the updated input data from suppliers' responses to BEIS's Smart Meters Annual Information Request.

1.20. Alongside our 2021 consultation, we expect to carry out a similar disclosure process as for our May 2020 consultation. This would enable stakeholders to inspect the SMNCC model and for their advisers to inspect certain other pieces of analysis, in each case subject to confidentiality restrictions.

How to respond

1.21. 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.

1.22. We do not ask specific questions in this document. Rather, we welcome views on any of the matters discussed in this working paper.

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

Your response, data and confidentiality

1.24. 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

[24] Ofgem (2020), Updating the allowance for smart metering costs in the default tariff cap: working paper. https://www.ofgem.gov.uk/publications-and-updates/updating-allowance-smart-metering-costs-default-tariff-cap-working-paper

you do want us to keep your response confidential, please clearly mark this on your response and explain why.

1.25. 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.

1.26. If the information you give in your response contains personal data under the UK General Data Protection Regulation, the Gas and Electricity Markets Authority will be the data controller for the purposes of UK 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 1.

1.27. 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

1.28. 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?

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

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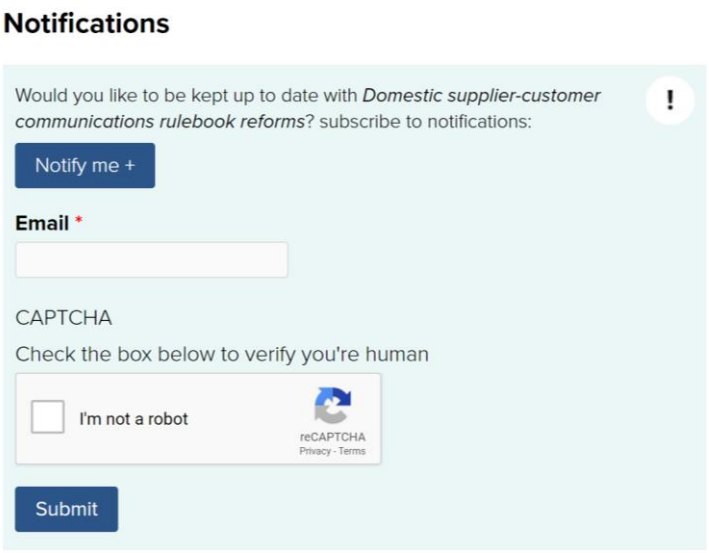

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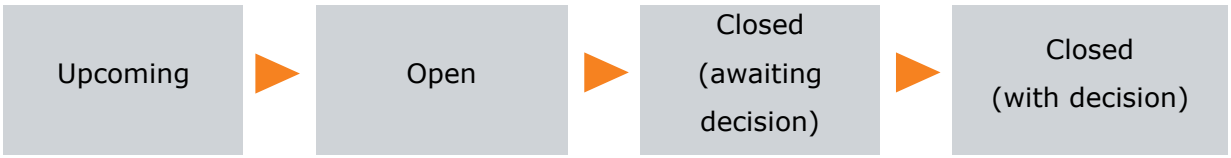

2. Rollout

This chapter explains the different options for setting credit rollout profiles. We discuss the general advantages and disadvantages of options with higher rollout profiles, and then review each of the rollout profile options in detail.

Rollout profile options

2.1. There are two main variables which affect our choice of a credit smart meter rollout profile.

- Whether we use an **average** or a **market leader** supplier rollout.[25]
- The rate of rollout during the framework – whether the average or market leader supplier rolls out smart meters in line with BEIS's policy ambition of market-wide rollout by mid-2025 (a '**target**' approach), or in line with their obligations, i.e. minimum installation requirements (a '**tolerance**' approach).

Average or market leader

2.2. For both the average and market leader options, we would use the same 2017 rollout figure. This reflects that we are calculating the change in smart metering costs relative to a fixed 2017 operating cost baseline.

2.3. For both options, we would use data on suppliers' domestic rollout. Under BEIS's rollout framework, each supplier will have a single annual target, which will take into account both domestic and non-domestic premises.[26] A supplier will not have specific domestic and non-domestic targets. However, the cap applies to domestic customers only, and the Act's

[25] In theory we could use a below-average rollout profile. We do not consider this further because it would likely mean that the revenues suppliers could recover in aggregate during the remaining life of the cap would be smaller than the costs of being on track to deliver market-wide rollout. This would not facilitate BEIS's policy objective.
[26] The obligation under the framework applies to Qualifying Relevant Premises – these are domestic premises, or non-domestic premises in scope of the rollout, where a smart meter (or an advanced meter where permissible) is not installed. (Standard licence condition 39A.4 of the electricity supply licence and standard licence condition 33A.4 of the gas supply licence).

objective is to protect default tariff domestic customers. We consider that we would protect these customers by using a suitable rollout profile for domestic customers. (We discuss how we would calculate this below). Some suppliers will have non-domestic customers – they will be able to raise revenue to pay for their non-domestic smart meter rollout from those customers.

2.4. We would use a rollout profile for domestic customers in general, rather than one which is specific to default tariff customers. This is coherent with our approach to calculating the operating cost allowance, which is based on our benchmarking of suppliers' domestic operating costs per customer. We also do not expect that suppliers will be differentiating between tariff types when rolling out smart meters.

Average

2.5. We would calculate an average rollout profile in the same way that we do at present. For the periods where historical information is, or will become, available (2018-20), we would use a weighted average of rollout for the larger suppliers who submit data to BEIS.[27]

- We would use a weighted average, rather than a simple average, so that this reflects the average impact on customers.

- We would not use data for the smaller suppliers in the market who do not submit data to BEIS. These suppliers have installed few smart meters, and so would pull down the average, making it less representative of the rollout profile for suppliers who serve most of the market.

Market leader

2.6. If we were to use a market leader rollout profile, we would set the profile using the following process.

- We would only look at the large legacy suppliers.[28] These suppliers serve most default tariff customers, and generally price their default tariffs at the cap – both

[27] Those classified as Large Energy Suppliers for the purpose of smart meter reporting.
[28] Large legacy suppliers, as defined in Ofgem's monitoring work, are those which have held a market share of at least 5% in either fuel since privatisation of the electricity and gas sectors.

these factors increase the importance of the SMNCC for determining their revenues. Even if a supplier who is not a large legacy supplier had a higher rollout profile, we would not see this as representative of the costs of serving a substantial number of default tariff customers.[29]

- We would look at the SMNCC to judge which supplier was the market leader, rather than the level of rollout. This is because the revenue provided through the SMNCC is affected by both the stock of existing smart meter installations and the flow of new ones. The supplier with the highest cumulative level of rollout does not necessarily have the highest costs in a given period.

- We would select the market leader based on the supplier with the largest forecast cumulative SMNCC over the full potential life of the cap (January 2019 to December 2023).[30] We would not select a different market leader for each cap period (or year). If we did that, the cumulative revenue available through the market leader SMNCC could be above the costs of any individual supplier. This would overfund suppliers (even the market leader), and would therefore not protect customers. Looking over the full potential life of the cap, rather than just at the remaining cap periods, would help us when calculating advanced payments. We have said that we will use a market leader rollout profile to calculate advanced payments between 1 October 2019 and 30 September 2021, so selecting the market leader supplier based on the full potential life of the cap would allow us to have a consistent market leader supplier for both historical and future cap periods. (If we did not adopt a market leader approach, we would need to decide separately how we would select the rollout profile for the purpose of calculating advanced payments).

2.7. Note that this process would select a supplier to set the market leader rollout profile, which we would then use in the SMNCC model. We would not use the market leader's costs

[29] In principle, a supplier who is not a large legacy supplier (i.e. one classified in the other large, medium, or small categories for Ofgem's monitoring work) with high rollout could still be concerned about its ability to recover sufficient revenue under the cap to meet its obligations. In practice, we are not aware of a supplier who is not a large legacy supplier which has both high rollout and a significant proportion of its customer base being default tariff customers priced at the cap. We therefore do not need to take this possibility into account.

[30] By using each supplier's rollout profile in the SMNCC model. We would then calculate the revenue per customer available through the SMNCC in each cap period, taking into account the length of each cap period and the profile of consumption over the year (as specified in the cap models). We would add up each supplier's figures across all cap periods.

(e.g. asset and installation costs). This is because we want the SMNCC to reflect the costs of an efficient supplier, which we define using an average efficiency standard for the purpose of the SMNCC review.[31] (Where we refer to an 'efficient' supplier in the remainder of this paper, we mean a supplier with average efficiency. Similarly, by 'efficient' costs, we mean the costs incurred by a supplier with average efficiency). The market leader could have below or above average efficiency.

Tolerance or target

Tolerance

2.8. Under the tolerance approach, we would set the rollout at the minimum volume of installations a supplier would need to meet its obligations under the new smart meter framework, based on the starting point in mid-2021. This starting point would depend on whether we took an average or a market leader approach.

2.9. BEIS has consulted on tolerance values for the first two years of its new framework. These are the years ending in June 2022 and June 2023. The cap could run until the end of 2023,[32] so we would need to make an assumption for the second half of 2023.

2.10. Our initial view is that we would assume that the implied tolerance value for the end of 2023 would be a linear extrapolation from the tolerances for the previous two years. Under BEIS's proposals, the tolerance value would increase by 1.5 percentage points between mid-2022 and mid-2023. Our implied tolerance value for the second half of 2023 would therefore be 0.75 percentage points higher than the tolerance applied on year two of the framework (July 2022 – June 2023).

2.11. This assumption would be solely for the purpose of setting the cap. BEIS will consult on tolerances for the remaining two years at a later date, based on its own analysis. Our assumption does not indicate anything about the tolerance values that BEIS may take in future.

[31] We use a tighter efficiency standard elsewhere in the cap. For example, we set the operating cost allowance based on the lower quartile minus a £5 efficiency factor.
[32] This is dependent on the Secretary of State's decision each year on whether to extend the cap.

Target

2.12. Under the target approach, the rollout profile would be a straight line connecting estimated rollout in mid-2021 with market-wide (100%) rollout in June 2025. This is the approach we took in our August 2020 decision.

2.13. Again, the starting point would differ between an average and a market leader approach.

First half of 2021

2.14. The choice between a tolerance approach and a target approach affects the rollout profile for the period where BEIS's new framework is in place.

2.15. BEIS's new framework will take effect from 1 July 2021. We will only have historical rollout data up to the end of 2020 when we take the decision for this review. This leaves a short gap. We will need to estimate rollout in the first half of 2021. This applies regardless of whether we use a target or a tolerance approach from mid-2021 onwards.

2.16. We have identified three options for estimating rollout in the first half of 2021. In each case, the cumulative rollout at the end of the first half of 2021 would be the sum of the cumulative rollout to the end of 2020[33] and the estimate of the incremental rollout in the first half of 2021.

- The first option is our current approach. We currently estimate the gap between historical data and the start of the new framework using suppliers' average progress between 2017 and 2019.[34] We could take a similar approach as part of this review. We would assume that the annualised rollout rate during the first half of 2021 would be the same as the average between 2017 and 2019. The only potential difference would be that, if we used a market leader approach, we

[33] This figure would be different between an average and a market leader approach, as set out in the 'Average or market leader' section above.
[34] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraph 3.61. https://www.ofgem.gov.uk/publications-and-updates/decision-reviewing-smart-metering-costs-default-tariff-cap

would fill in this gap using the average rollout rate for the market leader between 2017 and 2019 (rather than for the weighted average as at present).

- The second option would be to calculate the incremental rollout in the first half of 2021 using suppliers' annualised rollout rate in 2020 – i.e. a year affected by COVID-19. We would use different values under an average and a market leader approach.

- The third option would be to use suppliers' rollout plans for the first half of 2021, as provided to us.[35] We would use different values under an average and a market leader approach.

2.17. The first option would reflect the progress that suppliers have been able to deliver under the current 'all reasonable steps' rollout obligation, which will still be in place during the first half of 2021. However, COVID-19 was not a factor in these years, meaning that historical performance could overstate what is achievable. All else being equal, overstating rollout would lead to an SMNCC which is too high.

2.18. The second option would be based on 2020, and so would include an impact from COVID-19. However, the COVID-19 impacts over 2020 are not necessarily the same as those which suppliers will face during the first half of 2021. In 2020, there was a period where suppliers paused all but essential metering work. At present, where it is in line with the relevant guidance and with additional COVID-secure safety measures in place, suppliers are continuing to install smart meters. Using 2020 data might therefore understate the rollout that suppliers are able to achieve in the first half of 2021. All else being equal, understating rollout would lead to an SMNCC which is too low.

2.19. The third option would take into account suppliers' expectations of the impact of COVID-19, although the COVID-19 situation is likely to continue to change since suppliers submitted these plans. However, suppliers' plans do not split their planned rollout between credit and PPM meters, whereas we set separate SMNCC allowances for credit and PPM meters. To use this option, we would need to assume that the incremental rollout (as a percentage of the customer base) was the same in the first half of 2021 for credit and PPM meters. This would be a simplification. It is unlikely to have a material impact for the credit

[35] We receive this information as part of Ofgem's role to provide regulatory oversight of the rollout.

SMNCC – given that credit meters represent the vast majority of domestic meters, credit rollout and overall rollout will be broadly similar. The potential scale of any discrepancy would be larger between PPM rollout and overall rollout, though we do not have a clear reason to expect there to be a large discrepancy in practice.

2.20. We have not reached an initial view on which option we would use. We will keep the COVID-19 situation under review. By the time of our late spring consultation we will have more information about COVID-19 in the first few months of 2021, including early information on the impact on rollout. We will therefore be able to consider which option might be most appropriate.

Options

2.21. The combination of the choices between an average and a market leader, and between a tolerance and a target approach gives us four options, as shown in Table 1.[36]

Table 1 – Rollout profile options

	Average	Market leader
Tolerance	Option A – Average tolerance	Option C – Market leader tolerance
Target	Option B – Average target	Option D – Market leader target

Principles for considering different rollout profiles

2.22. We consider the individual options in the next section. Before this, we set out some principles for considering different rollout profiles. We intend to use these principles to help us choose which rollout profile option to propose in our late spring 2021 consultation. However, there are clear trade-offs between these principles, so there will be judgement about which option to select.

2.23. **Reducing costs to default tariff customers:** The rollout profile affects the immediate cost to default tariff customers. This is because the SMNCC changes depending on

[36] These are illustrative options for the purpose of this working paper. In principle there could be intermediate options between these.

the rollout profile. The majority of default tariff customers are on tariffs priced at the cap level.[37] We can therefore safely assume that a change in the SMNCC will affect prices for most default tariff customers. We must keep in mind that the objective of the cap is to protect default tariff customers. This is especially important at present, given the economic impacts of COVID-19 on customers.

2.24. **Increasing the benefits from smart metering:** The rollout profile affects the amount of revenue that suppliers can recover, and suppliers can choose to spend this on smart metering.[38] To the extent that additional revenue would allow suppliers to roll out more smart meters than they are required to during the remaining life of the cap, this could deliver the benefits of smart metering sooner.[39] As well as benefits for suppliers, smart meters have a wide range of benefits to customers, network companies and the environment.[40]

2.25. **Supporting suppliers to deliver their obligations:** Suppliers will have individual legally-binding installation requirements under the new framework, which will not vary based on how we set the rollout profile and SMNCC. These legally-binding installation requirements will differ between suppliers. The rollout profile will affect how many suppliers can recover revenues which reflect the efficient costs of delivering their rollout obligations. If a supplier cannot recover revenue to do this, it will incur a deficit, unless it has below-average unit costs (e.g. for purchasing and installing a smart meter).[41] When assessing the revenue that suppliers can recover, we consider this over the life of the cap, rather than in an individual cap period. The relationship between the rollout profile and suppliers' obligations only applies up to a market leader tolerance rollout profile – a higher rollout profile than this would not affect the ability of an efficient supplier to meet its obligations.

[37] The Ofgem data portal shows that the large legacy suppliers have the highest number of default tariff customers, and that the average standard variable tariff from these suppliers is at the cap level.
[38] Any effect on suppliers' rollout programmes would likely be greater for those suppliers with a significant proportion of their customer base on default tariffs priced at the cap (i.e. the large legacy suppliers). For these suppliers, any change in revenues as a result of changes to the SMNCC could be significant, and might therefore increase the amount of revenue available for smart metering.
[39] This is relative either to waiting until suppliers are required to roll out these smart meters in the final 18 months of the framework, or to waiting until traditional meters expire and are replaced with smart meters during the normal course of business.
[40] BEIS's smart meter cost-benefit analysis describes the benefits of smart metering.
BEIS (2019), Smart meter rollout: cost-benefit analysis 2019.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/831716/smart-meter-roll-out-cost-benefit-analysis-2019.pdf
[41] If a supplier had above-average rollout but below-average unit costs (for its smart metering activities), its total smart metering costs could still be in line with the revenues it was able to recover under the SMNCC allowance.

2.26. **Ensuring cost-effectiveness:** There is no requirement on suppliers to roll out any more smart meters than their obligations, regardless of how much revenue we allow them to collect under the cap. A supplier might choose to spend additional revenue on smart metering.[42] However, a supplier might consider that it has alternative priorities for any additional revenue.[43] Although we have been clear that the purpose of the SMNCC is to help suppliers to roll out smart meters, we have also noted that we are unable to ring-fence funding for smart metering.[44]

2.27. We welcome any feedback on whether stakeholders agree with these principles, or whether they have any changes to suggest.

Discussing the rollout profile options

Option A: Average tolerance

2.28. Average tolerance[45] is the lowest rollout profile option. It would therefore deliver the lowest SMNCC. By limiting the revenue that suppliers would be able to collect, this option would deliver the lowest immediate costs to default tariff customers.

2.29. Option A would give an average supplier sufficient revenue to reflect the efficient costs of meeting its obligations. It would therefore ensure that customers paid for the costs of delivering these obligations. At the same time, it would avoid the risk of overpayment if suppliers did not roll out any smart meters beyond their obligations.

[42] For example, a supplier might want to make early progress so as to reduce the number of smart meters that it needed to roll out in future years of the framework, reducing the risk of future compliance issues. A supplier might also see smart meters as a transformative tool for its business – for example allowing it to streamline its back office processes, or to offer innovative new tariffs.
[43] For example, a supplier might choose to invest the money in another part of its business. A supplier might also choose to use the money to increase its profits (or mitigate any losses).
[44] Ofgem (2018), Decision – Default tariff cap – Overview document, paragraph 2.64. https://www.ofgem.gov.uk/system/files/docs/2018/11/decision_-_default_tariff_cap_-_overview_document_0.pdf
[45] For an explanation of this and each of the following options, please see the section 'Rollout profile options' above.

2.30. However, in aggregate, suppliers would not be able to collect enough revenue to reflect the efficient costs of delivering market-wide rollout.[46] This option would therefore not align with BEIS's policy ambition for the smart meter framework.

2.31. Suppliers with above-average rollout would also not receive sufficient revenue during the remaining life of the cap[47] to reflect the efficient costs of meeting their rollout obligations. Their obligations would remain unchanged, but unless these suppliers had below-average unit costs then they would incur a deficit as a consequence. Under the Act, we must have regard to the need for an efficient supplier to be able to finance its licensed activities,[48] though this does not mean that we must achieve this need at all times.

Option B: Average target

2.32. Average target is our current approach. It would result in a higher SMNCC than average tolerance (option A), but a lower SMNCC than market leader target (option D). The SMNCC for market leader tolerance (option C) may be, but is not necessarily, larger than for average target. We discuss this further in the section below on option C.

2.33. Average target ensures that, in aggregate, customers pay for the efficient costs of delivering BEIS's policy ambition, but no more. This option would therefore align with BEIS's policy ambition at an aggregate level, supporting market-wide rollout and the benefits that smart meters can bring overall.

2.34. At the same time this option would also protect customers by ensuring that they would not pay more than the aggregate efficient cost of delivering market-wide rollout. Relative to options with a higher rollout profile, this option would mitigate the immediate costs to customers.

2.35. However, as with all the options, suppliers are not required to roll out any more smart meters than their obligations. If suppliers only rolled out smart meters in line with their

[46] We are talking about the revenue from default tariff customers, and the share of total smart metering costs to be paid by default tariff customers (allocated on a per customer basis). Suppliers will have higher total smart metering costs, but will be able to recover some revenues from domestic customers on fixed tariffs.
[47] Suppliers may have received revenues in excess of costs in previous cap periods. However, we will largely recover any such excess costs by taking advanced payments into account when calculating the level of future cap periods. This is separate to defining the rollout profile.
[48] Domestic Gas and Electricity (Tariff Cap) Act 2018, section 1(6)(d). https://www.legislation.gov.uk/ukpga/2018/21/section/1/enacted

obligations, then they would be able to recover revenue in excess of their costs for every option except option A. In aggregate, suppliers would therefore have a surplus.

2.36. At the same time, individual suppliers with above-average rollout may not receive sufficient revenue to reflect the efficient costs of meeting their obligations. They would incur a deficit unless they also had below-average unit costs. This option uses a target approach rather than the lower tolerance approach. However, as suppliers' legally-binding installation requirements vary based on their previous rollout, some suppliers could still have higher efficient costs. There is no guarantee that the average target SMNCC is greater than the SMNCC that each supplier would require to cover the efficient costs of meeting its obligations. As set out in our August 2020 decision, we cannot set a single allowance level that reflects the costs of each efficient supplier.[49] When setting the single allowance level, we must have regard to the ability of an efficient supplier to finance its licensed activities. We must also protect customers, in line with the Act's objective.

2.37. If some suppliers with above-average rollout and average efficiency would incur a deficit, then this could provide incentives for these suppliers to improve their efficiency. Providing incentives for suppliers to improve their efficiency is one of the needs to which we must have regard under the Act. Whether it is realistic for an individual supplier to avoid a deficit by improving its efficiency would depend on the size of the deficit that it would face if it had average efficiency. It also depends on whether having higher rollout makes it easier or harder for a supplier to have below-average unit costs. In principle, a supplier who rolls out more smart meters might be expected to become more efficient at doing this (e.g. by learning about how to optimise its processes). However, the types of customers who might be more likely to receive a smart meter at an early stage could be different from those who receive a smart meter later (e.g. in terms of their degree of engagement with the energy market), and this could affect costs at different stages of the rollout.

2.38. Even if the average target SMNCC was sufficient for suppliers with above-average rollout to meet their obligations, it would not be sufficient for them to meet their targets (unless they had below-average unit costs). These suppliers could therefore incur a deficit, or could reduce the number of smart meters they install in future years. In response to our May

[49] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraph 3.29. https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf

2020 consultation, one supplier told us that suppliers with an above-average rollout would slow down to align their costs with an allowance based on the average profile.[50]

2.39. We discussed the risk of suppliers with above-average rollout slowing down their rollout in our August 2020 decision.[51] We do not repeat the full discussion here – though we welcome any views from stakeholders on the considerations set out there. In summary, there is a trade-off between the customer benefits of rolling out more smart meters earlier than otherwise and the additional costs to customers.

2.40. We include the supplier benefits of smart metering within the SMNCC model, meaning that we take these into account when calculating suppliers' net costs (and therefore the additional costs to customers). The customer benefits of rolling out more smart meters earlier than otherwise could therefore be either private benefits to customers who receive a smart meter (e.g. energy savings) or societal benefits (e.g. network and environmental benefits).

2.41. The objective of the Act is to protect current and future default tariff customers. When considering protection for default tariff customers, we can take into account both any near-term increase in costs from rolling out more smart meters earlier than otherwise and the benefits they will receive through this earlier rollout. This includes both their private benefits and their share of the societal benefits. However, rolling out more smart meters earlier than otherwise will also deliver wider benefits beyond default tariff customers (both private benefits to non-default tariff customers, and the remainder of the societal benefits). There is a strategic question about how to balance the impact on default tariff customers with the wider impacts on non-default tariff customers.

2.42. When responding to this working paper, we are particularly interested in stakeholders' comments on what the wider impacts would be of suppliers with above-average rollout slowing down. We could use a higher rollout profile to reduce the risk of these suppliers slowing down, but this would increase costs for default tariff customers. We would therefore need to be clear why this would be in these customers' interests, based on specific

[50] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraph 3.32.
https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf

[51] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraphs 3.33 to 3.40.
https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf

consequences for the smart meter rollout. We would particularly welcome evidence that any higher allowance would be used to fund the smart meter rollout specifically.

2.43. We are also interested in evidence from suppliers with above-average historical rollout on what level of rollout they are currently (i.e. before the SMNCC decision) planning for under the new smart meter framework: in line with their obligations, in line with their targets, or somewhere in between.

Option C: Market leader tolerance

2.44. Market leader tolerance would also result in a higher SMNCC than under average tolerance (option A), but a lower SMNCC than market leader target (option D).

2.45. Market leader tolerance would mean that each supplier (including the market leader) could recover sufficient revenue to reflect the efficient costs of meeting its obligations. It could therefore contribute to ensuring that efficient suppliers are able to finance their licensed activities.

2.46. As option C is based on a market leader, other suppliers would require a smaller amount of revenue to reflect their efficient costs of meeting their obligations. Other suppliers would be able to collect the revenue permitted through the SMNCC, and could choose to use this to roll out more smart meters than their obligations. This could help to deliver the benefits of smart metering sooner.

2.47. However, again, suppliers are not required to roll out additional smart meters above their obligations. There is no guarantee that other suppliers will spend any additional revenue on rollout. This creates a risk that these suppliers have a surplus, paid for by default tariff customers. The maximum potential scale of any surplus grows with the amount of revenue that we allow suppliers to collect through the SMNCC.

2.48. Option C would also not provide enough revenue for all suppliers to meet their targets. (These targets do not have legal force – suppliers' legally-binding installation requirements depend on the tolerances).

- The market leader supplier would only be able to collect sufficient revenue to meet its obligations – not its targets (unless it had or achieved below-average unit costs).

- Similarly, other suppliers with above-average rollout would only be able to collect sufficient revenue to meet their obligations and not their targets (again, unless they had below-average unit costs). The effect will be lower than for the market leader supplier, because these suppliers would need less revenue to meet their obligations given that they are less advanced in their rollouts.

- The market leader tolerance rollout profile would not deliver market-wide rollout by mid-2025 if suppliers continued to rollout smart meters at the same rate up to mid-2025. However, in the period up to the end of the cap, the market leader tolerance profile would allow suppliers with below-average rollout to recover sufficient revenue to at least meet their targets (unless they had above-average unit costs).

- Suppliers' targets converge over time, as there is the same endpoint (market-wide rollout) in each case. However, this convergence does not alter the point that option C would not provide enough revenue for all suppliers to meet their targets.

2.49. Some suppliers may have current rollout plans or capacity which are larger than the amount of rollout they would need to meet their obligations. Any revenue deficit (between the revenue they could recover under option C and the revenue they would require to maintain their current rollout plans or capacity) could therefore lead to them reducing rollout.

Selecting between options B and C

2.50. The SMNCC is not necessarily greater for option C versus option B. Our current expectation is that a market leader tolerance SMNCC would start out higher than an average target SMNCC in October 2021. However, the profiles are likely to cross at some point, as average target remains on track to achieve market-wide rollout by mid-2025.

2.51. Options B and C have different advantages and disadvantages (as discussed in the respective sections above). We could calculate both, and select the option with the highest cumulative SMNCC from October 2021 onwards.[52] This would ensure that we were both

[52] As with selecting the market leader, we would take into account the length of each cap period and the pattern of annual consumption when calculating the total revenue that a supplier could collect through the SMNCC.

providing revenue for the aggregate cost of delivering market-wide rollout, and ensuring that each efficient supplier had sufficient revenue (over the life of the cap) to meet its obligations. The cost to customers would only be the minimum required to meet these two goals simultaneously.

Option D: Market leader target

2.52. Market leader target would deliver the highest SMNCC of all the options. This would ensure that all efficient suppliers – even the market leader – would be able to recover sufficient revenue to deliver market-wide rollout (as well as their obligations). The ability to collect revenue through the cap would not be a constraint on any supplier's ability to roll out smart meters. Relative to the other options, this could maintain or even increase the speed of rollout. This could help deliver the benefits of smart meters sooner.

2.53. However, market leader target means that every other supplier would be able to collect revenues in excess of their efficient costs. By definition, this means default tariff customers would be paying an amount above efficient costs. This would apply even if all suppliers chose to roll out smart meters in line with their targets.

2.54. The degree of overfunding would be greater if some suppliers decided to spend the additional revenue on other activities, or keep it as profit. Suppliers would still only be required to roll out smart meters in line with their obligations. Given that this option has the highest SMNCC, it has the highest maximum possible surplus for suppliers.

2.55. Furthermore, some suppliers may consider that even if funding is not a binding constraint, there might be other constraints on the speed at which they can roll out smart meters. This could particularly be the case where achieving market-wide rollout would mean rolling out smart meters at a faster rate than they have done in the past.

2.56. This option therefore has both the highest immediate cost to default tariff customers, and the greatest risk that the amount they pay is not commensurate with the benefits delivered (through additional smart meter rollout).

Summary

2.57. We have not reached an initial preference between the options.

2.58. We welcome any feedback from stakeholders on all of these options. We encourage stakeholders to provide feedback on each option and our considerations of these – even for

the options which they do not prefer. We also welcome feedback on the idea of calculating both options B and C and selecting the option with the highest cumulative SMNCC from October 2021 onwards, as discussed above.

Separate mechanism

2.59. As noted above, we must set a single cap level across suppliers. This creates a risk that some suppliers will have higher or lower efficient smart metering costs than the allowance they can recover through the cap. If suppliers with lower efficient costs charge to the level of the cap but do not utilise the full allowance to support the further rollout of smart metering, the amount customers pay may not be commensurate with the rollout suppliers achieve in practice. This risk is higher where we set a higher allowance, and it is those suppliers that are rolling out slower that are more likely to be able to receive more money than they need to meet their minimum rollout obligations.

2.60. We have received a suggestion that there should be a separate mechanism (parallel to the cap) to adjust suppliers' revenues based on their actual rollout performance. We are continuing to consider this suggestion. We recognise the intention would be to better align the revenues suppliers can recover under the cap and the efficient costs of the rollout they deliver. However, we also recognise that there would be a number of challenges. For example, we would need to consider: alignment with the BEIS framework, how to define the revenue that suppliers received, how to define a supplier's efficient rollout costs (using average costs or in another way), the legal basis for any mechanism, and how any payments would operate in practice.

2.61. We welcome any comments on this suggestion.

3. Implications of rollout profile

This chapter discusses the potential implications of the rollout profile for other areas in the SMNCC model: installer productivity, marketing costs, and smart meter asset and installation costs.

Installer productivity

3.1. Installer productivity ('productivity') is the number of smart meters that a supplier can install a day per installer. We use productivity when estimating the cost per installation in future years. If productivity improves, then the cost per installation falls. This reduces the SMNCC.

3.2. BEIS has developed expectations for how suppliers' operational fulfilment[53] will improve in future. BEIS assumes that suppliers will improve their operational fulfilment gradually between the second half of 2021 and the second half of 2022, and that this will increase average market conversion rates[54] by 7% by the second half of 2022. This is based on discussions with suppliers, as well as improvements already delivered by some suppliers.[55] Improvement in operational fulfilment would mean higher productivity.[56]

3.3. In practice, BEIS's proposed tolerances for the period between the second half of 2021 to the first half of 2023 are determined by its Installation Calibration Mechanism (ICM). This mechanism calibrates the number of installations that suppliers could be required to achieve

[53] Operational fulfilment is about the effectiveness of suppliers' processes to carry out smart meter installations, once a customer is eligible for a smart meter and willing to accept one.
BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 43(ii) and figure 1.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937448/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-condoc.pdf
[54] Going from customers who are willing to accept a smart meter to those who have one installed.
[55] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 54.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937448/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-condoc.pdf
[56] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 89.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937448/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-condoc.pdf

in a given half year, based on the number that have been achieved currently and historically.[57] This means that BEIS's expected productivity improvements do not currently determine the tolerances for the period July 2021 to June 2023.

Tolerance profile

3.4. When setting the productivity assumption under a tolerance rollout profile, one option would be to align with the expectations for improvements in operational fulfilment (and therefore productivity) set out in BEIS's consultation. These expectations are informed by BEIS's experience and evidence-gathering. Taking account of this expected improvement in productivity would help to protect customers, as we would be reducing the estimated cost per installation in future years.

3.5. The disadvantage of this option is that it would not align with the actual tolerances, as set using the ICM. However, the ICM is a top-down approach – it calibrates the number of installations, to ensure that the targets and tolerances applied across industry are realistic. Regardless of the ICM, installer productivity could still be higher than BEIS's expectations (based on current and historical averages). As explained in BEIS's consultation, the ICM does not represent an upper limit on the operational installation capacity of the market – it operates as a safety net to avoid unrealistic minimum targets based on unconstrained consumer demand.

3.6. Our initial view is that it would be appropriate to use BEIS's expected improvements in operational fulfilment if we were using a tolerance rollout profile. This would reflect an achievable level of productivity. The ICM does not provide a way of developing an alternative productivity estimate, so precise alignment with the tolerances used is not feasible.

3.7. BEIS has only set out expectations for improvements in operational fulfilment. Its modelling of meter installations does not make assumptions about the level of installer productivity. We would therefore need to be able to apply the improvements in operational fulfilment to a base level of productivity. Our initial view is that this base level of productivity could be the level we currently use in the SMNCC model, based on the average productivity

[57] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraphs 51 and 53. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937448/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-condoc.pdf

between 2017 and 2019.[58] We would not intend to use productivity data from 2020 to project future productivity, given that this data would be affected by COVID-19.

Target profile

3.8. A target rollout profile would involve suppliers rolling out more smart meters than the tolerance rollout profile with the same choice of supplier (i.e. average or market leader). In principle, suppliers could achieve higher rollout by increasing the size of their smart metering operations, or by using their existing resources more efficiently (i.e. through higher productivity).

3.9. We do not consider it reasonable to assume that any increase in rollout (above suppliers' obligations) would solely be the result of suppliers scaling up their smart metering operations. Given we are considering a target rollout profile which has higher rollout than currently, we have to consider what would be the most coherent answer in a situation where suppliers were on track to reach market-wide rollout. We have to consider how the productivity assumption fits with the rollout profile assumption.

- Assuming that productivity was unchanged in this situation would imply that BEIS's expectation for improvements in operational fulfilment is the maximum that could ever be achieved. This is not what BEIS's figure was intended to predict. It is also not BEIS's position – BEIS noted that further improvements in productivity were one reason why it anticipated that suppliers could roll out more smart meters than their obligations.[59]

- To achieve market-wide rollout, more customers would need to be willing to accept a smart meter. Assuming unchanged productivity would mean assuming that such changes in customer attitudes would have no effect on productivity. This could be a large assumption. For example, if suppliers' initiatives[60] meant

[58] Ofgem (2020), Reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraph 3.63. https://www.ofgem.gov.uk/system/files/docs/2020/08/reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf

[59] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 64. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937448/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-condoc.pdf

[60] For example, improvements in operational fulfilment and engagement strategies to improve the customer journey.

that customers felt more positively about smart meters, they might be less likely to cancel appointments, reducing the likelihood of gaps in installers' schedules which would reduce productivity.

3.10. At this stage, we do not have an initial view on productivity under a target approach.

3.11. If we choose a target approach, we would not carry out a detailed bottom-up exercise to estimate productivity impacts. Any such exercise would be complex, and the gains in terms of accuracy could be limited, given that this relates to what would be achievable in a hypothetical scenario where suppliers had higher rollout. In any case, productivity is only an interim variable used to set an initial allowance – we can use advanced payments in later cap periods to correct for any differences, once actual installation data is available.

3.12. Our initial view is that we would estimate productivity impacts by applying a percentage uplift to BEIS's productivity expectation, such that part of any increase in rollout would be delivered by productivity improvements and part by increased smart meter operations costs.

Marketing costs

3.13. Suppliers may incur marketing costs from encouraging customers to take up smart meters. We include marketing costs as a category in the SMNCC model. Higher marketing costs therefore increase the SMNCC.

3.14. In response to our May 2020 consultations, one supplier said that we should use future reviews to consider how BEIS's new framework could affect suppliers' marketing costs (i.e. by higher rollout obligations increasing the amount of investment needed from suppliers to encourage customer take-up of smart meters). The supplier specifically gave the example of providing discounted tariffs as a way to do this.[61] In effect, the question is if suppliers were to install more smart meters, whether they would need to spend more on marketing to achieve this.

[61] Ofgem (2020), Technical annex to reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraph 3.333. https://www.ofgem.gov.uk/system/files/docs/2020/08/technical_annex_to_reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf

Tolerance profile

3.15. As noted above, BEIS's proposed tolerances are determined by the ICM, and are therefore in line with the rollout suppliers are achieving currently. The tolerances therefore do not assume that suppliers have to roll out more smart meters than they currently do. This eliminates one potential reason (increased rollout) why suppliers might incur increased marketing costs.

3.16. Even with a fixed rollout rate, marketing costs could still increase over time if the remaining customers were harder to engage. However, BEIS's modelling assumes that customers' attitudes towards smart meters evolve over time in line with historical experience.[62] BEIS is not assuming that suppliers manage to persuade customers to develop more positive attitudes to smart meters at a greater rate than previously. Rather, the change BEIS assumes – relative to the historical situation – is an increase in operational fulfilment. (As noted above, it is possible that an increase in operational fulfilment could help to improve customer attitudes towards smart meters – but this is a knock-on consequence of changes to operational fulfilment, rather than a direct change in customer attitudes).

3.17. Furthermore, BEIS's assumptions about changes in customer attitudes feed into rollout numbers which are higher than the proposed tolerances (based on the ICM). If suppliers were only seeking to meet their tolerances, then even fewer customers developing a more positive attitude towards smart meters would still be sufficient to deliver this.

3.18. Our initial view is therefore that no additional allowance for marketing is required in the event that we use a tolerance rollout profile.

Target profile

3.19. To meet their targets, suppliers would need to roll out more smart meters than they have done historically.

[62] Using data from Smart Energy GB's Outlook survey.
BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers. Annex B: Analytical evidence, paragraphs 17 and 18.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937398/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-annex-b.pdf

3.20. As noted above, BEIS's assumed improvements in operational fulfilment deliver higher rollout than the proposed tolerances. Therefore, suppliers could get part of the way towards their targets without customer attitudes (i.e. a factor which could be influenced by marketing) changing.

3.21. Beyond this, suppliers could increase their rollout by improving their operational performance, rather than spending more on marketing. Improved operational performance would mean that suppliers would roll out smart meters to a greater fraction of the customers who are willing to accept one. Improved operational performance could also have a feedback effect on customers' attitudes towards smart meters and lead to positive word of mouth – BEIS notes that poor installation experiences can be an important source of negative PR, and that negative PR can affect customer attitudes.[63]

3.22. Even if any improvements in rollout were driven by marketing, this would not necessarily need to be the result of activity by suppliers themselves. Smart Energy GB (SEGB) is the body responsible for leading coordinated consumer engagement activities on behalf of energy suppliers during the smart meter rollout. BEIS recently published a response to its consultation on future coordinated customer engagement. As part of this, BEIS confirmed that SEGB's objectives would shift from creating customer awareness of smart meters, to activities including creating customer demand for smart meters.[64] This coordinated activity could contribute to improvements in rollout. We include SEGB's costs in the cap through the pass-through SMNCC allowance, and therefore they do not form part of this review of the non-pass-through SMNCC.

3.23. In any event, we noted in our August 2020 decision that we would be cautious about providing an allowance for discounted tariffs. We said that this would risk creating a transfer from default tariff customers to customers on fixed tariffs, which runs contrary to protecting default tariff customers (the objective of the Act). We also said that it would be practically difficult to distinguish discounts offered to encourage customers to select a smart meter from

[63] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers, paragraph 64. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937448/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-condoc.pdf

[64] BEIS (2020), Smart Metering Implementation Programme: response to the consultation on future coordinated consumer engagement, p5. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937296/future-coordinated-consumer-engagement-govt-response.pdf

discounts offered for general customer acquisition purposes.[65] Our initial view is that we would maintain this position as part of this review.

3.24. Our initial view is therefore that no additional allowance for marketing is required, even if we were using a target rollout profile.

Smart meter asset and installation costs

3.25. Two significant parts of the costs of smart metering are the cost of buying the smart meter assets and the cost of installing them. These costs depend on both the number of smart meters installed, and the unit costs of smart meter assets and installations. The higher these costs, the higher the SMNCC.

3.26. Increasing the number of smart meters rolled out could, in some circumstances, create pressure on unit costs. As noted above, the tolerances are calculated based on current rollout (and therefore do not require suppliers to increase their rollout). The risk of increased unit costs therefore only applies in the case of a target rollout profile.

3.27. In practice, we have not identified a reason why there would be increased unit costs, even if rollout increased. We discuss asset costs and installation costs below.

Assets

3.28. Higher rollout would increase supplier demand for smart meters. However, there are several manufacturers of smart meters. This should limit the risk of supply constraints leading to higher prices.

3.29. Suppliers have also had significant notice of BEIS's policy intentions for market-wide rollout, going back to a consultation in 2019. A supplier who was trying to meet this goal would have had time to prepare, including developing the necessary commercial arrangements to buy smart meters.

[65] Ofgem (2020), Technical annex to reviewing smart metering costs in the default tariff cap: August 2020 decision, paragraph 3.336. https://www.ofgem.gov.uk/system/files/docs/2020/08/technical_annex_to_reviewing_smart_metering_costs_in_the_default_tariff_cap_-_august_2020_decision.pdf

3.30. Our initial view is therefore that we do not consider that increased rollout would lead to higher smart meter asset unit costs.

Installations

3.31. Suppliers may need more installers if they need to roll out more smart meters. One way of a supplier obtaining more installers would be to hire installers from other suppliers. If there was a shortage of qualified installers, then this competition between suppliers could lead to higher wages.

3.32. However, BEIS expects that installer productivity should increase (as discussed above). This would limit the need for suppliers to obtain more installers, and therefore the need for competition between suppliers to attract and retain installers.

3.33. Suppliers can also train installers themselves, instead of hiring installers from other suppliers. A supplier that wanted to achieve a high level of rollout would be able to develop a training plan that was in line with its ambitions.

3.34. In the short-term, another factor limiting upward wage pressure may be the COVID-19 pandemic. BEIS recently said that "some energy suppliers have reported that the attrition rate risk of installers has been reduced due to the current wider economic position".[66] If installers are less likely to leave their jobs, then it is less likely that the risk of installers leaving their jobs will result in significant additional costs to suppliers.

3.35. Our initial view is therefore that we do not need to apply an uplift to installation unit costs to reflect any increase in rollout under a target approach.

[66] BEIS (2020), Smart meter policy framework post 2020: minimum annual targets and reporting thresholds for energy suppliers. Annex B: Analytical evidence, paragraph 20. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/937398/smart-meter-policy-framework-post-2020-minimum-targets-reporting-thresholds-annex-b.pdf

Appendices

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1	Privacy notice on consultations

Appendix 1 – Privacy notice on consultations

Personal data

The following explains your rights and gives you the information you are entitled to under the UK General Data Protection Regulation (UK 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 UK GDPR makes provision for Ofgem to process personal data as necessary for the effective performance of a task carried out in the public interest. i.e. 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".