Decision Appendix

Default Tariff Cap: Decision

Appendix 7 – Smart metering costs

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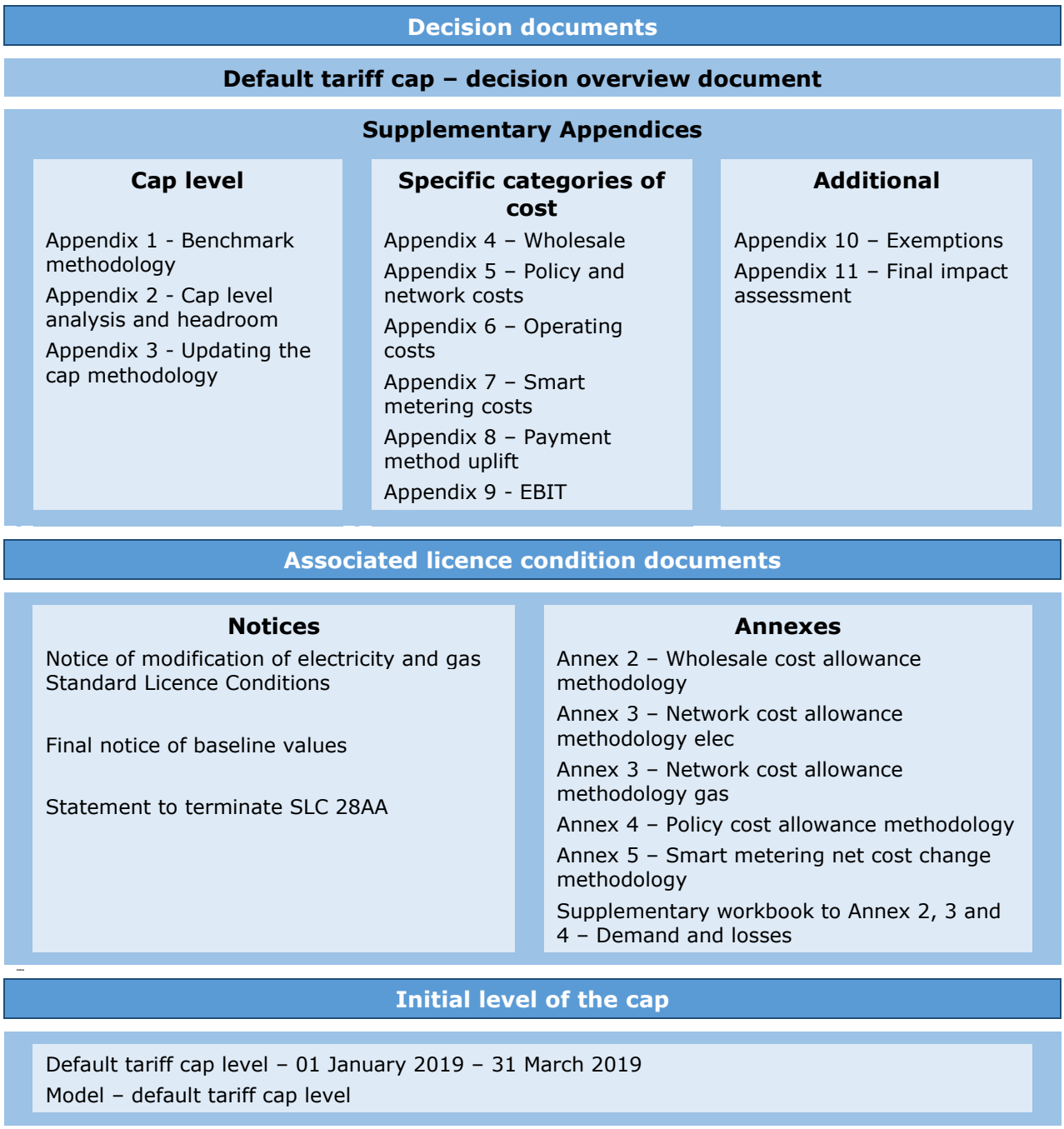
In accordance with the Domestic Gas and Electricity (Tariff Cap) Act 2018, we are implementing the default tariff cap to come into effect from 1 January 2019. This supplementary appendix sets out our decision and the detailed methodology in relation to smart metering costs.

Please see the default tariff cap – decision overview document for an accessible summary of the complete methodology.

Document map

Figure 1 below provides a map of the documents published as part of the decision on the implementation of the default tariff cap.

Figure 1: Default tariff cap – decision document map



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1. Introduction

Summary

1.1. In our May[1] and statutory[2] consultations we set out our proposed position to include a separate smart metering increment which would enable us, when initially setting and subsequently updating the cap, to vary the costs of the smart metering rollout in a different manner to the other elements of the cap.

1.2. We maintain our position on the use of a separate smart metering increment, designated the **Smart Metering Net Cost Change (SMNCC)**. This reflects the change from the 2017 baseline to subsequent cap periods of industry body charges for smart metering and suppliers' smart metering net rollout costs.

1.3. The baseline for smart metering net costs has been set as part of the operating costs baseline, using supplier submissions to Ofgem and is inclusive of the Data Communications Company (DCC) charges (including charges for Alternative Home Area Network Company (Alt HAN Co), Smart Energy Code Administrator and Secretariat (SECAS)), Smart Energy GB (SEGB) and Smart Meter Installation Code of Practice (SMICoP) governance charges (hereafter referred to as "DCC, SEGB and SMICoP charges") as well as baseline year smart costs. In Chapter 2 we explain the default tariff cap smart metering costs methodology.

1.4. In Chapter 3 we detail the statutory consultation responses from stakeholders along with our responses and any changes we have made as a result.

Background

1.5. Energy suppliers are required to take all reasonable steps to roll out smart meters to all their domestic and small business customers by the end of 2020. Smart metering brings immediate benefits to consumers, helping them to take control of their energy usage. It is a key enabler for the transition to a more flexible energy market and the move to a low carbon economy, with suppliers seeing net savings over the longer term that, in a competitive market, will be passed on to customers.

1.6. In addition, smart metering is also specifically referenced in the Domestic Gas and Electricity (Tariff Cap) Act 2018 ("the Act") as a key consideration in reviewing the default tariff cap:

7. Review of competition for domestic supply contracts

(1) The Authority must carry out a review into whether conditions are in place for effective competition for domestic supply contracts.

(2) Such a review must, among other things, consider the extent to which progress has been made in installing smart meters for use by domestic customers.

[1] Default Tariff Cap: Policy Consultation Appendix 10 - Smart metering costs
https://www.ofgem.gov.uk/system/files/docs/2018/05/appendix_10_-_smart_metering_costs.pdf
[2] Default Tariff Cap: Statutory Consultation Appendix 7 - Smart metering costs
https://www.ofgem.gov.uk/system/files/docs/2018/09/appendix_7_-_smart_metering_costs_0.pdf

1.7. As such, we consider smart metering to be a key part of the current and future retail energy market. The default tariff cap should give regard to providing sufficient allowance to enable suppliers to continue their smart metering rollouts in an efficient manner.

1.8. We have considered how best to include the costs and benefits of smart metering in the default tariff cap baseline and how to best forecast and model how the costs of smart metering will change over the period of the cap. We have taken into account that we are only allowed to set one default tariff cap, ie we cannot develop a default tariff cap which flexes based on the maturity of an individual supplier's rollout. We have developed a methodology that gives regard to providing sufficient allowance for an efficient supplier to continue the rollout of smart metering in line with its smart metering supply licence obligations.

Our approach

1.9. We consider the most accurate way to establish the baseline cost of smart metering is by using suppliers' own operating costs data. Suppliers provided operating costs data as part of a request for information to Ofgem in April 2018. Smart metering costs are implicitly included within this data.

1.10. We then have assessed the most accurate way to model the change of smart metering costs from the baseline in 2017 to the initial periods of the default tariff cap. We selected the Department of Business, Energy and Industrial Strategy (BEIS) Smart Metering Implementation Programme (SMIP) Cost Benefit Analysis (CBA) model as the starting point. We decided not to build a new smart metering costs model – such an approach would have been open to the risk that unintended errors would be included in the model, reducing the likelihood of accurately modelling the change in smart metering costs.

1.11. The BEIS SMIP CBA model has been developed over several years (with an Impact Assessment in 2011[3] and a CBA in 2016[4]) and was created to model the overall economic impact of the introduction of smart meters in Great Britain. This includes the impact on consumers, suppliers, network operators, wholesale and the environment. It is based in Microsoft Excel with separate tabs for each of the major input types and required calculations. The model has been repeatedly reviewed, improved and updated over that period and represents the most accurate smart metering model available. We have used the BEIS SMIP CBA model as the starting point for our smart metering model. We have then made a number of modifications, including removing cost and benefit categories not relevant to suppliers as well as using more recent information from suppliers to better reflect the incremental net cost of smart metering on suppliers. As a result, we have created new outputs from the model that specifically calculate the net cost to energy suppliers for the purpose of setting the default tariff cap. This updated model is hereafter referred to as "the model".

1.12. We are aware that the smart metering rollout is ongoing and may be subject to greater uncertainty than other supplier operating costs. For this reason, we have taken a

[3] Impact Assessment: Smart meter rollout for the small and medium non-domestic sector (GB) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/42741/1484-impact-assessment-smart-metering-implementation-p.pdf
[4] Smart meter rollout (GB): cost-benefit analysis https://www.gov.uk/government/publications/smart-meter-roll-out-gb-cost-benefit-analysis

conservative approach to efficiency and rollout profile and have put in place a review of the SMNCC in 2019, as described below.

1.13. To this end, we have made three key decisions that ensure that we have given regard to the need for an efficient supplier to have sufficient resources to continue *as planned* with their rollout:

1. **Average costs:** Unlike other parts of the cap (eg operating costs which uses a lower quartile -£5 efficiency approach) we have used an average costs efficiency approach for the smart metering increment. We do this because smart metering has a number of uncertainties which are not present in business as usual activities. We estimate that, all things being equal, using an average approach instead of a lower quartile approach increases the level of the dual fuel SMNCC by £5.20.

2. **Rollout assumption for 2019:** We have decided that a forecast rollout profile based on using the EU target for installing electricity meters by end 2020 is a prudent minimum end point modelling assumption. This provides a 25.10% (electricity) and 25.80% (gas) rollout profile uplift for 2019 from the 2018 average forecast end point. This *exceeds* the supplier-produced[5] forecast rollout profiles in gas for all of the six largest suppliers and five of the six largest suppliers for electricity. We estimate that using the EU target as opposed to a lower supplier-forecast average rollout profile increases the level of the dual fuel SMNCC by £7.38 and therefore should not restrict supplier's ambitions to meet or exceed their current forecasts.

3. **Smart industry body charges are passed-through:** For smart metering industry body charges, the cost change between the 2017 baseline and the default cap periods are "passed-through". In all cases we have modelled based on a fully obligated supplier, ensuring we have given regard to the need for suppliers to have sufficient allowance for smart metering industry charges.

1.14. Throughout the development of the SMNCC we have updated and improved our forecast of the SMNCC based on supplier feedback where it has been backed up with robust evidence. For our statutory consultation, we made the smart metering model available to suppliers' advisers in a disclosure room. The resultant feedback has identified a small number of minor inconsistencies, which have now been corrected, along with a correction to the Premature Replacement Charge (PRC) approach. As a result, the SMNCC has increased as shown in Table A7.1.

Table A7.1: SMNCC at decision when compared to Statutory Consultation

Cap period	Electricity		Gas	
	Statutory Consultation	Decision	Statutory Consultation	Decision
Period 1: January 2019 – March 2019	£7.28	£11.49	£7.77	£12.67
Period 2: April 2019 – September 2019	£10.61	£14.81	£10.35	£15.25

Source: Ofgem

[5] Supplier rollout forecasts were submitted to Ofgem in January 2018.

1.15. We consider the SMNCC represents a fair smart metering net costs increment for efficient suppliers. The Act requires us to have regard to the need to provide incentives for suppliers to improve efficiency.

1.16. Finally, we are aware that there is uncertainty related to future smart metering costs and the exact future rollout profiles. To mitigate this, we are setting the SMNCC for the first two default tariff cap periods only. In 2019 we will conduct a review of smart metering net costs and the achieved and expected rollout profile, using updated supplier forecasts and actual data where available, and set the SMNCC from October 2019 onwards.

Context and related publications

1.17. Ofgem (2018), Default Tariff Cap: Policy Consultation. Appendix 10 – Smart metering costs. https://www.ofgem.gov.uk/system/files/docs/2018/05/appendix_10_-_smart_metering_costs.pdf

1.18. Ofgem (2018), Default Tariff Cap: Statutory Consultation. Appendix 7 https://www.ofgem.gov.uk/system/files/docs/2018/09/appendix_7_-_smart_metering_costs_0.pdf

2. Our smart metering costs methodology

We explain the approach to establishing the baseline for smart metering costs. We detail the approach for calculating the SMNCC, and how the SMNCC will be updated beyond 2019.

Summary

2.1. We will include a separate smart metering increment, the SMNCC, which enables us, when initially setting and subsequently updating the default cap, to vary smart metering costs in a different manner to the other elements of the cap.

2.2. The SMNCC will be set for the first two periods of the cap (January to March 2019 and April to September 2019), with a review to be undertaken in 2019 to set the SMNCC for October 2019 and future default tariff cap periods.

2.3. The values for the SMNCC (all components) up to the end of September 2019 are shown in Table A7.2. These figures are after a number of adjustments are made, as discussed in Chapter 3. In each case the value is shown as an individual increment above the 2017 baseline.

Table A7.2: SMNCC increment against 2017 operating costs baseline

Cap period	Electricity	Gas
Period 1: January 2019 – March 2019	£11.49	£12.67
Period 2: April 2019 – September 2019	£14.81	£15.25

Source: Ofgem

Including smart metering costs in the baseline

2.4. We consider that the underlying costs of smart metering are already included in suppliers' operating costs (as submitted to Ofgem in April) and, as such, we will not use a separate modelling approach to calculate a smart metering-specific baseline.

2.5. We will also be including the 2017 charges to suppliers of smart metering industry bodies (DCC, SEGB and SMICoP) in the operating costs baseline.

Accounting for smart metering costs in the first two periods of the default tariff cap

Separate smart metering increment

2.6. The SMNCC focusses only on net supplier costs, therefore it does not account for network benefits or direct customer benefits (through energy savings). Stakeholders wishing to understand the overall net benefits of the rollout of smart meters should refer to the latest version of the BEIS CBA.[6]

2.7. Given there is uncertainty on future smart metering costs and rollout profile, we will set the SMNCC for the first two periods of the default tariff cap up to the end of September 2019. In 2019, we will carry out a review of smart metering costs and rollout profile in order to set the SMNCC for cap periods from October 2019 onwards.

Components of SMNCC

2.8. The SMNCC will be made up of two elements:

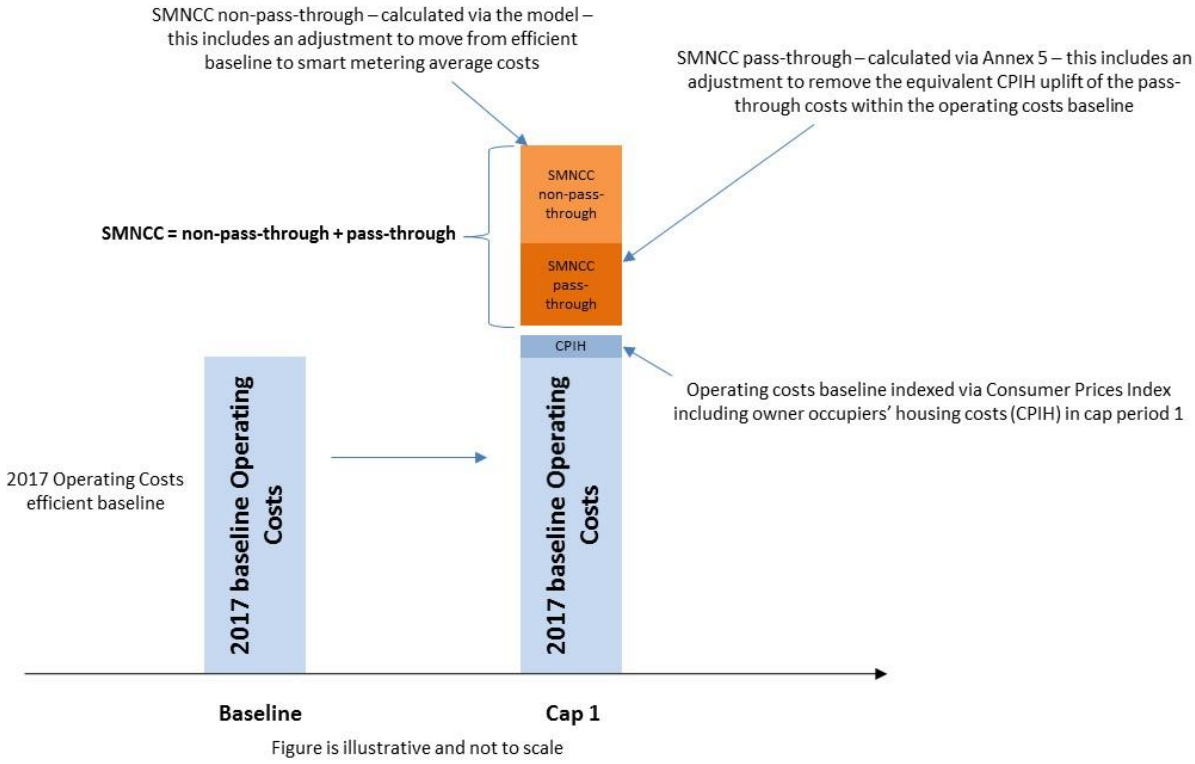
1. **SMNCC "pass-through costs": the changes in charges to suppliers for smart metering industry bodies** DCC, Alt HAN Co, SECAS, SEGB and SMICoP.

2. **SMNCC "non-pass-through costs": the changes in costs to suppliers of rolling out smart meters** (including the cost of the metering assets, installation, In Home Display (IHD) and smart-related system changes). This includes an adjustment to reflect different assumptions on efficiency levels of the operating costs baseline compared to the SMNCC, moving from an adjusted lower quartile cost approach to an average cost approach.

2.9. Figure A7.1 below gives an illustrative view of how the SMNCC is constructed in the first period of the cap.

[6] Smart meter rollout (GB): cost-benefit analysis https://www.gov.uk/government/publications/smart-meter-rolloutrollout-gb-cost-benefit-analysis

Figure A7.1: Smart metering costs approach



Source: Ofgem

Modelling the SMNCC

2.10. As previously described in our May and statutory consultations, we have used two models to calculate the SMNCC:

- **SMNCC "non-pass-through costs"**: The current BEIS SMIP CBA model has been used as the starting point. We have made a number of modifications, including removing cost and benefit categories not relevant to suppliers as well as using more recent information from suppliers to better reflect the incremental net cost of smart metering on suppliers. As a result, we have created new outputs from the model that specifically calculate the net cost to energy suppliers for the purpose of setting the default tariff cap (this is hereafter referred to as "the model").

- **SMNCC "pass-through costs" and total SMNCC**: A separate model, using publically available charging statements and budgets, to calculate, firstly, the "pass-through" elements of the SMNCC (specifically this includes charges for DCC, SEGB, Alt HAN, SECAS and SMICoP), and secondly the total SMNCC itself using inputs from the model. This forms part of the changes to Supply Licence Conditions and was consulted on in our statutory consultation (this is hereafter referred to as "Annex 5"[7]).

[7] Annex 5 - Smart metering net cost change methodology.

Rollout profile modelling approach

2.11. Given that there is uncertainty in forecasting the rollout profile beyond 2019, we will focus on the first two periods of the default tariff cap (January 2019 to end September 2019).

2.12. Whilst we recognise that BEIS SMIP delivery is not being driven by EU action, we consider that the EU target for installing electricity meters by end 2020 is a prudent minimum end point modelling assumption for the purposes of considering the SMNCC. For 2019, we have extrapolated between the level forecast in 2018[8] and this modelling assumption.

Table A7.3: Proposed smart metering rollout profile

Fuel	Supplier actual installations		Rollout allowance *(supplier forecast)*	Rollout allowance *(extrapolated)*
	End 2016	End 2017	for end 2018	for end 2019
Electricity	9.9%	19.9%	29.9%	55.0%
Gas	9.5%	18.9%	28.5%	54.3%

Source: Ofgem

2.13. For default tariff cap periods from October 2019 onwards we will set the forecast rollout profile as part of the SMNCC review in 2019.

Smart metering industry bodies' charges

2.14. Within the SMNCC, we include DCC, Alt HAN Co, SECAS, SEGB and SMICoP charges as "pass-through"[9] costs. We have set these costs using published charging statements and a model which forms part of the licence.[10]

2.15. For DCC, SEGB and SMICoP we will use the most up-to-date charging statements and budgets available at the time of calculating the coming level of each period of the cap, summarised in Figure A7.2 below. Specifically:

- DCC (which operates on an April to March financial budgeting year)
    - First cap period (January 2019 to March 2019) – we have used the final published charging statement RY1819 Issue 2.0[11] (published in September 2018)

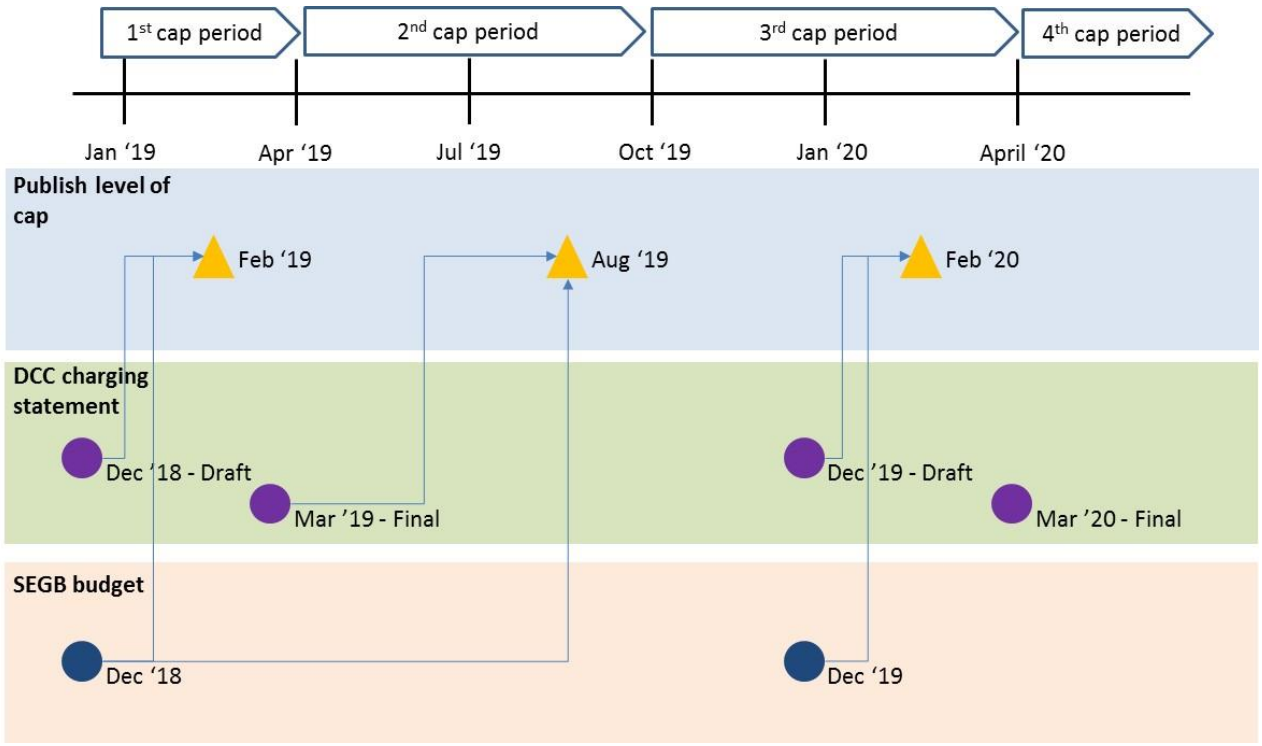
[8] We have used an average of the forecast rollout profiles of the largest eleven suppliers to estimate the rollout profile for 2018.
[9] When we refer to "pass-through" we mean adjustments made to reflect the average cost across suppliers for smart industry bodies (DCC, SEGB and SMICoP).
[10] This model is included as Annex 5 to the gas licence (Standard Licence Condition 28AD.10) and electricity licence (Standard Licence Condition 28AD.11).
[11] Charging Statement for Service Charges Regulatory Year ending 31 March 2019: Issue 2.0 https://www.smartdcc.co.uk/media/1972/charging_statement_ry1819_-_issue_20__final_.pdf

- April to September default tariff cap period – we will use the draft charging statement (which DCC is obliged to publish before December 31st)
- October to March default tariff cap period – we will use the final published charging statement (available in March).

- SEGB (which operates on a January to December financial budgeting year)
  - We have used the most recent annual budget. This will come into effect three months before we reflect it in the cap increment, so, if the budget has increased, suppliers will need to meet any net additional costs for the new budget for three months (January – March). However, the materiality of this lag is low (eg between CY2017/18 and CY2018/19 we have modelled an increase of £0.07 per dual fuel customer) and we note budgets may go down as well as up.

- SMICoP
  - We will use an annual budget assumption of £250,000, as provided by SMICoP.

Figure A7.2: Timetable for DCC and SEGB updates



Source: Ofgem

Efficiency approach and non-efficiency variations

2.16. We have set the SMNCC based on the average of the six largest energy suppliers' modelled costs, as provided as part of the 2017 Annual Supplier Report (ASR) submitted to BEIS in 2018. We have used the basis of the six largest energy suppliers' costs because the quality of their data, as submitted to BEIS in the ASR, is more complete when compared to other suppliers, so we consider it will give the most representative view of costs.

2.17. We have not included any specific treatments for non-efficiency variations as part of the SMNCC; instead we are adopting an average efficiency approach that should account for any unidentified cost differences between suppliers.

Adjusting the smart metering costs baseline to reflect average costs approach

2.18. Because the efficient baseline for operating costs is deliberately set on a different basis to the smart costs benchmark for future years, an adjustment is made to reflect the step up from a more efficient operating costs approach to average costs for smart metering.

2.19. For operating costs, we have taken a lower quartile minus £5 approach to reflect the efficient costs to suppliers whilst incentivising efficiency. For smart metering costs we have taken an average efficiency approach to reflect the uncertainty of costs and the importance of the smart metering rollout.

2.20. To provide a consistent average approach we include an adjustment in the SMNCC to move from a lower quartile baseline to an average baseline. We make this adjustment by using a lower quartile baseline for 2017 in the model (ie we use the lower quartile value for the asset, installation, communication hub and IHD) and then calculate the increment against an average cost for default tariff cap periods 1 and 2.

SMNCC at nil consumption

2.21. At nil consumption, we propose to include a reduced SMNCC value (68% of the full SMNCC amount). This approach and the rationale behind it is described in Appendix 1 - Benchmark methodology.

Updating the SMNCC beyond October 2019

Smart metering costs review in 2019

2.22. In 2019 we will undertake a review of the SMNCC using updated supplier costs and rollout profile data.

2.23. This review will set the SMNCC for October 2019 and for future default tariff cap periods. We may choose to conduct further reviews post 2019. We expect the SMNCC to be in place for all default tariff cap periods.

Smart metering pass-through costs updating approach

2.24. For DCC, SEGB and SMICoP charges, we will use the most up-to-date published charging statements and budgets available at the time of calculating each coming level of the cap, as described above.

3. Considering consultation responses

We received responses related to a number of areas:

- Minor modelling updates
- Premature Replacement Charge
- Modelling of costs
- Modelling of benefits
- Modelling approach and assumptions
- Pass-through costs
- Operating costs baseline
- 2019 review and correction mechanism
- Standard Licence Conditions
- Complexity of the model
- Disclosure room approach and operation
- Interaction between the default tariff cap and smart metering supply licence obligations

We detail these comments and our responses in the section below.

Minor modelling updates

SMETS1 delayed enrolment and adoption costs

Statutory consultation position

3.1. As part of our statutory consultation, we included an estimate of an additional industry-wide increase in supplier IT costs associated with the delay to Smart Metering Equipment Technical Specifications 2 (SMETS2) deployment. This included the additional costs of enrolment and adoption of Smart Metering Equipment Technical Specifications 1 (SMETS1) meters into the DCC, and the incremental (when compared to the 2016 BEIS SMIP CBA) costs of SMETS1 meters when compared to SMETS2 meters, due to a delay in SMETS2 deployment.

3.2. This cost adjustment was annuitised at the beginning of 2019 and was based on provisional estimates from BEIS based on information submitted by suppliers.

Summary of responses

3.3. Out of over 43 respondents to the consultation, two suppliers indicated their view was that the enrolment and adoption costs for the SMETS1 rollout were not adequately or clearly reflected in the SMNCC. Respondents highlighted their view that delays to the rollout would result in additional supplier costs that should be explicitly included.

Our position

3.4. The adjustments within the SMNCC in our statutory consultation already accounted for these changes in the smart meter programme, the resulting delays to SMETS2 meter rollout and associated costs for suppliers. In particular, the model took into account the BEIS estimate of the cost of additional cost of enrolment and adoption of SMETS1 into the DCC.

3.5. On 4 October 2018, BEIS published an update to the Smart Meter Implementation Programme.[12] In this document, BEIS provided its updated estimate of the cost to suppliers from the delays to SMETS1 enrolment and adoption.

3.6. As a new estimate of these costs has since been published, we have updated the SMNCC to reflect the latest information. The SMETS1 enrolment and adoption cost used to calculate the SMNCC is £108m, annuitised beginning in 2019.

Installation productivity calculation adjustment

Statutory consultation position

3.7. In our statutory consultation we were minded to make adjustments for anticipated efficiency improvements of smart meter installations. In order to allow for productivity improvements we used supplier forecasts submitted to Ofgem in 2018 of the anticipated installations per day, as a measure of rollout productivity, on an annual basis until 2020. Based on the average productivity of five of the six largest suppliers, we expect to see improvements in productivity between 2017 and 2018. This supplier-submitted data suggested an anticipated 40% improvement in productivity between the ASR responses (reported in 2018).

3.8. As explained in our statutory consultation, we therefore apply a one-off 40% downward adjustment to the variable installation costs of the proportion of the five[13] largest suppliers' field force which is insourced[14] for single fuel installations. This includes costs associated with installer wages and vans (fuel, maintenance, etc), and accounts for approximately 66% of the total reported cost of an insourced single fuel installation.

3.9. The total adjustment calculated in our statutory consultation updated the single fuel forecasted insourced installation cost to be 79.7% of the 2017 ASR reported cost.

Summary of responses

3.10. One supplier identified an arithmetic error in the way the 40% productivity adjustment was applied in the model. By way of example, the supplier demonstrated that the ratio used to calculate the impact of the productivity improvement marginally underestimated the cost per meter in 2018 (ie taking into account the productivity improvement). This supplier suggested that the adjustment should estimate the cost adjustment at 81.1% of the 2017 ASR value, rather than the 79.7% we used.

12 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/745717/Govt_Response_to_Consultation_on_SMETS1_Enrolment.pdf

13 We intended to use information from the six largest suppliers. One of the six largest suppliers did not provide the relevant information and was excluded from this calculation.

14 The supplier field force which is provided by permanent or contracted employees and has not been outsourced to a third party installer.

Our position

3.11. We agree with the revised calculation and have updated the calculation in the model to reflect this change and correct the error. We assess other supplier feedback associated to productivity from paragraph 3.91 below.

Hardcoded DCC data error

Statutory consultation position

3.12. We have modelled the non-pass-through costs of smart metering using the model (as described above). The model retains the majority of the input assumptions from the 2016 BEIS SMIP CBA model. However, in some cost areas, including the smart meter communications hub costs, we have been able to use recent supplier ASR submissions to update the BEIS assumptions.

Summary of responses

3.13. One supplier identified an issue with the model relating to the changes to the communications hub costs. The supplier flagged that the cost update did not appear to affect the calculation in the relevant time period due to the model relying on hard-coded figures, rather than the correct cost inputs.

Our position

3.14. We agree that the model should rely on the communications hub costs estimated using the 2017 ASR responses. We have corrected this in the model such that the cost of a communications hub is based on the 2017 ASR responses, rather than the BEIS default values. This was done by moving the start date of when the model relies on the DCC information to determine communications hub costs until after the relevant period (ie after 2021) and increases the SMNCC.

Split of communications hubs by SMETS1 and SMETS2 meters

Statutory consultation position

3.15. In the statutory consultation we used a simplified split of SMETS1 to SMETS2 smart meters, to determine the communication hub fixed charge element of DCC charges (because they apply only to SMETS2 meters). We assumed that up to the end of 2018 100% of smart meters will be SMETS1 and from the start of 2019 onwards all newly installed smart meters will be SMETS2. We noted that BEIS was consulting on moving the SMETS1 end date to 5 December 2018[15] and that the level of SMETS2 meters in the market was currently significantly lower than SMETS1 meters.

[15] BEIS Consultation on Extension of SMETS1 End Date
https://smartenergycodecompany.co.uk/latest-news/beis-consultation-on-extention-of-smets1-end-date/
BEIS proposed the SMETS1 end date should be moved to 5 December 2018 for credit SMETS1 smart meters and 15 March 2019 for prepayment SMETS1 smart meters.

Summary of responses

3.16. One supplier commented on an inconsistency between the SMETS1 and SMETS2 rollout assumptions and the communications hub costs assumptions. The result, which was used to calculate the communications hub costs, took the average of credit and PPM customers in each year to determine the SMETS1 and SMETS2 split. PPM customers were assumed to be 100% SMETS2 in 2018. The average was therefore taken as a 50/50 split of SMETS1/SMETS2 across all domestic meters, rather than 100% SMETS1 in 2018 and 100% SMETS2 in 2019 as per the intention.

Our position

3.17. We acknowledge the potential inconsistency between the rollout assumptions and the calculation of communications hub costs as raised by this supplier. The correction means that we now assume that all domestic meters (including PPM) are 100% SMETS1 in 2018 and 100% SMETS2 in 2019. We consider this sufficiently reflects the government's decision to set the deadline for the installation of credit SMETS1 meters of 5 December 2018.[16] While suppliers are already installing SMETS2 meters now, those suppliers with a time limited derogation from this deadline may continue installing some SMETS1 meters in the first three months of 2019. For domestic customers, we updated the model to assume that PPM meters are now installed in the same SMETS1/SMETS2 proportion as credit meters.

Treatment of inflation in the model

Statutory consultation position

3.18. The 2016 BEIS CBA is based primarily in real 2011 values. However, where relevant, the model uses a Gross Domestic Product (GDP) index to adjust for the evolution of costs over time. We have used this to index the SMNCC in each year, as well as to rebase ASR responses in 2011 values.

Summary of responses

3.19. One large supplier noted the inflation profile used by Ofgem is different to the inflation profile used by BEIS in its modelling and this would appear to be inconsistent.

Our position

3.20. We consider that the approach to inflation approach in the model and the 2016 BEIS SMIP CBA is consistent.

3.21. We note that the operating costs baseline is to be indexed by CPIH. However, for the SMNCC, we consider this should continue to be calculated using the GDP index for two reasons:

[16] BEIS Response to Consultation on SMETS1 End Date https://smartenergycodecompany.co.uk/latest-news/beis-response-to-consultation-on-smets1-end-date/

- **Consistency with the 2016 BEIS CBA** – deflating the ASR responses to 2011 values using another deflator would be inconsistent, as the BEIS CBA assumes that all values are inflated to nominal terms using a GDP-based index.

- **Materiality** – the difference between any adjustment of the SMNCC using the GDP-based index or CPIH should not have a material effect on the level of the cost increment. Costs are taken from 2017 responses, and therefore the net cost change as reported in 2017 is free from any distortions due to choice of indexation approach. The relative difference between then inflating the SMNCC from 2017 to 2019 values is likely to be very small between the GDP-based index and CPIH over the time period.

Counterfactual should be removed

Statutory consultation position

3.22. As part of our modelling of the SMNCC we model the costs and benefits of smart metering against a counterfactual scenario of no smart metering.

Summary of responses

3.23. One large supplier suggested the counterfactual should be removed.

Our position

3.24. The counterfactual is a key part of modelling the SMNCC. Without a counterfactual it is impossible to assess the costs and benefits of smart metering as it is not clear what baseline one is measuring against. As such we do not consider this to be in error.

Premature Replacement Charges

Statutory consultation position

3.25. As part of our statutory consultation, we proposed to account for the additional costs suppliers face from terminating traditional meter rental agreements early due to the smart meter rollout, also referred to as premature replacement charges ("PRCs").

3.26. We accounted for these costs by:

- approximating for the average age of existing traditional meters

- estimating the number of traditional meters displaced prior to the end of their life

- calculating the lump sum financial impact within year for PRCs on these traditional meters

- applying this impact to the overall cost of meter assets and installation.

Summary of responses

3.27. Two suppliers commented that the methodology used to calculate the PRCs was reducing charges in later years of the rollout, and thus reduced the SMNCC. Both these suppliers also commented that while the adjustment considered the average age of traditional meters, it did not appropriately consider the distribution of meters across this average age, and this was having a dampening effect on the estimate of PRCs over time.

3.28. One supplier commented that the adjustment assumes that suppliers target smart meter rollout at expiring traditional meters first. They stated this is unlikely to be achievable in practice and sometimes suppliers must replace a traditional meter with another traditional meter. The impact of accounting for this would increase the SMNCC.

3.29. No suppliers provided evidence to suggest either that traditional meters were younger or older than we estimated in our statutory consultation, or that the meters that were specifically being displaced were of a lower, or indeed higher, age than our estimates.

3.30. Two suppliers commented on two errors within the calculation of the PRCs:

- the squaring of meter asset costs within the PRC calculation
- a cell reference where gas traditional meter installation costs are incorrectly referring to the installation costs for electric PPM meters.

3.31. One supplier suggested that the PRC should also take into account replacing non-SMETS-capable smart meters with SMETS-capable smart meters and also the early replacement of SMETS1 smart meters.

Our position

3.32. We agree that the squaring of meter asset costs and the crossed cell references impact the estimation of the PRC costs and should be corrected. These errors have been addressed in the model.

3.33. Given the increase in expected rate of rollout over the 2019-2020 period, we would expect a significant number of traditional meters to be replaced with smart meters, relative to the numbers of displaced traditional meters in 2017. Therefore, we would expect PRCs to have an upwards impact on the estimate of the SMNCC. We agree with suppliers that the PRC adjustment should reflect an expected upwards impact on costs through this period.

3.34. We agree that the treatment of PRC costs in our statutory consultation did not sufficiently consider the distribution of meter ages around the estimated average traditional meter age, and that this was likely to be causing the estimated PRCs within the model to reduce the SMNCC. Therefore, we have also corrected the model to better capture a reasonable distribution of ages of displaced traditional meters.

3.35. Suppliers have not provided sufficient evidence in consultation responses to allow us to more accurately estimate the distribution of displaced traditional meter ages over the cap period. Given our understanding that the unit cost of PRCs falls as meters age, we

have sought a starting assumption which allows suppliers to recover reasonable costs of PRCs, while encouraging an efficient approach to traditional meter replacement.

3.36. We understand that suppliers' smart meter rollout strategies may be based on factors other than solely on the age of a customer's traditional meter. Therefore, it may not be possible to completely reduce costs by perfectly aligning rollout strategy with the age of traditional meters. We are therefore not inclined to adjust the modelling approach to PRCs to assume suppliers are able to perfectly target rollout at the oldest traditional meters.

3.37. However, a modelling approach that assumes displaced traditional meters remain fixed at the average age assumes suppliers are equally likely to target rollout efforts at extremely young meters as they are at older or expiring meters. We believe a fixed age assumption may lead to a higher allowance than the costs incurred by an efficient supplier:

- Suppliers have commercial incentives to factor PRC costs into rollout strategy and are unlikely to have an entirely random approach to the rollout.

- Over the rollout period, suppliers are likely to target customers with expiring traditional meters for a smart meter installation. Given these households require a new meter anyway, the incremental cost of targeting these households for smart meter installation relative to a traditional meter installation should be lower.

3.38. Therefore, our model assumes that in households which accept the installation of a smart meter, no new traditional meters are installed from the beginning of 2016 onwards.[17] Given that the transition to smart meters has been a programme known to suppliers for more than eight years, we consider suppliers should not be incentivised to be installing new traditional meters from 2016 onwards in households facing no barriers to the installation of a smart meter. We believe the model reflects the kind of approach an efficient supplier would take to managing meter replacements.

3.39. We have updated our adjustment to assume that displaced traditional meters are uniformly distributed between 0-year-old and 20-years-old until 2016. For each year after 2016, the lower bound of displaced traditional meters is assumed to increase by 1 year to reflect this assumption that suppliers should be making significant efforts to reduce traditional meter installation in households without barriers to smart meter installation from 2016 onwards.

3.40. We consider that our corrected PRC approach, which is based on the best available information, is a prudent and conservative approach to estimating the PRC for several reasons:

- If suppliers have been inefficiently targeting smart meters at households with young traditional meters, this inefficiency in PRC cost is built into the 2017 operating costs baseline.

[17] The model also separately accounts for households which face barriers to the installation of smart meters.

- We believe that suppliers may not incur PRC charges prior to the 15-year assumption we used in our statutory consultation adjustment. However, we have not adjusted this assumption downwards.

- PRCs replace the annual traditional meter charges suppliers would face in the counterfactual scenario, which represents an offsetting cost saving to suppliers that we do not adjust for in the model.

- The approach assumes a uniform distribution across meter ages (although the lower bound evolves over time). This is a conservative assumption and we would expect suppliers to be more likely to target rollout efforts at households with older meters, all other factors held equal.

3.41. In addition to the reasons stated above, we strongly consider that the average age and distribution of the traditional meter ages are both significantly higher than the midpoint between 0 and 20 years. As such, we expect that the modelling approach we have adopted is likely to overestimate the PRC costs to the industry in any year. We may update this estimate as part of the 2019 review.

3.42. Non-SMETS-capable smart meters are not included in the proposed rollout profile (ie suppliers cannot claim such meters in their rollout forecasts) and are instead assumed to be within the volume of metering points which have traditional meters. Given the above approach is likely to over-estimate the PRC costs, we consider that the proposed approach gives sufficient regard to any PRCs associated with early replacement of non-SMETS-capable smart meters.

3.43. Whilst the model does make assumptions regarding ongoing SMETS1 costs through the modelling of enrolment and adoption costs, we are not aware of any policy reason requiring suppliers to replace SMETS1 meters early. As such, we do not consider the PRC calculation should cover the early replacement of SMETS1 meters.

Respondent views on the modelling of costs

Marketing costs

Statutory consultation position

3.44. In our statutory consultation we noted we had decided not to make an adjustment to account for any potential incremental marketing costs due to smart meter rollout.

3.45. We believed the costs of smart-specific marketing have been sufficiently considered in the default tariff cap. Firstly, we treat the charges of SEGB as a pass-through cost item. SEGB is the body running the nation-wide marketing campaign for smart meters and is funded by suppliers. It is expected that, as rollout progresses, and SEGB's marketing campaign progresses, SEGB will drive a cumulatively higher awareness and acceptance of smart metering. SEGB is fully funded by suppliers and, by treating SEGB charges as a pass-through cost, we allow suppliers to recover the equivalent of the SEGB charges.

3.46. We also believe that supplier-specific marketing costs have already been included within the 2017 baseline of operating costs.

3.47. Costs related to the direct engagement of customers preparing for a smart meter installation are accounted for through the ASR responses, which includes appointment-setting costs within its estimate of installation costs. These are therefore already accounted for in the SMNCC allowance.

3.48. Lastly, we did not agree that it was possible to separate marketing costs into smart meter- and non-smart meter-related activities. As the smart meter rollout progresses, we expect suppliers may engage with and compete for customers on the merits of their smart meter capabilities. We expect that as supplier marketing campaigns are coordinated at a business-wide level, the boundaries of what constitutes smart-related or non-smart-related marketing is increasingly ambiguous. It is also possible that a displacement of general marketing cost may occur due to the smart metering rollout, but that the marketing costs would have remained broadly similar to the case if there had been no smart metering rollout.

Summary of responses

3.49. Three large suppliers disagreed with our proposed approach stating that they incurred additional marketing cost beyond those in the 2017 baseline or covered by SEGB.

Our position

3.50. The ASR guidance states suppliers should only include the cost of direct engagement of customers preparing for a smart meter installation in their ASR responses. We note that, aside from supplier statements around additional marketing cost, no additional evidence is available to support the suppliers' position that the SMNCC should include additional marketing costs.

3.51. As a result, we consider the current approach to marketing costs to be sufficiently robust and have not made any changes.

Inbound customer enquiries

Statutory consultation position

3.52. In our statutory consultation we stated that we proposed not to make an adjustment to the model to account for any potential increases in inbound customer contacts due to smart meter rollout.

3.53. Our position was that the costs of inbound customer enquiries prior to smart meter installation are accounted for through the appointment setting costs suppliers provided as part of the installation cost of a smart meter in ASR responses.[18] Therefore, these costs should already be reflected within the SMNCC estimates.

3.54. We have not seen any evidence through responses which suggests that these costs related to increased inbound customer enquiries would necessarily be efficiently incurred. Our understanding from discussions with BEIS is that possible drivers of any increased inbound customer contacts following a smart meter installation may be

[18] As part of the domestic installation cost, the ASR requests suppliers provide the "appointment setting costs".

driven by other factors, such as customers enquiring about pre-existing billing errors discovered through the installation of the smart meter and therefore not directly relevant for the SMNCC.

Summary of responses

3.55. One supplier agreed that over time following a smart meter installation customer enquiries should fall. They noted though that they had a number of other service improvements in train, and therefore thought that specifically identifying the benefits due to smart, as opposed to other initiatives, would be difficult.

3.56. Three large suppliers reported that there was an increase in inbound customer enquiries, both pre-installation (related to installation appointment booking, confirmation, cancellation or re-scheduling) and post-installation (related to customer issues with the new technology, technical problems and bill disputes), and proposed that these did not appear in their ASR appointment booking costs.

Our position

3.57. We note suppliers have again raised the issue of inbound enquiries increasing cost and not being included in the model. We accept there is a risk that inbound queries could increase but are not aware of any evidence to support this position, including from suppliers in their consultation responses. We believe this risk can be mitigated by suppliers through delivering a good installation experience. As a result, we have not made adjustment to the SMNCC as a result of inbound customer enquiries.

Approach to ASR normalisation

Statutory consultation position

3.58. The Annual Supplier Report is a submission that suppliers provide to BEIS setting out, amongst other things, the costs for smart metering (such as asset costs, installation costs, etc). For the purposes of our modelling we have reviewed the most recent ASR submissions and used the updated costs in our modelling of the non-pass-through costs. As part of our work we had to undertake a number of ASR normalisation activities as not all suppliers completed the ASR form in a consistent way. Suppliers' advisers were able to review the normalisation changes made in comparison to their original submitted ASR data along with our associated commentary in the disclosure room.

Summary of responses

3.59. One large supplier disagreed with some of the normalisation activities we had undertaken with their ASR data. In particular, related to their communications hub, regulator and Meter Asset Provider (MAP) costs.

3.60. The supplier also noted that they use two meter manufacturers and Ofgem had taken a simple average of the two manufacturers' cost lines to get a single asset cost for that supplier.

Our position

3.61. The supplier in question constituted a significant outlier when compared to other large suppliers. As such, we consider our approach to normalising certain ASR line items where such items are significant outliers to be sufficiently robust.

3.62. For the meter asset we calculate a straight average using the six largest suppliers' cost data as submitted in the ASR. For some suppliers who submitted multiple asset costs, we take a straight average of these costs. We take this approach as not all suppliers provided a breakdown of the numbers of meters for different meter types, meaning it is not possible to calculate a volume weighted average. As such, we have not made any changes to the SMNCC.

Respondent views on the modelling of benefits

Overall approach to smart benefits

Statutory consultation position

3.63. As part of our statutory consultation we proposed to remove the microgeneration and customer switching benefits from the model. We proposed to make no further changes to benefits.

Summary of responses

3.64. Three large suppliers challenged us as to whether the benefits modelling should be updated as they felt there should be more up-to-date benefit data available than was available for the 2016 BEIS CBA.

Our position

3.65. Where up-to-date benefit data has been available we have made the necessary updates. We have also carefully considered whether all benefit categories apply to the SMNCC. Where the evidence is strongly supportive, we have removed benefit categories (such as microgeneration and customer switching), thus increasing the SMNCC.

3.66. We may review the smart metering benefits as part of the 2019 review and in light of any changes BEIS make to their CBA.

Delayed realisation of benefits

Statutory consultation position

3.67. The model assumes that a full year of benefits can be realised within the year a smart meter is installed, regardless of when in the year it was installed.

Summary of responses

3.68. Three suppliers noted that the model assumes that a full year of benefits can be realised whenever the smart meter is installed. So for example a meter installed at the start of 2019 and a meter installed at the end of 2019 would have the same benefits realisation, despite the difference in the time period over which those benefits could be realised.

Our position

3.69. We agree with the suppliers' position that the model currently has a benefit assumption that does not appear to reflect the time-dependent nature of realising some types of benefit.

3.70. As a result, we have made an adjustment to the model to better reflect the timing of benefits realisation, assuming smart meters are installed throughout the year. In our position at statutory consultation, benefits of smart meters were calculated based on the total number of smart meters installed at the end of the year.

3.71. Our updated approach reflects an assumption that benefits are equal to an approximation where meters are installed, on average, halfway through the year. We have updated the calculation such that benefits are calculated based on the midpoint of smart meters installed at the end of the previous year and the number of smart meters installed at the end of the current year.

3.72. We note that no suppliers provided further information on the profiling of smart meter installations throughout the year.

Avoided site visits

Statutory consultation position

3.73. As part of the smart metering modelling (and the 2016 BEIS CBA) we assume there is a benefit to suppliers which will need to make fewer site visits (predominately to read the meter) once a smart meter is installed as meter reads are submitted automatically, when compared to a property with a traditional meter.

Summary of responses

3.74. Three large suppliers raised concerns with the approach. All three suppliers noted their view that the assumed benefit value that BEIS used in the 2016 CBA had since more than halved (albeit by different amounts) and this should be updated in the model.

Our position

3.75. No detailed evidence was provided by suppliers as part of their statutory consultation responses to support the statements that the benefit level of avoided site visits has indeed reduced. As a result, we have not made an adjustment to the SMNCC at this point. We may review the smart metering benefits as part of the 2019 review and in light of any changes BEIS make to the CBA.

Delayed debt benefits

Statutory consultation position

3.76. As part of the smart metering modelling (and the 2016 BEIS CBA) we assume there is a benefit in managing debt once a smart meter has been installed when compared to a property with a traditional meter.

Summary of responses

3.77. One large supplier raised concerns with the assumption. They noted that the maturity of the smart meter deployment is not yet sufficient to support the quantification of any debt management benefits through operational data. However, another supplier noted that the assumed benefit that BEIS uses in the 2016 CBA had in their view more than halved and this should be updated in the model.

3.78. In addition, the first supplier disagreed with the model assumptions on the phasing of such benefits. The model assumes an average benefit for each installed smart meter, starting at the time of installation. Their view was that indebted customers are more likely to be disengaged and harder to reach, and therefore would have a smart meter installed towards the end of the smart meter rollout. In addition, a time lag will be necessary to identify indebted customers and implement supportive measures.

Our position

3.79. We note that no additional evidence is available to support the assertion that debt benefits are delayed. In addition, due to the debt benefits associated with smart, we would expect efficient suppliers to prioritise rollout to customers with the highest likely benefit (assuming all other benefits being equal). As a result, we have not made an adjustment to the SMNCC at this point.

Remote disconnection benefits

Statutory consultation position

3.80. As part of the smart metering modelling (and the 2016 BEIS CBA) we assume there is a benefit in being able to remotely disconnect a smart meter when this is required when compared to a property with a traditional meter (where a physical site visit would be required).

Summary of responses

3.81. One large supplier noted that according to the 2016 BEIS CBA, remote disconnection benefits are calculated on the basis of 670 disconnections per annum which was the average number of disconnections reported by Ofgem between 2011 and 2014. However, Ofgem reported 17 disconnections in 2017, nearly 40 times fewer than the model assumption. They noted that supplier behaviour has changed significantly since the 2016 BEIS CBA, with suppliers now avoiding disconnecting residential customers.

Our position

3.82. We note that a fuller examination of the data for preceding years (not just 2017) and the associated baseline costs and benefits would be required, and we do not consider delaying the price cap, with the subsequent reduction in consumer benefit, would be proportionate to undertaking this analysis at this stage. As such we do not intend to make an adjustment to the SMNCC for remote disconnection benefits but may review as part of the 2019 review.

Respondent views on the modelling approach and assumptions

SMETS1 asset life

Statutory consultation position

3.83. As part of the model we assume a SMETS1 asset life and amortisation period of 15 years. This is consistent with the asset life assumption in the 2016 BEIS CBA.

Summary of responses

3.84. Four large suppliers disagreed with using a SMETS1 asset lifetime of 15 years. In two cases suppliers suggested an assumption of 10 years would be more appropriate and provided the following rationale:

- warranty – according to one supplier meter manufacturers put in place a 10-year warranty period
- Change of Supplier gain agreements
- accounting standards
- Meter Asset Provider (MAP) agreements.

Our position

3.85. BEIS has confirmed the 2016 CBA assumption was put in place following a request for information in 2012 which identified a potential asset life time of 5 to 20 years. In addition, in 2012 the government consulted on including a requirement for 15 year battery life in SMETS1.[19]

3.86. Those suppliers suggesting a shorter asset life did not provide additional evidence to support their position that a 10-year lifetime was more appropriate. As a result, we do

[19] Page 142 of the response noted the SMIP Impact Assessment assumed a 15-year lifetime on the basis of the evidence collected https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43106/4965-gov-resp-cons-tech-spec-smart-meters.pdf

not consider it would be appropriate to change the SMETS1 asset life assumption. We may review this as part of the 2019 smart metering costs review.

IT systems amortisation period

Statutory consultation position

3.87. As part of the model we assume a IT system amortisation period of 15 years. This is consistent with the assumption in the 2016 BEIS CBA.

Summary of responses

3.88. Three large suppliers stated that the IT amortisation period used in the model was too long. Two of these suppliers suggested a 3-to-5 year amortisation period. A third suggested a 5-to-8 year amortisation period instead. In each case suppliers cited accounting standards, specifically IAS par 38, as the rationale for the reduced amortisation period.

Our position

3.89. We have considered the consultation responses. We note that not all suppliers identified the IT systems amortisation period as a concern, and those that did were not consistent in the period they used (3 to 5 years, vs 5 to 8 years). We do not believe the accounting approach reflects the economic life of the IT system deployment, where such systems have a life time which is significantly longer than 5 years. We do not believe, based on our general understanding of suppliers' IT systems that they will be completely replacing their main smart IT systems every 5 years. This would suggest the economic life of IT systems is likely to be much longer than the accounting life suggested by suppliers. Suppliers did not provide any evidence in their responses to suggest they would replace their IT systems more regularly.

3.90. As a result, we do not consider it would be appropriate to change the IT system amortisation period assumption. We may review this as part of the 2019 smart metering costs review.

Installation productivity assumption

Statutory consultation position

3.91. In our statutory consultation we were minded to make adjustments for anticipated efficiency improvements of smart meter installations. In order to allow for productivity improvements we used supplier forecasts submitted to Ofgem in 2018 of the anticipated installations per day, as a measure of rollout productivity, on an annual basis until 2020. Based on the average productivity of five of the six largest suppliers, we expect to see improvements in productivity between 2017 and 2018. This supplier-submitted data suggested an anticipated 40% improvement in productivity between the ASR responses (reported in 2018).

3.92. As a result, we proposed to make an adjustment to the installation costs within the model to account for the gains in installation productivity between 2017 and 2018. These forecasts would be consistent with suppliers' expectations that rollout will progress significantly over this year.

3.93. We applied a 40% adjustment to the proportion of the six largest suppliers' insourced[20] variable installation costs for single fuel installations. This includes costs associated with installer wages and vans (fuel, maintenance, etc), and accounts for approximately 66% of the total reported cost of an insourced single fuel installation. The total adjustment calculates the updated estimate of a single fuel insourced installation cost to be 79.7% of the 2017 ASR reported cost.

3.94. We applied this to the ASR costs for insourced single fuel installation to account for suppliers' forecasted productivity improvements between when survey data was completed and the implementation of the cap.

Summary of responses

3.95. The six largest suppliers each raised a number of differing concerns with our use of supplier productivity forecasts in the model.

3.96. One supplier noted that media descriptions of smart metering had a negative impact on the volume of appointments they could generate. In addition, they stated the increasing cost and complexity of smart meter installations would make it difficult to meet the increased productivity forecasts.

3.97. Other suppliers thought it would not be possible to achieve the forecasted productivity improvements.

3.98. Another supplier thought it would be difficult to keep forecasting productivity improvements with delays to SMETS2 transition.

3.99. One supplier stated that they felt that the productivity improvement assumption was actually a stretch target for other less efficient suppliers.

Our position

3.100. We feel it is prudent and appropriate to use the productivity forecasts formally submitted by suppliers in January 2018. The complexities and uncertainties of SMETS2 transition do not appear to have significantly increased and suppliers did not provide additional evidence explaining their proposed changes. In addition, in 2017, some suppliers were already meeting or exceeding the average productivity forecast by suppliers for 2018.

3.101. As a result, we do not consider it would be appropriate to change the productivity assumption. We may review this as part of the 2019 smart metering costs review.

[20] ie supplier field force which has not been outsourced to a third party installer.

Approach to calculating lower quartile smart metering baseline

Statutory consultation position

3.102. In our statutory consultation we explained that we were minded to set the operational cost baseline (implicitly including the 2017 costs of smart metering) using adjusted lower quartile supplier costs.

3.103. However, for smart metering we consider that a different approach to efficiency is justified from other parts of the default tariff cap, due to the variability in smart-meter related costs (for example costs may potentially vary due to geography, customer base, proportion of gas-only or electricity-only customers, supplier purchasing power, rollout experience etc).

3.104. We therefore proposed to set the SMNCC based on the average of the six largest suppliers' smart metering costs. We proposed to use the six largest suppliers' costs because the quality of the available data is higher than that of smaller suppliers.

3.105. Because the proposed efficient benchmark for operating costs is deliberately set on a different basis to that of the smart costs benchmark for future years we need to make an adjustment for this difference in respective periods of the cap when calculating the non-pass-through element of the SMNCC. This adjusts the SMNCC such that it reflects the incremental smart metering cost uplift for an average cost efficiency from the lower quartile efficiency baseline.

3.106. In order to make the adjustment we assessed on a major cost item basis (ie cost of asset, installation communications hub and in home display), to quantify the adjustment required to move from lower quartile to average.

Summary of responses

3.107. One large supplier disagreed with our proposed approach of assessing the lower quartile cost on a line by line cost item basis. They considered that it would not be possible for the same supplier to be the lower quartile cost across all cost elements (ie because one negotiates a low price for the asset does not mean a similarly low price for other elements).

Our position

3.108. We understand the concern raised by the supplier. In markets where different products are bundled through complementarity, negotiating lower prices for one product may be offset by conceding higher prices on a related product. However, we do not believe this would be the case for the price of asset, installation, communications hub and IHD. The markets for all four products are sufficiently independent of each other to prevent prices in one market from affecting prices in a different market.

3.109. We have analysed the cost of each line item for large suppliers (as reported in the ASR), and we note that the distribution of reported costs for asset, communications hub and IHD is low, with a wider variation across installation costs. Therefore, even if the meter asset, communications hub, and IHD markets were linked (and we find no evidence that they are), we consider the cost line approach to establishing the lower quartile to be sufficiently robust for these cost areas due to the clustering of the cost data. As greater cost variation exists only within the installation cost category, this

further supports our view that the installation market is sufficiently separate from the other markets. We therefore consider our cost line approach to be sufficiently robust across all four cost areas.

3.110. Finally, our approach to setting lower quartile baseline costs is conservative. If a supplier would offset efficient costs in one area with higher costs in a separate area, this would raise the overall smart metering costs for the lower quartile supplier and would raise the 2017 baseline. This would have the effect of reducing the SMNCC.

Aligning 2018 rollout profile with lower quartile supplier

Statutory consultation position

3.111. In our statutory consultation we proposed to use the rollout profile in Table A7.4.

Table A7.4: Proposed smart metering rollout profile

Fuel	Supplier actual installations		Rollout allowance *(supplier forecast)*	Rollout allowance *(extrapolated)*
	End 2016	End 2017	for end 2018	for end 2019
Electricity	9.9%	19.9%	29.9%	55.0%
Gas	9.5%	18.9%	28.5%	54.3%

Source: Ofgem

3.112. The rollout for 2016 and 2017 was based on the actual rollout percentages, with the rollout profile for 2018 based on an average of the largest 11 supplier forecasts submitted to Ofgem.

Summary of responses

3.113. One large supplier disagreed with the rollout approach. They estimated that the 'lower quartile' supplier had a rollout percentage of c.4% below the average in both 2016 and 2017. They recommended that we should adjust the rollout percentage in 2016 and 2017 to reflect the lower quartile supplier.

3.114. No respondents commented on the use of the EU target for installing electricity meters by end 2020 as a prudent minimum end point modelling assumption, nor the extrapolation approach for 2019, for the purposes of considering the SMNCC.

Our position

3.115. As part of our proposed approach we already make an adjustment to move from a lower quartile 2017 baseline to a 2019 average approach. If we were to use the rollout profile of the lower quartile supplier we would, in effect, be making a second adjustment, increasing the allowance so it reflected above average costs.

3.116. We are already taking a conservative efficiency approach with smart metering costs in adopting an average efficiency approach. We do this because smart metering has a number of uncertainties which are not present in business as usual activities.

3.117. We also have proposed to use a rollout profile across 2019 which *exceeds* the supplier-produced[21] rollout profiles in gas for all of the six largest suppliers and five of the six largest suppliers for electricity for 2019. We have taken this approach to give regard to the need for efficient suppliers to have sufficient funding to maintain their rollout pace.

3.118. Applying a further adjustment to rollout profile would increase the SMNCC and would further move away from an efficient costs approach reducing the protection on consumers and the incentives for suppliers to operate their businesses efficiently. As a result, we do not consider it would be justified to apply an additional adjustment to the rollout profile.

Rising installation costs

Statutory consultation position

3.119. We have used an average installation cost approach from the six largest suppliers. In addition, the model makes a number of assumptions as to how the installation costs will grow in future years.

Summary of responses

3.120. Two suppliers stated that they considered installation costs would rise in the future by more than the level assumed in the model.

Our position

3.121. We recognise that installation costs may evolve in an unpredictable manner in the future. However, the currently available data does not provide a clear evidence base for changing the installation cost approach for the first two periods of the cap.

3.122. This uncertainty is one of the reasons that we consider that a review of smart metering costs in 2019 is required for setting the SMNCC beyond September 2019.

SMETS1 enrolment and adoption failure assumption

Statutory consultation position

3.123. As part of our statutory consultation we made an adjustment to the SMNCC to account for the additional supplier costs of the SMETS1 enrolment and adoption programme.

Summary of responses

3.124. Two large suppliers commented that the model assumes a 100% success rate for enrolment and adoption into the DCC. Their view was that this is likely to be incorrect

[21] Supplier rollout forecasts were submitted to Ofgem in January 2018.

as some meters will not be able to successfully enrol and adopt into the DCC. One supplier suggested a failure rate of 5%.

Our position

3.125. The SMETS1 enrolment and adoption adjustment was developed with BEIS. BEIS has confirmed that SMETS1 Enrolment and Adoption consultation[22] made an assumption that 2% of SMETS1 would fail on migration and this resulting cost has been factored into the assumed costs for enrolment and adoption, included in the model. As a result, no further adjustment is required.

The percentage of SMETS1 and SMETS2 installations

Statutory consultation position

3.126. As part of our statutory consultation we made a simplified assumption that in 2018 all installations would be SMETS1 smart meters and in 2019 onwards all installations would be SMETS2 smart meters.

Summary of responses

3.127. One supplier noted that these assumptions:

- do not align with the BEIS SMETS1 derogations process
- do not reflect the extension to the SMETS1 end date to 5 December 2018, with derogations extended to 15 March 2019
- potentially reduce the level of the SMNCC.

Our position

3.128. We acknowledge that the assumptions made on the split between SMETS1 and SMETS2 installations may not exactly match suppliers' individual rollouts. However, we consider the proposed approach sufficiently reflects – at a market level – the government's decision to set the deadline for the installation of credit and prepayment SMETS1 meters of 5 December 2018 and 15 March 2019, respectively.[23] While suppliers are already installing SMETS2 meters, those suppliers with a time limited derogation from this deadline may continue installing some SMETS1 meters in the first three months of 2019. The Act requires us to set a single cap for all suppliers.

[22] Government response to the consultation on the enrolment of SMETS1 meter cohorts with the Data Communications Company
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/745717/Govt_Response_to_Consultation_on_SMETS1_Enrolment.pdf
[23] BEIS Response to Consultation on SMETS1 End Date
https://smartenergycodecompany.co.uk/latest-news/beis-response-to-consultation-on-smets1-end-date/

Cost of capital in non-pass-through model

Statutory consultation position

3.129. The model uses an assumption that the cost of capital is 6%.

Summary of responses

3.130. One large supplier questioned the 6% cost of capital for the total asset cost of a smart meter. In practice they considered this was not truly reflective of the cost of capital for the industry once churn is taken into account. The assumption of 6% is reasonable for a supplier, but on churn the supplier may be exposed to a much higher cost of capital. They suggested a more reasonable cost of capital would be 12%.

Our position

3.131. The model uses a cost of capital assumption that is consistent with the 2016 BEIS SMIP CBA. The model cost of capital assumption includes the additional cost of churn. As a result, we have not made any changes to the cost of capital assumption.

Standing charges / SMNCC at nil consumption

Statutory consultation position

3.132. At nil consumption, we proposed to include a reduced SMNCC value (73% of the full SMNCC amount). In principle, metering costs do not vary with consumption, and so a fully cost-reflective approach would allocate them entirely to the efficient benchmark at nil consumption. However, we know that suppliers do not take a completely cost-reflective approach in their pricing at present. While we do not know how suppliers might have priced future costs (ie costs associated with smart metering) in the absence of the cap, we consider it reasonable to assume that they might continue with their previous pricing approach.

3.133. In line with our general approach at nil consumption, we therefore proposed that a fraction of the SMNCC is to be added to the efficient benchmark at nil consumption. We calculate this fraction as the ratio in our base period (April to September 2017) between the direct debit benchmarks (excluding VAT) calculated using our proposed approach at nil consumption and a fully cost-reflective approach. This equalled 73%.

Summary of responses

3.134. One large supplier suggested that a lower portion of the SMNCC should go into the standing charge given their view that it is customers with higher consumption who benefit the most from smart meters.

3.135. One consumer group was concerned that the default tariff cap would expose consumers to higher bills for the cost associated with smart metering programme implementation.

Our position

3.136. We consider that the costs of smart metering should be paid for by all consumers, including those with nil or low consumption. Following our statutory consultation we have reassessed the adjustment that is required to the SMNCC for nil consumption. We have now finalised this adjustment at 68% of the SMNCC. This is described fully in Appendix 1 – Benchmark methodology.

Ancillary costs

Statutory consultation position

3.137. We have used ASR submissions from suppliers on their smart metering programme costs, provided in February 2018 and covering the period of 2017, in our modelling of the SMNCC.

Summary of responses

3.138. One large supplier commented that the cost of some metering ancillaries such as hot shoes and flying leads do not fall under DCC Explicit Charges and are excluded from the model.

Our position

3.139. We consider that the cost of ancillary equipment should be included in the supplier's ASR submission to BEIS and, as such, is therefore included in the modelling of the SMNCC.

Insourced versus outsourced field force

Statutory consultation position

3.140. For the purposes of the SMNCC modelling, we assumed an average 66% of installations were carried out by insourced field force operatives. In addition, we apply a productivity adjustment (as described above) to insourced field force installations.

Summary of responses

3.141. Two large suppliers commented that their installation workforce did not align to the 66% insourced assumption.

Our position

3.142. We have engaged with BEIS to estimate an industry average for insourced versus outsourced field force installations. We note that some suppliers have entirely insourced field forces whilst some almost entirely outsource the function. We consider using the average of 66% is an appropriate estimate.

Respondent views on pass-through costs approach

Statutory consultation position

3.143. We proposed that industry body costs should be "passed though" and have modelled using Annex 5 and publically available charging statements. We issued Annex 5 as part of the statutory consultation.

Summary of responses

3.144. We received the following comments on the pass-through costs:

- **Transparency** – one large supplier was concerned that the pass-through costs did not provide sufficient transparency.
- **Funding of SEGB** – one supplier disagreed with our statement that basing the default tariff cap on obligated suppliers provides a marginal over-provision for non-obligated suppliers. In their view an obligated supplier is required to cover the capital elements of the SEGB charges equating to 84% of the cost allowed in the default cap for SEGB costs. Therefore, they positioned that this was not a marginal over-provision for non-obligated suppliers.
- **Like-for-like comparison between baseline and 2019** – one supplier was concerned there was a lack of like-for-like comparison available between the 2017 DCC charges and the 2019 DCC charges.
- **Pass-through charges not in the cap baseline** – one supplier was concerned that pass-through charges were not included in the baseline.
- **Draft to final DCC Charging Statements** – two suppliers questioned Ofgem's view that the materiality of changes between draft and final charging statements is low and one supplier suggested a recovery mechanism should be included to account for changes between the draft and final DCC charging statements.
- **Update to DCC tab in Annex 5** – one supplier proposed that fixed charges for electricity and gas meters should be £0.463 and £0.350, respectively, and not £0.473 and £0.358 as currently modelled in Annex 5.
- **New Charging Statement** – one supplier noted that DCC had published a new Charging Statement in September.
- **DCC Explicit Charges** – one supplier noted that due to their specific customer demographical circumstances (high proportion of customers in an urban area) they were likely to incur higher than average DCC explicit charges to cover the costs of Dual Band Communications Hubs and Alt-HAN.

Our position

3.145. Our responses to supplier comments are as follows:

- **Transparency** – we consider there is sufficient transparency in the calculation of pass-through costs. The approach is detailed in Annex 5 and uses publically available DCC charging statements and SEGB budgets.

- **Funding of SEGB** – we consider the approach of modelling SEGB charges assuming a fully obligated supplier to be fair, given we are only able to set one level of the cap.

- **Like for like comparison between baseline and 2019** – we consider the use of the 2017 pass-through costs as a baseline to be appropriate.

- **Pass-through charges not in the cap baseline** – we can confirm that pass-through costs for 2017 are included in the operating costs baseline.

- **Draft to final DCC Charging Statements** – we note suppliers concerns. We are still of the view that the materiality of charging changes between the December draft and March final charging statement has historically been low and mostly limited to price control adjustments. We do not consider that a recovery mechanism would be appropriate in this case.

- **Update to DCC tab in Annex 5** – we have reviewed the proposal. We use the DCC draft charging statement for 2017 which sets out the Fixed Charges for electricity and gas meters should be £0.473 and £0.358, respectively. The set of numbers proposed by the supplier come from the 2017 final charging statement. Given the period is April to September 2017 we have correctly applied the approach to calculating DCC charges[24] using the draft charging statement as opposed to the final charging statement. As a result, we propose no changes, we also note the draft charging statement values have been used to set the DCC pass-through costs element of the operating costs baseline.

- **New Charging Statement** – we can confirm we are using the updated Charging Statement to calculate the DCC charges for default cap period 1 and that a draft version of this charging statement was used in the calculation of the charges in the Statutory consultation.

- **DCC Explicit Charges** – we are required to develop a single default tariff cap for all suppliers (noting regional variations to account for network charges and payment method variation). As a result, we have taken the approach to socialise the DCC Explicit Charges as we would not be able to model a supplier by supplier view.

Respondent views on the operating cost baseline

Statutory consultation position

3.146. In our statutory consultation we stated that the baseline costs of smart metering are already included in suppliers' operating costs (as submitted to Ofgem in April) and, as such, we did not propose to use a separate modelling approach to calculate a smart metering baseline.

Summary of responses

3.147. One small supplier stated that regarding the smart metering costs being included as an operating cost, they did not feel this is based within the most appropriate category. In

[24] Using the Draft Charging Statement to set the default tariff cap period from April to September and the Final Charging Statement to set the default tariff cap periods from October to March.

their view, smart metering costs should be calculated within its own cost category, due to, for example, Meter Operators and Meter Asset Providers not currently having any legislation or guidelines on the maximum amount they can charge to install, replace or reset smart meters. Their view was that this may end up costing suppliers more as the overall funding amount has been 'capped', and they stated there is no allowance for any associated shortfall.

Our position

3.148. We maintain our view that it is appropriate to include smart metering costs in the baseline. We consider this the most accurate way to capture the baseline cost of smart metering.

Respondent views on correction mechanisms

Statutory consultation position

3.149. In our statutory consultation we were not minded to provide a correction mechanism, specifically for pass-through costs. We noted:

- Whilst the change in DCC charges between years has been relatively high, this would be captured through our proposed updating mechanism, and therefore would be reflected in the default tariff cap increment.
- The materiality of the charging changes between DCC draft and final charging statements is relatively low:
    - An increase to industry of £5.6m between draft and final for FY2017/18.
    - An increase to industry of £340k between draft and final for FY2018/19.
- The materiality of in-year charging statement changes has been low:
    - The most recent in-year update to the charging statement increased the DCC element of the smart metering industry charges by £1.2m (due to the introduction of the DBCH).
    - In the event of a mid-year charging statement update, DCC is required to provide three months' notice before charges are enacted. We would reflect the updated charging statement into the next period of the cap. This potentially leaves suppliers with a maximum of three months of exposure to amended DCC charges.
    - We note that suppliers do not appear to have adjusted standard variable and default tariffs purely as a result of changes to DCC charges.

Summary of responses

3.150. One large supplier stated that due to multiple factors they are concerned that the SMNCC may not allow for a full recovery of suppliers' smart deployment costs and that Ofgem does not intend to monitor suppliers' actual costs against the SMNCC, or to correct for any differences in later periods of the cap.

Our position

3.151. We maintain our view that a correction mechanism is not necessary given the approach taken to updating the cap and the immateriality of changes in costs between draft and final charging statements.

Respondent views on the 2019 review

Statutory consultation position

3.152. As part of our statutory consultation we proposed to undertake a review of the SMNCC using updated supplier costs and rollout profile data.

3.153. This review would set the SMNCC for October 2019 and for future default tariff cap periods. We noted we may choose to conduct further reviews post 2019. We expected the SMNCC to be in place for all default tariff cap periods.

Summary of responses

3.154. Many respondents were supportive of holding a review of the SMNCC in 2019. However, one large supplier stated that the review of the SMNCC should take place in early 2019 so that it could take effect for default tariff cap period 2 (from April 2019) due to the supplier's concerns on the approach we had taken to calculating the SMNCC.

3.155. Two respondents stated that we should calculate the absolute cost of smart metering as part of the 2019 review, rather than the incremental cost of smart metering to improve the traceability and transparency of the SMNCC.

3.156. One supplier had a concern over the updates to the SMNCC beyond October 2019, as in their view we assumed rollout rates of smart meters are consistent across suppliers, which the supplier noted was not the case. They stated this underestimates the cap with respect to suppliers who have been installing large numbers of smart meters already and that these suppliers will incur costs within the period of the cap which cannot be recovered until after the cap.

Our position

3.157. We proposed holding a review for default tariff cap period 3 (starting from October 2019) in order to allow new data on rollout and smart metering costs to be submitted by suppliers and reviewed by Ofgem. This is due to occur in February 2019, meaning an earlier review for cap period 2 (which would need to complete by 5 February 2019) would not be able to use the updated data. As a result, we have decided not to change the review timing.

3.158. We do not propose to calculate the absolute cost of smart metering as part of the 2019 review. We consider the most appropriate way of setting the smart metering baseline is by using suppliers' own cost information, as smart metering is now fully embedded in the operations of many suppliers, and then use the model to establish the incremental cost of smart metering from the 2017 baseline to the default tariff cap periods.

3.159. While the model includes an estimate of the net cost (ie the cost minus the benefits) of smart metering in 2017, we think it would not be appropriate to attempt to separate suppliers' smart costs from their other operating costs. We remain of the view that the model provides the best available approach for forecasting the net cost change of smart metering.

3.160. For suppliers which have been installing large volumes of smart meters we consider they should be in an advantageous position with regards to the SMNCC as they have a smaller percentage of new installations to complete under the default tariff cap relative to a supplier which is less advanced in its rollout.

Respondent views on the Standard Licence Conditions

Statutory consultation position

3.161. As part of our statutory consultation we consulted on the Standard Licence Condition drafting for smart metering.

Summary of responses

3.162. Two large suppliers raised a concern regarding the drafting approach for smart metering, in that it appeared to imply that the 2019 review would only take place subject to paragraphs 28AD.15 and 28AD.16 which set out that Annex 5 could be amended where "there has been a significant and unanticipated change of circumstances".

3.163. The suppliers were concerned that Ofgem would only undertake a review if the conditions of 28AD.15 and 28AD.16 were met.

3.164. In addition, one large supplier noted that the wording could be interpreted that the results of the review would take effect in a cap period after October 2019 rather than for cap period 3.

Our position

3.165. We can confirm that the intention of the drafting is for the 2019 review to take place regardless of circumstances. As a result, we have updated the drafting to clarify this point. We have also clarified that the 2019 review will result in an updated SMNCC for October 2019.

Respondent views on the complexity of the model

Statutory consultation position

3.166. In our May and statutory consultations we proposed to use the model to forecast the non-pass-through costs of smart metering.

Summary of responses

3.167. Two large suppliers commented that the model was very complex. Of those two, one large supplier stated the model was overly complex and contained material errors. It recommended that Ofgem should build a new smart metering model and issue a request for information to suppliers to populate the model with new data.

Our position

3.168. Having reviewed supplier responses, we still consider using an updated and adjusted version of the existing BEIS smart metering model to be significantly better than starting a new model. A new model would add significant uncertainty compared to one that has been developed and refined over time, and as a result is unlikely to provide a more accurate forecast of the SMNCC.

3.169. We note that following the disclosure room a relatively small number of minor inconsistencies were identified by supplier advisers and these have been corrected.

Respondent views on the disclosure room and transparency

Statutory consultation position

3.170. In light of the market sensitive and confidential nature of the underlying smart metering data relating to the model, we considered it was necessary to disclose the model and underlying data through the establishment of a disclosure room. The disclosure room was accessible to a limited number of approved external legal and/or economic advisers of the relevant parties during the period of the statutory consultation.

Summary of responses

3.171. In relation to smart metering, a number of suppliers commented on the use of the disclosure room for the smart metering model and the specific rules and undertakings:

- Ofgem should not have redacted other supplier data in the smart metering model
- suppliers should have had direct access to the disclosure room
- the 2016 BEIS CBA model should have been disclosed in the disclosure room
- suppliers have been not able to meaningfully comment on the statutory consultation.

3.172. One consumer group commented that it is appropriate for smart metering costs to be included in the operating costs category. However, they stated that the cost of the smart meter rollout is hidden, and their view that most consumers do not realise they are paying for this through their tariff. They stated greater transparency of the costs of smart metering for consumers would be welcome.

Our position

3.173. We do not agree with suppliers' views on the disclosure room, in particular:

- It is unclear why suppliers' advisers would add value in reviewing other suppliers' data, beyond gaining access to commercially sensitive information on smart metering costs, rollout and productivity. We consider that supplier's own advisers would be best placed to analyse their supplier's data. We provided each adviser with their supplier's data so that they would be able to review the use of the data in the model and any adjustments we had made.
- Given the confidential nature of the material in the disclosure room we consider that suppliers' advisers were more appropriate to have access to the SMNCC non-pass-through model than suppliers.
- The 2016 BEIS SMIP CBA model was not part of the default tariff cap analysis. As such it is not clear what benefit suppliers would have gained from having access to the model. We expect suppliers to focus their review on the model as it has been used to set the non-pass-through SMNCC.
- As part of our May and statutory consultations we have received a significant volume of detailed submissions from suppliers. Suppliers' advisers have reviewed the SMNCC non-pass-through model in detail and highlighted a number of minor inconsistencies. We consider that suppliers have commented meaningfully on our smart metering costs proposals.

Respondent views on the level of the SMNCC and supplier smart metering obligations

Statutory consultation position

3.174. As part of the statutory consultation we noted that our proposals did not represent a change to suppliers' obligations to take all reasonable steps to rollout smart meters to all their domestic and small business customers by the end of 2020.

Summary of responses

3.175. Three large suppliers and one industry supplier body raised concerns that the level of the SMNCC was too low. Their view was this would lead to a reduction in the rollout, as they felt suppliers would not have sufficient funding to maintain the current pace of rollout. One supplier noted that they would need to significantly scale back their rollout plans next year as a result of the proposed SMNCC level.

3.176. One large supplier also reported that they consider the SMNCC implicitly set the required level of smart metering spending to meet the supplier's all reasonable steps obligations.

Our position

3.177. We have set the SMNCC at a level that gives regard to the need for an efficient supplier to finance their rollout with no reduction in planned rollout pace. We have carefully modelled the level of the SMNCC using the best available model (the BEIS CBA as a starting point) adjusted with the most up-to-date supplier data. During the policy and statutory consultation, we have provided suppliers with significant information, including access to the model for supplier advisers in the disclosure room. As noted above we have made further adjustments to the model and to the level of the SMNCC where we consider they are justified by supplier evidence. We consider the SMNCC to be a fair reflection of the change in supplier costs from 2017 to the default tariff cap periods 1 and 2.

3.178. We do not consider the SMNCC sets an implicit all reasonable steps obligation spend level. As we have noted on a number of occasions, we consider the demonstration that a supplier has met its all reasonable steps obligation to be driven by the behaviours of that supplier. In particular, we expect suppliers to monitor and adapt their plans as the rollout progresses, working to mitigate any challenges and risks they face.

3.179. We also note that the SMNCC sets an increment for efficient suppliers, and suppliers which are not yet fully efficient may need to either exceed their spending on smart metering or increase their efficiency. There is a risk some suppliers consider reducing their rollout because their other costs are inefficient.

3.180. When suppliers submit their rollout plans to us in 2019 we would be minded to reject any rollout plans that stated their reason for reducing the rollout from previous levels was the default tariff cap.