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Report

Revised impact assessment of Strengthening Financial Resilience proposals

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We are publishing this revised impact assessment of our Strengthening Financial Resilience proposals alongside the statutory consultation. It describes our assessment of the customer benefits of the final policy options, the distributional impact across customers, their impact on competition and innovation in the retail market, and what it means in practice for individual suppliers.

Contents

Executive summary

As part of the Strengthening Financial Resilience policy consultation in June 2022, we published a detailed impact assessment on proposals to require all suppliers to protect their Customer Credit Balances (CCBs) and Renewables Obligation (RO) receipts alongside a new capital adequacy regime. We used the feedback to publish a further impact assessment as part of the November 2022 statutory consultation which assessed several policy combinations with new analysis conducted on the latest data. This report describes our final impact assessment on the decision[1] and updated impact assessment of the capital adequacy proposals, drawing from the feedback that stakeholders gave us as part of both consultations and other views that we have gathered.

Problem under consideration and policy objectives

Recent events have exposed that many energy suppliers had insufficient capital to manage their business. We believe that a root cause was moral hazard associated with suppliers not bearing the full cost of their risk-taking. Whilst 30 suppliers have exited since early 2021, this is an issue that needs to be addressed on an ongoing basis to ensure that existing and new suppliers face appropriate incentives to manage their risks for the best interests of customers.

The continued wholesale market volatility means suppliers, particularly those which have not re-capitalised, continue to face heightened financial pressures. We therefore still believe there is a strong case for intervention in the customer interest.

Domestic customers have a strong interest in building financial resilience of suppliers. To ensure customers of failed suppliers do not suffer service disruption, customers share some of the cost of supplier failure, including through mutualised credit balances, RO payments, and hedges. While we recognise that potentially adding any costs to customer bills at a time of high energy prices is difficult, a more resilient sector is expected to bring customer benefits and these benefits for customers are expected to clearly outweigh the effect on customers of any additional costs incurred by suppliers as a result of our proposals.

[1] The draft modification licence conditions which were the subject of the statutory consultation in November 2022 have been revised. Having considered the responses to the November 2022 statutory consultation the Authority has decided to re-consult on a revised proposal in respect to the capital adequacy, minimum capital requirements and customer credit balance provisions. The Authority will proceed to make a decision to amend the provisions relating to Renewable Obligations and enhanced Financial Responsibility Principle.

Options under consideration

This impact assessment compares the shortlist of options below[2] (described in detail in section 3):

1) Ringfencing of market-wide CCBs and RO receipts by domestic suppliers;
2) Ringfencing of market-wide RO receipts by domestic suppliers;
3) Capital adequacy requirement for domestic suppliers; and
4) Capital adequacy requirement and market-wide ringfencing of RO receipts.

Despite not being part of our preferred option, we continue to compare ringfencing of CCBs as part of the assessment as we have done in previous consultations for completeness. This should not be confused with the consultation to ringfence CCBs by direction which is an altogether different policy and is subject to further consultation.

The assessment of these policy options provides support for the decision and the further statutory consultation published alongside this impact assessment. As set out in these documents we propose:

Decision

- To require suppliers to ringfence RO receipts attributable to domestic supply for the 2023/24 RO scheme year onwards.
- To implement an enhanced Financial Responsibility Principle (enhanced FRP), imposing a positive obligation on all suppliers to evidence that they have sufficient business-specific capital and liquidity so that their liabilities can be met on an ongoing basis and to establish a framework for proactive reporting (see Chapter 1 of the decision document for more detail).

Consult

- To require that suppliers do not go below a Capital Floor equivalent to £0 Adjusted Net Assets per dual fuel customer from 31 March 2025 and meet a Capital Target equivalent to £130 Adjusted Net Assets per dual fuel customer from 31 March 2025.
- Introducing the power to ringfence CCBs by direction where our monitoring indicates financial stress or over reliance on CCBs and it is in the customer interest to ringfence (not considered in this impact assessment).

In addition, the enhanced FRP is discussed in more detail in section 6 although the benefits are not quantified as part of this impact assessment.

[2] These are the same options considered in the previous impact assessment published in November 2022

Analysis used in this impact assessment

Whilst the exact benefits and costs are hard to measure precisely, partly because the costs and benefits are affected by external factors, our analysis is intended to provide confidence in the benefits being greater than the costs and provide insight as to whether the benefits of individual policies vary materially.

We continue to believe that the monetised customer net benefits of the proposals are primarily derived from the improved supplier financial resilience. In other words, the cost of 'insurance' (either through ringfencing protections and/or a common minimum capital requirement) is lower than the mutualised 'pay-outs' by customers that would otherwise be expected.

We estimate the benefits via a quantitative framework whereby improvements in supplier financial resilience reduce failure risk, measured in line with improvements in credit rating metrics, and therefore also reduce the effective Weighted Average Cost of Capital (WACC). We assume this will come at a cost, as suppliers will have to hold more capital, and some of this will be passed onto customers through competitive pricing.

However, at least for suppliers who are highly risky pre-policy, the benefit of risk reduction significantly outweighs the cost, which is a key influence in our overall assessment below. Other benefits to customers relate to the lower social waste of inefficient switching and lower administration costs.

Findings

The impact assessment indicates that the proposals put forward in the decision and consultation published alongside this impact assessment should lead to an overall net benefit to customers in the short- and long-term. There are greater savings for disengaged customers (those less likely to switch), who are slightly more likely to be in vulnerable circumstances, hence the socially weighted impacts are slightly higher.

The assessment shows that our preferred option, to require suppliers to ringfence RO receipts and comply with a common minimum capital requirement, will create average annual benefits to customers across the evaluation period (2023-2028), of £63m per year.

Table 1: Monetised customer benefits (2023-2028 average, £m per year)

	1. Market-wide RO and CCB ringfencing	2. Market-wide RO ringfencing	3. Capital Adequacy	4. Capital Adequacy and market-wide RO ringfencing
Ringfencing cost and mutualisation of CCB/RO	-31	-16	14	-11
Replacing hedges of failed suppliers	24	19	41	52
Inefficient switching	43	33	18	40
Admin costs	11	9	5	11
Additional tariff effects	-12	-1	-22	-29
Total (£m)	**36**	**44**	**56**	**63**
Total per customer (£m)	2.26	2.79	3.53	4.01
Total per customer (socially weighted) (£m)	2.31	2.79	3.56	4.07

Our competition analysis shows that we expect the overall impact on competition to be positive. While we expect to see an increase in the price of the cheapest tariffs available, this should be more than balanced out by the reduction in Supplier of Last Resort (SoLR) and Special Administration Regime (SAR) costs over the longer term, for the reasons explained elsewhere in this impact assessment. This outcome is also positive from a distributional point of view.

Competitive dynamics are not included in our quantitative assessment. While on service quality, we see a neutral impact; in terms of innovation, our assessment suggests that there should be a positive impact. While we expect that innovation could be negatively affected by the extra costs to suppliers or supplier exit however, we expect that this will be outweighed by the positive impact to innovation from a more stable supplier market.

Overall, these measures should lead to an improved competitive environment for the type of sustainable challenger suppliers that have historically delivered the most beneficial innovations.

1. Introduction

Context and related publications

1.1. This report provides Ofgem's updated impact assessment of our Strengthening Financial Resilience proposals. It accompanies our statutory consultation and decision published on 5 April 2023.

1.2. This publication follows our policy consultation entitled Strengthening Financial Resilience published on 20th June 2022[3] and our statutory consultation on 25 November 2022.[4] As part of these consultations, we published impact assessments, which drew in part on work performed for us by the consultancy NERA. The latest publication in November was followed by the publication of the impact assessment model (published later on 12th December 2022).

1.3. We have used feedback from both policy consultations, further engagement we have undertaken, and the latest and best information to update our impact assessment.

Your feedback

1.4. Feedback on this impact assessment can be provided via responses to the statutory consultation.

[3] Policy Consultation: Strengthening Financial Resilience | Ofgem
[4] Statutory Consultation - Strengthening Financial Resilience | Ofgem

2. Policy objectives and rationale for intervention

Section summary

This section describes the policy objectives of the options under consideration and our assessment of the rationale for intervention. We refer to stakeholders' views expressed in the policy consultation. We use the policy objectives as the basis for understanding the potential effectiveness of the proposals in subsequent sections.

Problem under consideration

Position in policy consultation

2.1. Oxera showed in its report published in May 2022[5] that ensuring suppliers maintain appropriate levels of equity capital, rather than relying on 'cost-free, risk-free' capital, is important in ensuring they have the right incentives. First, the injection of shareholders' private capital into a business means that the owners have money at risk in the event of insolvency, or 'skin in the game'. This reduces the risk of moral hazard (i.e., incentives to take excessive risk). Second, the act of raising capital prior to entry, and/or on an ongoing basis, incentivises scrutiny and due diligence of a firm's business plans, as investors will want to assure themselves of its prospective and ongoing viability.

2.2. Ofgem have already taken steps to significantly reduce the likelihood and cost of future supplier exits through direct debit rules and the Financial Responsibility Principle. However, we believe that there still exists a case for better capitalisation of suppliers.

2.3. A significant part of the cost of previous supplier failures has come from the mutualisation of CCB and RO payments which is passed onto customers. In the case of CCBs customers who pay their energy bill via a consistent direct debit payment, typically build up CCBs over spring and summer when they use less energy for heating during these warmer periods. This balance is then drawn upon during the colder autumn and winter periods when more energy is consumed. If a supplier fails,

[5] Review of Ofgem's Regulation of the Energy Supply Market | Ofgem

then the CCBs are honoured by the SoLR that receives the transferred customers. Whilst Ofgem appoints whichever SoLR provides customers the greatest benefit, the SoLR can claim for the cost of honouring those CCBs.

2.4. Similarly, the RO supports the generation of renewable electricity through a system of tradable green certificates called Renewables Obligation Certificates (ROCs). Suppliers accrue an obligation (the RO) over a 12- month obligation period (1st April – 31st March) and have 5 months to settle their obligation either by paying into the buy-out fund by 31st August, presenting ROCs by 1 September or a combination of both. Suppliers are also allowed a 2-month late payment period between 1st September and 31st October in which daily interest rates are charged. In total, this adds up to the maximum of 19 months' worth of obligation that an insolvent supplier can default on. On failure, payments due under the RO scheme, above a threshold, are effectively insured through mutualisation. This means that the cost of a supplier failing to meet their RO due to insufficient funds and / or supplier failure, is borne by other suppliers - who pass the costs on to customers in the form of higher electricity bills.

2.5. Overall, the cost of the supplier failures since September 2021, which is paid for by customers on their bills, is estimated to be £2.6bn[6]. In addition, the cost to customers and taxpayers of the Bulb Special Administration is estimated to be £0.24bn by the National Audit Office[7] following the sale of Bulb to Octopus.

2.6. Ofgem continue to have concerns that some suppliers are reliant on CCBs and RO receipts for a significant proportion of their capital base. Whilst suppliers did exit in 2021/22, we also need to consider protecting customers from the harm of future market entrants who use risky business models by relying on CCBs and ROs as risk free capital and insufficiently capitalising. Ofgem must therefore consider a policy that can protect customers from the costs of supplier failure in the long- and short-term.

Our position

2.7. Recent events in the energy market have exposed that retail businesses have too often had insufficient capital to manage the business of supply. Whilst we recognise

[6] Based on approved SoLR cost claims
[7] Investigation into Bulb Energy - National Audit Office (NAO) report

that, given the scale, pace, and duration of the price shock in the gas market, there would have been some supplier failures, too many suppliers operated with insufficient risk management practices and capital to manage their commercial risks and protect customers.

2.8. This is compounded by the moral hazard associated with suppliers not bearing the full cost of their risk taking though access to cashflows (CCBs and RO) that they do not have to pay back if they fail. This leads not only to poor risk management but also excessive risk-taking.

2.9. The under-capitalisation and excessive risk-taking by some suppliers have resulted in an increased risk of failure, which comes at a cost to customers. The costs include paying for capital that is mutualised in the event of a supplier failure such as credit balances, RO receipts and hedges as well as additional costs from switching and administrative costs.

Policy objective

2.10. The proposals are designed to reduce the socialised costs of supplier exit by improving the robustness of suppliers to financial shocks and reducing excessive risk-taking while also reducing the impacts of cost mutualisation when suppliers fail. By reducing either the number of supplier failures or the cost of each supplier failure, or both, the policy options reduce the total socialised cost of supplier exit.

Figure 1: Socialised costs of supplier exit equation

2.11. The policy options aim to better capitalise suppliers to reach at least one of the following outcomes:

a) Improve robustness of suppliers to market shocks;

b) Reduce suppliers' propensity to use CCBs and ROs as risk-free capital; and

c) Ensure suppliers have sufficient capital to cover the cost of CCBs and ROs in the event of failure and avoid mutualisation across customers.

2.12. Supplier failure will reduce as result of these outcomes. In addition, even when suppliers do fail, customers would no longer implicitly provide insurance for CCBs and RO as the costs would no longer be recovered through the SoLR levy.

3. Description of options considered

Section summary

This section describes the relevant design details of the options assessed within this impact assessment. We also set out our understanding of the 'status quo' to illustrate what other policies have been considered part of the base line.

Feedback received as part of the November statutory consultation

3.1. One supplier had reservations about the appropriateness of starting the capital raising period from April 2023. They believe the current market means it will continue to be extremely challenging to attract new capital, and any recapitalisation required will be difficult or very expensive to achieve. *Ofgem understand these reservations and have reacted by implementing a Capital Floor equivalent to £0 Adjusted Net Assets per dual fuel customer and a Capital Target of the equivalent of £130 per dual fuel customer in 2025.*[8]

3.2. Two suppliers asked that Ofgem assess a fuller range of options in the impact assessment. In particular, one supplier wanted to see an option including a common minimum capital requirement and ringfencing of both CCB and RO payments. Additionally, they have questioned the decision to only assess market-wide CCB ringfencing at 30% of credit balances when the original consultation assessed the option at 100%. *This impact assessment includes an explanation of the choice of options to be assessed. The section articulates how the options chosen best compare the policies that meet the policy objectives.*

Definition of the 'Status Quo'

3.3. This analysis reflects our latest and best view of the impact of our recent regulatory changes and Government interventions. We consider all that has been done to reduce the risk facing suppliers for the benefit of customers, as well as the

[8] For easy comparison of the policy options, we have included a sensitivity of the policy options starting fully in 2025 showing that the choice of policy is not contingent on the timing of the policies.

monitoring and compliance work that Ofgem does to ensure suppliers comply with existing licence conditions. Those significant steps include, but are not limited to:

a) The move to quarterly price cap updates;

b) Changes to price cap allowances (including backwardation): while it is difficult to assert the customer bill impact of the additional allowances, it does provide greater stability and resilience to the market;

c) Market compliance reviews including on asset control;

d) Introduction of quarterly supplier stress-testing; and

e) Strengthened rules on direct debits.

3.4. We have also considered the interaction with our hedging and asset control policies, as well as our existing Financial Responsibility Principle.

Main options under consideration

3.5. This impact assessment considers 3 policy instruments:

a) Market-wide ringfencing of RO receipts (part of the decision)

b) Capital adequacy, common minimum capital requirement (part of the statutory consultation)

c) Market-wide ringfencing of CCBs (although market wide ringfencing was the focus of our initial policy consultation it is no longer part of our preferred option. However, we continue to include market-wide CCB ringfencing in the assessment for comparative purposes. The statutory consultation includes a proposal to ringfence CCBs by direction which is a distinct policy not considered in this impact assessment.)

3.6. Our shortlist of options tries to find the optimal combination and include options that articulate, in a fair and transparent way, how some policies are more beneficial than others. For example, a combination of capital adequacy and market-wide ringfencing of both RO receipts and CCBs is not included as this would come at a high cost to suppliers and customers while producing less benefits than other combinations at a 6-year NPV.

3.7. Similarly, we include ringfencing of CCBs at the 30% level. Figure 16 in the sensitivity analysis shows that ringfencing at much more than 30% would begin to reduce the benefits of any policy. We also believe that 30% ringfencing of CCBs would be enough to positively impact on supplier behaviour.

3.8. The options of policy combination are considered in this impact assessment are below:

1) **Market-wide ringfencing of CCBs & RO Receipts** through insolvency remote mechanisms.
2) **Market-wide ringfencing of RO receipts only**
3) **Capital adequacy requirement** including that suppliers maintain a Capital Floor equivalent to £0 Adjusted Net Assets per domestic dual fuel customer and meet a Capital Target equivalent to £130 Adjusted Net Assets per domestic dual fuel customer
4) **Combination of options 2) and 3)**.

3.9. All of these options are considered alongside the proposal for an enhanced FRP, which includes more prescription to prevent 'over reliance' on CCBs (see Section 6).

Option 1: Market-wide ringfencing of RO receipts and CCBs

3.10. This was the main proposal considered in the June 2022 impact assessment whereby suppliers are required to ringfence RO receipts and CCBs through an approved Protection Mechanism which could include letters of credit, first demand guarantees (covering parent company guarantees and third-party guarantees) or protecting an amount equivalent to CCBs and/or RO in a trust or escrow account.

3.11. The decision document confirms that domestic suppliers will be required to protect **100% of their RO receipts from domestic customers for 2023/24 scheme year from 1st July 2023**. Suppliers will also be required to demonstrate they have ringfenced Q1 obligations at the *same* time as Q2 to ensure that despite the ringfencing requirement going live from 1 July 2023, that Q1 RO is still protected. Thereafter, suppliers must protect 100% of receipts in subsequent years. Although market-wide ringfencing of CCBs is no longer being considered as part of the decision or consultation we continue to include it with this impact assessment for completeness to compare the benefits and costs alongside other policy options. For ringfencing of CCBs we assume that domestic suppliers would be required to protect 30% of gross CCBs from domestic customers from 1st July 2023. We believe 30%

ringfencing of CCBs would be sufficient to meet the aims of the policy to improve supplier behaviour in combination with RO ringfencing. You can find analysis of market-wide CCB ringfencing at different percentages in the annex.

Option 2: Market-wide ringfencing of RO receipts

3.12. Under this option RO receipts are considered in the same way as option 1. Suppliers are not required to ringfence CCBs, although they must comply with the proposed enhanced FRP. More detail can be found in the accompanying decision document.

Option 3: Capital adequacy requirement

3.13. Under this option suppliers would be required to maintain a Capital Floor equivalent to £0 Adjusted Net Assets per domestic dual fuel customer and meet a Capital Target equivalent to £130 Adjusted Net Assets per domestic dual fuel customer (i.e., £65 per gas customer and £65 per electricity customer). In the November consultation we assessed the benefit of the policy between a range of £110 and £220. You can find more detail in the accompanying consultation document.

3.14. This impact assessment models the benefits and costs associated with our proposed level of capital employed against the counterfactual. The current model would suggest that there would be higher or lower benefits from increasing or decreasing the level of capital that suppliers are allowed to hold. However, in assessing increases to the £130 that the model might indicate would bring even higher benefits, we would also need to consider additional costs from requiring companies to hold greater levels of capital than the minimum that we have provisionally concluded is required to meet our objectives. These costs would include the cost of inefficiencies from holding more equity than a notionally efficient capital structure, which could increase the average cost of capital. There would also be potential costs from less effective competition, if small and challenger suppliers, including new entrants, would find it more difficult than legacy suppliers to raise equity-like capital beyond that required to manage the business. For the reasons given in the statutory consultation we do not consider it is necessary to go beyond the proposed level of £130 to achieve the objectives of FRC and therefore we have not modelled these additional costs in detail.

3.15. The measure is defined through accounting standards in terms of the suppliers' balance sheet capital employed.

Option 4: Capital adequacy requirement and market-wide ringfencing of RO receipts

3.16. Under this option domestic suppliers would be subject to the Capital Target as set out in option 3 as well as ringfencing their RO receipts in the same way as option 2.

4. Justification of Analysis used in the Impact Assessment

Section summary

This section describes the approach we have taken to assessing the potential impact of the proposals on customers and market participants. It also explains our justification for key assumptions.

Feedback received as part of the consultation

4.1. This section outlines the feedback received on the previous impact assessment published in November[9] and how we have adjusted our assumptions in this new assessment accordingly. To address some of the comments made, we have provided sensitivities in Appendix A. These sensitivities are designed to test both whether changes to the assumptions in our model could change our assessment that the proposed option would deliver net benefits, and whether changes to the assumptions in our model could lead to a different choice of policy. Our analysis demonstrates that under all the reasonable sensitivities, net benefits are still positive, and the preferred option is either the best, or has similar benefits, to the other options. Taking the sensitivities together, we consider they support our overall assessment of the preferred option of a capital adequacy regime and market-wide ringfencing of RO payments, as set out in Section 3. The sensitivities include:

- *Short-term additional costs to small and challenger suppliers are higher*
- *Using cost of debt instead of cost of capital*
- *Improvements to cost of capital are less responsive to capitalisation*
- *Market-wide ringfencing different levels of CCBs*
- *Policy instruments start at the same time*
- *Effectiveness of capital adequacy target*

[9] Revised impact assessment of Strengthening financial Resilience Proposals, Ofgem

Feedback responses

4.2. Two suppliers said that the impact assessment is based upon an erroneous assumption that a stronger balance sheet will reduce the cost of capital. Further, one supplier said that they believe the proposals will instead increase the cost of capital.

4.3. *Our approach to modelling the cost of capital is unchanged from the previous impact assessment. We agree that in the short-term costs may be higher than the assumed baseline WACC costs for some suppliers. As identified by stakeholders, there are frictions in the capital market that may make the cost of capital higher for energy suppliers in the short-term. We believe there will be a positive effect on the resilience of all suppliers which will reduce the cost of capital compared to the option where we do not implement the policy. Suppliers who would previously have been able to use unsustainable business models to undercut the market will now need to hold more capital. This will reduce the risk of moral hazard, which is one of the biggest risks facing more sustainable suppliers. In our analysis, we have modelled this benefit as a reduced risk of failure. We estimate the benefit for customers, through a reduction in the implied cost of debt for suppliers, which then impacts on the average cost of capital for all suppliers, including those that would be adopting sustainable policies before implementation of the policy. As discussed in paragraph 4.80, we are using the assumption of lower cost of debt as a proxy, rather than it being based on an expectation of the capital structure in practice. If we had instead modelled savings directly using the reduced risk of failure, then the benefits would have been significantly higher (see annex for sensitivity). Our finding that the policy brings benefits is not particularly sensitive to the calculation of the reduction in the cost of capital. For example, even if our preferred policy option was 50% as effective, it would still create positive benefits.*

4.4. In addition to the relationship between suppliers improving their balance sheets and in turn decreasing their cost of capital, a supplier has suggested that the benefits are overstated because increasing capital requirements are assumed to lower the cost of capital too quickly. The approach taken assumes that raising capital would have an instant effect of reducing risk and therefore the costs that result from that risk. They point to the sensitivity analysis which shows a combination of CCB and RO ringfencing results in significant costs. *We agree that credit ratings would take a while to change and impact on the cost of capital. However, as stated in the previous consultation and paragraph 4.80 below, we are using the improvement in the notional credit rating as a proxy, to measure the reduction in risk taken by a*

sustainable supplier as a result of the policy. This reduction in risk will apply independently of whether a notional company with this capital structure would achieve the reduction in credit ratings over a similar period.

4.5. One supplier felt the cost of capital used in the impact assessment was lower than the market level and that including vertically integrated suppliers is misleading. They also say that the cost of capital is non-linear so if Ofgem's requirements lead to very significant capital raising then this additional cost would need to be considered. In contrast another supplier said our cost of capital assumption was too high, as the additional 500 basis points (bps) (see paragraph 4.53) we assume for the cost of capital faced by small and challenger suppliers may be much lower. Other suppliers previously critical of the cost of capital assumptions have said they welcome the more realistic assumptions. *On balance, the evidence provided is consistent with our view that using an average cost of capital for large legacy suppliers and challenger/small suppliers is reasonable in measuring the cost across the sector. We recognise that individual companies may face company-specific financing considerations which result in their marginal cost of capital being higher or lower than our assumption. However, we do not agree that this implies the need for a different starting assumption. Furthermore, any changes to the baseline WACC will have an equal effect pre- and post-policy which will have no material change on our analysis. In any case, the sensitivity analysis included in the annex shows that both increasing and decreasing the short-term cost of capital would not change the choice of the policy.*

4.6. One supplier questioned the assumption that challenger suppliers were hedged at 20% compared to 75% for large legacy suppliers. Similarly, another supplier noted that that many suppliers already have robust hedging arrangements in place and do not believe that the policy proposals will result in significant improvement on these. *We agree that our assumption of the hedging positions of challenger suppliers may have been understated due to giving too much weight to suppliers that have now exited the market. We have therefore changed this assumption so that challenger suppliers have the same hedging position as large legacy suppliers. However, we still believe there are further suppliers in the market that could improve their position and therefore our policy proposal would have significant benefit.*

4.7. One supplier asserted that if Ofgem believe there is a principled case for ringfencing RO receipts then a similar principle could be said to apply to CCBs. *The previous statutory consultation outlined Ofgem's view that there is a principled case for ringfencing RO receipts as they were never intended to support suppliers' business*

operations and are instead a clear 'pass-through' arrangement which could easily circumvent suppliers altogether were the scheme designed in a different way. Ofgem believe the concerns relating to reliance on CCBs can be effectively addressed by building on existing requirements, for example the strengthened rules around how suppliers can set direct debits. These stronger rules, which help to limit the level of CCB accrued, together with the capital adequacy policy developments that form part of our Strengthening Financial Resilience proposals should reduce excessive reliance on CCBs for working capital and the associated risk of mutualisation costs. As a result, we do not believe there is as stronger principled case to introduce market-wide CCB ringfencing but instead target the intervention where suppliers are not meeting the financial standards set out in the enhanced FRP.

4.8. One supplier has highlighted that because reaching a common minimum capital requirement would not be accompanied by an additional price cap allowance, all else equal, the capital adequacy option will demonstrate lower costs to customers in the impact assessment than the ringfencing options. They said this logic is flawed for two reasons. First, they highlight that the Earnings Before Interest and Tax (EBIT) component of the price cap is currently being reviewed, and so whether or not a certain policy was implicit in the current price cap will soon be irrelevant. And second, they reason that the current price cap is already likely to include much of the cost of ringfencing. *We believe that as suppliers are already allowed, under the price cap, to earn reasonable return on the appropriate level of capital they should hold that they therefore do not need to be compensated again (see paragraph 3.33 of the November 2022 statutory consultation). This remains unchanged in the consultation.*

4.9. One supplier questioned why Ofgem has not considered the costs and benefits of forms of CCB and RO ringfencing which are not fully insolvency-remote, but still require suppliers to hold aside sufficient funds. *Ofgem are aware that many suppliers hold customer payments within a separate bank account that is drawn on to fund provision of the customers' supply. We have previously considered how further controls on the access to these accounts might partially achieve some of our policy objectives; however, the lack of insolvency-remoteness (core to what we refer to as 'ringfencing') appears to undermine the benefits of reduced cost mutualisation and it is unclear that the costs to suppliers are substantially different than our proposals. In addition, in order to estimate the benefits and costs of the policy proposals within this impact assessment it is not possible to consider the complex financial structures of each individual supplier and therefore we take a notional view.*

4.10. One supplier noted that extending the protections to the non-domestic sector represented an opportunity to prevent domestic (and non-domestic) customers from picking up the RO mutualisation cost associated with any future non-domestic supplier failure. *The non-domestic sector has not been considered in this impact assessment as Ofgem deem the risk in the sector to be significantly lower than the domestic sector and therefore extending the policies (above the enhanced FRP) is not in the interest of customers. This is set out further in the accompanying decision.*

4.11. Several suppliers raised concerns that by treating dual fuel & single fuel customers the same there would be double counting at a market-wide level of protection. *We have therefore reduced the common minimum capital requirements for gas only customers and electric only customers to £65. This is reflected in this impact assessment and the published model.*

Our final view

4.12. Whilst the exact benefits and costs are hard to measure precisely, partly because the costs and benefits are affected by external factors, our analysis is intended to provide confidence on the benefits being greater than the costs and whether the benefits of individual policies vary materially.

4.13. We continue to believe that the net monetised customer benefits of the proposals are primarily derived from the improved supplier financial resilience such that the cost of 'insurance' (either through ringfencing protections and/or a capital requirement) is lower than the mutualised 'pay-outs' by customers that would otherwise be expected. We capture these pay-outs using the opportunity cost customers face by covering at risk capital for suppliers. Because customers are essentially lending capital that could be lost, they could in theory invest in assets with a return. Other customer benefits relate to the reduction in inefficient switching and lower administration costs.

4.14. The section continues below by describing our assumptions. We are conscious that many of the underlying assumptions are strongly inter-related – for example, the cost of capital for a supplier partly reflects the likelihood of it failing – and we have been careful not to introduce inconsistencies.

4.15. The continued wholesale market volatility means suppliers, particularly those that have not re-capitalised, continue to face heightened financial pressures. We do not think that the risk of exit is negligible. This view is supported by our latest round of

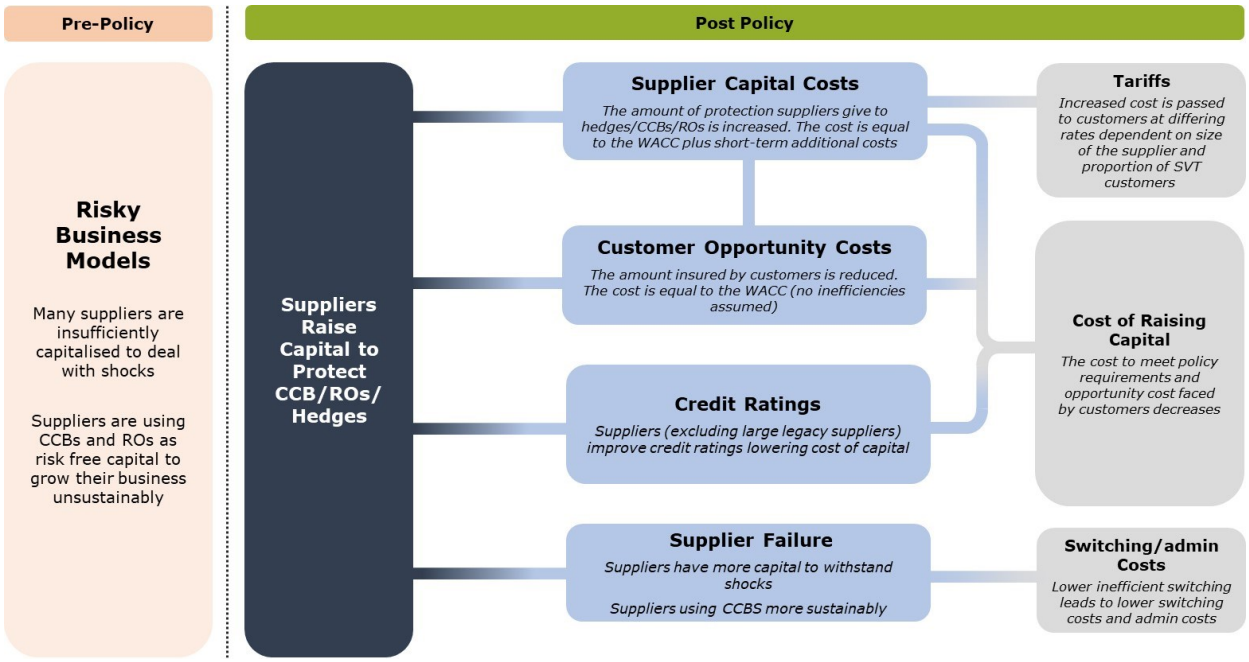
stress-testing and on-going Financial Responsibility Principle monthly RFI. Therefore, we still believe that intervention is required.

Assumptions and Impact Assessment Design

General approach

4.16. We have utilised a credit rating framework, based on that used by credit rating agencies, to consider how the capital requirements will impact their default rate and implied cost of capital.[10] Figure 2 summarises the logic of how the policies create benefit to customers within our estimates.

Figure 2: Flowchart of policy benefit mechanisms



4.17. As set out in Section 1, suppliers are insufficiently capitalised to deal with shocks and can use CCBs and ROs to grow their business unsustainably which comes at a cost to customers when suppliers fail. We are therefore considering policies to require suppliers raise capital to reduce the cost of failure. By raising capital there are four main effects:

[10] Credit rating agencies undertake assessments of the creditworthiness of businesses and the long-run associated risks of default. These assessments include several factors including market diversification, financial policy, and debt amongst others. These assessments are used by lenders to offer an appropriate lending rate.

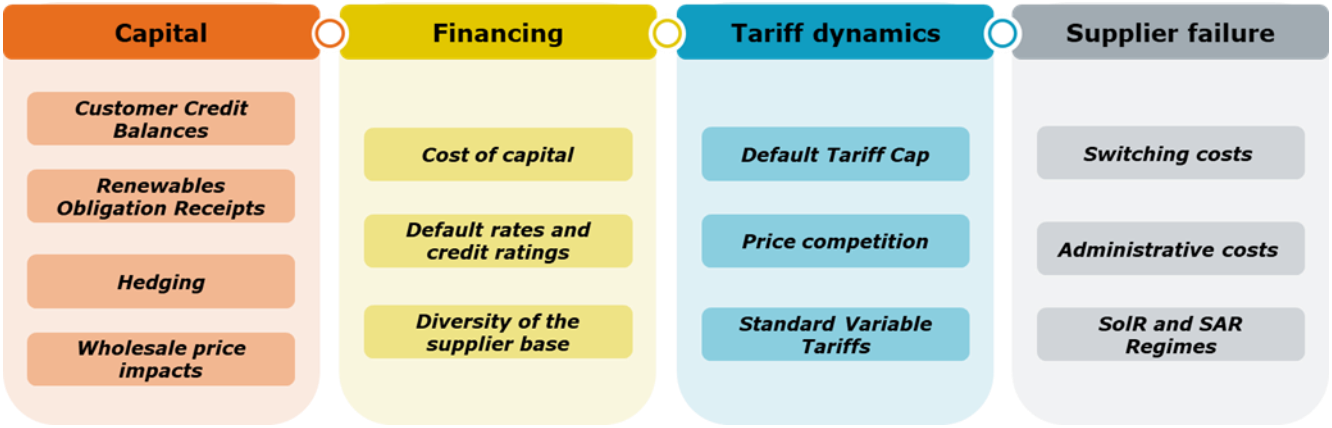
- **Supplier capital costs:** Suppliers must raise capital at a cost of the WACC plus any additional short-term costs suppliers face from raising the necessary capital.
- **Customer opportunity costs:** Any capital that is at risk of being mutualised if a supplier fails is effectively insured by customers because they will bear the cost in the long-term. We use an opportunity cost as we assume suppliers would be able to use this money to invest in alternative assets with the same risk and return to the supplier to which they are lending. The opportunity cost therefore acts as a proxy for the cost of mutualisation of CCBs, ROs, and hedges when suppliers fail. We assume this opportunity cost is equal to the WACC.
- **Credit rating:** By holding more capital suppliers credit ratings will improve.
- **Risk of failure:** Suppliers' risk of failure will reduce as their "skin in the game" increases and they are able to ride out shocks more effectively.

4.18. These four effects combine to create the main costs and benefits of this impact assessment:

- **Changes to tariffs:** The increased cost to suppliers of raising capital will be at least partially passed onto customers by increasing tariffs. The increase in tariffs will depend on the size of the supplier and the percentage of their customer base on Standard Variable Tariffs.
- **Cost of raising capital:** As the risk transfers from customer to supplier the cost of risk falls more heavily on the supplier. There are two contrasting effects; One, in the short-term suppliers face an additional cost to the opportunity cost faced by suppliers; Two, because suppliers are deemed more investable and the cost to suppliers and customers (the proxy for mutualised costs) reduces.
- **Switching and admin costs:** The lower failure rate means fewer instances of inefficient switching and lower administrative costs when a supplier fails.

4.19. We have made various assumptions to quantify the flow of costs and benefits set out above. These assumptions are often simplifications of more complicated interactions. Figure 3 gives an overview of the assumptions which are described in the following subsections.

Figure 3: Assumptions used in this impact assessment



Categorising suppliers

4.20. For the purposes of this impact assessment, we have considered suppliers within strategic segments: "large legacy", "challenger", and "small".

4.21. This impact assessment makes various assumptions about the capital each category of supplier holds pre-policy, the cost of capital and implication of failure (i.e., whether SAR or SoLR process).

4.22. Large legacy suppliers are assumed to have a market share of over 5% of total domestic customers and, in part owing to their legacy position, can accumulate capital at a lower cost. Challenger suppliers are assumed to have over 1 million customers, but do not have the same access to capital markets as large legacy suppliers. Both large legacy and challenger suppliers would likely enter a SAR rather than a SoLR process in the event of failure. The remaining suppliers are categorised as small suppliers, who would be more likely to enter the SoLR process. Like challenger suppliers, they are assumed to have limited access to capital markets.

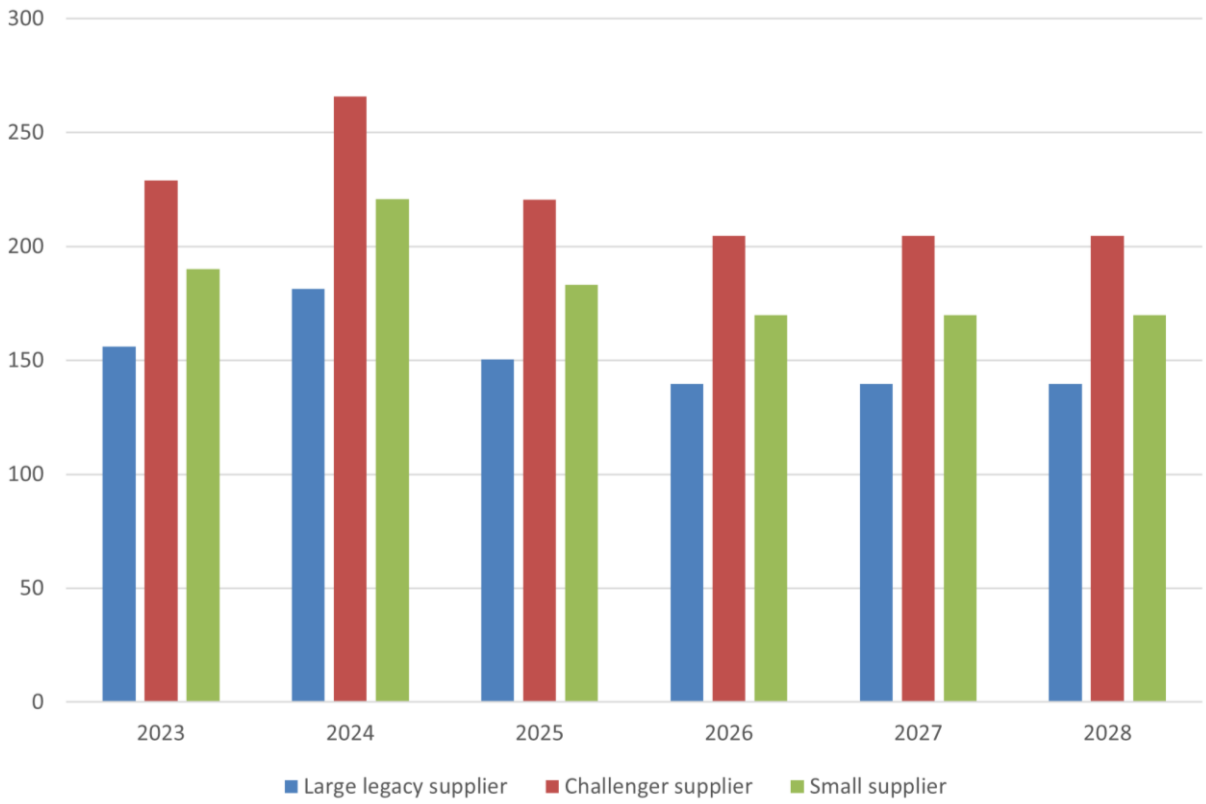
Capital

Customer Credit Balances

4.23. As in the previous impact assessment, we estimate the cost of insuring CCBs using a forecast of CCBs over the next six years, based on the historical patterns. We use the annual peak of CCBs by averaging CCBs from October to December, based on data from our RFIs to suppliers for 2020 and 2021. By using the peak, we are including a conservate estimate that suppliers will need to cover their peak CCBs all year round. We expect suppliers to, at least partially, be able to react to the seasonal changes in CCBs and reduce the amount of ringfenced capital they hold.

We scale historical levels by forecast wholesale market prices to estimate future CCB levels. The resulting forecasts can be seen in Figure 4.

Figure 4: Customer Credit Balances assumptions by supplier size (2023-2028, £/DD customer)



Source: Ofgem analysis

4.24. Under ringfencing of CCBs, we consider the opportunity cost to customers of covering unprotected CCBs (as a proxy for the cost of mutualisation) as well as the cost of raising the necessary capital to protect CCBs. More detail is provided in Section 5.

Renewable Obligations receipts

4.25. Under current arrangements, suppliers accrue RO over a 12-month period (1 April – 31 March) and have 5 months to settle their obligation either by paying into the buy-out fund by 31 August, presenting ROCs by 1 September or a combination of both. Suppliers are allowed a 2-month late payment period between 1 September and 31 October in which daily interest rates are charged. This adds up to a maximum of 19 months' worth of obligation that an insolvent supplier could default on (or a supplier who, for example due to cashflow difficulties, can default on due to

a failure to pay). We therefore calculate the future obligation rate at risk of mutualisation across a maximum RO term of 19 months.

4.26. The RO buy-out price that suppliers pay for each ROC they do not present towards compliance with their annual obligation, increases by the average monthly percentage change in the Retail Prices Index (RPI) during the previous calendar year.[11] The buy-out price for 2022/23 was £52.88.

4.27. The RO rate is set annually by the Department for Energy Security and Net Zero based on the number of ROCs produced by certified generators and the volume of eligible electricity sales. Since the RO scheme closed to new generators, it has averaged 0.4691 ROCs/MWh between 2017/18 and 2022/23.

Hedging

4.28. Suppliers generally use contracts for physical delivery and/or financial derivatives ('hedges') to reduce their exposure to wholesale price risk. If a supplier becomes insolvent, then the supplier could enter a SoLR or a SAR regime and any 'in-the-money' hedges may become liquidated by the appointed insolvency practitioner. A more detailed description of insolvent supplier assumptions is given in paragraph 4.87.

4.29. We quantified the benefits of capital adequacy by adding a cost to protect secured[12] hedges when the level of hedges retained in the event of failure is below the capital requirements. This implies that the more hedged suppliers are, the lower both the risk and cost of failure.

4.30. The method is justified by the fact that a SoLR must incur the wholesale allowance and other related costs with purchasing energy for the inherited customers. The cost to re-hedge was higher than the amount that could be recovered through the price cap, meaning that there were large claims on the SoLR levy. The wholesale costs represent over 93% of the approved claim of the 2021/22 winter failures. As described in the November statutory consultation, Ofgem has approved wholesale market cost claims of over £1.8bn. However, we assume that the cost to re-hedge is

[11] Renewables Obligation (RO) Buy-out Price, Mutualisation Threshold and Mutualisation Ceilings for 2021-22 | Ofgem.

[12] Secured hedges are those that would be protected in a SAR. See paragraph 4.31 for more detail

equivalent to the cost of the original hedge. Therefore, we don't need to reflect the value of increased retained hedges or decreased unprotected hedges.

4.31. We assume that the value of secured hedges of large legacy and challenger suppliers exceeds the capital requirements under the policy. Therefore, they do not incur a cost because of a capital adequacy regime. Regardless of the hedging position of small suppliers, they will incur a cost equal to the totality of capital adequacy requirements. However, we assume that this does not affect their incentive to lower their default rate as they still need to demonstrate sensible hedging strategies to reduce their costs and remain competitive.

4.32. The policy should effectively improve the hedging position of all suppliers which in turn decreases their likelihood of failure. The amount to re-hedge in the event of failure is assumed lower for large legacy and challenger suppliers as they have protected hedges that would be transferred through the SAR process.

4.33. If a supplier fails and enters a SoLR process, the SoLR supplier inherits the customers of the insolvent supplier but not the hedges used to secure their future energy consumption (i.e., they will need to re-hedge). We assume that the SoLR must re-hedge at the WACC (in post-policy this does not include the additional short-term cost of capital).

4.34. We assume that in the case of a market shock, small suppliers' debt will be lower than the amount of the protected hedges in a pre-policy world. Therefore, the benefits of increased protected hedges of failed small suppliers fall on customers and are accounted despite the difference in transferred assets between SAR and SoLR processes.

4.35. When suppliers have to re-hedge in a rising price environment this comes at an even greater cost to customers. The improved hedging positions should in turn improve the WACC and therefore lead to lower total cost of mutualising CCB and/or RO receipts in the event of failure.

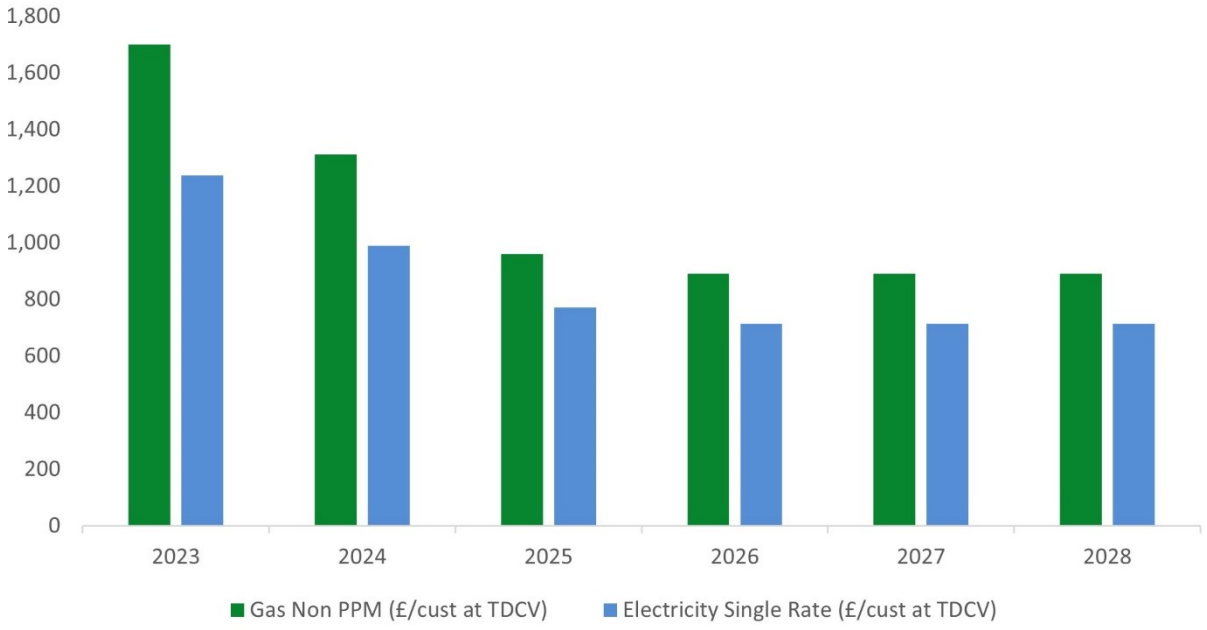
Wholesale price impacts

4.36. Wholesale prices directly affect both the Default Tariff Cap (DTC) as well as the prices that suppliers offer as Standard Variable Tariffs (SVTs) and Fixed Term

Contracts (FTCs). In line with our strengthened fixed direct debit rules,[13] we expect suppliers to update customers' direct debit levels according to the "best and most current information available (or which reasonably ought to be available)". In practice, this means that as SVT and FTC pricing evolves, it will be reflected in DD levels.

4.37. We use recent wholesale market forward curves[14] to estimate how the DTC, and thus tariffs CCBs, might evolve over the next few years. Figure 5 describes the evolution of annual average wholesale allowances for typical domestic consumption values (TDCV). We apply the tariff forecasts to scale up/down the historical CCBs levels, based on the two RFIs that we issued to suppliers. We assume that the proportionate differences between large, challenger and small suppliers is fixed over time in pre-policy.

Figure 5: Assumed annual average wholesale allowances for a typical customer (£/year)



Source: Ofgem analysis based on wholesale prices as of 10th October 2022

[13] Decision on statutory consultation on strengthening fixed direct debit rules | Ofgem
[14] Whilst we recognise that contracts for distant delivery are not frequently traded, our view is that they nevertheless reflect the best, readily available information.

Financing

Cost of capital

4.38. The options under consideration will require suppliers to hold more capital. Where funds are ringfenced, suppliers will need to do so via an appropriate mechanism as well as potentially access replacement capital to continue effective operations.

4.39. For the purposes of this impact assessment, we have sought to assess the cost of capital specific to the options under consideration for different suppliers by analysing responses to our policy consultation and conducting bilateral discussions with suppliers and potential lenders. We spoke to lenders that have existing relationships with suppliers and approached other potential commercial lenders to better understand the range of market options available. We have also undertaken independent analysis of data provided by suppliers through RFIs and statutory accounts.

4.40. Of the responses to our policy consultation, 13 suppliers said that ringfencing would add to their costs, of which 11 said this would significantly increase their financial strain. Eight suppliers of a range of sizes from large to small, gave either their cost of capital or cost to customers in their responses.

4.41. One of the benefits of improved supplier financial resilience is that suppliers' individual cost of capital should reduce (all else being equal) due to a lower likelihood of failure. One supplier told us that they thought it would take "several years of sustained profitability" to achieve investment grade rating. Our discussions with commercial lenders confirmed that they would consider the historical financial performance from the previous few years when determining the availability/pricing of products to potential customers.

4.42. The WACC is used in both the pre-policy and post-policy scenarios to calculate the cost of the policy. This WACC is applied both to the capital that is protected by the policy option (the cost to suppliers of raising the required capital) and to the unprotected capital (the capital that is at risk of mutualisation, which is essentially insured by customers).

4.43. When estimating the benefits of the policy, we consider the costs customers implicitly pay to insure suppliers against mutualised costs in the event of a default. In practice, when a mutualisation happens, customers will pick up the entire amount mutualised. Whether or not a mutualisation happens, however, there is an opportunity cost associated with making this money available to be called upon at

some probability. This is conceptually no different to how a financial institution would treat the same situation, in which case it would require a certain interest rate commensurate with the risk of default on that loan.

4.44. A liquid market in insurance on similar terms for the default risks of energy suppliers is not available. Therefore, there are no perfect benchmarks for the price of the insurance customers are required to provide to energy suppliers. On one hand, like debt, customers receive no upside on the finance made available. On the other hand, like equity, any actual debt holders will be paid out first, and even equity holders in the case of a SoLR, leaving customers to bear the full cost of default with little recovery.

4.45. A WACC would assume that the risks taken by customers in case of such a default are the average risks taken by debt and equity in financing a business of this sort. An alternative would be to use a cost of debt, which would suggest that customers/society are taking on more debt-like risks than equity-like risks. By using the WACC we assume that the risks taken by customers are the average risks taken by debt and equity in financing a business of the financial profile associated with their credit rating.

4.46. We believe that the WACC is more representative of the opportunity cost customers are subjected to since in the event of a supplier's failure the total costs are not recovered from the failing supplier but instead from the generality of customers, and the amount of this exposure is not fixed up front. However, this approach should be seen as being cautious on the size of benefits of the policy. Since we assume that the reduction in the opportunity cost of capital post-policy measured as the WACC is likely to be lower than the reduction in the default rates, for reasons explained in paragraph 4.48.

4.47. The impact of default risk on the cost of debt may be estimated with reference to the bond yields observed on debt issued by companies with similar risk profiles. The impact of default risk on the cost of equity-like financial products is more challenging to estimate; default risk does not explicitly feature within the Capital Asset Pricing Model typically used to estimate required equity returns, albeit adjustments for the asymmetric risk of default are possible.

Default rates and credit ratings

4.48. To estimate the impact of a reduction in default risk on financing costs for energy suppliers, we take a weighted average of estimated impacts of the change in default

risk on debt and equity products. We assume the impact on the cost of debt is given by the change in interest rates corresponding to the change in the credit rating. We conservatively assume in the case of equity that there is no change in the cost of equity for different default probabilities, which likely understates the impact of changes in default risk. The weighting between debt and equity is somewhat subjective. We assume that the impact of changes in default risk on the cost to customers of ensuring mutualised risks is 25% like debt and 75% like equity. Quantitatively, this assumption is equivalent to assuming that the supplier finances its activities at a WACC with 25% gearing, and where only the cost of the debt component varies with the default rate. We recognise that the actual gearing level would be likely to vary with credit rating, but we use this assumption to estimate the increase in total cost of capital associated with an increase in default risk.

4.49. Our weighting of the impact of debt costs on financing costs reflects that:

- suppliers' cost of equity would in practice be responsive to default risk rather than the zero impact we assume for equity, and therefore it is appropriate to assume an effect of reducing default risk even for equity financed companies; and
- suppliers are primarily equity financed, which suggests that relying on debt market alone could overstate the impact of default risk on financing costs.

4.50. In using the WACC as the cost of capital we are progressively replacing assets that are very low risk at the margin (at least in the move from BB to BBB, which are only at risk in case of default, with capital costs based on a measure of average required returns for all the capital in the business, including the risk-compensation required by equity holders for very different risk profiles. We are therefore assuming suppliers are forced to raise capital based primarily on equity returns even for capital that is not frequently at risk. This results in the assumptions set out in tables 2 and 3.

Table 2: Financial parameter assumptions

Gearing	25%	Ofgem assumption
Total market return	6.50%	Consistent with mid-point in EBIT consultation
Asset beta	0.75	Consistent with mid-point in EBIT consultation

Table 3: Risk-free rate forward curve and bond yields

	2023	2024	2025	2026	2027	2028
Nominal risk-free rate	2.70%	2.80%	2.93%	3.06%	3.19%	3.31%
BBB bond yield	3.08%	3.18%	3.31%	3.44%	3.57%	3.69%
BB bond yield	5.44%	5.54%	5.67%	5.80%	5.93%	6.04%
B bond yield	8.12%	8.22%	8.35%	8.49%	8.62%	8.73%
CCC bond yield	14.16%	14.26%	14.39%	14.53%	14.66%	14.77%

Note: Based on averages observed between 1/7/2022 and 20/10/2022

4.51. Table 4 below shows the costs of acquiring capital by credit rating. Suppliers who have a better credit rating will be able to reach capital requirements at a lower cost.

Table 4: Typical default rates by credit rating and implied WACC

Credit rating	Default rate	WACC					
		2023	2024	2025	2026	2027	2028
BBB	0.06%	8.42%	8.48%	8.57%	8.65%	8.72%	8.77%
BB	0.36%	9.00%	9.07%	9.16%	9.24%	9.31%	9.36%
B	2.20%	9.68%	9.74%	9.83%	9.91%	9.98%	10.03%
CCC	11.00%	11.19%	11.25%	11.34%	11.42%	11.49%	11.54%

Source: Ofgem calculations

4.52. Responses from the previous consultations and discussions with potential lenders/investors have highlighted short-term costs in addition to the higher cost of capital small suppliers normally face compared to large legacy suppliers. These costs would make it more expensive for challenger suppliers and small suppliers to accumulate capital at the magnitudes of the policy requirements.

4.53. Given some of the costs that smaller suppliers have told us they face, we estimate that there is 500bps of additional cost of capitalisation above the baseline WACC assumptions in challenger and small suppliers' ability to raise the required capital. We assume that the performance of the sector, as it emerges from the gas crisis and along with implementation of the government's new retail strategy, will mean the additional cost will reduce. The additional cost of capital in Table 5 is added to any extra capital required as part of the policy above that suppliers are already assumed to hold.

Table 5: Additional short-term cost assumption

	2023	2024	2025	2026	2027	2028
Short term additional cost of capital	+500bps	+400bps	+300bps	+200bps	+100bps	+0bps

4.54. Combining the underlying base WACC estimates with the additional near-term cost assumption gives the WACC shown in Table 6 below. These assumptions align closest with the costs of capital many suppliers shared in their consultation responses.

Table 6: Typical default rates by credit rating and implied WACC including short-term additional costs

Credit rating	Default rate	WACC					
		2023	2024	2025	2026	2027	2028
BBB	0.06%	13.42%	12.48%	11.57%	10.65%	9.72%	8.77%
BB	0.36%	14.00%	13.07%	12.16%	11.24%	10.31%	9.36%
B	2.20%	14.68%	13.74%	12.83%	11.91%	10.98%	10.03%
CCC	11.00%	16.19%	15.25%	14.34%	13.42%	12.49%	11.54%

Source: Ofgem calculations

Number of suppliers by credit rating

4.55. As in the previous consultation, we assume large legacy suppliers have a pre-policy credit rating of BBB which will not be improved by the policy as they are sufficiently capitalised. BBB was chosen based on published credit ratings for several large legacy suppliers (see Table 7).

Table 7: Published credit ratings of large legacy suppliers

Supplier	Moody's	S&P	Date
Centrica (CAN-BG)	Baa2	BBB	Both: Dec 2021
EDF (EDF-FR)	Baa1	BBB	Both: Feb 2022
Iberdrola SA (IBE-ES)	Baa1	BBB+	M: Apr 2016, S&P: Mar 2018
E.on SE (EOAN-DE)	Baa2	BBB	M: Mar 2020, S&P: Mar 2017
SSE plc (SSE-GB)	Baa1	BBB+	M: Nov 2021, S&P: Dec 2018

Source: Company websites

4.56. For challenger suppliers and small suppliers, each policy option will improve credit risk depending on how much capital the supplier holds. We assume the following criteria would be improved by suppliers holding additional capital:

- Hedging,
- Financial Policy,
- Interest Coverage,
- Cash from Operations (CFO) /debt, and
- Retained Cash Flow (RCF) /debt.

4.57. Our modelling assumption is to weight hedging and financial policy with other qualitative and quantitative factors as shown in Table 8. The factors and weightings are taken from Moody's Rating Methodology 2017.[15]

Table 8: Moody's credit rating methodology criteria

Criteria	Weight
Scale	10%
Market Diversification	5%
Hedging	10%
Market Framework	15%
Capital Requirements	5%
Financial Policy	15%
Interest Coverage	10%
CFO/Debt	20%
RCF/Debt	10%

4.58. We have used this approach and made assumptions to quantify the potential benefits over time. The exact parameterisation is subject to uncertainty, but we believe it demonstrates a clear chain of causality. The mechanism articulates that when suppliers increase their financial resilience, their risk of defaulting on their obligations also falls, and so their cost of capital falls.

As a result of the reduced cost of capital, the policy delivers benefits to customers when the incremental cost of capital is lower than the benefit from improving the

[15] Rating Methodology for Unregulated Utilities and Unregulated Power Companies | Moody's

suppliers' credit ratings. Because the added improvement in WACC slows as suppliers move to a higher credit rating there will be a point of diminishing returns where raising capital becomes more expensive than improvement in the WACC.

Diversity of the supplier base

4.59. Suppliers told us that due to their different supplier business models, they face different cost of capital. For the purposes of this impact assessment, we estimate the cost of capital for each of the supplier segments using the methodology described in the paragraphs from 4.37 to 4.58. This is distinct from the use of a single cost of capital as a return on the capital that we require in our final policy decision as part of our EBIT consultation, which is assumed to be that of a notional efficient supplier.

4.60. In the next subsection, we describe how we assume those different costs are passed through into tariffs. Our findings of the impact on competition are described in Section 5.

Tariff dynamics

4.61. To assess the impact of these policies on customers, we have made assumptions about how different suppliers will choose to reflect their changing costs into their offered tariffs, both SVTs and FTCs. This subsection describes those assumptions.

Default Tariff Cap

4.62. We have considered how each option potentially imposes additional costs on our notional efficient supplier and therefore whether there would be a case for adding a price cap allowance to allow suppliers to recover the cost of the policy.

4.63. The Competition Market Authority's approach (CMA) in their Energy Market Investigation did not assume that suppliers would be precluded from using CCBs and RO receipts as working capital. Our price cap EBIT consultation also assumed that market-wide ringfencing could be considered as working capital when setting the capital employed[16]. We therefore assume that **options including ringfencing (options 1, 2, and 4) would be accompanied with an additional price cap cost allowance** to account for additional costs arising from ringfencing assets at

[16] Further consultation on amending the methodology for setting the Earnings Before Interest and Tax (EBIT) allowance | Ofgem

the existing notional supplier WACC set by the CMA (10%) which is consistent with the accompanying decision on the ringfencing price cap allowance.

4.64. Any capital requirement for capital adequacy (included in options 3 and 4) will not involve an additional allowance in the price cap methodology on the basis that the methodology already provides for efficient suppliers with sufficient returns to hold a specific level of working capital.

4.65. We observed that, suppliers that have historically chosen to not hold the levels of capital implied by the price cap might incur a higher total cost with the capital adequacy option than that they might have incurred with market-wide CCB ringfencing. On the other hand, suppliers that are already sufficiently capitalised will not incur a cost under capital adequacy. Therefore, capital adequacy might lead to some suppliers that could either not be affected by the policy or even extract a rent if they outperform the cost of capital assumed in the DTC, whilst others will incur a cost.

4.66. However, whilst market-wide CCB ringfencing does impose a cost on all suppliers proportionally to how many CCBs they hold, the introduction of a specific allowance, provides the ability for large legacy suppliers to extract an even higher rent as they both could outperform the cost of capital assumed in the DTC and match the price cap allowance while others will incur a cost. This difference in policy design does improve the case for options that include capital adequacy.

Price competition

4.67. In the pre-policy world, customers provide suppliers with a free source of capital through credit balances and the mutualisation of unmet RO costs. In addition, customers have the option to switch back to the price cap with another supplier, should their supplier fail. These enable speculative suppliers to take excessive risk without committing the capital to the business necessary to cover the exposures that risk creates. We assume that the differences between the average tariff offers of each supplier segment persist according to the recent averages.

Table 9: Average typical consumption tariff difference by supplier segment (2019-2021, £/customer)

Supplier Segment	Difference vs. Large Legacy Tariff	
	SVT	FTC
Large legacy	-	-
Challenger	(39)	(33)
Small	(52)	(33)
Failed	(103)	(53)

Source: Ofgem analysis of supplier tariff data

4.68. In estimating the post-policy costs, we consider how suppliers could increase tariffs to reflect the explicit costs of raising capital. However, in principle, there is an additional tariff impact that comes from the moral hazard problem itself. One of the manifestations of the excessive risk taken by suppliers could be the availability of cheap, unhedged tariffs when market conditions are favourable. Suppliers may take risks in other ways that may not artificially reduce the level of their tariffs, for instance by not adequately hedging their wholesale costs. Insofar as the proposed interventions force suppliers to act more prudently and offer tariffs that reflect their costs, their customers will lose the benefit of artificially low tariffs. Hence, post-policy, we assume that the increased costs will require suppliers to increase tariffs to price at a more sustainable level.

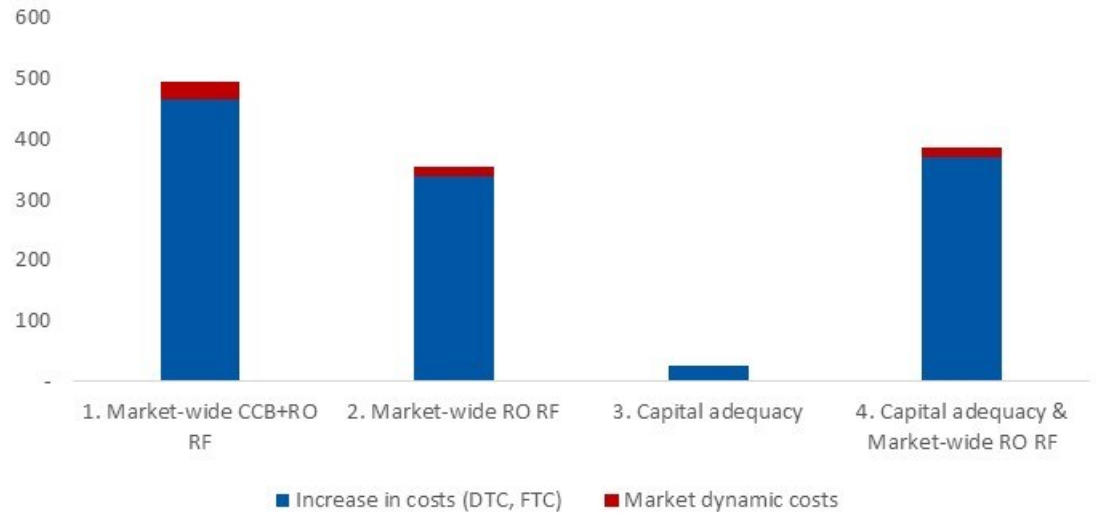
4.69. We assume that the market for engaged customers remains competitive and that apart from the additional costs associated with proposals, the historical differences between supplier segments in their SVT and FTC offered prices do not change.

4.70. We assume that suppliers seek to fully pass on the additional cost of the proposals through their tariffs, subject to the DTC and competitive constraints. Where the average historical difference in FTC prices between large legacy suppliers and challenger/small suppliers is greater than the difference in the cost of raising the additional capital, the implication is that challenger/small suppliers should still be able to offer price competitive SVTs/FTCs although the market spread is reduced. On the other hand, they should not be able to offer unsustainably low tariffs that make them much more likely to fail and trigger cost mutualisation.

4.71. In summary, we set out below the drivers that lead to an increase in tariffs:

- Removal of the effective cross-subsidisation of failed suppliers' tariffs means that the very cheapest historical tariffs that would have been offered by similar suppliers will be unavailable in the future.
- Increase in DTC for Options 1, 2 and 4 means all SVT customers are expected to pay an additional amount at least equal to the benchmark allowance.
- Increase in FTC offers of the challenger/small suppliers reflecting their additional costs. Large legacy suppliers can use their 'brand premium' to retain customers at a tariff higher than they could price at given their costs. This will increase costs to customers of large legacy suppliers.

Figure 6: Additional customer costs through tariff increase induced by policy option (2028, £m)



4.72. The additional customer costs through tariff increases are given in Figure 6. With ringfencing, particularly of market-wide CCBs and RO receipts (option 1), the relatively smaller indirect benefits partially offset the pass-through of additional costs into tariffs. For all the options considered, the reduction of mutualised costs more than offsets the increase of costs shown above, which makes all the considered options better than the counterfactual.

4.73. Whilst we observe a slight decrease in the price differential between the DTC offered by large legacy suppliers and the cheapest FTC, we do not expect this to cause a significant impact on the switching rate.

Market dynamics

Standard Variable Tariffs

4.74. The interaction between the price cap and wholesale prices has meant that several million more households are currently SVT customers. We assume, given lower wholesale market volatility, engaged customers will switch to an FTC once they become available. Given the uncertainty about whether there has been a structural change in customer behaviour, we assume the proportion of customers on SVTs will return to historic levels (based on the average between April 2019 and October 2021) over the evaluation period. Some market measures, like the Market Stabilisation Charge (MSC), could lessen the incentive for customers to switch tariffs in the short run.

Switching costs

4.75. In the absence of the policy, suppliers could take advantage of risky business models to undercut and provide unsustainable and distortedly low tariffs to customers. Engaged customers could benefit by switching to these suppliers to take advantage of lower tariffs. However, if the supplier were to fail, costs would be mutualised to all customers through the SoLR process to cover the unprotected CCBs, ROs and unprotected hedges. In a market where suppliers must internalise the risk of failure, suppliers would incur increased costs, which will reduce the risk of failure. To remain competitive, they will also have an incentive to reduce the additional costs imposed by the policy by reducing the risk they take, which will in turn further reduce the risk and cost of failure. Therefore, suppliers would have a smaller chance of failure leading to lower costs of failure being passed on to customers.

4.76. In reducing the likelihood of supplier failure, all customers will benefit from a reduction in switching costs. The three main drivers behind lower switching costs:

- A decrease in customer costs from less 'forced' switches after a SoLR. The costs are measured by the price differential between SVT and FTC.
- A decrease in supplier costs due to a reduction in the number of customers being transferred after a SoLR.
- A decrease in price differentials from suppliers' inability to provide unsustainably low tariffs to customers, both prevents inefficient levels of customer switching and reduces the savings in switching.

4.77. The customers of failed suppliers will incur a cost when transferring from the lower FTC tariff to the higher SVT of the SoLR. The policies will bring a two-fold effect in reducing customer switching costs. Firstly, the policy will reduce supplier failure which leads to less customer switching. Secondly, the lower supplier failure will reduce the SVT – FTC differentials which reduces the cost of being transferred to an SVT for the engaged customers of failed suppliers.

4.78. In the event of a SoLR, there are one-off onboarding costs. We assume costs are £31 per customer, based on a previous RFI estimates. These costs are fully passed onto customers. The policies would reduce the number of SoLRs, leading to less customer switching and a reduction in costs for suppliers.

4.79. In the pre-policy world, suppliers pursuing risky strategies can offer unsustainable tariffs whilst being insufficiently capitalised or using CCBs/ROs receipts as free working capital. These suppliers can undercut established suppliers and get remunerated by taking risky strategies, leading to excessive price competition. However, in a post-policy world suppliers will internalise the impact of changes in default risks in their prices. Therefore, the riskier the supplier in the pre-policy world, the higher their costs and prices will be in the post policy world. The proposed policies should decrease switching rates and lower the gain of these lower prices to reflect sustainable price competition.

4.80. We assume a market wide switching rate of 18.7%, based on the historical switching rate of non-failed suppliers (2017-2021) as used in the previous impact assessment. It is then adjusted post-policy as a function of post-policy SVT - FTC price differentials. In the June impact assessment, we assumed that the post-policy world would be a more sustainable price competition market environment where the switching rate will be to that of historical non-failed suppliers. In the revised impact assessment published in November and this impact assessment, we use the differential as a proxy to determine the final post-policy switching rate. The new differential is subject to a switching price elasticity of 0.03%. Therefore, the post-policy switching rate is decreased in order to reflect a reduced-price differential (i.e., SVT large legacy suppliers vs FTC challenger and small suppliers). This is influenced by an assumption based on historical evidence that large legacy suppliers will match the price cap, whilst having costs lower than the cap.

4.81. We assume that a customer of a failed supplier will be on a tariff that matches the DTC regardless of the size of the new supplier.

4.82. We did not assume that varying switching rates depends on the level of engagement of customers. Therefore, we do not account for the fact that the failure of a large legacy supplier might lead to lower customer switching costs than the failure of a challenger supplier, due to their higher proportion of FTC. This is not material as we assume that customer switching costs upon SAR to be zero.

Administrative costs

4.83. Ofgem is required to appoint administrators in the event of a supplier failure. These costs will then be passed onto customers through the SoLR levy. The policies introduced will have the desired effect of reducing administrative costs by reducing the number of supplier failures. We assume administration costs per customer of £16 based on previous administrator reports.

SoLR process and SAR regimes

4.84. When a supplier becomes insolvent, Ofgem will seek to revoke the licence of that supplier and appoint a SoLR to take on that supplier's customers. Alternatively insolvent suppliers would qualify for an Energy Supply Company Administration Order under the (SAR)[17]. For the purposes of this impact assessment, we use a one million customer threshold to distinguish between suppliers entering a SoLR and a SAR. Making a distinction between SoLR and SAR has implications for:

- Retained hedges – when small suppliers fail, we assume they enter a SoLR process and therefore, regardless of their hedging position, hedges are not retained. This is because shareholders will liquidate any in-the-money hedges. For large legacy and challenger suppliers we assume 75% of hedges that would have been expected under the price cap are retained in a SAR. This reflects historical data showing large legacy and challenger suppliers are more likely to be better hedged at a given point in the period. We assume, in the event of failure, the failed supplier will be taken over by a supplier of the same size category. For example, if a challenger supplier fails, we assume another challenger will raise the funds that will be mutualised to all customers.

  Furthermore, we assume that suppliers will be able to improve their respective cost of capital when funding the baseline hedges. Therefore, we only apply the additional short-term costs of capital to the incremental capital raised due to the

[17] Memorandum of Understanding: Energy Supply Company Administration | Ofgem

policy in place. We assume that small suppliers improved cost of capital will not improve the baseline cost of protected hedges as their hedging is primarily not coming from equity capital. Therefore, ringfencing options do not lead to indirect benefits.

- Switching costs – We assume that when a large legacy or challenger supplier fails there is no switching cost to customers. In contrast, customers of small suppliers entering a SoLR process are transferred onto an SVT and may even switch again to get a cheaper deal than the SVT they were put on. The former assumption could be an underestimation of the benefits as customers may also want to avoid staying with a supplier under an administration regime.

Our final position

4.85. We have responded to the policy consultation by making changes to our estimates, however the general framework of the assessment remains built around a credit rating framework. The assessment includes the following:

- Considers the shorter-term costs to suppliers of raising capital;
- Links future CCBs to future wholesale prices;
- Reflects our understanding of tariff dynamics, and
- Accounts for large legacy and challenger suppliers entering a SAR rather than a SoLR and the difference this makes to the retention of capital.

4.86. This impact assessment does not include all the detail found in the consultation. Notably, capital is assumed to cost the same across policies. However, we understand that the rules for ringfencing are more restrictive than for capital adequacy, which may come at a higher cost to suppliers. Additionally, we assume that all capital raised as a result of the policy options will be protected under supplier failure, however in practice if a supplier entered a SoLR, then any capital as part of the capital requirement will be lost.

4.87. We have been cautious in our choice of where there is uncertainty or lack of a developed framework. We therefore consider the methodology used in this impact assessment to provide a conservative estimate of the benefits of the policy options.

4.88. We have updated our assumption of the hedges challengers already retain. Previously this was assumed to be significantly lower for challenger suppliers, we have now updated to have parity between challenger and large legacy suppliers.

Summary of impact assessment assumptions

Table 10: Summary of impact assessment assumptions

	Size of Supplier	This Impact Assessment (2028 Evaluation Year)
Cost of capital	Large legacy	8.8% (BBB)
	Challenger	*Pre-Policy:* 11% *Post-Policy:* 9.6-10.3%
	Small	*Pre-Policy:* 11% *Post-Policy:* 9.6-10.3%
Default Rates	Large legacy	0.06% (BBB)
	Challenger	*Pre-Policy:* 7.95% *Post-Policy:* 0.99-3.62%
	Small	*Pre-Policy:* 7.95% *Post-Policy:* 2.12-3.98%
SAR/SoLR Regime	Retained Hedges: Large legacy	*SAR:* 75%
	Retained Hedges: Challenger	*SAR:* 75% (20% in November 2022 Impact Assessment)
	Retained Hedges: Small	*SoLR:* 0%

Note: Denoted ranges represent the range across the different policy options assessed in this impact assessment.

5. Monetised and non-monetised costs and benefits of main options

Section summary

This section describes our analysis of the monetised and non-monetised impacts of the proposals. It covers our assessment of the distributional impacts across customers, the impact on competition and sustainability, and our view of the reasonableness of any administrative burdens. We summarise our view at the end of the section.

Feedback received as part of the consultation

5.1. One supplier said that Ofgem should present results for a longer period such as 10 years and use this NPV as the basis for its assessment. *We have included further analysis of 10-year NPV for all policy options in Annex A2.*

Drivers of costs and benefits

Protected and unprotected capital

5.2. All the policy proposals within this consultation will ensure suppliers hold appropriate levels of capital. This will transfer the capital at risk from customers to suppliers by the amount of protection enforced through the policy. Because we assume that both customers and suppliers pay for this capital at the WACC (customers through opportunity cost and suppliers through raising extra capital to meet policy requirements) there is no net change in the costs. However, there is an overall societal benefit from the transfer of risk because suppliers' credit ratings and risk of failure improve with the amount of capital they hold.

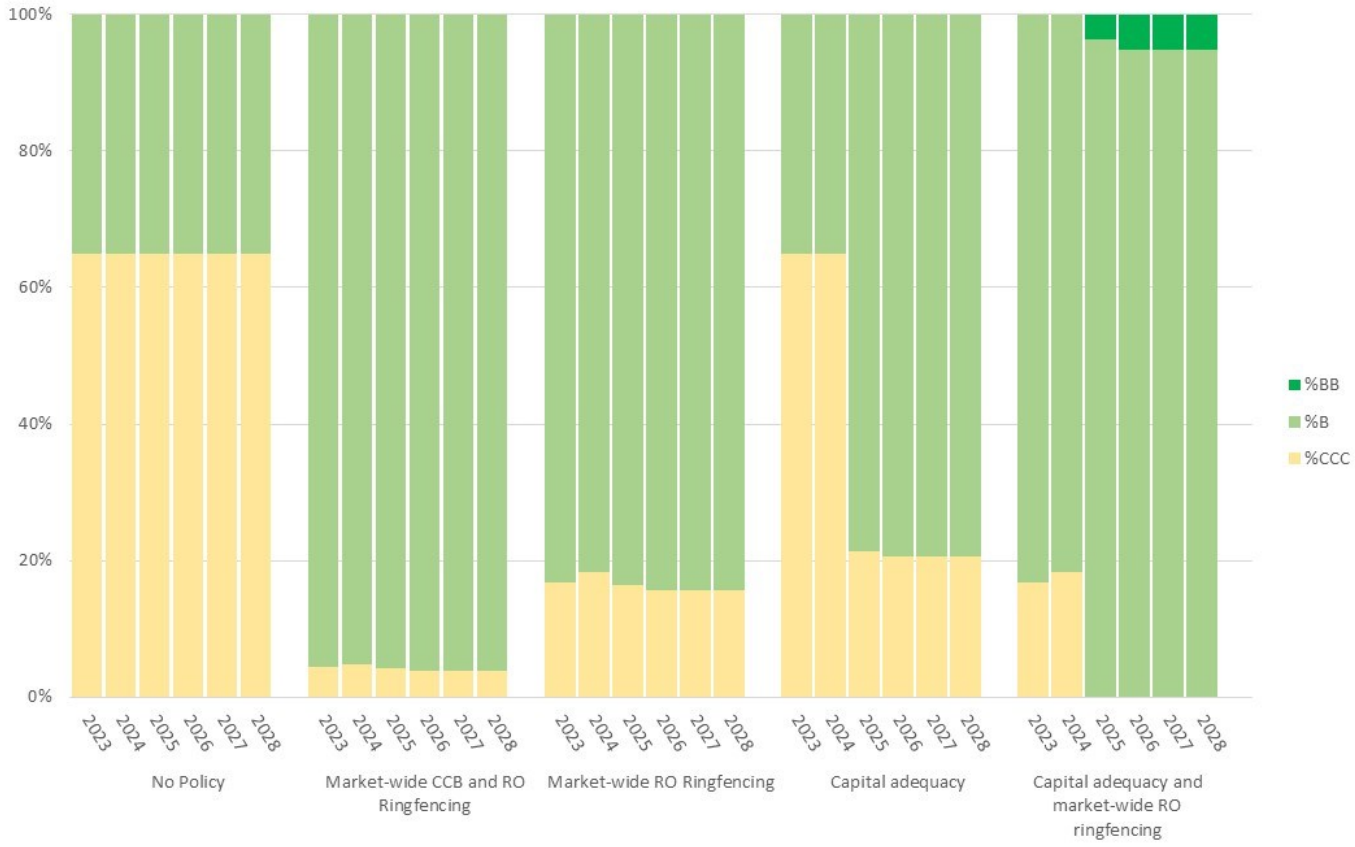
Credit rating improvements

5.3. By transferring the burden of risk from customers to suppliers, all the proposals should reduce supplier risk-taking, and therefore lower the likelihood and cost of failure. We have used the credit rating methodology as a framework for estimating the impact of the policy options on those risks and costs. Figure 7 shows how the credit rating methodology estimates the impacts of the policy options. Sensitivity analysis shows that even by weakening the estimated improvement that the

additional capital has on credit ratings, the proposed policies are still expected to provide positive customer benefits (see Appendix A).

5.4. Under our framework[18], all policy options are expected to raise a proportion of suppliers from the credit risk associated with a CCC rated company to a B rating or higher. Capital adequacy measures and ringfencing of RO receipts (Option 4) is the policy that improves credit ratings of small suppliers the most. This is because small suppliers will be required to protect more capital under capital adequacy measures and RO ringfencing than the other policies.

Figure 7: Estimated mix of supplier credit ratings of challenger and small suppliers under each option (2023-2028)



5.5. Lower supplier risk will reduce the expected number of suppliers entering a SoLR or SAR and therefore:

[18] There is no evidence to suggest by how much credit ratings will improve by increasing ringfencing or capital employed requirements and therefore the estimates below act as a framework for assessing this relationship.

- reduce the administrative costs on suppliers and customers
- reduce the number of inefficient switches;
- reduce the cost of mutualisation to customers insuring suppliers; and
- reduce the cost to suppliers in raising the required capital

5.6. It is important to remember that for unprotected capital, we use the WACC to estimate the opportunity cost of customers. And for protected capital, we use the WACC plus short-term additional costs of capital.

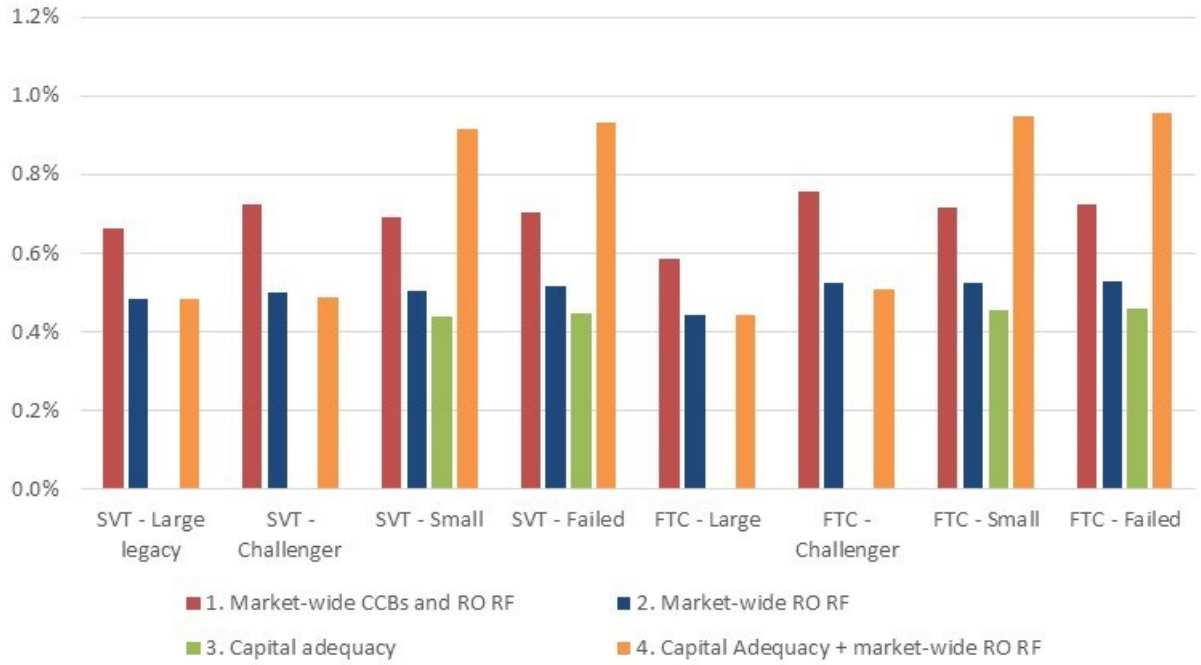
Tariff dynamics

5.7. Raising the capital needed to meet the policy requirements may come at a cost to some suppliers, who will pass at least part of these costs onto their customers. Figure 8 shows our gross estimates of how much SVTs and FTCs could increase without the benefit of lower mutualised costs reducing those tariffs by more than the increase.

5.8. For challenger and small suppliers, the percentage increase in tariffs is greatest for the policies with greatest capital requirements making option 4 - capital adequacy plus market-wide RO ringfencing - the costliest. However, option 4 provides some of the greatest benefits and is therefore important to remember that these tariff increases will be outweighed by the lowering costs of mutualisation so overall tariffs will fall.

5.9. There is no increase in tariffs from capital adequacy requirements for large legacy suppliers because we assume that large legacy suppliers are already at the DTC. As the allowance for the DTC is not considered for capital raised as part of a capital requirement then large legacy suppliers cannot increase their tariffs. This can be seen in the effects of policy options 3 and 4.

Figure 8: Percentage gross increase in tariffs by policy excluding the benefits of lower mutualised costs



Distributional impacts across customers

5.10. There are several important distributional impacts of the suggested policy options. The general transfer of costs/risks move from the generality of customers, including disengaged customers, back to engaged customers of unsustainable suppliers. This creates a small positive distributional impact since low-income customers are more likely to be disengaged. This small positive distributional impact is demonstrated by the difference between the unweighted and equity adjusted benefits in tables 11 to 14.

5.11. The proposed policies are likely to cause transfers between parties:

- Disengaged customers will transfer less money to the customers of failed suppliers to cover for mutualised CCBs and RO.
- Disengaged customers, will generally transfer less to the customers of failed suppliers to cover differences between wholesale prices and allowances under the price cap, due to the lower frequency of default. This difference is only material in an increasing wholesale prices environment.
- Customers of suppliers who would otherwise fail are likely to face higher prices due to decreased incentives for those suppliers to offer unsustainably low prices based on subsidised capital. Other engaged customers may see a knock-on

impact, at least in the short run, if reduced competitive pressure on rival suppliers allows them to increase their prices.

- Customers of failed suppliers, and suppliers themselves, will see reduced switching costs due to a reduced failure rate, and hence reduced rates of forced switching (e.g., after a SoLR process).

Monetised costs and benefits

5.12. The tables below present each of five impacts across the three different customer segments (Customers of Failed Suppliers, Engaged Customers with non-Failed Suppliers, Disengaged Customers). We present the Net Present Value (NPV) from 2023 to 2028 discounted at 3.5% according to HMT Green Book[19]. A positive number indicates a benefit to customers.

5.13. Like the previous impact assessment, the monetised customer impacts we have considered are:

- **Ringfencing cost and mutualisation of CCB/RO:** The cost of protecting CCBs and RO receipts, mutualised in the event of supplier failure, will be transferred from customers to suppliers. This is offset by the increases to tariffs that suppliers make to recover the costs of that protection. Given suppliers' need to potentially replace that capital, we expect the moral hazard to be addressed and thus, ultimately, both their likelihood of failure and cost of capital will decrease, benefitting customers from the reduction in the cost of protection. Some customers will face higher near-term prices as the removal of subsidised capital from those suppliers most likely to fail causes those suppliers to increase their prices.
- **Replacing hedges of failed suppliers:** The mutualised costs of supplying the customers of failed suppliers at tariffs subject to the price cap, as recovered via the SoLR levy and through SAR cost recovery, will be reduced as the risk of supplier failure decreases with both ringfencing and capital adequacy.
- **Additional tariff effects:** As suppliers are required to maintain a minimum level of capital, their customers no longer benefit from unsustainably low protection against market shocks and the tariffs they receive increase accordingly.

[19] The Green Book, Central Government Guidance on Appraisal and Evaluation | HM Treasury

Additionally, competition will be affected by the changes in supplier costs. Large legacy suppliers can use their 'brand premium' to retain customers at a tariff higher than they could price at given their costs. This will increase costs to customers of large legacy suppliers.

- **Inefficient switching**: Due to a lower failure rate, there will be a lower number of customers of failed suppliers that are likely to switch from the SoLR to another smaller supplier. Also, the lower price differential between SVT of a SoLR and FTC will decrease both the switching rate and the savings made in switching to an unsustainable cheap tariff.
- **Admin costs**: Customers will have to pay for the additional implementation and enforcement costs that Ofgem will incur in administering the policy, and the costs suppliers may incur in ensuring compliance with the policy. This is offset by lower administration costs associated with supplier failures.

Option 1: Market-wide ringfencing of CCBs and RO receipts

5.14. We estimate the net customer benefits of market-wide ringfencing of 100% of RO receipts and 30% of CCBs to have a positive NPV of **£177m** over the next six years, equivalent to £36m per year on average.

5.15. These benefits are largely driven by the reduction in the cost of capital following improved capitalisation to ringfence RO receipts and CCBs. There is a net benefit from the protection of balances (which are not mutualised on supplier failure) but also from the lower mutualised wholesale costs associated with reducing supplier failure.

5.16. Furthermore, by requiring suppliers to protect CCBs and RO receipts, they are less likely to engage in riskier use of capital, lowering the failure rate and therefore reducing the inefficient switching and administrative costs from supplier failure.

5.17. There are considerable distributional effects, as the ability for risky suppliers to price unsustainably low is reduced by their increased costs the benefits transfer from customers of failed suppliers and engaged customers who could previously take advantage of the low prices to disengaged customers.

Table 11: Estimated customer benefits of market-wide ringfencing RO receipts and CCBs (NPV 2023-28, £m)

	Customers of Failed Suppliers	Engaged Customers with non-Failed Suppliers	Disengaged Customers	Total NPV	Annual Average
Ringfencing cost and mutualisation of CCB/RO	-81	-321	226	-176	-31
Replacing hedges of failed suppliers	10	49	70	130	24
Inefficient switching	199	13	18	230	43
Admin costs	5	22	31	57	11
Additional tariff effects	27	112	-203	-64	-12
Total (£m)	**160**	**-125**	**143**	**177**	**36**
Total per affected customer (£)	68.34	-11.27	9.03	6.07	2.26
Total (social weighting) (£m)	**153**	**-120**	**149**	**182**	**36**
Total per affected customer (£)	65.52	-10.80	9.41	6.23	2.31

Option 2: Market-wide ringfencing RO receipts only

5.18. We estimate the net customer benefits of market-wide ringfencing RO receipts to have a positive NPV of **£227m** over the next six years, equivalent to £44m per year on average.

5.19. The estimated benefits of ringfencing of RO receipts is greater than that for ringfencing of both RO receipts and CCBs (Option 1). Whilst market wide ringfencing of CCBs or RO on their own both have a positive NPV (£183m for CCB ringfencing and £227m for RO ringfencing), in combination they add unnecessary additional costs.

Table 12: Estimated customer benefits of ringfencing RO receipts (NPV 2023-28, £m)

	Customers of Failed Suppliers	Engaged Customers with non-Failed Suppliers	Disengaged Customers	Total NPV	Annual Average
Ringfencing cost and mutualisation of CCB/RO	-47	-184	135	-96	-16
Replacing hedges of failed suppliers	8	39	56	104	19
Inefficient switching	154	10	14	179	33
Admin costs	4	17	25	46	9
Additional tariff effects	21	89	-116	-6	-1
Total (£m)	**141**	**-28**	**115**	**227**	**44**
Total per affected customer (£)	60.16	-2.57	7.26	7.77	2.79
Total (social weighting) (£m)	**135**	**-27**	**120**	**227**	**44**
Total per affected customer (£)	57.68	-2.46	7.57	7.77	2.79

Option 3: Capital adequacy requirement

5.20. We estimate the net customer benefits of a capital adequacy to have a positive NPV of **£286m** over the next six years for the common minimum capital requirement of £130 per customer equivalent to £56m per year on average.

5.21. A capital adequacy approach will reduce the cost of replacing hedges of failed suppliers by £209m over the next six years. However, as the ability for risky suppliers to price unsustainably low is reduced by their increased costs the benefits transfer from customers of failed suppliers and engaged customers who could previously take advantage of the low prices to disengaged customers.

5.22. Furthermore, the capital buffer will improve suppliers' ability to ride out shocks and avoid failures shown by the benefit from avoiding CCBs and RO receipts mutualisation as well as the reduction in admin costs and inefficient switching.

5.23. As described in Section 4, for the capital used in the capital buffer requirement, suppliers will not have an allowance to pass on the extra cost through the DTC which means these costs must be internalised.

Table 13: Estimated customer benefits of capital adequacy £130 per customer capital requirement (NPV 2023-28, £m)

	Customers of Failed Suppliers	Engaged Customers with non-Failed Suppliers	Disengaged Customers	Total NPV	Annual Average
Ringfencing cost and mutualisation of CCB/RO	6	27	38	70	14
Replacing hedges of failed suppliers	17	79	113	209	41
Inefficient switching	79	6	8	94	18
Admin costs	2	10	14	27	5
Additional tariff effects	-22	-91	0	-113	-22
Total (£m)	**82**	**31**	**174**	**286**	**56**
Total per affected customer (£)	34.97	2.78	11.00	9.80	3.53
Total (social weighting) (£m)	**78**	**30**	**181**	**289**	**56**
Total per affected customer (£)	33.53	2.67	11.46	9.89	3.56

Option 4: Capital adequacy, £130 common minimum capital requirement plus market-wide ringfencing of RO receipts

5.24. We estimate the net customer benefits of Capital adequacy requirement plus market-wide ringfencing of RO receipts to have a positive NPV of **£326m** over the next six years for the requirement of £130 per customer, equivalent to £63m per year on average.

5.25. The allowance for increased costs to suppliers within the DTC will only apply to the cost of RO protection. Therefore, suppliers will only be able to pass the costs of the capital requirement when their WACC is at or below 10%. However, in practice, as challenger and small suppliers are undercutting large legacy suppliers pre-policy, we observe that despite having a WACC above 10%, they will be able to pass on the costs associated with capital adequacy policy to both their SVT and FTC customers. Also, we assume that FTC increase is the same as SVT increase because of the competitive constraint imposed by large legacy suppliers' lower WACC.

5.26. Given that the approach to capital adequacy considered in this statutory consultation allows suppliers to go under the target in certain circumstances, a further sensitivity analysis can be found in the annex showing that our preferred option still produces positive benefits each year even if there is only 50% compliance with the common minimum capital requirement.

Table 14: Estimated customer benefits of common minimum capital requirement of £130 per customer plus market-wide ringfencing of RO receipts (NPV 2023-28, £m)

	Customers of Failed Suppliers	Engaged Customers with non-Failed Suppliers	Disengaged Customers	Total NPV	Annual Average
Ringfencing cost and mutualisation of CCB/RO	-43	-167	143	-67	-11
Replacing hedges of failed suppliers	22	104	148	273	52
Inefficient switching	183	12	18	213	40
Admin costs	4	21	30	56	11
Additional tariff effects	-6	-27	-116	-150	-29
Total (£m)	**160**	**-57**	**223**	**326**	**63**
Total per affected customer (£)	68.50	-5.14	14.09	11.14	4.01
Total (social weighting) (£m)	**154**	**-55**	**232**	**331**	**64**
Total per affected customer (£)	65.67	-4.93	14.68	11.32	4.07

Comparison of benefits case

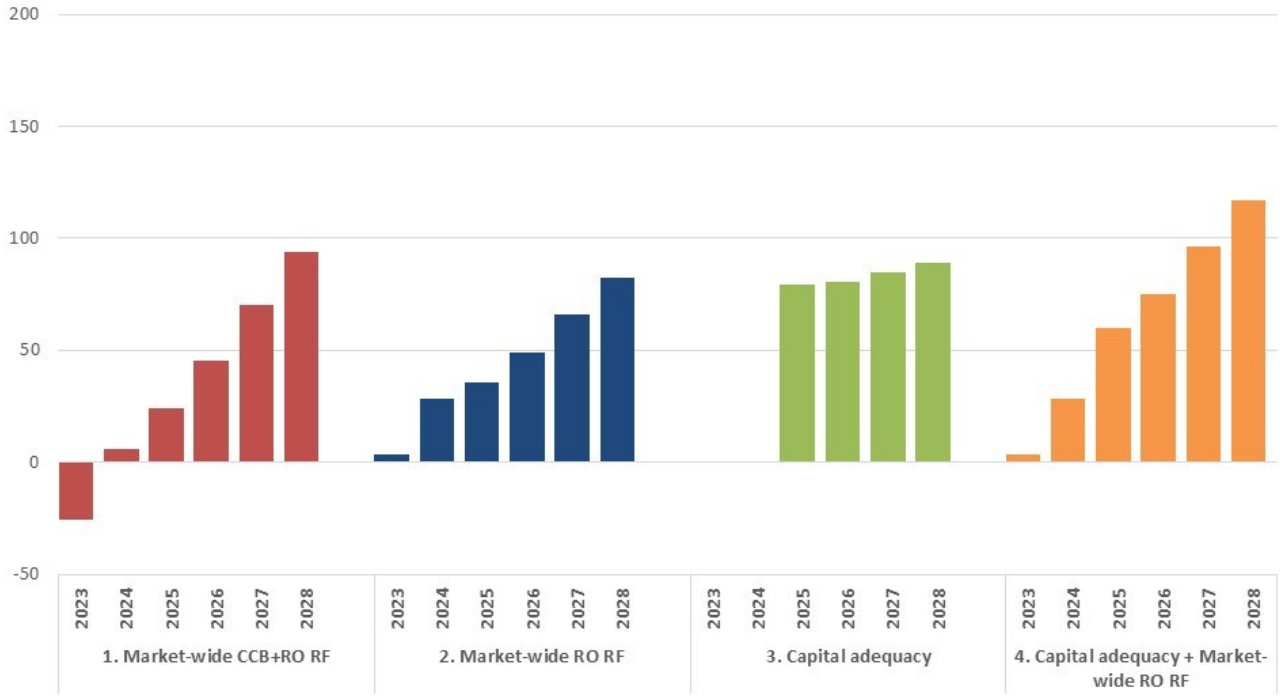
5.27. Considering the benefits of each policy in the immediate six years of the policy gives a picture of the shorter-term implications of the polices before an equilibrium market is met.

5.28. Each policy sees a growth in the annual benefits to customers over the six years which is caused by several factors:

- Increasing levels of capital held by suppliers (in 2023-24)
- Improvements in challenger and small suppliers' cost of capital and default rates
- Underlying reduction in the additional capital costs for challenger and small suppliers associated with wider market reforms and clearer track record of progress.

5.29. Figure 9 shows that apart from market-wide ringfencing of RO and CCB, all policy options create positive benefits in each year of the evaluation period. Capital adequacy requirement and market-wide ringfencing of RO receipts (Option 4) has the greatest NPV for the reference period.

Figure 9: Customer benefits by policy options (2023-2028, £m)



Impact on competition and sustainability

Previous assessment

5.30. The November policy consultation (paragraph 7.26) summarised our assessment of the impact on competition in which we have said we believe the proposals, alongside other measures, are likely to enable a more sustainable competitive market that should be beneficial to customers over time through increased market stability and a better environment for innovation to take place. We recognised that the proposals could affect suppliers' entry and/or expansion and could even lead to exit. However, we believed that it is beneficial to customers to limit the opportunities for inefficient expansion or entry.

5.31. Oxera's report for GEMA found that in the run-up to the recent energy price shock the market contained a significant number of suppliers that funded their growth using customers' own money and used this to opportunistically offer lower prices than could be sustained over the longer term. This made it harder for retailers with more sustainable models to compete and grow, while the apparent savings to customers from the cheaper prices proved illusory once the costs of failure became evident.

Feedback from the previous consultation

5.32. One supplier stated where they felt there were a number of gaps in the assessment of the impact of the policy options on competition and innovation, in particular they said:

a) Ofgem does not recognise that a reduced number of challengers will have a negative impact on innovation and the benefits this brings for customers and net zero. *In both this impact assessment and the previous impact assessment, we explain that if we see challenger brands exiting the market, it is likely that there would be a more significant slowdown in the emergence of new products and services.*

b) Ofgem does not recognise that by forcing suppliers to hold more capital suppliers will need to reduce the funds used for innovation and investment - higher gross margins will go to reward the "trapped capital" not to create an innovation-positive business. *We acknowledge having higher costs could impact on suppliers' ability to innovate and invest however we believe that the benefits of a stable and resilient market outweigh the negative impact of extra costs. This is further explained in the analysis below.*

c) Accounts for the reduced cost from failed suppliers but wrongly assumes failed suppliers have brought no benefits to the market. *We agree that failed suppliers have created some benefits to the market although these are limited.*

d) Assumes it is desirable and possible for new entrants to achieve a cost of capital equivalent to legacy businesses without recognising the implications of the innovation enhancing features of challenger/new businesses on their cost of capital. *Ofgem agrees that it is unlikely that new entrants could achieve a cost of capital equivalent to a legacy business. This is reflected in the impact assessment.*

Our analysis

5.33. All the options assessed are designed to prevent the use of unsustainable growth strategies in future. While this is likely to result in a smaller number of competitors than was seen before the price shock, our baseline assumption is that competition will then take place on a more sustainable basis, and over the longer-term will lead to a greater level of customer benefits than was the case previously. At the same

time, however, it is also important to consider the possibility that deterring market entry could result in an overall weaker level of competition and lower accompanying customer benefits and increased cost to suppliers may impact their ability to invest in innovation.

5.34. To inform this, we have carried out an assessment of the customer benefits that competition has delivered to date, categorised by supplier segment. This provides a view of what could potentially be at risk under different scenarios of future market entry and exit.

5.35. For the purposes of this competition analysis, we have defined the four types of suppliers as set out in Table 15.

Table 15: Types of suppliers[20]

Type	Definition
Former incumbents	Remaining former monopoly suppliers
Challengers	New entrants with market share over 5%, significant financial backing and broader tariff offering
Other new entrants	All other surviving new entrants
Failed new entrants	New entrants that failed from 2019 onwards

5.36. In line with what the CMA set out in their Energy Market Investigation,[21] we would expect the benefits of competition to be seen in the areas of price, service levels and innovation. Our assessment of each of these is as follows:

Customer prices

5.37. Data from our most recent Consumer Impacts of Markets Conditions Survey shows that getting a cheaper tariff is the main reason customers have switched tariff or supplier.[22] Where energy supply continues to mirror commodity market characteristics, in that the product offered by all suppliers is broadly or entirely the same, we would expect price to be the primary focus of competition, and therefore

[20] The definition of a "challenger" supplier used in the competition analysis differs slightly with the "Challenger" supplier used in the benefits estimation despite including many of the same suppliers. Challenger suppliers follow a clear competitive strategy on pricing and innovation, while the larger small supplier category is purely based on market share to capture suppliers that are too big for a SoLR but have the WACC of a small supplier.
[21] Energy Markets Investigation Final Report, 96-7 | CMA
[22] Consumer Impacts of Markets Conditions survey: Waves 1 (March 2022) & 2 (July 2022) | Ofgem

the area of largest benefits. Our calculation of these benefits has been conducted as follows:

- Although we assume a six-year evaluation period, for this analysis on competition and innovation we have restricted our calculations to the years following the introduction of the default tariff price cap in January 2019, as the impact of this would distort any analysis that went back further than this date.
- Within this period, we have calculated the savings delivered by each new entrant by taking the difference between their average tariffs and those offered by the former incumbent suppliers and multiplying it by their number of customers.
- In relation to the former incumbents, our analysis suggests that the discount between these suppliers' fixed tariffs and their standard variable tariffs has increased markedly since competition became established. We therefore consider it is reasonable to attribute the value of this increase to the effects of competition. Given that these suppliers' SVTs have remained consistently at the price cap level since its introduction, however, we do not see any competition-related customer benefit in relation to these tariffs.

5.38. This approach provided us with an estimate of the annual savings being delivered to customers prior to the recent energy crisis. This suggests that the largest benefit came from the price reductions offered by the former incumbents in response to competitive pressures, given that they still had most customer accounts. After this, the next largest category was from the failed new entrants, but as these proved to be unsustainable, they are not counted as genuine savings to customers.

5.39. From the findings above, we can assess what would be at risk should these measures result in a reduction in competition:

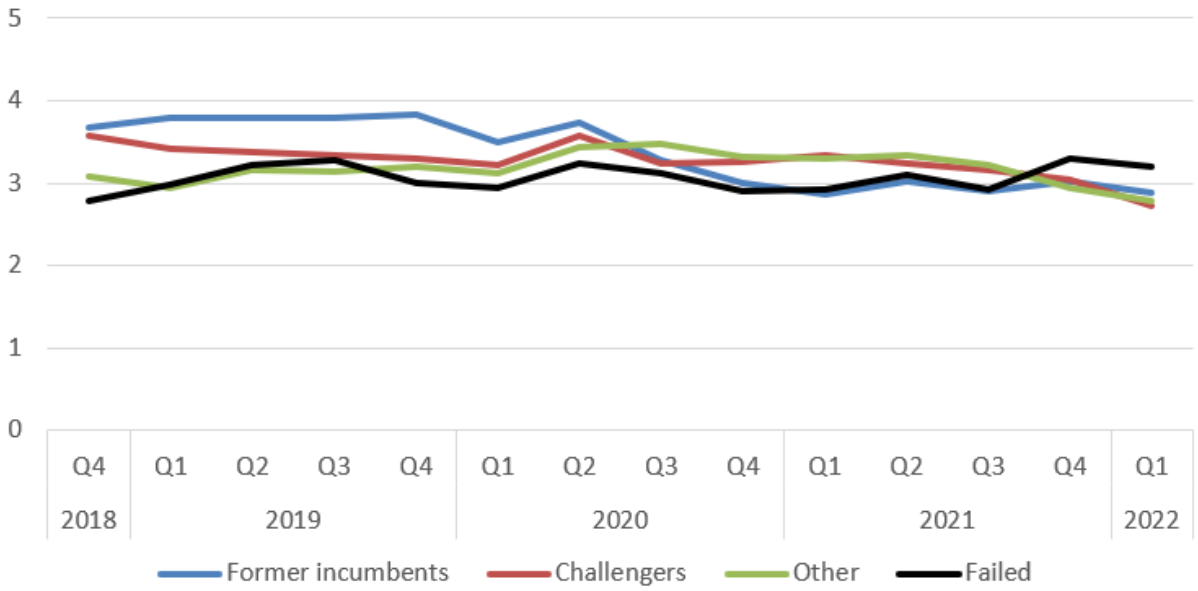
- Our starting assumption is that we would expect that over time the customers of failed suppliers will move to suppliers in the challenger and other new entrant groups. The direct savings they receive will be lower than before, but this would represent an increase in aggregate customer benefits, since these savings should be sustainable, whereas the previous figure led to losses in the long term.
- If it emerges that the new arrangements also deter entry by companies with sustainable business models, there could be negative impacts on price, though the extent of these would vary widely depending on the extent to which competition narrowed. With over twenty suppliers still active in the market, we

consider that the loss of a few of these would have only a limited impact on market prices.

Quality & standards

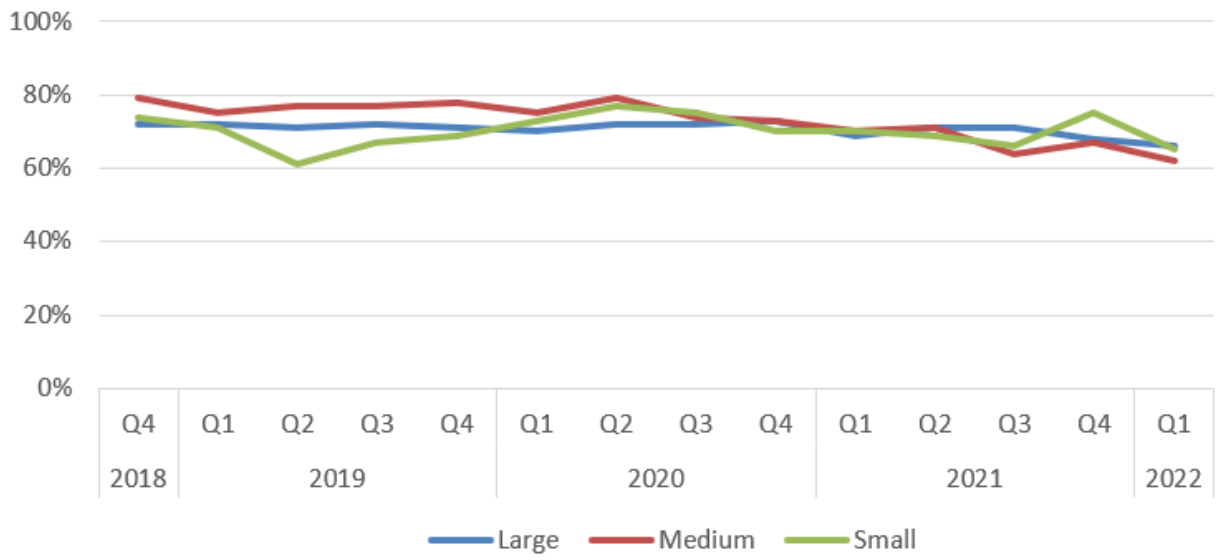
5.40. To assess service quality, we have considered two sources of data: the Citizens Advice ranking of suppliers (based on a range of measures including complaints, billing quality and contact wait times), and the quarterly customer surveys that we commission. While the survey supplier categories do not precisely match up with those we are using in this analysis, they are similar enough to provide relevant insight.

Figure 10: Citizens Advice ranking – Overall score



Source: Ofgem analysis of Citizens Advice data

Figure 11: Ofgem survey - Customer service



Source: Ofgem energy satisfaction survey

5.41. These rankings suggest that while there has been some variation over time, for the most part the former incumbents and challengers have been the better performers. It should be noted, though, that on the specific metric of complaints, the former incumbents perform worse than new entrants.

5.42. Overall, our analysis does not provide any strong evidence either of new entrants providing better service in general, or of the former incumbents being driven to improve their performance over time. We therefore cannot conclude that the options under consideration would necessarily lead to a change in levels of customer service.

Innovation

5.43. The third way in which competition can deliver customer benefits is through innovation. This can take a number of forms, and here we take it to relate to any developments in tariffs, business models or technologies that reflect a change from the traditional basic retail supply model. Since these can only be assessed on a more qualitative basis, in Table 16 we have set out our observations on the nature of innovations introduced within each supplier category, so that a comparison can be

made of what each has brought to the market. These observations build on an analysis of supplier business models previously carried out by IGov[23].

Table 16: Assessment of innovations

Supplier Type	Innovations
Former incumbents	All these suppliers have extended their offerings, but in a relatively limited way, rarely taking the lead in bringing new products to market.
Challengers	Two of these suppliers have both developed new technology systems they have successfully sold to other suppliers. They have also taken the lead in developing time of use tariffs, and in offerings designed to serve the rising ownership of electric vehicles
Other new entrants	Some of these suppliers have built scale by focusing on individual customer segments (eg, pre-payment) or by bundling other utilities together with energy. 3 small suppliers have developed tariffs to meet higher environmental standards, meeting particular customer demands.
Failed new entrants	A high proportion of these companies offered nothing beyond traditional supply. Of the remainder, the profile was similar to that of the "other new entrants".

5.44. The evidence in Table 16 suggests that the most active innovators in the market have been the challenger brands, while the former incumbents have mostly followed rather than led. It also appears to be the case that the market exits to date have been concentrated more among companies offering traditional supply only, while innovative developments from the other new entrants have been relatively limited in both scope and take-up.

5.45. We consider that these measures should result in a net positive for innovation. If gross margins become more sustainable and consistent, then this should give suppliers greater confidence in their ability to earn a return from investments in developing new offerings. It should therefore both incentivise more investment by existing suppliers as well as encouraging potential new suppliers with innovative

[23] Changing actor dynamics and emerging value propositions in the UK electricity retail market | IGov

offerings to enter the market. If instead the number of suppliers reduces further, the impact on innovation should be limited so long as these reductions occur in the "other new entrant" group. However, if we see challenger brands exiting the market, it is likely that there would be a more significant slowdown in the emergence of new products and services.

5.46. Innovation is a key driver to achieve net zero objectives. We believe that increased financial resilience and market sustainability will reinforce suppliers' ability to offer the new services that support the flexibility and investments of new technologies developed across sectors. We believe this effect will outweigh any impact on market innovation due to suppliers reducing their spend on innovation to pay for the new policy as we believe the new market structure will continue to incentivise innovation.

5.47. In summary, our findings are that the overall impact on competition from these measures should be positive. While we expect to see an increase in the price of the cheapest tariffs available, this should be more than balanced out by the reduction in SoLR costs over the longer term. This outcome would also be positive from a distributional point of view.

5.48. We recognise that there is some risk of an increase in concentration from a policy that increases the costs of smaller suppliers. However, since we expect that this would be accompanied by more sustainable prices and a more stable market, and increased trust in challenger suppliers (so potentially higher switching rates in the long term) we consider that this would therefore have an overall benefit on the competition process and remove barriers to investment that may be created by unsustainable pricing in the market. In terms of other aspects of competitive dynamics which are not included in our quantitative assessment, on service quality, we see a neutral impact, while in terms of innovation our assessment is that there should be a positive impact, given that these measures should lead to an improved competitive environment for the type of sustainable challenger suppliers that have historically delivered the most beneficial innovations.

Financial impact on individual suppliers

5.49. We have assessed the potential impact each of the proposals could have on individual suppliers based on the latest 'stress-testing' RFI responses from suppliers in November 2022, supplemented with data provided through the on-going monthly Financial Responsibility Principle RFI responses. We have considered external impacts on suppliers' ability to meet the proposed requirements, primarily drawing

from the central and high price wholesale scenarios (winter 2023/24 gas at 208p/therm and 373p/therm, respectively).

5.50. We have assessed the reasonableness of the additional capital requirements based on analysis of the forecast profit streams and implied multiples (enterprise value / EBIT). Given the commercially sensitive nature of this information, we are unable to disclose in this public report.

Additional administrative burdens

5.51. In addition to the administrative costs of supplier failures set out in paragraph 4.84, all the options under consideration here imply additional administration activity by licensed suppliers and by Ofgem. The latter would take the form of additional monitoring and potential compliance activity within our Retail and/or Delivery & Schemes directorates as well as our new Financial Resilience and Controls Directorate.

5.52. The additional costs to both suppliers and Ofgem will be small in comparison to the benefits calculated in this assessment. We also expect many of the requirements to fall within existing processes e.g., monthly Financial Responsibility Principle RFI however we understand that there may be need for additional resources for compliance and reporting.

Our revised position

5.53. In this impact assessment, we have estimated the customer benefits of four policy options to assess the extent to which they can achieve the policy objectives set out in Section 2. Whilst the exact benefits and costs are hard to measure precisely, our analysis is intended to provide confidence in the benefits being greater than the costs, and insight into whether the benefits of individual policies vary materially under other circumstances.

5.54. Under our base assumptions, all these options provide customer benefit vs. the 'Do Nothing' option. We continue to believe that the benefit of risk reduction significantly outweighs the cost, which is a key influence in our overall assessment. Other customer benefits relate to the lower social waste of inefficient switching and lower administration costs. In Appendix A, we also undertake a range of sensitivities which illustrate that these findings are robust to changes in these modelling assumptions.

5.55. Our impact assessment estimates that market-wide ringfencing of RO receipts (Option 2) would have a customer benefit of £227m over 6 years, equivalent to an annual average benefit of £2.79 per customer per year. We therefore expect that as part of the decision, this policy creates positive benefits to customers on a standalone basis.

5.56. Our proposed combination of RO ringfencing and a capital adequacy requirement will create benefits of £326m, the most of any policy combination.

5.57. Our competition analysis suggests that the overall impact on competition from these measures should be positive. While we expect to see an increase in the price of the cheapest tariffs available and an increased risk of market exit in the short-term, this should be more than balanced out by the reduction in SoLR and SAR costs. This outcome would also be positive from a distributional point of view.

5.58. While on service quality, we see a neutral impact; in terms of innovation, our assessment suggests that there should be a positive impact. Indeed, these measures should lead to an improved competitive environment for the type of sustainable challenger suppliers that have historically delivered the most beneficial innovations.

6. Impact of the Enhanced Financial Responsibility Principle

Section summary

This section discusses our assessment of the impact of the Enhanced Financial Responsibility Principle which is part of our decision document. We think this is an important enabler to delivering the substantial customer benefits of the other changes. Outside of reporting, the enhanced FRP does not introduce many new requirements that represent a significant change for efficient suppliers. We have therefore not separately quantified the costs and benefits.

Context

6.1. In the November consultation we proposed enhancing the Financial Responsibility Principle (FRP) to clarify the financial resilience requirements for suppliers and to change the culture of risk reporting, such that it is more proactive and focused on risk mitigation. The main changes we proposed included broadening the scope of the FRP, introducing a triggers framework, as well as a requirement for an Annual Adequacy Self-Assessment.

6.2. We have taken a decision to implement the enhanced FRP that we consulted on but, in response to stakeholder feedback, we have made some changes:

6.3. Broadening the scope of the FRP: we are proceeding as set out in consultation to broaden the scope of the FRP, but we are making some clarificatory changes to the drafting of the licence condition, including removing references to the common minimum capital requirement pending the outcome of the latest statutory consultation.

6.4. Triggers framework: we are proceeding with the triggers framework, but we are providing further clarity on the Trigger Points, reducing the number of Trigger Points, and clarifying that complying with them is a requirement by putting them in the licence. We are also consulting further on the details of the CCB trigger.

6.5. Annual Adequacy Self-Assessment: we are proceeding as set out in the consultation but clarifying that this is a requirement by putting it into the licence. We have also provided clarity on the self-reporting process.

6.6. It is also worth noting that some aspects of the proposed enhanced FRP will be further iterated

Need for a detailed impact assessment

How it fits with the other options

6.7. Enhanced FRP is a vital enabler for the main policy options and should ensure that the customer benefits described elsewhere in this report are realised.

6.8. The principle is designed to avoid efficient suppliers from incurring additional costs. Therefore, as they become efficient and do not over rely in CCBs, tariffs should no longer reflect additional costs and therefore customers will not see their tariffs increased as a result of the policy.

Proportionality

Outside of reporting, the enhanced FRP does not introduce many new requirements that represent a significant change for efficient suppliers. We have therefore not separately quantified the costs and benefits.

A1. Appendix A: Sensitivity analysis

A1.1. This annex provides sensitivities to assess:

a) whether changes to the assumptions in our model could change our assessment that the proposed option would deliver net benefits.

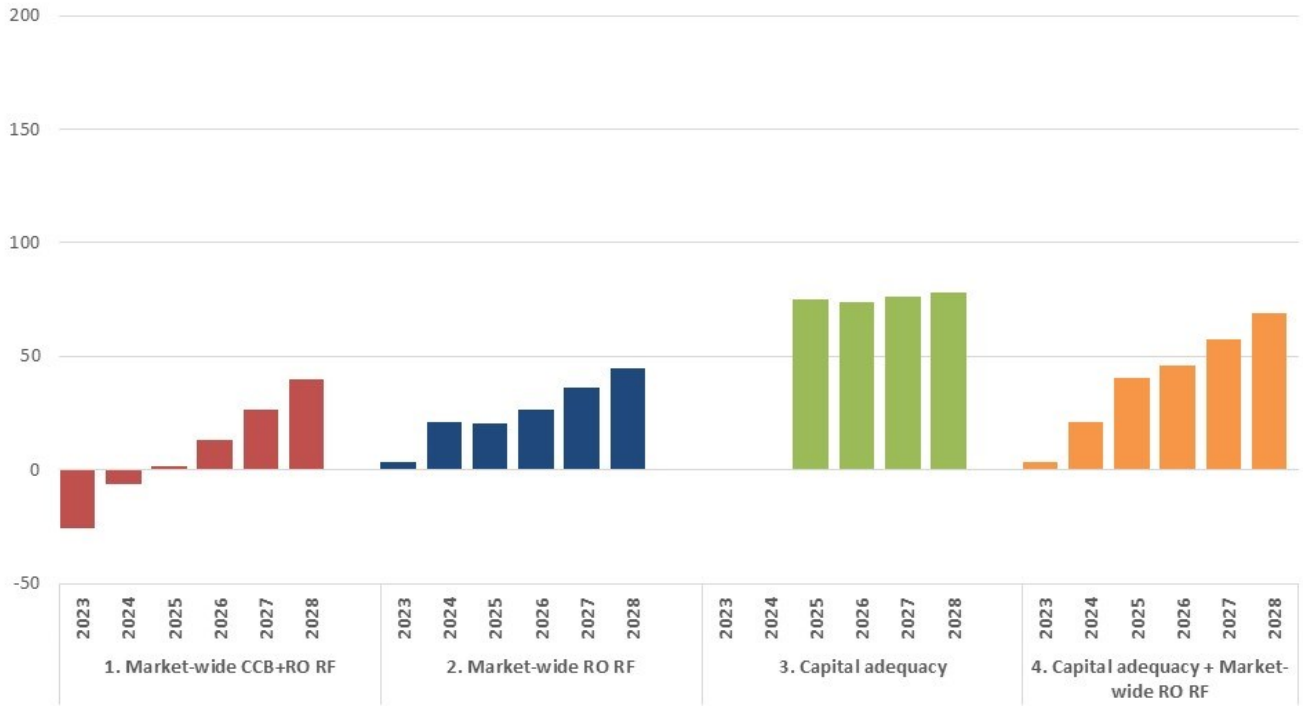
b) whether changes to the assumptions in our model could lead to a different choice of policy. Our analysis below demonstrates that under all the reasonable sensitivities, net benefits are still positive, and the preferred option is either the best, or has similar benefits, to the other options.

Taking the sensitivities together, we consider they support our overall assessment of the preferred option of a capital adequacy requirement and market-wide ringfencing of RO payments, as set out in Section 3.

Sensitivity 1: *Higher short term additional costs to small and challenger suppliers*

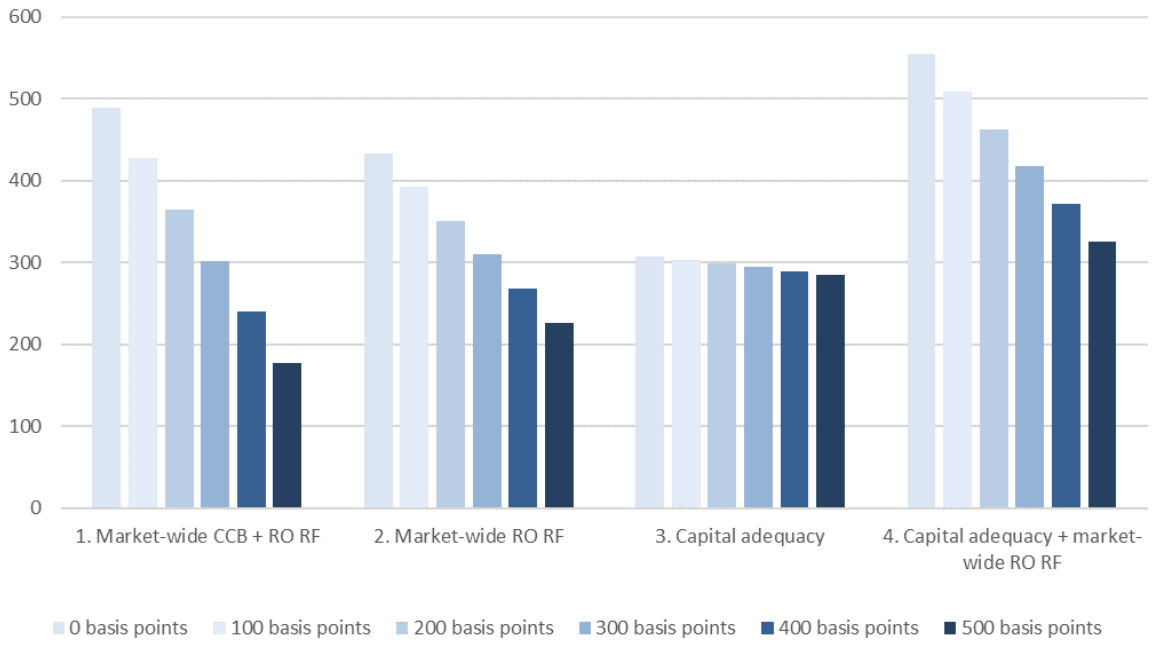
A1.2. The responses to the consultations have indicated the difficulty in raising short-term capital for some suppliers which has been reflected in the additional cost of capitalisation. However, changes in the economic climate could mean additional challenges for smaller suppliers to obtain capital. The sensitivity below assumes the extra 500bps cost to small and challenger suppliers takes twice as long to subside. For example, in 2028 the central results assume the additional cost has subsided whereas in this sensitivity we assume it is 250bps (50% lower than 2023). Figure 12 shows that under this assumption the benefits reduce for all polices.

Figure 12: Sensitivity 1a – Annual customer benefits by policy option (2023-2028) additional cost of capital reduces 50% slower (£m)



A1.3. We have also considered sensitivities to the size of the WACC adder. Figure 13 shows the impact on the 6-year NPV of each proposed policy depending on the magnitude of the additional cost. The results show that our preferred option of capital adequacy plus market-wide ringfencing of RO will remain the preferred option with any choice of additional WACC between 0-500bps.

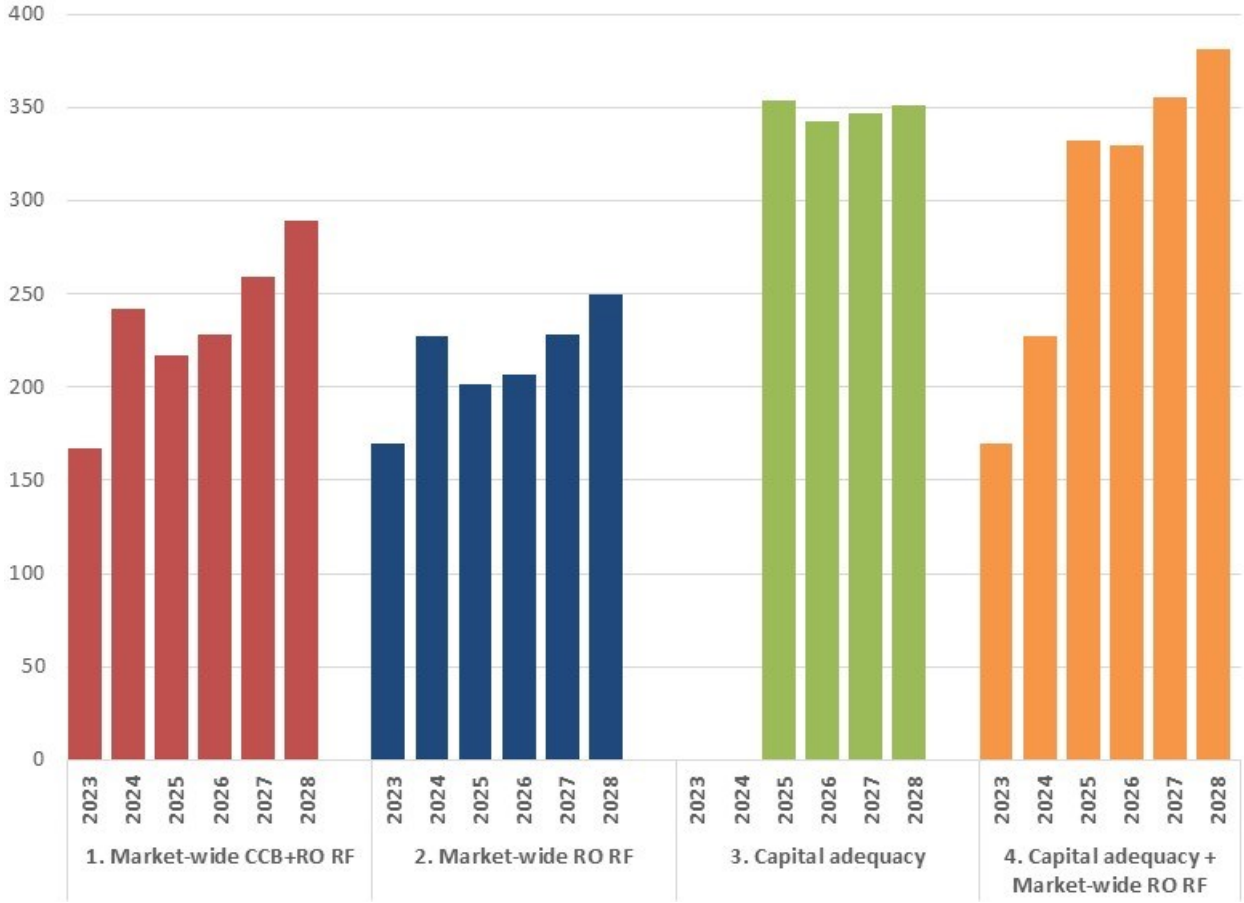
Figure 13: Sensitivity 1b – 6 Year NPV by policy option (2023-2028) additional costs of capital from 0-500bps (£m)



Sensitivity 2: *Using cost of debt instead of cost of capital*

A1.4. As set out in Section 4, we use the change in the WACC rather than the cost of debt (or default rate) to measure the benefits to customers of reducing the risk of failure by suppliers. If we were to use the default rate or cost of debt, the benefits of the policy options would all be significantly larger, as the WACC is assumed to be less sensitive to default risk than the cost of debt. While on balance we consider the WACC to be more appropriate, this sensitivity illustrates that the size of benefits could be greater under alternative assumptions.

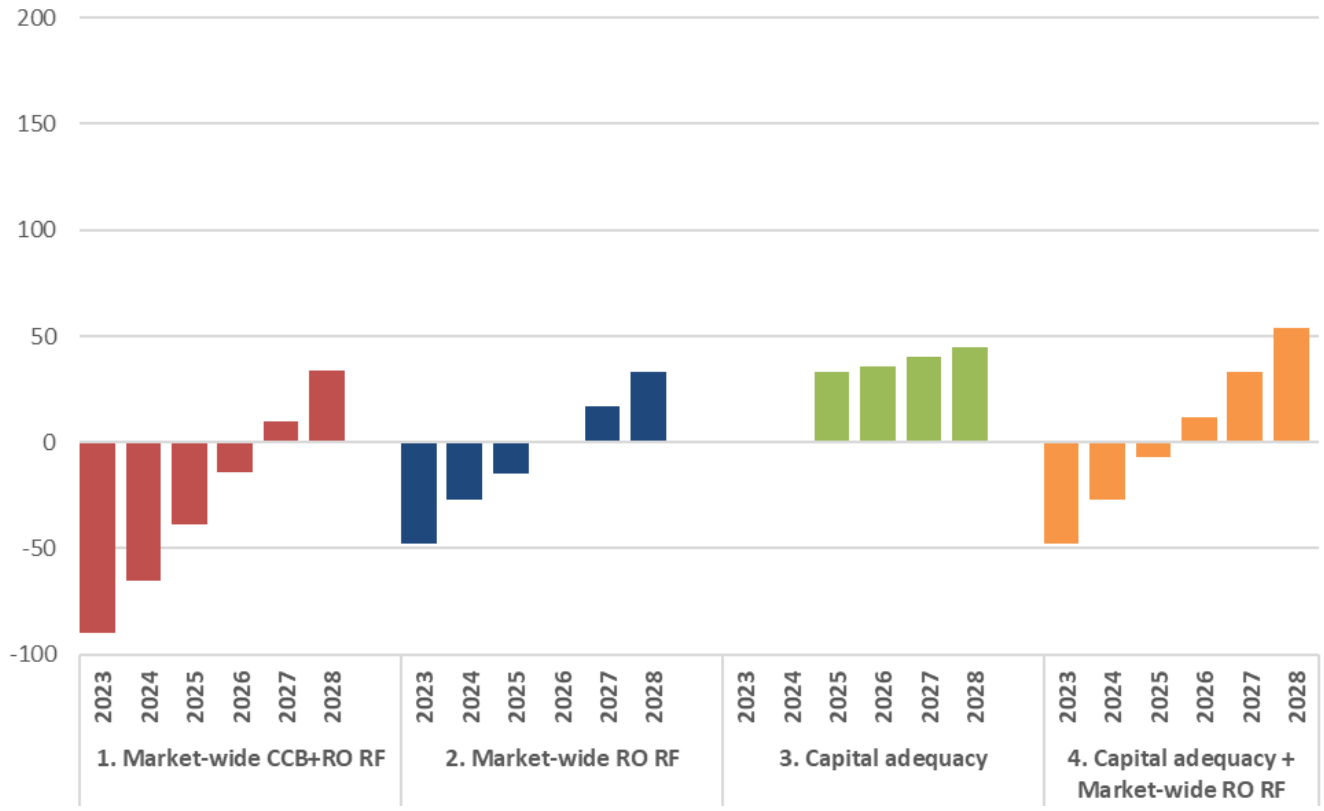
Figure 14: Sensitivity 2 – Annual customer benefits by policy option (2023-2028) default rate instead of WACC (£m)



Sensitivity 3: *Improvements to cost of capital are less responsive to capitalisation*

A1.5. We use credit ratings as a framework to estimate how the improved financial resilience of suppliers will enable them to secure higher credit ratings and therefore improve their costs of capital. It is difficult to say to what extent suppliers' credit ratings will improve although we believe our central assumption to be a conservative estimate. To test the sensitivity of this assumption we have therefore estimated the benefits to customers assuming incremental capital is 50% as effective as the central estimate. By incorporating this change, the benefits to customers reduce for all policies in all years. This sensitivity shows even if the cost of capital is less responsive to increased capital it would not change the choice of our preferred policy.

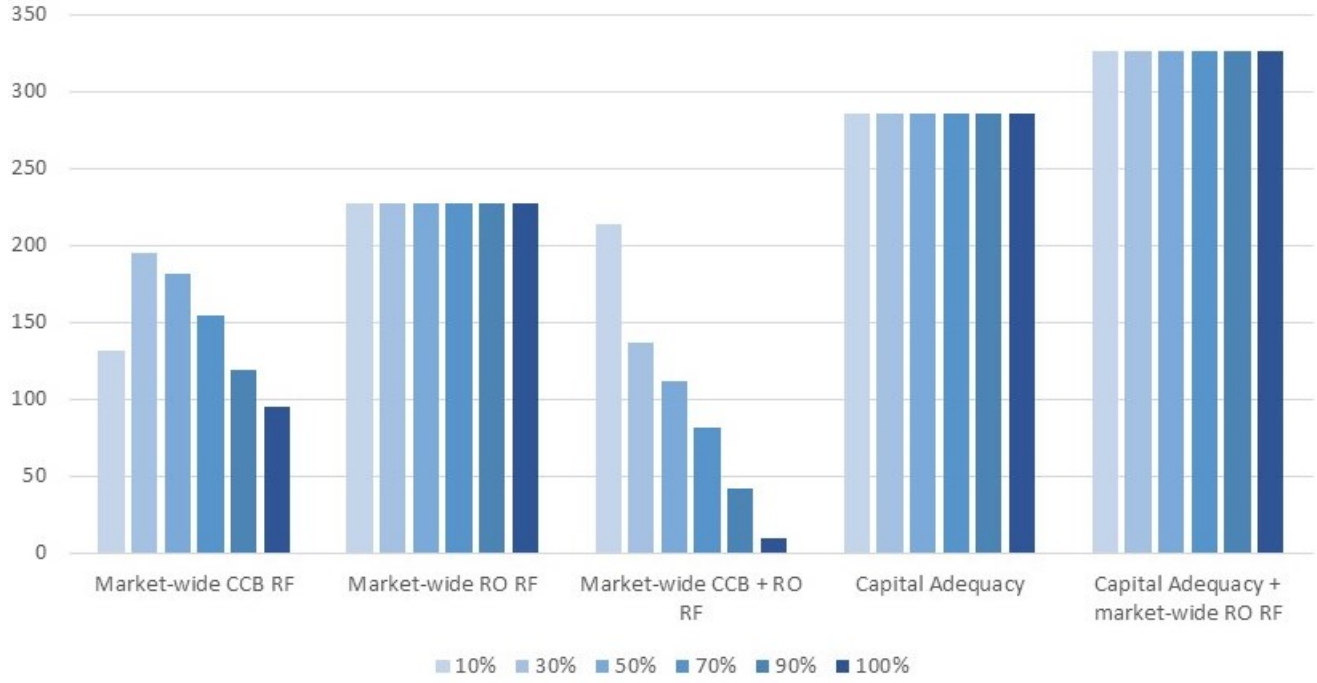
Figure 15: Sensitivity 3 – Annual customer benefits by policy option (2023-2028) 50% incremental capital effectiveness (£m)



Sensitivity 4: *Market-wide ringfencing different levels of CCBs*

A1.6. Market-wide ringfencing of CCB is no longer being considered as part of the consultation however we have included it within this assessment for completeness as it was an option considered in previous consultations. In the choice of policy options, we have chosen to consider ringfencing at the 30% level. We believe 30% ringfencing of CCBs to be sufficient to influence supplier behaviour without imposing significant cost. As a sensitivity, we consider ringfencing at different percentage levels which shows that even on its own, ringfencing CCBs at 100% would not create as much benefit as ringfencing at lower levels like 30%. None of the policy combinations create greater benefits than the preferred option of Capital adequacy and RO ringfencing.

Figure 16: Sensitivity 4 – Customer benefits by policy option (2023-2028) policy combinations include varying percentage of market-wide CCB ringfencing (£m)



Sensitivity 5: *Policy instruments start at the same time in 2025*

A1.7. The implementation of capital adequacy is expected to start after ringfencing of RO payments. This means the capital adequacy requirement will start in more favourable conditions. For completeness and fairness, the below sensitivity compares the policy combinations with capital adequacy implemented in 2023, at the same time as RO ringfencing. Figure 17 shows that our preferred policy of capital adequacy plus market wide RO ringfencing continues to produce positive benefits.

Figure 17: Sensitivity 5 – Customer benefits by policy option (2023-2028) capital adequacy starting at same time as RO and CCB

Sensitivity 6: *Effectiveness of capital adequacy target*

A1.8. We are seeking views to require suppliers to have positive capital and a target of £130 of capital per customer (and £65 for single fuel customers) by March 2025 and thereafter. We propose to use a sliding scale of interventions to manage compliance for those unable to reach the target of £130 per customer.

A1.9. The statutory consultation published alongside this impact assessment states that if suppliers do not reach the £130 per customer they may be required to undertake:

a) independent audit

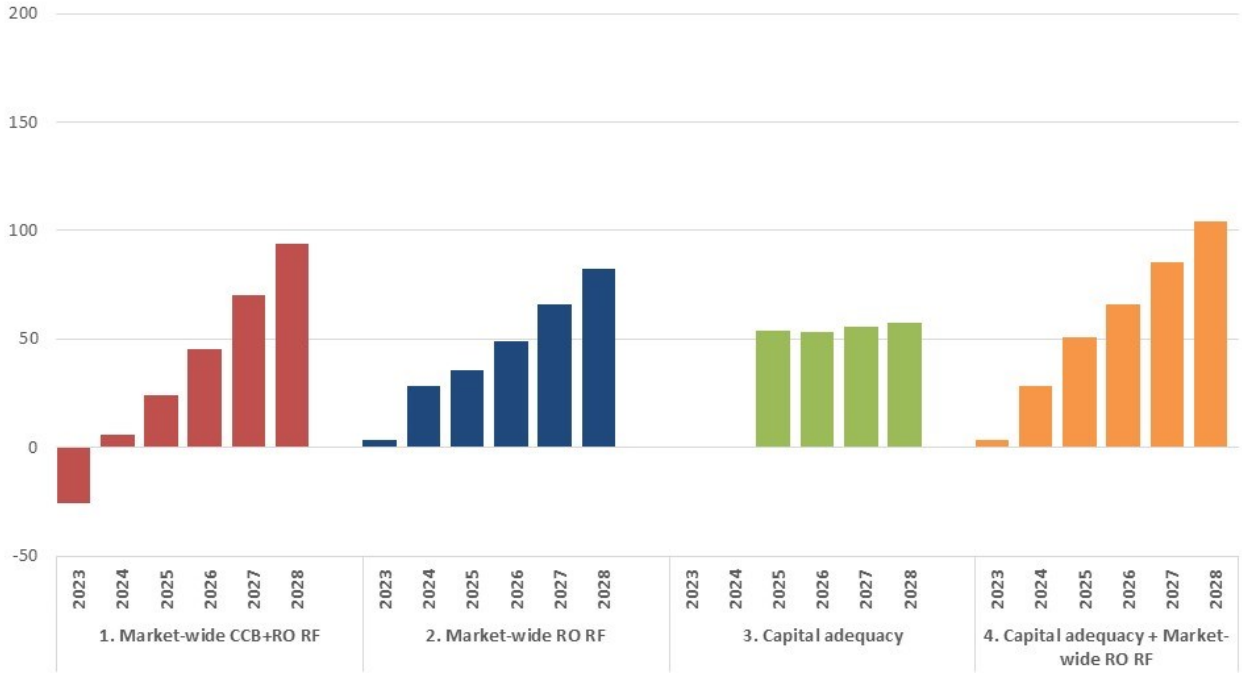
b) ban on dividends/non-essential payments

c) sales ban

d) ringfencing some/all CCBs

Our central view is that all suppliers will meet the capital adequacy requirement however this sensitivity explores the benefits if there is a partial compliance rate. To test what might happen if not all suppliers met the £130 per customer MCR we assume that there is 50% compliance with the capital adequacy requirement. Figure 18 shows that our choice of policy option would not change.

Figure 18: Sensitivity 6 – Customer benefits by policy option (2023-2028) 50% compliance with the £130 capital adequacy target



A2. Appendix B: Monetised costs and benefits with a 10-year NPV

A2.1. Following feedback, we have included a 10-year NPV showing the monetised costs and benefits of each policy option. The results show our preferred option of capital adequacy and RO ringfencing creates the most benefits at the 10-year NPV of our considered options. However, a combination of market wide CCB and RO ringfencing with capital Adequacy would create greater benefits at the 10-year NPV.

Table 17: Estimated customer benefits of market-wide ringfencing RO receipts and CCBs (NPV 2023-2032, £m)

	Customers of Failed Suppliers	Engaged Customers with non-Failed Suppliers	Disengaged Customers	Total NPV	Annual Average
Ringfencing cost and mutualisation of CCB/RO	-90	-349	348	-92	-7
Replacing hedges of failed suppliers	16	75	107	198	24
Inefficient switching	295	20	28	343	41
Admin costs	7	34	48	89	11
Additional tariff effects	41	170	-290	-80	-9
Total (£m)	**269**	**-51**	**241**	**459**	**59**
Total per affected customer (£)	114.87	-4.59	15.26	15.69	3.74
Total (social weighting) (£m)	**257**	**-49**	**251**	**460**	**59**
Total per affected customer (£)	110.12	-4.40	15.91	15.73	3.74

Table 18: Estimated customer benefits of market-wide ringfencing of RO receipts (NPV 2023-2032, £m)

	Customers of Failed Suppliers	Engaged Customers with non-Failed Suppliers	Disengaged Customers	Total NPV	Annual Average
Ringfencing cost and mutualisation of CCB/RO	-49	-189	210	-28	-1
Replacing hedges of failed suppliers	13	60	86	159	19
Inefficient switching	230	16	23	269	32
Admin costs	6	27	39	72	9
Additional tariff effects	32	136	-166	2	0
Total (£m)	**232**	**50**	**191**	**473**	**59**
Total per affected customer (£)	99.20	4.52	12.09	16.18	3.76
Total (social weighting) (£m)	**222**	**48**	**199**	**469**	**59**
Total per affected customer (£)	95.10	4.33	12.60	16.06	3.73

Table 19: Estimated customer benefits of capital adequacy £130 per customer capital requirement (NPV 2023-2032, £m)

	Customers of Failed Suppliers	Engaged Customers with non-Failed Suppliers	Disengaged Customers	Total NPV	Annual Average
Ringfencing cost and mutualisation of CCB/RO	11	50	71	131	16
Replacing hedges of failed suppliers	31	148	211	391	49
Inefficient switching	147	11	16	174	22
Admin costs	4	19	27	50	6
Additional tariff effects	-37	-156	0	-194	-24
Total (£m)	**156**	**72**	**325**	**553**	**69**
Total per affected customer (£)	66.58	6.51	20.59	18.92	4.38
Total (social weighting) (£m)	**149**	**69**	**339**	**557**	**70**
Total per affected customer (£)	63.83	6.24	21.45	19.07	4.41

Table 20: Estimated customer benefits of capital adequacy £130 per customer capital requirement plus market-wide ringfencing of RO receipts (NPV 2023-2032, £m)

	Customers of Failed Suppliers	Engaged Customers with non-Failed Suppliers	Disengaged Customers	Total NPV	Annual Average
Ringfencing cost and mutualisation of CCB/RO	-42	-157	224	25	6
Replacing hedges of failed suppliers	38	181	257	476	59
Inefficient switching	284	20	29	333	40
Admin costs	7	34	49	91	11
Additional tariff effects	-16	-67	-166	-249	-31
Total (£m)	**272**	**11**	**393**	**676**	**85**
Total per affected customer (£)	116.19	1.03	24.87	23.13	5.38
Total (social weighting) (£m)	**260**	**11**	**409**	**681**	**85**
Total per affected customer (£)	111.39	0.98	25.92	23.29	5.41