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9 January 2023

Dear Marzia,

FURTHER CONSULTATION ON AMENDING THE METHODOLOGY FOR SETTING THE EBIT ALLOWANCE

Process and timetable for the review

We welcome the decision not to move straight to a statutory consultation, but we think that the revised timescales are still unrealistically short and run the risk that procedurally unfair and/or irrational decisions will be made based on incomplete data. The current consultation period which includes Christmas and new year holidays is far too short and not proportionate to the complexity and significance of the issues in hand. We are also disappointed that we still have not had sight of the CEPA model which would benefit from stakeholder scrutiny since it appears that it will be used to set capital employed and hence is a critical factor in the EBIT margin calculation. Ofgem should plan on implementing the revised EBIT margin no earlier than 1 October 2023 to allow adequate time for further consultation on the methodology and input assumptions, for which no concrete proposals have yet been put forward.

Case for change

We agree that it is appropriate to review the EBIT margin given the extent to which market conditions and risks have changed since the CMA first estimated the 1.9% margin in 2014-2016. However, we are concerned that much of the discussion in the consultation focuses on changes to the risk environment over the last year or two (highlighting where risks have been mitigated) rather than changes since 2016 since when risks have massively increased, including through the introduction of the price cap. Given the interaction of the EBIT, headroom and wholesale risk allowances, it is important that Ofgem takes a holistic approach to the review and provides greater clarity as to the scope and purpose of these different elements of the price cap going forward.

CAPM approach

We understand the approach by Ofgem to build up the EBIT margin from the bottom up using the CAPM model, however, Ofgem must realise that the CAPM model is poorly

suited for asset light businesses such as energy supply and that the methodology it is attempting to develop is breaking new ground. We do not believe Ofgem has yet identified a robust approach and as such we have grave concerns about Ofgem proceeding on this basis. We repeat our recommendation that Ofgem should sanity check any allowance coming out of any CAPM-based approach by benchmarking against other asset light industries. It is essential that the price cap can deliver fair returns to provide energy suppliers and their investors with the necessary confidence to continue to invest in the sector which will be essential to continue to innovate and deliver net zero.

Efficient notional supplier

Ofgem should base its estimates of capital employed by reference to an efficient notional supplier which is standalone and not part of a larger group. In particular, Ofgem should not assume that the efficient notional supplier has access to parent company guarantees (PCGs) or letters of credit (LoC) to finance its hedging and other activities, and should not base its estimates of capital requirements on suppliers which do have such access through parents or a wider group. This is for two reasons. First, the internal transfer pricing of PCG, LoCs and credit facilities within a group is likely to be well below what would be charged by the market for a loss-making business with no assets, and therefore does not represent an accurate economic cost. Second, if Ofgem were to base its estimates on such unrepresentative economic data, it would risk stifling competition by making it uneconomic for standalone suppliers to enter (or continue to operate in) the market.

Capital employed

Ofgem is breaking new ground in applying the CAPM to an asset light business, and this requires new approaches to defining and estimating capital employed for this context: there is no easy off-the-shelf solution. We have no objection to including fixed assets, but believe Ofgem should base its estimate on up-to-date information rather than inferring it from seven year old CMA data. We agree that it is helpful to identify different components of working, collateral and risk capital, but the interplay between them means that they cannot simply be estimated separately and summed. We have suggested an approach to quantifying the sum of these three elements holistically based on modelling cashflows for an efficient notional supplier across a wide range of severe (but plausible) financial stress scenarios. These scenarios would need to span a much wider range of stress events and possibly more extreme events than considered in Ofgem's stress test RFIs to date, and would need to be developed in full consultation with industry stakeholders. The efficient notional supplier should be assumed to be independent, ie not part of a wider group or owned by a parent.

Cost of capital

We disagree with Ofgem's proposal to use a long term historical average beta of 0.7 to 0.8. A recent report by First Economics notes that energy retail risk factors are systematic in nature and correlated with the wider market environment, which means they should be reflected in the beta estimate and that the lower beta range is "wholly implausible". First Economics therefore considered that CEPA's higher range of 1.0 to 1.2 was insufficient and it should be in the range 1.05 to 1.4.

Evidence provided in response to RFI

We are responding separately to Ofgem's RFI on capital employed. We are disappointed that Ofgem did not consult on a draft RFI before issuing it, and would encourage Ofgem

to issue a supplementary RFI to plug apparent gaps in the request such as fixed capital employed and costs of letters of credit.[3<]

Confidentiality

We consider the information we are providing to be confidential as it contains commercially sensitive details about our business.

Yours sincerely,

A handwritten signature in blue ink that reads "Richard Sweet". The signature is written in a cursive, flowing style.

Richard Sweet
Director of Regulatory Policy

FURTHER CONSULTATION ON AMENDING THE METHODOLOGY FOR SETTING THE EBIT ALLOWANCE – SCOTTISHPOWER RESPONSE

Question 0: Matters not covered by consultation questions

In this 'Question 0' response we comment on two specific areas which are not covered by other questions:

- Efficient notional supplier assumptions;
- Asset beta.

Efficient notional supplier assumptions

Ofgem has decided to continue with its proposal to measure the capital employed by an efficient notional supplier as the basis of its approach to calculate the EBIT allowance. Whilst Ofgem has outlined three of its assumptions for this notional supplier, it has not decided on other features of the efficient notional supplier that impact on the level of capital employed. These are:

- **Independence:** Ofgem is undecided as to whether the supplier is fully independent or a combination of the following: vertically integrated, having a parent company. We consider that the efficient notional supplier should be fully independent (ie no parent company and not part of a wider group). This will ensure that the EBIT margin is able to support diversity in the energy retail market, enable market entry and as a result provide sustainable competition that will benefit consumers. Assuming any other type of supplier could limit market entry thus restricting competition and innovation – the CMA recognised this in its assessment of the market. Ofgem must bear in mind that the cap should be set at an efficient level but that setting it too low will have negative consequences for customers, for example by excluding business models which do not have access to finance from a parent company or wider group.
- **Customer mix:** the supplier should have a mix of domestic customers (by payment method, level of engagement, level of debt propensity), characteristic of industry average rather than newer entrants. As with the above, the cap should not be set at the lowest possible level. This is particularly important in modelling the impact of stress scenarios on customer debt levels, where the notional supplier should be assumed to have a representative proportion of customers in financial difficulty.
- **Trading arrangements:** In line with being independent, the supplier should be assumed to conduct its own trades and to post collateral when required (see response to Question 10),

Asset beta

We disagree with Ofgem's views on the asset beta. Assuming that a long term historical average of 0.7 to 0.8 reflects the forward looking risk does not seem rational. Ofgem should no longer use historical data to set future allowances when the future outlook is so different from the past. We consider that an asset beta closer to that of airlines would be more appropriate since energy retail businesses are (and are perceived as) riskier than at any

time in the last 10 years. Press reports as recently as 8 December 2022 highlight the need for additional working capital to cope with additional volatility from some organisations¹.

Energy UK has recently provided a report prepared by First Economics which has been shared with Ofgem. The report notes that energy retail risk factors are systematic in nature, correlated with the wider market environment, which means they should be reflected in the beta estimate² and that the lower beta range is “wholly implausible”. First Economics therefore considered that CEPA’s higher range of 1.0 to 1.2 was insufficient and it should be 1.05 to 1.4. We believe that all of this evidence points to the asset beta of 0.7 to 0.8 being inadequate.

In addition, we have the following comments:

- The two comparators selected, (Telecom+ and Just Energy) seem anomalous. The geographical jurisdiction of Just Energy means that the market condition it faces are not comparable with those that a GB energy supplier is exposed to. In addition, as pointed out by First Economics “*Just Energy exited the GB market in 2019; and ...in 2021 the company filed for bankruptcy protection*”. Telecom+’s multi service provision also makes it non comparable.
- Ofgem says it has used 10 year historical average but we are not clear exactly how this is composed.

Chapter 2: Background

Question 1: Are there any issues we should consider in relation to our proposed 1 July 2023 implementation?

As we have said before, we welcome Ofgem initiating a review of this important and complex issue, but we do not support the speed at which Ofgem is progressing it. For the reasons set out below, we believe Ofgem should be planning on implementation no earlier than 1 October 2023.

The review process has been extended relative to the timetable that Ofgem had originally planned, with this being a further consultation rather than the expected statutory consultation. However, both consultation processes have had extremely short timescales to respond, this one being over the Christmas and new year period. This latest consultation comes alongside five other important price cap consultations as well as information requests and market compliance reviews³ adding further pressure to an already stretched retail business at this time of year. These consultations require experts within the business to respond, in particular in areas such as Finance and Treasury. This is in addition to the teams’ day jobs which include working towards financial year end in many organisations. We welcome this additional policy consultation, which is necessary, but we believe Ofgem is repeating its previous mistakes by allowing such a short time for response. The response period should be proportionate to the density, complexity and significance of the matters being consulted on. Without allowing sufficient time for stakeholders to consider and response to the detail in the consultation, Ofgem risks making procedurally unfair and/or

¹ [Shell injects \\$1.5 bn into UK retail power business to help it weather volatility | Reuters](#)

² “it is very hard to think at present of a non-systematic risk affecting the energy supply industry – i.e. a risk that has the potential to impact suppliers’ revenues, costs and profits but that is uninteresting to firms more generally and, hence, diversifiable”

³ Particularly significant are the financial resilience consultation and the stress testing RFI

irrational policy decisions which could ultimately create unintended consequences and lead to poor outcomes for consumers.

At the 7 November Ofgem workshop, Ofgem did not build on its previous consultation, asking questions based on company responses, but largely reiterated the questions from the August 2022 consultation asking for more evidence somewhat confusingly to those who had sent evidence in. We do not believe that this workshop progressed the conversation between Ofgem and suppliers. At this workshop, Ofgem noted that CEPA had prepared a model for them. We are very disappointed not to have seen the CEPA model. It appears that this model will be central to Ofgem determining capital employed. It needs thorough socialisation and debate with stakeholders. The scenarios it uses to test capital employed needs to be scrutinised and we urge Ofgem to share it.

We note in terms of customer impact that Q3 has lowest consumption and there is more limited impact of any delay in amending the EBIT margin if a more measured approach was taken to these issues and October 2023 was set for implementation.

Chapter 3: Case for change and wider policy considerations

Question 2: Do you agree with our assessment on the case for change?

Overall, we can see the case for looking again at the level of the EBIT allowance. The EBIT allowance is currently 1.9% meaning that the absolute value has increased in line with the rise in energy bills. Alongside this, the energy retail sector is going through a period of turbulence, with around 30 suppliers having exited the market at enormous costs to consumers. The profitability of the energy retail sector is low and, in many cases, negative.

Therefore, we agree with Ofgem that this is a reasonable trigger for it to look at the EBIT allowance and consider whether it is at the right level and whether it is appropriate for it to scale with bill value. However, we do not support the speed at which Ofgem is progressing the review, the lack of transparency in relation to Ofgem's model development and the unrealistic demands being made of suppliers to respond to consultations in unreasonably short timescales.

Timing and pre-conceived view of the outcome

We believe that Ofgem has approached this topic with a preconceived view that the EBIT margin is too generous, at least in the current high price market environment. This view appears to have motivated Ofgem's urgency in pushing through the review on such unrealistic timescales. In our view, if the review is carried out properly, it will most likely conclude that the EBIT margin is too low. We reject any suggestion that calls for additional time are self-interested attempts by suppliers to delay an adverse outcome; rather, we believe Ofgem has gravely under-estimated the complexity of the task, and significant extra time is required to do the topic justice. We urge Ofgem to remain objective rather than allowing the expected or desired end point to drive the decisions made.

Risk drivers and mitigating factors

Ofgem's case for change has developed since the last consultation. Table 1 in the consultation (adapted as Table 1 below) presents a view of market risks and relevant mitigating factors or circumstances. Throughout the consultation, Ofgem has commented that its actions have in many cases reduced the risks and impacts of a volatile market. What is not clear, is whether it is considering actual or perceived/expected risk and over which relative time periods.

For example, we think that the move to a quarterly cap has reduced the perceived volume risk from wholesale market volatility relative to its peak in 2021 but that in the early years of the cap the perceived volume risk was lower than now, since we had not experienced volatility and therefore hadn't included the risks from volatility in our assessment. Certainly in pre price cap periods, there was relatively less volume risk than now. In all cases where Ofgem is considering risk levels, risk drivers and mitigating factors we believe these should be considered to be relative to pre-price cap ie at the time the CMA was looking at the market in 2016/17.

The report for Energy UK by First Economics (GB Energy Retail Businesses: Risk Profile and Cost of Capital) clearly outlines the difference between the market the CMA was looking at and now, with the two main factors that have changed the risk profile being:

- 1) The introduction of the price cap – the role of regulation here, says First Economics, is different from the usual role which is to increase certainty and reduce risks. Here the regulation, in the form of the price cap, has created risk that would not otherwise have been present
- 2) The recent energy market price and volatility increases – the existence of the cap exacerbated the impacts of this second big change in the risk profile of energy retailers.

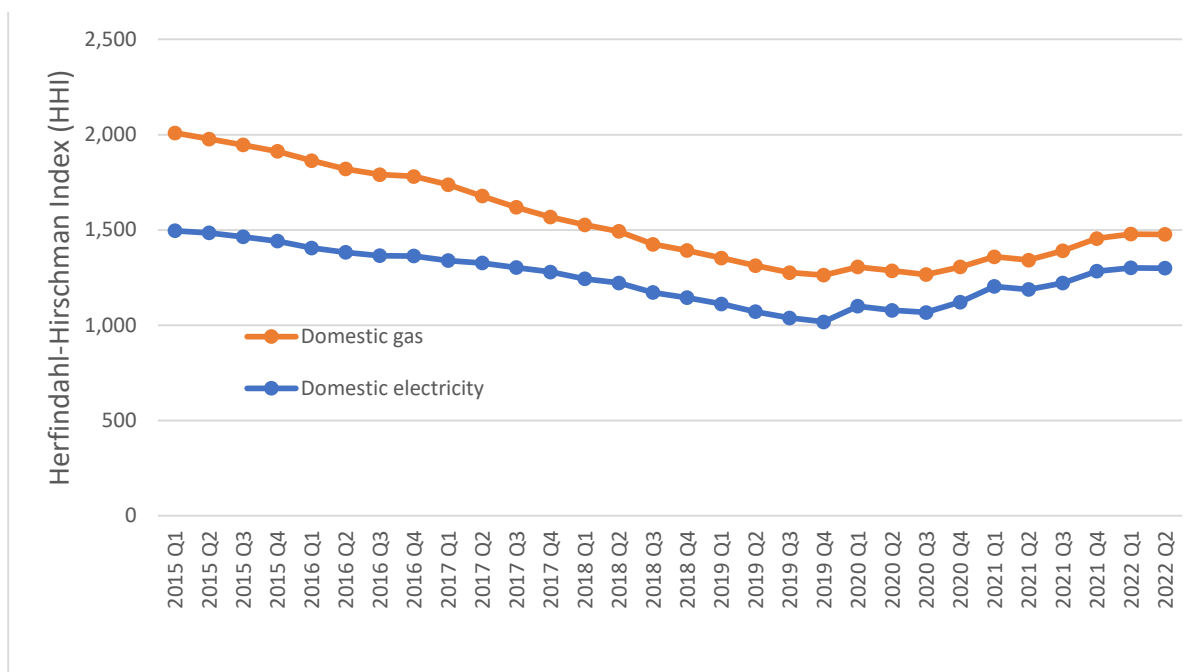
We agree quantification is difficult but make some comments on relative risk in the table below:

Table 1: Risk drivers and mitigating factors (adapted from Ofgem Table 1)

Risk driver	Risk level	Mitigating factor	Our view
Wholesale volatility	+	<ul style="list-style-type: none"> • Move to quarterly cap 	Whilst the quarterly cap has reduced the risk from market volatility relative to the six monthly cap as seen since the second half of 2021, relative to pre-cap periods this risk level has increased with suppliers unable to recover costs relating to wholesale volatility from customer
Volume risk	+	<ul style="list-style-type: none"> • Market stabilisation charge (MSC) • Volume risk allowance (ex post) • Move to quarterly cap 	Linked to the above, the quarterly cap has reduced the risk relative to the six monthly cap but remains significantly worse than pre price cap levels. There remains significant and concerning volume risk on price increases and decreases. The MSC is not an enduring feature, does not cover many costs including price cap allowances (eg backwardation) and in certain scenarios (eg a price decrease of 9%) would not kick in at all.
Backward-ation	+	<ul style="list-style-type: none"> • Backwardation allowance • Move to quarterly cap 	Market volatility and significantly high backwardation costs relative to contango benefits have led to the backwardation allowance being introduced. However issues remain with this. This is a higher risk than pre-price cap since it is the price cap that constrains suppliers' ability to recover backwardation costs.

Bad debt	+	<ul style="list-style-type: none"> • Bad debt allowance • Energy Price Guarantee (EPG) 	The EPG, whilst it helps customers, remains at a level that is significantly higher than previous energy bills. Therefore, as energy bills increase, default rates became harder to predict. The EPG is also increasing from £2,500 to £3,000 in April 2023.
Liquidity risk	+	<ul style="list-style-type: none"> • Financial resilience controls • Energy Markets Financing Scheme 	We believe that the quarterly cap alongside the global market environment has increased liquidity risks relative to the pre cap market
Competition risk	-	<ul style="list-style-type: none"> • Market stabilisation charge • Ban on acquisition tariffs • Exit of suppliers • Financial resilience controls 	We do not consider that the market is less competitive than it used to be. Looking at the HHI index over time (Figure 1), it is currently lower (more competitive) than when the CMA set the EBIT margin pre cap

Figure 1: Market concentration in domestic energy supply



Source: Ofgem market share data

What risks are in other allowances and what in EBIT

There has long been confusion between how the different allowances for wholesale risk, headroom and EBIT interact. Ofgem offers various comments in the consultation document about what may or may not be covered in the allowances,⁴ but without any clear conceptual framework. As part of this review Ofgem should clarify the purpose and scope of these elements and place the review of EBIT on firm foundations. As explained in more detail in response to Question 7, the main elements of the price cap methodology should be:

- Specific cost allowances are required for any cost item with an expected value μ that was assessed to be sufficiently material in 2018 when the price cap was designed;

⁴ Paragraphs 3.12, 4.37, 4.44, 4.58 and 4.61

- Supplementary ex post allowances are required to account for occasions where costs fall outside the previously expected range (eg COVID bad debt, unexpected SVT)
- Headroom and wholesale risk allowances should cover any cost item not already included in a specific cost allowance, but should not cover unforeseen increases in cost allowances already provided for. The headroom allowance also serves other purposes such as compensating suppliers with high proportions of standard credit customers for the shortfall in recovery of bad debt costs due to smearing across other payment methods.
- The EBIT allowance provides a return on capital employed, **not** a contingency bucket for expected (in a statistical sense) costs. This allowance should reflect the amount of capital a supplier must have to maintain solvency in scenarios of severe but plausible financial stress. It will be driven by the uncertainty or variability of cost items (their standard deviation, σ) not their expected value, μ .

Chapter 4: Capital Employed

Question 3: Do you agree with our proposal to include fixed assets as a component of capital employed and the suggested level?

We agree with the proposal to include fixed assets as a component of capital employed. When Ofgem previously proposed not to include fixed assets, we were content with this position as we recognised that fixed assets represent a relatively small proportion of overall capital employed, and industry trends (such as renting rather than buying billing systems) have probably reduced the average fixed assets per customer. But if fixed assets are included at an appropriate level, we do not see a problem with that.

However, we do not agree with the suggested level of fixed assets, at least in term of the way in which it has been derived (see response to Question 4).

Question 4: Do you agree that our estimate of fixed assets for a notional supplier is representative of current market conditions?

Ofgem is proposing to use the CMA's 7 year old depreciation and amortisation estimates to back-calculate the fixed assets per customer at £85. We do not understand why Ofgem would choose to back-calculate from such old data when it has ready access to company balance sheet information and could easily supplement this with additional up-to-date information via an RFI.

We are unable to comment on whether £85 per customer is representative of current market conditions as amounts will vary widely between suppliers, but we disagree with Ofgem's approach. Market conditions and business practices have changed since 2014-16 and the typical level of fixed assets may well have changed. For example, one relevant trend is for suppliers to rent rather than purchase their billing systems.

Question 5: What do you see as the minimum level of working capital required for a supplier to be able to operate and which method should we use to set it?

Although it can be helpful to distinguish conceptually between working capital, collateral capital and risk capital, we think there is a strong degree of overlap between these concepts in practice. For example, if working capital is defined as the amount of capital a supplier needs to maintain cashflow and meet its financial obligations under 'normal' market conditions, risk capital could be defined as the additional working capital needed to meet obligations under scenarios of more extreme financial stress – which in some scenarios may involve posting significant amounts of collateral capital.

We think Ofgem should consider modelling capital employed in terms of the peak funding (or working capital) requirement across a portfolio of different extreme but plausible financial stress scenarios. This holistic approach would combine normal working capital, collateral capital and risk capital into a single measure ('worst case working capital') which could be added to fixed capital to give a measure of total capital employed. We believe this approach is broadly consistent with Ofgem's proposed definition of risk capital as "the capital required by suppliers to cover costs and losses that arise due to the holding of open risks during a range of different scenarios ... the additional working capital required to ensure a supplier can withstand conditions of volatile wholesale prices or demand shock."⁵

We think this approach (hinted at in Ofgem's consultation, paragraph 4.45) is preferable to an alternative approach (hinted at or implied elsewhere in the consultation) in which working capital, collateral and risk capital are estimated separately and then summed. The problem with this latter approach is that these quantities can vary widely with changing market conditions and may be inversely correlated with each other. So, for example, when markets have risen, collateral capital may be low or negative, but risk capital associated with potential counterparty failure may be high; when markets have fallen, the opposite may be the case. This makes it difficult to measure and combine them in a self-consistent way.

A key input to this process would be a comprehensive model of cashflows for an efficient notional supplier that could predict cashflow (and hence peak funding requirements) under a range of different scenarios. The cash flow model would need to include (but not be limited to):

- customer debt patterns
- customer credit balances
- energy settlement and balancing
- energy purchase including collateral requirements
- network costs
- CfD costs
- ROCs
- delays between costs being incurred and recovered via price cap allowances

We would expect Ofgem to model scenarios that are representative of 'severe but plausible financial stress', eg 1 in 20 year worst case scenarios. We do not believe that the stress tests currently cover severe enough scenarios for this. Scenarios should include, for example:

- Extreme weather events
- Market circumstances leading to rapid exodus of customers from SVT to FTC

⁵ Condoc paragraph 4.40.

- Emergence of cut-throat supplier competition
- Sharply falling markets (with consequent need to post variation margins)
- Sharply increasing markets with associated volume ('unexpected SVT') risks
- Market volatility with markets rising and then subsequently falling or vice versa
- Severe cost of living squeeze and impact on consumer debt
- Wider energy industry stress leading to counterparty failures

The peak working capital from these severe but plausible scenarios should then guide the capital employed element of the EBIT calculation. We consider that a resilient supplier must be able to fund the peaks and therefore, whilst there is a range over time, the peak is what drives the need for capital employed. We have provided in our RFI response our tentative estimate of the overall level of capital employed per customer.

Question 6: How can the relationship between wholesale prices and their volatility, and working capital be quantified?

Most of the elements of working capital scale with wholesale prices and some are further increased by volatility. The table below shows categories of capital employed and the extent to which, if they are variable, they scale.

Table 2 Categories of capital employed and key drivers

Capital employed	Fixed or variable	Scales with			
		Overall bill	Wholesale price	Volatility	Other
Fixed assets	Fixed				
Working capital					
Customer Debt	Variable	✓✓			
Customer Credit Balances	Variable	✓			
Direct debit lag in recovery	Variable	✓			
Lagged cost recovery (eg backwardation)	Variable		✓	✓	
Energy Settlement	Variable		✓	✓	✓
Network Costs	Variable				✓
ROCs	Fixed				
CfD	Variable		✓		
Collateral capital					
Wholesale energy trades (initial & variation margins)	Variable		✓	✓	
CfD hedges	Variable		✓		
LCCC Total Reserve Amount	Variable		✓		
Network charges	Variable				✓
Energy Imbalance charges	Variable		✓	✓	
Risk capital					
Churn/volume/demand risk	Variable		✓	✓	
Weather-related demand	Variable		✓		
Counterparty credit risk	Variable		✓	✓	
Political/regulatory risk	Variable	✓			✓
Shaping and balancing	Variable		✓	✓	
Liquidity (quarterly cap)	Variable		✓		✓
Bad debt risk	Variable	✓			✓

As explained above (Question 5) we think Ofgem could approach the modelling of overall capital employed by modelling cashflow under a portfolio of severe financial stress

scenarios. This approach will yield a value of total capital employed for a set of scenarios centred around a particular level of wholesale prices, which may be sufficient for current purposes.

Quantifying the *relationship* between working capital (or more usefully, total capital employed) and wholesale price and volatility would be more challenging and add further complexity. In theory, it may be possible to repeat the process we have proposed below for different portfolios of stress scenarios, each portfolio being representative of higher or lower wholesale prices and/or volatility, and derive a set of data points which could then be fitted to a curve, but this raises significant issues, not least how to reduce the multitude of different volatility measures (for different tariffs and different timescales) to a single volatility metric.

Question 7: Do you agree with our proposal to include wholesale cost volatility and unexpected demand shock as key drivers of volume risk when calculating suppliers' risk capital requirements?

As explained above (Question 5) we think Ofgem should consider modelling capital employed in terms of the peak funding (or working capital) requirement across a portfolio of different extreme but plausible financial stress scenarios. This holistic approach would combine normal working capital, collateral capital and risk capital into a single measure ('worst case working capital') which could be added to fixed capital to give a measure of total capital employed.

In the context of the more holistic approach we have suggested, we agree that wholesale cost volatility and demand shock (with consequent impact on volume risk) will be two key drivers for the financial stress scenarios, but as noted above, there are many other potential drivers of 'worst case working capital' which also need to be modelled, including:

- Extreme weather events
- Market circumstances leading to rapid exodus of customers from SVT to FTC
- Emergence of cut-throat supplier competition
- Sharply falling markets (with consequent need to post variation margins)
- Sharply increasing markets with associated volume ('unexpected SVT') risks
- Market volatility with markets rising and then subsequently falling or vice versa. Severe cost of living squeeze and impact on consumer debt
- Wider energy industry stress leading to counterparty failures

Question 8: Do you agree with our assessment that backwardation, bad debt, and shaping and imbalances costs are accounted for in the existing cap allowances and that their inclusion within the EBIT allowance could lead to double counting?

We think this question may reflect a lack of clarity in Ofgem's mind as to the respective purposes of price cap cost allowances and the EBIT allowance. In our view, most cost items faced by a supplier will need to be reflected in a cost allowance and in the EBIT allowance, but in different ways.

For any given cost item it is important to distinguish between its average or expected value (μ) and its uncertainty or volatility (σ). These should then be reflected in the cap methodology as follows:

- The average or expected value (μ) should reflect the best estimate of the quantity when the price cap was designed in 2018. If μ was sufficiently material, a specific

allowance will have been included; if not, it will have been deemed to be included within the headroom or wholesale risk allowance.

- If over time, as a result of events and market trends, μ diverges materially from the original estimate, such that suppliers systematically under- or over-recover efficient costs, Ofgem would be expected to adjust the price cap to correct for this. This might involve:
 - a) introducing a temporary allowance for ex post recovery of exceptional costs, if the divergence is considered temporary⁶; and/or
 - b) adjusting the allowance (or creating a new allowance if previously included in headroom) if the divergence is expected to be enduring⁷.
- The uncertainty or volatility, σ , reflects the extent to which costs may under- or overshoot the allowance at a given point in time – but with the expectation (if μ has been correctly estimated) that the variations will net out to zero in due course. σ therefore reflects the potential variability in a supplier's cash position and hence contributes to the working capital requirement (or risk capital in extreme cases) and ultimately the EBIT allowance.
- Any delay in recovering costs due to a change in μ and hence the need to introduce an ex post (or deferred) allowance will also contribute to the working capital requirement (and ultimately the EBIT allowance).

In answer to Ofgem's question, we agree that the expected values (μ) of backwardation, bad debt, and shaping and imbalance costs should be accounted for in the existing cap allowances (though we do not necessarily agree they are currently adequately allowed for). However, the uncertainty associated with these costs (σ) plus any delay in recovery of the costs will affect the worst case working capital requirement and hence should be included in the calculation of the EBIT allowance. If this distinction is adhered to there should be no double counting.

So for example, if the current cost of living crisis leads to a sharp increase in debt-related costs, we would expect those costs to be reflected in an additional (or increased) bad debt allowance. However, the cash required to fund the delay between bad debt costs being incurred and recovered, plus the wider increase in customer debt, would lead to increased working capital which should feed in (via the scenario analysis) to the EBIT allowance.

Similarly, if a combination of wholesale price volatility and unusual weather were to lead to exceptionally high shaping and imbalance costs, we would expect this to be reflected in an additional (or increased) wholesale cost allowance. However, the cash required to fund any delay between costs being incurred and recovered would feed in (via the scenario analysis) to the EBIT allowance.

Finally, we disagree with Ofgem's suggestion (paragraph 4.37) that 'the headroom and wholesale risk allowances cover the gap between cost incurrence and cost recovery under the cap' and its suggestion (paragraph 4.58) that 'the headroom and wholesale risk allowances cover the time difference between the incurrence of backwardation costs and their recovery under the cap.' This timing difference is precisely the sort of cashflow impact that ought to be considered in assessing capital employed as part of the EBIT allowance.

⁶ Eg COVID-related debt costs or unexpected SVT costs

⁷ Eg backwardation allowance.

Question 9: Do you propose an alternative approach for measuring risk capital which is preferable to the approach we describe in this section and Appendix 1? In your approach, how do you model the relationship between wholesale price volatility and risk capital under stress test scenarios?

As explained above (Question 5) we suggest Ofgem should adopt a holistic scenario-based approach to estimating total capital employed by a notional supplier, and hence the EBIT allowance. As noted above, Ofgem hinted at this approach in paragraph 4.45 of the consultation. In summary, we suggest Ofgem should (in consultation with stakeholders):

- 1) Clarify the definitions and purpose of the EBIT margin, headroom allowance and wholesale risk allowance such that there is no overlap between them.
- 2) Create a model that simulates the cash flows (inclusive of collateral posted or received) of a notional supplier over the course of time, and for different scenarios.
- 3) Define a set of scenarios that adequately spans the range of possible causes of financial stress (or combinations of causes), at an appropriate level of severity ('severe but plausible') and consistent with a specified reference level of wholesale prices. These could include:
 - Extreme weather events
 - Market circumstances leading to rapid exodus of customers from SVT to FTC
 - Emergence of cut-throat supplier competition
 - Sharply falling markets (with consequent need to post variation margins)
 - Sharply increasing markets with associated volume ('unexpected SVT') risks
 - Market volatility with markets rising and then subsequently falling or vice versa
 - Severe cost of living squeeze and impact on consumer debt
 - Wider energy industry stress leading to counterparty failures
- 4) Run the model against the set of scenarios and predict the peak working capital requirement for each scenario; then select a value at the top end of the range to represent the overall 'worst case working capital' position to feed into capital employed.
- 5) Calculate overall capital employed as 'worst case working capital' position plus fixed capital.
- 6) Apply an appropriate cost of capital to the capital employed to give an EBIT allowance corresponding to the specified reference wholesale price level.
- 7) Estimate the EBIT margin as a fixed amount plus a percentage of revenue, taking into account the calculated EBIT allowance, the reference wholesale price level and the amount of fixed capital (eg using a straight line model).
- 8) Benchmark this against EBIT margins from other asset light sectors
- 9) Make any consequential changes to other allowances (eg opex or headroom) at the same time as making any changes to the EBIT allowance.

The above approach will yield a formula for the EBIT allowance which varies with wholesale prices (through their impact on revenue) but does not vary with wholesale price volatility. Although it would in principle be possible to derive a formula for the EBIT margin which also

depends on wholesale price volatility, this would be difficult to achieve within the process set out above and we are not convinced that it would be worthwhile.

However, we would note that in specifying the stress scenarios (item 3 above) it will be necessary to specify the wholesale market volatility associated with those scenarios and this in turn will drive the modelling of collateral capital requirements (initial and variation margins) together with other volatility-dependent elements of cashflow.

[§<]. As explained in our response to Ofgem's consultation on EBIT, one possible approach to estimating risk capital is to consider the maximum amount of cash a supplier might need to have access to in order to continue meeting its obligations under a range of severe but plausible financial stress scenarios. This amount would then reflect the total working + collateral + risk capital requirement (with the split between these three components potentially varying across scenarios).

Without having gone through this exercise ourselves, we cannot give a definitive estimate of either this total or the risk capital component. However, for the purpose of Ofgem's review, we would roughly estimate ScottishPower's total capital requirements to be in the range £[§<] billion. The most extreme of Ofgem's stress test scenarios (August Scenario 4, 'Very high Price + demand shock') showed a similar level of additional funding required. Ofgem's stress test scenarios have not spanned the full range of possible risks and severity of conditions (for example, none of the scenarios considered counterparty credit risk and the impact of a significant counterparty failing or the impact of a falling market) and we think it likely that other plausible scenarios might yield values towards the top end of the range. To provide Ofgem with an estimate of risk capital per customer as requested, we have used the midpoint of the range, £[§<] billion. We have assumed this is largely for domestic customers since [§<].

Dividing our rough estimate of peak capital requirement of £[§<] billion⁸ by the number of SVT customers gives a value of around £[§<] per dual fuel customer. This is the total peak capital employed including risk capital per customer as noted in the spreadsheet. It would take some additional time to model scenarios to develop a more robust response and we have proposed how Ofgem should do this in our response to questions 5 and 9 in the policy consultation.

Question 10: Do you have a view on a preferred approach with regards to the treatment of collateral under the cap?

Before commenting on these options we summarise in Table 3 the main approaches used by suppliers for collateral provision and our view on whether they represent an appropriate basis for modelling the 'efficient notional supplier'. As explained above ('Question 0'), we believe the efficient notional supplier should be assumed to be standalone, not part of a larger group, and therefore without access to PCGs or investment grade credit rating. This is for two reasons. First, it is difficult to determine the true arms-length economic cost of PCG provision (and/or establishing an investment grade credit rating) since internal transfer pricing, if it exists, may not be cost-reflective of a standalone supplier. Second, to the extent that PCGs may be lower cost than other options, it would be wrong to set the cap at a level that deterred market entry by efficient standalone suppliers. A number of suppliers, both large and small, are standalone and so this is not just a theoretical assumption.

⁸ We have used this value for each of the months in the spreadsheet, though we would expect the number to have been rather smaller at the start, before the onset of wholesale markets instability.

To the extent that Ofgem is considering using a company with a parent company guarantee as its efficient notional supplier, Ofgem should take into account the costs to the parent company and understand that these arrangements are subject to change. A PCG could lead to potentially significant opportunity cost for the parent company and might constrain its ability to borrow. This impact on the parent company will also be related to the extent to which the guarantee is used an increasing amount could lead to a restriction in its provision.

Table 3: Alternative approaches to collateral provision

Approach to collateral provision	Where typically used	Suitable for 'efficient notional supplier'?
Fee for third party to provide collateral	Smaller suppliers with insufficient financial resources to post cash or LoC	Probably not – may not be available in all scenarios
Cash collateral	Wholesale trading on exchanges (and certain other commercial relationships)	Yes – all collateral requirements can be satisfied in cash, and possible to model (no need to infer costs other than WACC)
Letter of credit (LoC)	Wholesale trading on exchanges, but only for initial margin not variation margin (and certain other commercial relationships)	Possibly – in combination with cash, but if costs are similar for the independent supplier, it may be simpler to assume 100% cash
Parent company guarantee (PCG)/ Investment grade credit rating	Bilateral over-the-counter (OTC) trades.	No - not available for independent supplier, and true arms-length cost is difficult to infer.

We also believe it would be inappropriate to assume that the efficient notional supplier pays a fee to a third party to trade and provide collateral on its behalf. As Ofgem has previously observed, the ability of suppliers to trade through third parties in this way may have been constrained by the lower values now ascribed to customer bases. Therefore, as shown above, we believe the efficient notional supplier should be assumed to post collateral for all hedging in the form of cash and possibly LoCs.

Ofgem suggests four options for the treatment of collateral:

- a) exclude collateral from the capital employed calculation;
- b) include collateral in the capital employed calculation;
- c) include collateral fees as an operating cost allowance;
- d) hybrid approach.

Before we discuss our view on these options, we explain how we believe Ofgem should consider wholesale collateral since the components of these, being initial and variation margins are the most significant elements of collateral by size.

As discussed below, we think (a) is clearly inappropriate and should be ruled out. Both options (b) and (c) should give broadly similar results in terms of impact on overall price cap level, if they are modelled correctly – albeit in ScottishPower's experience providing cash collateral is generally more flexible than using LoCs. Option (d) may be marginally more cost-reflective, given that suppliers typically use a mix of cash and LoCs, but at the cost of increased complexity. Whichever approach is adopted, Ofgem should assume that the efficient notional supplier posts collateral for all hedging in the form of cash and possibly LoCs (but not PCGs). If Ofgem decides that it will use operating cost allowance it should

make changes to this alongside changes to the EBIT margin and not wait until a wider review of operating costs is undertaken.

a) Exclude collateral from the capital employed calculation

This approach is based on flawed assumptions and is not valid. Ofgem suggests this approach would reflect the fact that the majority of existing suppliers meet collateral obligations through LoCs or PCGs (with no capital employed), for which there is no cost when the LoCs/PCGs are provided by the supplier's parent company. First, even suppliers with a large parent such as ScottishPower provide a large proportion of collateral in cash. Secondly, PCGs are *not* provided free by the parent company and indeed are a cost to the parent company (albeit internal transfer prices may not currently be fully reflective of an arm's length relationship with a standalone supplier).

b) Include collateral in the capital employed calculation

We think it would be a reasonable simplifying assumption to assume that the efficient notional supplier provides cash collateral for *all* wholesale market trades. The notional supplier may also use LoCs, but these are unlikely to be any cheaper than providing capital (at least at the cost of capital that Ofgem is minded to assume). In effect, this would assume that power and gas are all purchased via exchanges rather than OTC, and reflects the fact (noted above) that standalone suppliers are unlikely to be able to trade OTC on favourable terms.

c) Include collateral fees as an operating cost allowance

In contrast, this approach would assume that the majority of collateral requirements are met through LoCs/PCGs for which suppliers pay a fee, but no capital is actually employed by the supplier, or indeed that companies do not post the collateral themselves but pay a fee to a third party. If Ofgem were to adopt this approach, it should base the cost on LoCs rather than PCGs, since PCGs would not be available to an independent notional supplier and any data on PCG pricing is likely to be questionable. As above, the value of the LoCs should be consistent with power and gas being purchased via exchanges rather than OTC. Ofgem should include a specific opex allowance to recover the estimated cost of *all* (not some) of the LoCs at the same time as the EBIT margin is amended.

d) Hybrid approach

In this approach, part of the collateral requirements would be included in capital employed, while the remaining requirements would be included in an operating cost allowance, ie a blend of options (b) and (c). To the extent that the hybrid approach is representative of market practice (ie suppliers use a combination of cash and LoCs) the hybrid approach may be slightly more cost-reflective, but it is unclear to us whether the additional accuracy would justify the additional complexity, and it is unclear what would be an appropriate mix to assume.

Question 11: How are the collateral requirements calculated? Is it possible to quantify the relationship between collateral, wholesale prices and volatility?

Ofgem has requested data on collateral requirements as part of its RFI. This covers October 2020 to October 2022. We do not believe that these two years are representative of the range of possible market conditions and therefore we would advise Ofgem to be careful how this data is used. The sensitivity of the results to the choice of timeframe is illustrated by November and December 2022 data (included in our RFI response). The latter shows the

market falling and the impact on collateral requirements. Swings in collateral can happen in all directions and Ofgem must recognise this in any modelling.

Table 4 summarises how the main forms of collateral vary with wholesale prices and volatility.

Table 4: Types of collateral and dependence on wholesale prices and volatility

Type	How provided	How calculated
Exchange trading	Initial margin: cash or LoC Variation margin: cash	The initial margin is calculated by the exchange based on the size of each position and the current price volatility. In our response to the RFI we have provided a separate sheet ("Initial margin data") with the ICE initial margin data showing the initial margin requirements as a percentage of contract value for selected dates. The data shows that the proportion of trade value which ICE require to be posted as collateral has risen from around 5% in 2020 to 35-80% in 2022. ICE may be able to provide the algorithm behind their initial margin requirements that could be used for this element to quantify the relationship between collateral wholesale price and volatility. The variation margin is based on mark to market value and can swing between positive and negative, the size of the swings being linked to market volatility. For variation margin, we believe it is possible to quantify the relationship between collateral capital and wholesale prices since a £1/MWh change in the market price reflects the same change in collateral requirement whether in the money or out of the money.
ELEXON and Xoserve	LoC	ELEXON and Xoserve collateral requirements could be assessed by requesting data from them on the size of collateral requirements over time as compared to wholesale market prices and movement in wholesale prices or volatility. An alternative would be to use the models or algorithms they use to set requirements and apply these to a notional supplier
Capacity market	Cash or LoC	
LCCC	Cash	The total reserve amount (TRA) is reviewed quarterly by the LCCC and varies with market price movements which drive the CfD rates. Ofgem should have access to this data
Network charges	N/A	Collateral does not scale with wholesale price / volatility

Question 12: Do the wholesale collateral requirements mechanisms differ for trading on exchange vs trading over-the-counter?

Yes, the collateral requirements for trading on an exchange are typically very different from trading over-the-counter (OTC), at least for a company such as ScottishPower with an investment grade credit rating.

Exchange trading collateral requirements

Parties wishing to trade on an exchange are required to put up collateral in the forms of initial margin and variation margin:

- The **initial margin** reflects the amount by which a participant's position might move in the course of a day, before the variation margin can be adjusted. The initial margin

is a function of the market volatility and the volume, and is updated frequently in response to changes in market volatility. The relevant exchanges should be able to provide Ofgem with further detail as to how they monitor volatility and calculate the initial margin requirements.

- The **variation margin** is a measure of how much a participant's position is currently in or out of the money and is equal to $((\text{strike price} - \text{current price}) \times \text{volume})$. The variation margin can therefore swing between positive and negative, and the size of the swings will be linked to market volatility.

In our experience, the variation margin must be paid in cash, but the initial margin can be provided in either cash or LoC. We generally prefer to pay margin calls in cash rather than letter of credit, since letters of credit are less flexible. However, there is an exception to this at the quarter end, where it is more efficient to use LoCs for initial margin, since this results in a higher reported cash balance at quarter end, which in turn supports the financial net debt position and credit rating metrics.

OTC collateral requirements

When purchasing energy OTC, participants will typically trade with a number of counterparties, unlike the single counterparty in the case of exchange trading. [3<]

There would be a serious impact in the event that one of our counterparts was to fail and leave us exposed. This is a risk that has become significantly greater since markets became volatile [3<]

Pros and cons of exchange versus OTC

[3<].

We keep the pros and cons of trading OTC versus on exchanges under regular review and decisions could be made to change approach. [3<]

How would the efficient notional supplier trade?

It would be reasonable to assume that the efficient notional supplier trades gas on exchanges, [3<].

For power, it is less clear how an efficient notional supplier would trade. As noted above, we believe Ofgem should assume the efficient notional supplier is standalone and not part of a wider group which can provide PCGs and/or an investment grade credit rating. On that basis, we think the scope to undertake OTC trading would be much more limited, as fewer counterparties would be willing to take the credit risk since the standalone supplier is unlikely to have investment grade credit rating, and it would be more appropriate to assume that the efficient notional supplier trades power via exchanges. This would also have the benefit that collateral costs would be more transparent (compared to the costs of PCGs etc, where internal transfer pricing may not reflect true arms-length costs).

Question 13: Does posting collateral affect the level of risk capital employed?

In exchange-based trading, when a supplier posts collateral, that increases the *overall* level of capital employed, but this additional capital would not necessarily be classed as *risk* capital. SPEML trades through a intermediary, a member of the exchange, and not directly on the exchange. Collateral is posted to that intermediary rather than to the exchange and

therefore the risk, would be a failure of the intermediary or the exchange itself. The risks of an exchange failure would be expected to be small given the collateral posting requirements imposed on its members and those that trade through them.

This question is possibly more relevant to OTC trading where collateral is typically not posted. Although OTC trading has the benefit that a supplier does not have to *post* collateral when its trades are out of the money, it has the corresponding disadvantage that the supplier does not *receive* collateral when its trades are in the money. This means that the supplier is exposed to counterparty credit risk when its trades are in the money, ie the risk of losses if the counterparty fails, and this counterparty credit risk contributes to the level of risk capital employed.

[3].

Chapter 5: Cost of Capital

Question 14: Should the cost of capital allowance compensate for inflation risk? If so, how?

We have not considered this point in detail, but as a general principle, unless inflation risk is compensated directly through the price cap allowances, it should be reflected in the cost of capital used to set the EBIT allowance.

Question 15: Do you have a strong preference between setting the risk-free rate using recent data, forward rates or recent data but with indexation?

We believe that an indexation approach is the most appropriate approach to setting the risk-free rate in order to capture the expected increase in future rates. Ofgem has implemented this approach in RIIO-2 to help mitigate forecasting risk, which will be heightened due to current macroeconomic uncertainties and the unclear scale of interest rate rises. Ofgem would need further expert input if it were to consider an alternative approach.

Question 16: Should the tax rate be updated? If yes, how frequently?

Given the economic rollercoaster we have witnessed in recent times (corporation tax rates of 19% to 25%), the more logical approach would be to periodically update the applicable tax rate. Ofgem recognises this approach complements the indexation (RIIO-2) approach referred to in Question 15. Ultimately this leads to Ofgem setting a rate that is more responsive to underlying market conditions. We believe that annual or semi-annual would be most appropriate.

Chapter 6: Amending the EBIT allowance methodology

Question 17: Do you agree that a hybrid approach strikes an appropriate balance between cost reflectivity and simplicity? Do you agree that it is the most appropriate approach to implement in practice?

Ofgem is proposing a hybrid approach to setting the EBIT allowance with a fixed EBIT component and a variable component that scales linearly with the level of the price cap. The fixed element would reflect the allowed return on the fixed capital employed (fixed assets

and potentially RO-ringfenced payments), and the variable element would reflect the allowed return on variable capital employed.⁹ In other words:

$$E = A + b * P$$

Where:

- E is the EBIT allowance at typical consumption (£/customer)
- A is the fixed EBIT allowance (£/customer)
- b is a percentage scaling factor (%)
- P is the level of the price cap at typical consumption (before headroom, VAT and the EBIT allowance itself) (£/customer)

As noted above (Table 2), we believe the three main drivers of variable capital employed are price cap level, wholesale price level and wholesale price volatility – with price cap level and wholesale price level being broadly interchangeable. Although we understand why Ofgem may consider its proposed approach strikes an appropriate balance between cost reflectivity and simplicity, we would note that the elements of capital employed which scale less than linearly with price cap level are likely offset by elements that scale more than linearly. Accordingly, if Ofgem chooses not to introduce any dependence on market volatility, we believe the fixed percentage approach should remain.

In terms of Ofgem's claim to have received only limited quantitative evidence on the relationships between capital employed and the overall cap level, or the level of wholesale price volatility, we do not believe this is a reasonable objection. This is not information which suppliers would readily have to hand, and the timescales allowed for this and the previous consultations have been far too short for investigations of this type. If suppliers are unable to provide this analysis, Ofgem's consultants CEPA may be better placed to investigate this relationship as part of the cash flow modelling that is needed to determine overall capital employed (see response to Question 6).

Whichever approach Ofgem uses, the scaling factor, b, will ultimately be estimated by dividing an estimated EBIT allowance (based on capital employed times cost of capital) by an estimated price cap level. It is very important that Ofgem avoids any issues of time inconsistency in this calculation. For example it would be inappropriate to estimate capital employed based on data for the last 2 years (say) and divide by the price cap level for Period 10b (which we believe is likely to be close to or at the peak).

Question 18: Do you agree that fixed assets and potentially RO ringfencing should be considered as part of the fixed components? Which other components may be fixed?

Yes, we agree that **Table 2** fixed assets and potentially RO ringfencing should be regarded as fixed components. Although the RO ringfencing element would not be expected to scale with overall price cap level, it will nevertheless scale with average consumption per customer, and is therefore qualitatively different from fixed assets which can be assumed to be independent of customer consumption. We have not identified any other fixed components.

⁹ Condoc paragraphs 6.10 to 6.11

Question 19: Should the EBIT calculation include a component that adjusts based on market volatility? How could such an approach be quantified and implemented?

As shown in Table 2, many of the components of capital employed scale with volatility, and the EBIT allowance would arguably be more cost-reflective if it included a component that adjusts based on market volatility. However, as discussed in response to Question 17, it is not obvious that the increased cost-reflectivity would justify the added complexity, and indeed it may be that an even simpler approach (percentage EBIT margin as at present with no fixed component) would strike a better balance between cost-reflectivity and simplicity.

Question 20: Do you agree that Ofgem should not schedule periodic reviews for the EBIT allowance methodology? If you disagree, how frequent should those reviews be?

We agree that the EBIT allowance should not be subject to frequent adjustment as this will lead to increased regulatory uncertainty. On that basis we can see some merit in triggering reviews based on significant changes in market circumstances, as long as there is clarity around this (see response to Question 21 below) rather than at fixed periodic intervals.

This is all predicated on Ofgem conducting a thorough and robust review of the EBIT allowance as part of the current process. As noted above, we have grave concerns about Ofgem's rushed approach and we believe there is a real prospect of a flawed outcome unless Ofgem extends its self-imposed deadlines and adopts a proper consultative approach.

Question 21: Do you agree with the conditions we identified as constituting significant changes to the context in which suppliers operate? Are there any other conditions that should be included?

Ofgem plans to review the EBIT allowance methodology only when there are significant changes. Ofgem has proposed that this could include *significant* (Ofgem's emphasis) changes to:

- wholesale price levels or their volatility;
- energy retail regulation or policy; and,
- structure and number of suppliers that operate in the market

These seem reasonable grounds on which to trigger a review, but are too narrowly drawn and are ill defined. We think Ofgem should add further detail on what is meant by significant and add in a fourth bullet to cater for other unforeseen events:

- any other change in market conditions which significantly changes the cost of capital or capital employed by suppliers.

Question 22: Do you agree with our proposal to apply the EBIT allowance in a way that does not change the ratio of standing charges to unit charges?

Ofgem suggests that if the EBIT allowance is set with a hybrid approach, it could be implemented in the nil consumption cap in two ways:

Option 1: the EBIT allowance in the nil consumption cap is set as the fixed amount, with the typical consumption cap including the fixed and scalable element

Option 2: the EBIT allowance in the nil consumption cap is set as the equivalent percentage rate of the fixed and scalable element, applied to the typical consumption cap level – keeping the ratio of standing charge to unit charge unchanged.

Ofgem is minded to follow Option 2 in order to avoid adverse distributional impacts. We do not disagree.

ScottishPower
January 2023