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Impact Assessment Form

Title: Delivering Faster and More Reliable Switching: proposed new switching arrangements **Division**: Consumers and Competition **Team**: Switching Programme **Associated documents**: Delivering Faster and More Reliable Switching: proposed new switching arrangements – Consultation	**Impact Assessment (IA)** **Type of measure**: Retail Competition **Type of IA**: Consultation stage **Contact for enquires**: Tom Fish Tel: 020 7901 3850 email: switching.programme@ofgem.gov.uk

Summary: Intervention and options

What is the problem under consideration? Why is Ofgem intervention necessary?

Problem under consideration: Outdated and sub-optimal switching arrangements are directly and indirectly leading to consumer detriment. The current lengthy and unreliable switching arrangements cause many consumers anxiety and stress, as well as wasting their time and costing them money. These negative experiences, and resulting perceptions of the switching arrangements, can act as a barrier to consumers engaging more in the energy market, as the expected time, hassle, effort, or risk of switching is considered greater than the financial rewards. Where consumers do not engage with the market, for whatever reason, they end up paying more for the energy than they need to. Complexity and separation between gas and electricity switching arrangements also increase costs and stifle innovation in the market.

Through a comprehensive package of reforms to the end-to-end switching process, we want to reduce the transaction costs for the switching process, giving consumers confidence that they can quickly and easily change gas and electricity supplier.

Rationale for intervention: A reliable, quick and efficient switching process is a fundamental building block of a well-functioning competitive market that provides good outcomes for consumers. We are leading the Switching Programme because the incentives on current market participants, complexity of the changes required and existing governance structures mean that the alternative of an industry led programme will not deliver timely consumer focused outcomes that we think must be achieved.

What are the policy objectives and intended effects including the effect on Ofgem's Strategic Outcomes?

The Switching Programme objective is *'to improve consumers' experience of switching, leading to greater engagement in the retail energy market, by designing and implementing a new switching process that is reliable, fast and cost-effective. In turn this will build consumer confidence and facilitate competition, delivering better outcomes for consumers.'* This objective applies to current and future consumers.

We want to unlock the additional consumer benefits that can be achieved from a better functioning competitive energy market. To do this we aim to put in place a switching process that supports innovation and, by having in place a quick, reliable and hassle free process, facilitates other projects to increase consumer engagement.

We also want to reduce the direct harm to consumers by reducing delayed, unsuccessful and erroneous switches and by speeding up the switching process. We think that suppliers will respond to increased switching and likelihood of switching by competing harder and lowering bills, providing better service and developing innovative offers to attract new consumers and retain existing ones.

What are the policy options that have been considered? Please justify the preferred option (further details in Evidence Base)

Do nothing – The existing switching arrangements would be retained *(the counterfactual).*

Reform Package 1 - "Enhanced existing systems" (RP1) - The existing switching services (UK Link for gas and the Meter Point Registration Service (MPRS) for electricity) and enquiry services (the Data Enquiry Service (DES) for gas and the Electricity Central Online Enquire Service (ECOES) for electricity) would be retained. The quality of industry address data would be improved through a one-off cleansing and matching process, and two working-day switching for domestic consumers (three working days for non-domestic consumers), would be achieved through a series of changes to industry processes.

Reform Package 2a – "Reliable Next Day Switching" (RP2a) - The switching functions of UK Link and MPRS would be replaced by a single new CSS. In addition to a one-off cleansing and matching process, industry data quality would be improved with a new a single premises address database, and then quality sustained through improved ongoing maintenance arrangements. Changes to industry switching processes would enable switching at the end of the next working day for domestic consumers and two working days for non-domestic consumers. The existing enquiry services, ECOES and DES, would not be replaced as part of the Switching Programme. Transitional regulatory requirements will protect reliability for consumers during the immediate period after go-live.

Reform Package 2 - "Same Day Switching" (RP2) - As for RP2a, but instant messaging and calendar day operation would be introduced for objections, enabling switching to take place at the end of the same calendar day (at minimum, one day faster than RP2a).

Reform Package 3 - "Same Day Switching with enhanced information provision" (RP3) - As for RP2, but ECOES and DES would be replaced by a new central Market Intelligence Service (MIS) as part of the Switching Programme reforms.

Reform Package 2a is preferred because it offers the most cost-effective solution to fully deliver our programme objectives.

Preferred option - Monetised Impacts (£m)

Business Impact Target Qualifying Provision	Non-qualifying Provision
Business Impact Target (Equivalent Annual Net Direct Cost to Business)	TBC in final IA

Net Benefit to Consumers Consumer NPV figures are net of the direct costs expected to be passed through by industry. These monetised figures do not represent the full benefits to consumers. They exclude the benefits to consumers of encouraging and enabling greater competition and innovation in the market.	Direct only: -£170mn to £148mn Direct + illustrative indirect benefits: £169mn to £1,056mn
Net cost to the industry Direct NPV includes the net direct costs to the energy industry, following the pass-through of the majority of the direct costs to consumers. The indirect costs to the industry are primarily the inverse of the indirect benefits to consumers. This is a transfer that is expected to occur from suppliers to consumers as a result of increased switching, with consumers paying less for their energy consumption. The figure also includes a cost to suppliers of processing additional switching activity.	Direct only: -£53mn to -£34mn Direct costs/benefits + illustrative indirect impacts: -£442mn to -£1,107
Explain how the Net Benefit was monetised, NPV or other The net present value (NPV) was calculated in 2017 prices, with an assessment of impacts over an 18-year appraisal period, from 2018 – 2035. Both transitional and on-going costs have been discounted.	

Preferred option - Hard to Monetise Impacts

Describe any hard to monetise impacts, including mid-tem strategic and long-term sustainability factors following Ofgem IA guidance

In a market facing rapid technological change, including the roll-out of smart meters, we are seeing increased market entry, the rise of new non-traditional business models, and the offering of new products and services. While we cannot predict where the innovation of the future will come from, we consider that a three week switching process will hold back innovation and act as a disincentive for new entrants. By investing in new central systems and implementing new processes that are fit for the future and flexible to change, we will be ensuring that the switching arrangements do not act as a block on future transformative innovation in the market. More reliable and faster switching will unlock innovation, creating more competitive pressure and improving outcomes for consumers, both in terms of price and quality of service. This important benefit has not been monetised due to the difficulty in valuing the potential future innovations that are unknown at this point, as well as the difficulty in assessing whether other barriers may stand in the way of these developments.

The efficiency savings from newly harmonised systems and, in some cases automated, processes ought to have been reflected in our estimates for the net costs to industry of the reforms. However, we are aware that some industry participants found it harder to provide monetised estimates of the benefits than the costs. As a result, we expect these benefits have not been fully monetised.

The introduction of faster switching, along with other process changes such as 'one-fail all-fail' for a dual fuel switch, should improve consumers' experiences of switching, leading to increased utility as a result. We are unable to place a monetary value on this increased utility.

Increased consumer engagement in the market, particularly by currently disengaged consumers, will lead to a more competitive market, with suppliers potentially seeking to differentiate themselves through lower prices, improved customer service, and a wider offering of innovative products and services. We have not sought to quantify or monetise these impacts but we think that they will provide significant benefits.

Key assumptions/sensitivities/risks

We recognise that there are gaps in the evidence base and these affect industry costs and the estimate of benefits. We have used four mechanisms to address uncertainty. These are:

- Identifying ranges for monetised direct costs and benefits of the reforms
- Using sensitivity analysis to test four key assumptions
- Developing scenarios to demonstrate the impact of differing levels of increased consumer engagement
- Engaging with industry participants on the assumptions (see Appendix 4) and methodology described in this document in advance of publication, as well as conducting this consultation before finalising our decision.

We welcome views on our approach to tacking uncertainty. A brief summary of our approach to our sensitivity analysis is set out below.

Sensitivity analysis: To test the impact of our key assumptions on consumer net impacts we developed four scenarios. These are described in detail in Appendix 3 and are summarised below:

- *Sensitivity analysis test 1- Delay to the programme:* Based on the assumptions used, our analysis revealed that our preference for RP2a over the alternatives, including taking no action, would be unaffected by an increase of 25% to implementation timescales.
- *Sensitivity analysis test 2 – Reduction in the financial reward from switching:* We found that if the financial rewards from switching were to be halved, there would still be a strong economic case for implementing RP2a.
- *Sensitivity analysis test 3 – Baseline switching rates higher than expected:* Our assessment indicates that, although the potential for indirect benefits would be marginally reduced, increasing switching rates would drive higher direct benefits for consumers.
- *Sensitivity analysis test 4 – improving data quality has less of an impact on reliability:* Despite reducing the impact of our data quality reform, our analysis provides a high degree of confidence that the initial five working day switch, described in Chapter 5 of the consultation document will not lead to a net increase in erroneous switches under our preferred option, RP2a. This impact will be tested before moving to next working day switching.

Will the policy be reviewed? Yes If applicable, set review date: TBC

Summary of impacts

The table below summarises, at a high level, the range of impacts that can be expected to come from our preferred option, RP2a. The coloured shading indicates how each of the impacts has been assessed within the IA. Most of the impacts in the table above are universal to all of the reform packages, while they vary in their scale. The main exceptions to this are those related to establishing and operating a CSS which would not occur under RP1.

Orange = monetised **blue** = illustrative monetisation **green** = non-monetised

		Costs	Benefits
Direct	Industry	Programme, delivery, and post-implementation costs	Efficiency savings from automation/ harmonisation
		Capital expenditure (eg investment in new systems, staff training etc)	Resource savings reduced exception handling
		Data migration and cleansing exercise	
		Operational expenditure (eg IT resilience, additional staff, capture of new data items etc)	
		Central coordination and assurance	
	Consumers	*(direct net costs passed through by suppliers)*	Increased utility from improved switching experience
			Bill savings from increased switch success rate
			Reduction in harm from reduced ESs
			Reduction in harm from reduced delays
			Bill savings from faster access to improved terms
			Time saving from faster switching
	Public sector	Programme and delivery costs	Easier access to better quality data
		Ongoing DCC price control	
Indirect	Increased consumer engagement	Loss of revenue to industry	Bill savings to consumers
		Operational cost to industry	
	Enabling innovation		Enabling innovation of product and service offerings by enabling faster switching and introducing new more flexible central systems
	Increased competition		Improved customer service
			Downward pressure on prices
			Increased efficiency
			Increased choice

Summary of consumer impact analysis

Options	Main effects on Ofgem objectives	Net monetised direct consumer impacts[1]	Potential consumer savings from increased engagement	Summary of non-monetised benefits
RP1	It does not achieve the objective of improving consumers' experience of switching as reliability issues of the switching process would not be fully addressed. It also doesn't deliver a harmonised process that is capable of adapting to future requirements.	Central: £42mn Range: (-£105mn to £148mn)	Scenario 1: £339mn Scenario 2: £511mn Scenario 3: £908mn	Expected to have the smallest impact on consumer engagement due to the reliability issues it could generate. The resulting benefits of increased competition are also therefore expected to be the lowest for this package. Retention of existing outdated systems and processes could stifle future innovation.
RP2a	Fully meets Switching Programme objectives	Central: £8mn Range: (-£170mn to £148mn)		Increased engagement in the market is expected to generate increased competition and consumer retention efforts, leading to a range of benefits to consumers across the market including downward pressure on prices and improved customer service. Introducing of 'next day' switching and a new CSS that is capable of adapting to future requirements could enable future innovation.
RP2	Meets the objectives of the programme but high cost means that this option is not considered cost-effective for consumers at this time.	Central: -£188mn Range: (-£362mn to -£39mn)		As for RP2a, while 'same day' switching would maximise the potential for innovation of switching services offered to consumers.
RP3	As for RP2.	Central: -£219 Range: (-£397 to -£71)		As for RP2.

[1] Assumes that industry costs are not fully passed through to consumers. See Chapter 7 for further detail.

Contents

1. Case for intervention

Chapter summary

In this chapter we describe the wider context in which our work on switching is taking place as well as the issues with the current switching arrangements that we want to fix. We then explain our rationale for initiating and leading the Switching Programme and our stated programme objectives.

Problem under consideration

1.1. The outdated and sub-optimal switching arrangements that currently exist in the retail energy market are directly and indirectly leading to consumer detriment. The majority of consumers do not actively engage in the market and shop around for the best deal, meaning that they are overpaying for their energy consumption.

1.2. The reasons for this widespread lack of engagement are numerous and complex, and vary greatly between consumers, but the conclusion many disengaged consumers reach is the same: the financial rewards available are not sufficient to outweigh the expected transaction costs (eg time, hassle, stress, risk). By improving the end-to-end switching arrangements, the Switching Programme will improve consumers' expectations for the costs of engaging with the market, resulting in more switching and lower bills for consumers.

1.3. Ofgem analysis of the deals that were available in the market since January 2014 suggested that consumers on an average priced SVT could have saved around £260 on average over that period if they switched to the cheapest available fixed deal. In its Retail Energy Market Investigation the CMA estimated that domestic consumers as a whole paid an average of £1.4bn a year more than they would have done under well-functioning retail markets over the period 2012 to 2015, reaching £2bn in 2015.[2] Despite this, savings go unexploited and approximately 65% of consumers are on the more expensive SVT.

1.4. For those consumers that already engage with the market, more reliable and fast switching will directly benefit them by saving them time, hassle, and money.

1.5. In this section we present evidence to demonstrate how unreliable and slow switching arrangements act as key barriers to consumer engagement.

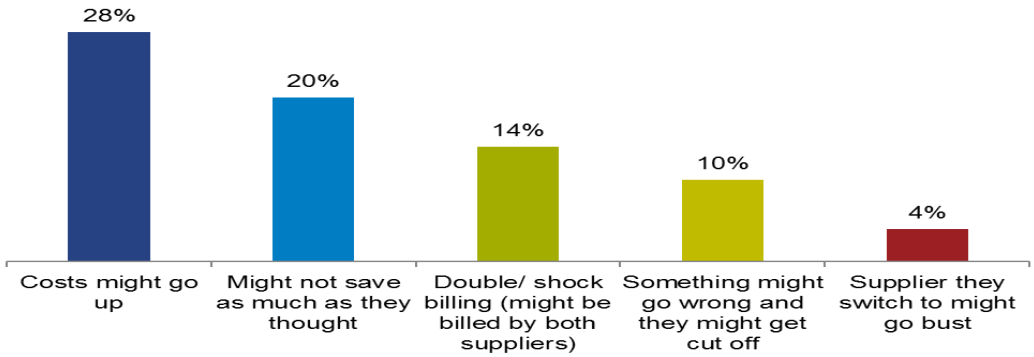
[2] The CMA concluded its investigation in June 2016. It found that large numbers of domestic consumers do not engage in retail energy markets and as a result are charged higher prices by their suppliers. See page 628, para 10.109.

Unreliable consumer outcomes

1.6. We know that a key barrier to consumer engagement in the market is the expectation that something might go wrong if they try to switch. Though the majority of switches do go through without complications, the risk that something will go wrong for consumers is real, and the consequences can cause consumers significant worry, stress and frustration, as well as costing them time and money.

1.7. When questioned on the barriers to engagement, consumers repeatedly cite the importance of concerns that something could go wrong. In response to Ofgem's Consumer Survey, 41% of consumers interviewed were worried that something would go wrong when switching supplier.[3][4] In response to the same survey, of those that have not switched supplier, 10% cited reliability as a reason for not doing so. Figure 1.1 below reports on the most common perceived risks these consumers identified. Whilst the primary fears are around the financial impact of moving to a new supplier, there are also significant concerns that the process will result in an adverse impact for them.

Figure 1.1: Most common perceived risks around switching energy supplier



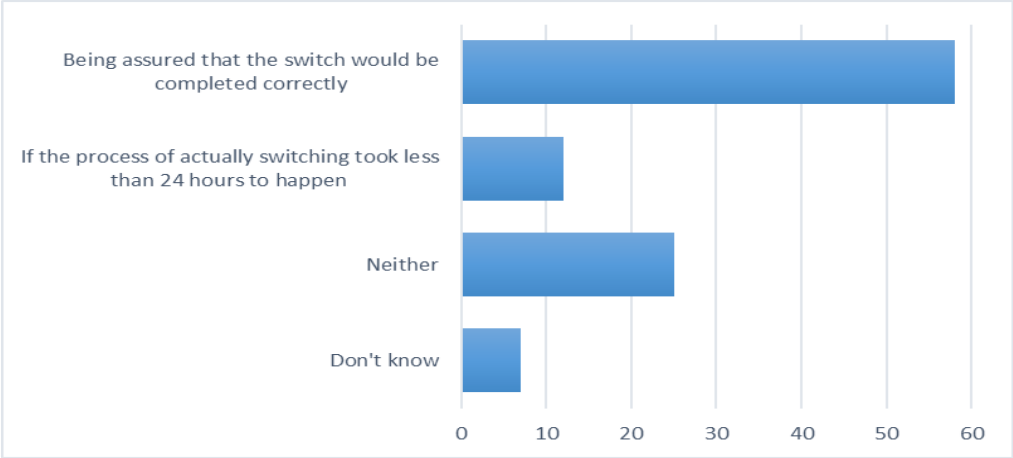
Source: GKK (2017). Ofgem Consumer Engagement Survey

1.8. Evidence gathered by the CMA for its investigation into the Retail Energy Market also found that the switching arrangements are unreliable and that this can have important negative consequences for consumers. In particular, a third of consumers it surveyed reported having encountered one or more difficulties with their switch. One of the most common difficulties was delays to the process, cited by 11% of all those who switched.[5]

1.9. Further evidence from a recent survey commissioned by Energy UK[6] showed that, although the speed of the process is important to some consumers, confidence in the reliability of the switching process is a more influential factor for encouraging consumers to switch energy supplier.

[3] Ofgem 2017 Consumer Engagement Survey 41% of respondent agreed with the statement that "I worry that I switch something will go wrong".
[4] This percentage went up by 5% compared to Ofgem Consumer Engagement Survey (2016).
[5] See CMA Final report, para 9.194.
[6]Figures are from YouGov Plc. Total sample size was 1,951 adults. Fieldwork was undertaken on 15-16 March 2017. The survey was carried out online. The figures have been weighted and are representative of all UK adults (aged 18+).

Figure 1.2: Responses to the question "Which of the following would be most likely to encourage you to switch you energy supplier in the next year?"



Source: Survey by YouGov commissioned by Energy UK (2017)

1.10. As highlighted above, consumers' perceptions of there being some risk involved in the process are often justified, particularly given the potential impact on them if something does go wrong. In this IA we have focused on three potential negative outcomes that can occur when switches are initiated. Firstly, a consumer could be switched in error without their consent (an erroneous switch). Second, a switch could take considerably longer than it is meant to (a delayed switch). Thirdly, a switch may ultimately be unsuccessful. The incidence, and impact of these outcomes are summarised in turn below.

Erroneous switches

1.11. We estimate that around 0.96% of domestic gas and electricity switches were erroneous in 2016, which is equivalent to an annual volume of 74,000.[7] In the non-domestic market, our estimate of erroneous switches is 1.5% of total switches for 2016, which is equivalent to an annual volume of 5,800 erroneous switches.[8]

1.12. While the volume of erroneous switches is small in percentage terms, the CMA concluded that they have the potential to cause material detriment to those who suffer from them. It considered it might also have a wider effect on consumer engagement given the impact it might have on consumers' perceptions on the risks of switching going wrong.[9] These findings are supported by those of Ofgem's recent research into the impacts on consumers of negative switching experiences, which found generally that *'negative experiences made customers view the suppliers they dealt with more dimly than before'* and '*their likelihood to engage and switch again was greatly reduced'*.[10]

1.13. Erroneous switches can have a seriously negative effect on consumers when they do occur. In an erroneous switch when a consumer requests a switch, the wrong meter

[7] Based on data provided in response to our January 2017 RFI.
[8] Based on data provided in response to our January 2017 RFI.
[9] See CMA Final report, paragraphs 9.200-9.208.
[10] Ofgem 2017 research on unreliable switching

point is identified, and as a result a different consumer, who had not requested a switch, is transferred to a new supplier. This will be confusing, and can be distressing, for the consumer that is unexpectedly switched to a different supplier, potentially receiving a 'sorry to see you go' letter or email from their original supplier. It would also affect the consumer that requested the switch, as they would continue to be supplied by their original supplier, but could start receiving bills and potentially paying for the supply to two premises. For a consumer on a prepayment meter, it may lead to difficulty in topping-up and in extreme cases to a consumer going off supply if they don't have the necessary information from the new supplier due to confusion over which account has switched.

1.14. It then can take a significant amount of time to identify an erroneous switch and, once it has been identified, suppliers have 20 working days to contact the consumer to confirm to them that they will be returned to their original supplier.[11] The switch reversal is processed in the same way as a 'normal' switch. This means a lot of time can elapse from when an erroneous switches happens to when it is corrected, and this manually intensive process is expensive for suppliers to operate.

Delayed switches

1.15. Delayed switches are switches that, without valid reason (such as an objection or the consumer requesting a later switch date), are not completed within the existing 21-day requirement. Based on our analysis of industry data for 2016, we have estimated that 105,000 switches are delayed each year. There are a number of potential reasons for a switch being delayed, but our analysis suggests that many are caused by the need to verify data or gather further information regarding a consumer's address, meter point or meter type. This journey can be frustrating for the consumer as things haven't gone as they expected, but also because often it will involve further unexpected communication and effort from them. Our recent research into the impacts on consumers of negative switching experiences revealed that delays with switches can sometimes be very protracted affairs, where consumers have *'had to make numerous attempts to resolve or mitigate the issues involving regular chasing of the suppliers'*.[12] Also, while a switch is being delayed, a consumer is being prevented from moving to their chosen terms, and may, for example be needlessly overpaying for their energy consumption.

Unsuccessful switches

1.16. Unsuccessful switches are switches which are abandoned by the gaining supplier or the consumer before a switch takes effect. Our analysis of data provided to Ofgem in response to our January 2017 RFI suggests that around 140,000 domestic switches were abandoned in 2016. Most switches are abandoned by the consumer or gaining supplier due to discrepancy between the information provided by the consumer and that held by the supplier or by central switching systems. Many of the consumers affected may try again and ultimately be successful, meaning they are able to achieve the desired savings, though on a delayed timescale, but they will have wasted time on the initial unsuccessful switch. Many others will be put off by the process and give up, or the problem will

[11] Requirement set out in the Erroneous Transfer Customer Charter which described in the SPAA and MRA industry codes. See for example MRA MAP10, section 1.4.
https://www.mrasco.com/admin/documents/MAP10%20v3.4%20-%20The%20Procedure%20for%20Resolution%20of%20Erroneous%20Transfers.pdf
[12] Ofgem 2017 research on unreliable switching

continue to prevent them from switching. These consumers miss out on the savings they would have achieved from a successful switch.

1.17. Our recent research into the impacts on consumers of negative switching experiences found that *'in the case of failed switches, customers had to put in a high degree of effort as they often had to investigate technical details, submit additional information and chase both current and old suppliers, acting as a go between in some cases'.*[13]

1.18. One of the main causes of these negative outcomes for consumers is inaccurate matching of meter point and address data. By improving the quality of this industry held data, and introducing arrangements that maintain this quality over time, we can significantly reduce the instances of these negative experiences for consumers.

Slow speed of switching

1.19. Currently, switching energy suppliers can take a significant amount of time – on average around three weeks but in some instances much longer. Even when the process works well, it is slow compared to other sectors such as mobile telephony, where switching takes one or two days, and banking, where switching is possible in seven working days. It is also slow compared to some international markets such as France, where switching is possible in one day for electricity and four days for gas, or Australia, where changes are being made to enable switches for electricity to be made at the end of the following day.

1.20. Some suppliers have signed up to the voluntary Energy Switch Guarantee. The guarantee is a commitment by participating suppliers to ensure a speedy and safe switch from one energy provider to another within three weeks. However, not all suppliers have signed up to this guarantee so some consumers may not receive the protections that it provides. [14]

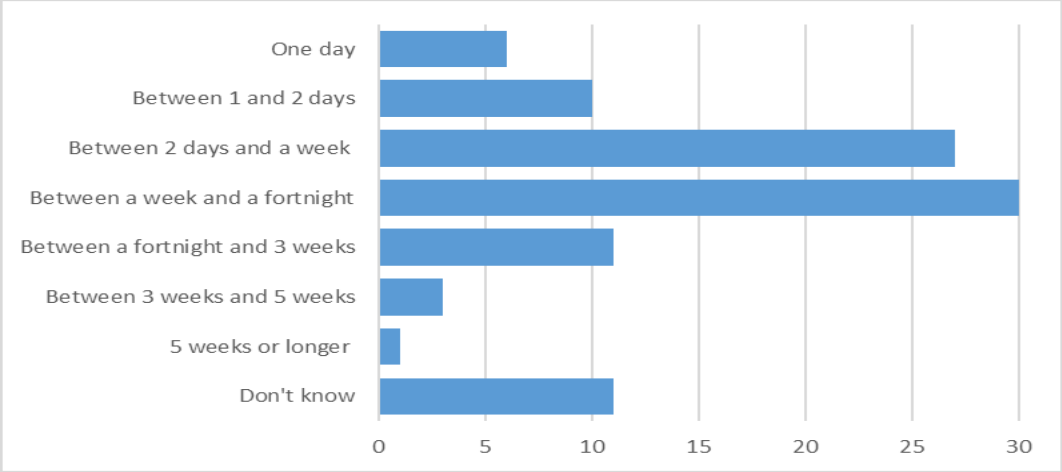
1.21. The current long switching times are, in part, due to the existing arrangements for dealing with the statutory cooling off period (normally 14 days) and the relatively long window within which a losing supplier can object to a switch. Suppliers typically start a switch during the cooling off period but do not schedule it to complete until after the cooling off period has elapsed. This is to allow processes such as objections to complete and to handle any contract cancellations.

1.22. The long switching process is likely to reinforce consumer perceptions that switching is complicated and not worth the hassle, which is likely to put consumers off. In response to Ofgem's Consumer Engagement Survey, 27% of those interviewed considered that switching energy supplier would take too long,[15] and 46% of those interviewed

[13] Ofgem 2017 research on unreliable switching
[14] Energy Switch Guarantee signatories. Energy UK has indicated that coverage should be more than 90% of consumers by the end of the year.
[15] Ofgem Consumer Engagement Survey (2017), page 52.

considered switching a hassle.[16] Further, in response to a survey by Energy UK[17], less than 5% of consumers considered that a switch time of greater than three weeks would be acceptable. Responses to this survey question are set out in Figure 1.3 below.

Figure 1.3: Responses to the question "Thinking about the switching process described above, what do you think would be the longest acceptable amount of time for this to happen between first requesting the switch, to having the supplier changed?"



Source: Survey by YouGov commissioned by Energy UK (2017)

1.23. Empirical evidence from a study of eight markets, including electricity, showed that the expected switching time has a statistically significant and negative effect on the probability of switching – longer expected times to switch discourages both searching around for other deals and switching.[18] The probability that consumers would search and switch is at its highest point when it takes no time to switch, and falls as expected switching time increases. An earlier study also found that the anticipated length of switching time has a negative, significant estimated effect on probability to search, switch, and search and switch.[19]

1.24. Once a consumer has chosen to switch, the slow speed can still put them off completing the process. Past research by Consumer Futures suggested that approximately 7% of consumers cancelled switches part of the way through the process, with a small number citing delays in the process as their reason for doing so.[20]

1.25. Despite consumer perceptions of complexity, the vast majority of the current three-week switching period is made up of inactivity. Condensing this process will improve consumers' experiences and perceptions of the process, which we expect to lead to greater levels of engagement.

[16] 46% of respondents agreed with the statement that "switching is a hassle that I have not got time for. "Ofgem Consumer Engagement Survey (2017). Questions 121.
[17] Figures are from YouGov Plc. Total sample size was 1,951 adults. Fieldwork was undertaken on 15-16 March 2017. The survey was carried out online. The figures have been weighted and are representative of all UK adults (aged 18+).
[18] Waddams Price and Zhu, Empirical evidence of consumer response in regulated markets, 2016
[19] Waddams Price, Webster and Zhu, Searching and switching: Empirical estimates of consumer behaviour in regulated markets, December 2013
[20] Consumer Futures, Switched on: consumer experiences of energy switching, January 2013

Rationale for intervention

1.26. The evidence presented in the previous paragraphs suggests that the current switching arrangements can deter some consumers from engaging in the retail energy market and switching. We think that these issues can be fixed.

1.27. Linking gas and electricity meters to the same single address, and improving the quality of industry data would significantly reduce the number of switches that result in an erroneous switch or delay or fail. This will mean that consumers' experience of switching is more positive overall and would give the consumer greater confidence that they can switch both fuels reliably at the same time. Coupled with a much faster switching process, this would generate a direct benefit to those consumers that are already engaged in the market, allowing them to benefit more quickly from cheaper prices, while reducing the risk that something would go wrong.

1.28. A more positive switching experience, in terms of both speed and reliability for those who do currently switch, would also prompt more engagement from those who have decided not to switch because of the perceived risks and barriers. Evidence from our 2017 Consumer Engagement survey showed that 41% of those who switched tariff/supplier in the past twelve months received a recommendation from someone other than a salesperson.[21] Higher levels of switching than we would otherwise have seen, would generate savings for consumers on their energy bills. This reduced friction in the switching arrangements is expected to be complimentary to other ongoing reforms in the market, suppliers being required to take concrete, practical action to help consumers move to cheaper deals and the creation of a new digital deal-checker service so that consumers can receive independent, authoritative advice on whether they could save money at the click of a button. The impact of such measures could be inhibited if the existing switching arrangements are retained.

1.29. In turn, increased switching will exert additional competitive pressure on suppliers and provide them with greater incentives to attract new consumers and retain existing ones. They may seek to differentiate themselves by lowering their prices, improving their consumer service, and offering innovative new products and services. The stepping up of consumer retention efforts would result in more consumers switching tariffs with their existing supplier, generating further savings. These potential indirect, dynamic competition benefits might be significantly greater than the – still important – direct consumer benefits from more reliable and faster switching.

1.30. In addition, the current systems, largely built in the last century, potentially act as a brake on innovation. The energy market is facing rapid technological change, including the roll-out of smart meters, the move to half-hourly settlement, increased micro-generation and the growth of peer-to-peer networks, where consumers are connected directly to local renewable producers.

1.31. In particular, we can envisage a situation in the future where consumers may seek to be supplied by suppliers for relatively short periods of time, enabling them to be served by different suppliers on different days of the week. Consumers might want to power their

[21] Ofgem Consumer Engagement Survey (2017).

houses from one supplier and their cars from another. It is possible that we might see the development of demand management services that source the most efficient energy for a consumer on a real time basis.

1.32. By introducing flexible, central systems designed with future change in mind, we will be ensuring that the neither the central switching systems, nor the regulatory rules relating to switching, will stand in the way of future transformative industry innovation of products, services or business models that were not anticipated when the existing platforms were developed and which they would not easily support.

Why Ofgem is stepping in

1.33. Ofgem initiated the Switching Programme as we consider that the problems identified above cannot be effectively corrected by market forces alone or an industry led programme.

1.34. A series of changes to industry codes would be required to speed up and enhance the switching journey. Each of these changes requires a combination of coordination and regulation, which we believe cannot be delivered by market participants.

1.35. Experience of the market to date suggests, for example in relation to the introduction of the new UK Link, that industry parties are unlikely to be able to coordinate and manage that process without significant oversight and assistance from a central body.

1.36. Further, as identified by the CMA in the Energy Market Investigation,[22] we think that current industry governance arrangements do not work well in achieving timely change when there are substantial financial costs, which are unequally distributed between players.

1.37. With regards to the reliability of switching in particular, the existing industry codes governance arrangements[23] do not provide the appropriate clarity or incentives for individuals or groups of industry participant to improve the quality of industry address data. Though there have been several efforts over the years to cleanse this data, the quality of relevant industry data sets remains poor, and we expect that these problems will continue to arise without intervention and coordination by a central party.

1.38. Switching speed is largely determined by a series of accepted industry processes and practices. For example, the length of time that is allowed for a losing supplier to object to a switch, or the pan-industry accepted practice that switches are not be processed until after the cooling-off period has elapsed. Amending these arrangements through changes to industry codes will in practice require a central authority to play a coordination role to push them through and change behaviours.

[22] See pages 471-472 of the CMA Provisional Findings report.
[23] Industry code arrangements are currently being modified by Ofgem as a result of the findings from the Energy Market Investigation. See Update on the implementation of the CMA Code Governance Remedies published by Ofgem on 26 July 2017.

1.39. Making the switching process faster and more reliable would require significant changes to energy suppliers' IT systems as well as changes to existing central systems such as UK Link and MPRS. The costs of these changes are large and unevenly distributed between suppliers. Some parties would incur larger direct costs than others, for example if their IT systems are older and require more significant upgrades. Therefore, current market incumbents might not have the appropriate commercial incentives to deliver these pro-competition reforms given that the changes will cause them to incur costs.

1.40. All these factors taken together mean that we cannot expect faster and more reliable switching to be introduced through existing industry mechanisms. As signalled by our launch of a Significant Code Review,[24] to make the changes needed to industry codes to deliver the programme, we consider that Ofgem is best placed to identify the best outcomes for consumers and take a leading role in making sure that they are achieved.

Policy objective

1.41. Our overarching programme objective is to:

> *'Improve consumers' experience of switching, leading to greater engagement in the retail energy market, by designing and implementing a new switching process that is reliable, fast and cost-effective. In turn this will build consumer confidence and facilitate competition, delivering better outcomes for consumers.'*

1.42. During the Blueprint phase of the programme, we have developed a set of subsidiary objectives summarising what we aim to achieve through the Switching Programme. These are used both to communicate our aims to stakeholders and as a means of assessing the relative strength of different reforms we have considered during our Blueprint phase work.

1.43. The subsidiary objectives are:

> 1. To improve consumer experiences and perceptions of changing supplier, leading to increased engagement in the market, by delivering a switching service that:
>
> a. Is more reliable, thereby reducing the instances of consumers being let down by delayed, unsuccessful or unwanted switches.
>
> b. Offers consumers control over when they switch, including providing the capability of doing so as fast as possible, and by no later than the end of the following day after a consumer has entered into a contract.
>
> c. Minimises any differences in consumer experiences of the switching process, to the extent that is possible, taking into account any physical constraints imposed by metering and issues relating to consumers indebtedness.

[24] Following consultation in June 2014 and the broad support of stakeholders, we launched a Significant Code review in November 2015 https://www.ofgem.gov.uk/publications-and-updates/switching-significant-code-review-launch-statement-and-request-expressions-interest-participate-programme-workgroups

2. To deliver a simple and robust system architecture design that harmonises business processes across the gas and electricity markets where possible, and is capable of efficiently adapting to future requirements.

3. To encourage more effective competition by minimising barriers to entry for new entrants to the market, including the extent to which a successful switch may rely on the actions of an incumbent, and by having appropriate safeguards in place where this is not possible.

1.44. As well as assessing which reform package will be most beneficial for consumers, we also use the analysis presented in this IA to judge how well the packages would meet each of our objectives. A summary of this analysis is presented in Chapter 8.

2. Approach to the IA

Chapter summary

This chapter provides a summary of our four reform packages and the counterfactual that we have assessed them against. We also describe our approach to quantifying the impact of our reform package on industry and consumers.

The counterfactual

2.1. We have developed four reform packages which are summarised in the table at the start of this document with further detail provided in the accompanying consultation. We have assessed against the 'do nothing' counterfactual described below:

- Switching supplier would take 21 days on average to be executed, measured from the moment the consumer has requested the switch (either with the new supplier or TPI such as a PCW).[25]
- No changes to central systems and the main switching arrangements. The existing industry architecture would be retained. Gas and electricity processes would continue to operate independently.
- All of the remedies proposed by the CMA, data prompts, the database remedy and PCW access to ECOES and DES are fully implemented.
- Smart meters would be rolled out in line with suppliers licence obligations.
- The current PPM price cap for traditional (ie non-smart) meters has been assumed to be in place but the number of consumers covered by the cap will diminish over time as SMETS2 smart meters are rolled out and SMETS1 meters are enrolled into the DCC.
- Market participants eg suppliers will continue invest in refreshing IT systems as they change in size or existing systems become obsolete.
- Some improvements to data quality and industry processes are made to improve switching reliability, for example as a result of the work of the Erroneous Transfer Working Group (see Chapter 4 for further detail). As a result, the level of erroneous switches, delayed switches, and unsuccessful switches would be 15% lower in the counterfactual than current volumes.

[25] In our published data on switch speed we report an average time of 16 days (see Retail Market Indicators). The difference arises from the start of this measurement being when a supplier sends a switch request to the central systems. This can be several days after the consumer has requested a switch and provided the supplier with all of the information needed.

- We have assumed that the annual volume of external switches would be constant over our assessment period, equal to the levels experienced in 2016.[26]
    - 7.76m external switches in the domestic market, of which 43% are gas and 57% electricity. Of these, 17% were by consumers with a pre-payment meter.[27]
    - In the non-domestic, non-half-hourly settlement market, there would be a constant annual volume of 374,000 electricity switches and 125,000 gas switches. Non-domestic consumers that currently have half-hourly settled meters have not been included within our analysis, because consumers with higher levels of consumption will manage their contracts in a different way from other consumers, and are less likely to benefit from our reforms.
- We have assumed that the annual volume of internal domestic switches would be constant, equal to the levels experienced in 2016 (16.74 million).
- The savings available from switching are assumed to be constant over time, and unchanged between the counterfactual and with our chosen reforms.[28] See Appendix 4 for the assumed savings for different consumer types.

Our approach to monetising the costs and benefits of the options considered

2.2. Each of the options considered is expected to impose net costs on industry participants while generating benefits for consumers. The size of these costs and benefits would vary by reform package. Below, we briefly describe the approach and data sources used for estimating costs and benefits arising from the options considered.

Direct net costs to industry

2.3. Market participants would incur direct costs for implementing and operating the four reform packages described earlier. We expect our reform packages to affect industry costs in two main ways. Firstly, there will be transitional costs to implement the new arrangements as well as ongoing costs to operate them. Secondly, we expect industry to achieve ongoing cost savings, for example from process efficiencies, reduced exceptions and better access to accurate information arising to some parties. We consider these potential cost savings in estimating the net cost to industry.

2.4. In Chapter 3 we have presented our estimates for the net incremental transitional costs and on-going costs for each of the groups impacted by our reform packages: suppliers, networks, metering agents etc using information provided by the industry. We

[26] We have tested the impact of this assumption through scenario analysis (see Chapter 5).
[27] See Appendix 4 for further detail on the assumptions.
[28] We have tested the impact of this assumption through our sensitivity analysis (see Appendix 3).

have derived the total net cost to industry of each reform package as the sum of the net incremental costs incurred by each group.

Benefits to consumers

2.5. Those consumers using the existing switching arrangements would benefit directly from our reform packages as these would improve reliability of the switching arrangements and lead to a drastic reduction of the instances of erroneous, unsuccessful and delayed switches.

2.6. As a result of faster switching, consumers would also be able to access improved terms from switching supplier/tariff more quickly. A shorter switching window would also result in consumers engaging less in thinking about the switch and lead to time savings. We have estimated these direct benefits in Chapter 4.

2.7. In addition to these direct benefits, we also expect indirect benefits arising from our proposed reforms. As explained in Chapter 5, improving experiences and perceptions of the time, hassle and risk involved in switching should prompt more engagement from those consumers that consider these issues to be important barriers. This would lead to further savings for consumers. We have produced three illustrative scenarios for increased consumer engagement to demonstrate the scale of these potential savings.

Appraisal period and profile of impacts

2.8. The costs and benefits of the reform packages are considered over an 18-year assessment period from 2018 to 2035 inclusive.

2.9. We note that some costs have been incurred by industry parties and Ofgem prior to 2018. However, the purpose of this assessment is to understand the likely costs of each reform package relative to the counterfactual. As the costs incurred up to this point are sunk, they are equal under all options including the 'do nothing'. We have therefore only included costs from the point that we expect to make a decision on which reform package to adopt (ie from the start of 2018).

2.10. For RP2a, the appraisal period consists of one year of Detailed Level Specification (DLS) phase and Enactment phase work, two years for Design, Build and Test phase followed by Go-Live by the end of 2020.[29] 2021 is then assumed to be the first of 15 years of operation of the new arrangements. This is described in Figure 2.1 below.

[29] A description of these programme phases is included in the associated consultation document.

Figure 2.1: Summary of assessment period for RP2a

Impacts	DLS / Enactment 1 2018	DBT and Go-live 2 2019	 3 2020	5WD switching – and move to next WD switching 4 2021	Next WD switching fully operational 5 2022	 6 2023	 … …	 18 2035
Ofgem programme costs								
Industry programme costs								
Industry transitional costs								
Industry post-implementation costs								
Ongoing operational costs								
Ongoing benefits of reliable & fast switching								

2.11. We have assumed that the assessment period for RP2 is the same as for RP2a and that transitional costs would be spread evenly in 2019 and 2020. For RP1 we have assumed that transitional costs are incurred in 2019. For RP3, which would have a two phase implementation (CSS then MIS) we have spread transitional costs evenly between 2019 and 2021.

2.12. There are two types of transitional costs that we have assumed will be incurred over a different time period: programme costs and post-implementation costs. We have assumed that programme costs will be incurred from the start of the assessment period in 2018. For RP1 these will be incurred for 2018 and 2019. For the other reform packages, programme costs have been modelled through to end 2020. For post implementation costs, we have assumed that these will be incurred in 2020 for RP1 and in 2021 for the other reform packages.

2.13. For RP2, 2a and 3 we have assumed that ongoing costs will be incurred from the start of 2021 until the end of 2035. For RP1 we have assumed that ongoing costs will start a year earlier, ie from January 2020. We have assumed a flat profile for ongoing costs.

2.14. The ongoing costs and benefits of a fully operational RP1 have therefore been assessed for 16 years, ie from 2020 onwards. Given that the bulk of the changes for RP3 are linked to the CSS, we have retained the assumptions on the profiling of ongoing cost from 2021.

2.15. The appraisal period has been structured in this way for modelling purposes only. Any discrepancies between these assumptions and the Programme Plan reflects our intention to keep the appraisal period simple. The Programme Plan should continue to be the single source for when the different phases will take place. For all four packages, we

have, assumed that the initial transitional phase with one week switching would last for one year. This is a simplifying modelling assumption only and in practice we expect this to be 3 months (see Chapter 5 in the accompanying consultation document).

2.16. Because costs and benefits occur over different time periods we have discounted these using the discount rate for social time preference (3.5%), as recommended by HM Treasury in the Green Book.[30]

2.17. As highlighted in Chapter 1 of our consultation document published alongside this IA, we are looking at ways to deliver some of our reforms as early as possible, with the intention of bringing forward some of the reliability benefits for consumers. This push for early reliability improvements is led by the Switching Programme's Near Term Improvement workstream. We believe it is important that industry delivers improvements to reduce the current number of unreliable switches, such as erroneous switches, before we shorten switching timescales. This includes work on data improvement remedies that do not depend on the creation of the CSS, which should deliver some of the reliability benefits discussed in Chapter 4 being incurred earlier than 2021. For simplicity at this stage, and in order to counter any optimism bias in delivery timescales, we have assumed that all ongoing benefits will be incurred from 2021 onwards. In practice, this is likely to understate the overall benefits to consumers as a result.

Key assumptions/sensitivities and risks

2.18. Energy markets are dynamic and the Switching Programme is one initiative within a broader set of reforms that aim to encourage consumer engagement and give consumers a better experience of the energy market when they do engage. We recognise that our quantification of the costs and benefits arising from our reform packages is challenging in this context.

2.19. For example, some of the remedies the CMA recommended for generating more competition for disengaged consumers eg the database remedy and trials, have not yet been implemented and it is difficult at this stage to estimate how much more engagement they would achieve. Other ongoing reforms in the market such as the rollout of smart meters are also likely to generate some additional engagement in the market. It is therefore extremely challenging to reliably forecast what baseline switching levels will be in our counterfactual, in the absence of our switching reforms.

2.20. While rising switching levels in the counterfactual may reduce the scope for increasing engagement, this would increase the volume of consumers that would benefit directly from the reforms. The opposite would be true if baseline switching volumes were lower. Variations in switching volumes in the counterfactual are therefore not expected to harm the case for reform. By assuming a flat level of switching across our counterfactual (rather than an increase over time) we are taking a cautious approach as this ensures we are not overstating the direct benefits to consumers. To address this uncertainty on the potential consumer benefits from increased engagement that is additional to the Switching Programme, we have developed three illustrative scenarios to show how changes to the

[30] See pages 26-27 of HMT's Green Book

switching rate would affect our analysis. This is set out in Chapter 5.

2.21. In addition to the uncertainty inherent in a dynamic market, we recognise that there are both gaps in our evidence base regarding costs and benefits as well as challenges on how we interpret data provided to us by industry. On this last point we note that the market participant incentives can be misaligned with those of consumers. One way that this can have a direct effect on our analysis is that parties may have provided pessimistic or optimistic responses to our requests for cost data. Given that profile of responses to our requests, which is towards incumbents, we think that there is significant potential for pessimism bias. As described in the next chapter, we have sought to address this through a number of mechanisms including holding challenge meetings with industry parties to validate the data they provided.

2.22. Where we have material gaps in our evidence base we have developed cost models. An example of this is on the industry programme costs. In order to mitigate the risk of under/over estimation, we have varied our assumptions used within this analysis to develop ranges for these costs. This is explained further in Appendix 2.

2.23. One of the main purposes of this consultation is to get the views of stakeholders on the assumptions that we have used. To help show the impact of four of our key assumptions we have developed four sensitivity tests (see Appendix 3). The assumptions we tested are:

- Delay to the programme
- Reduction in the financial reward from switching
- Baseline switching rate is higher than expected
- Improving data quality has less of an impact on reliability than expected

2.24. We have used this analysis to test whether our conclusions would continue to be reasonable if one of the above four scenarios came to bear.

Structure of this impact assessment

2.25. In Chapter 3, we summarise the direct net costs from industry and the public sector that we have estimated for each reform package. This is largely based on information provided by industry in response to a request for information (RFI). Chapter 4 summarises the direct net benefits that we expect consumers to see, for example from improvements to reliability, as well as time and bill savings. Chapter 5 presents illustrative analysis on the indirect consumer benefits that could be achieved based on three scenarios around increased switch rates.

2.26. In Chapter 6, we describe the significant additional non-monetised benefits that we think consumers would receive from our reform proposals for example linked to supporting future innovation. In Chapter 7, we bring together our analysis of monetised impacts and present the net consumer benefits of both the direct and illustrative indirect impacts. Chapter 8 presents our overall conclusion.

3. Monetised Direct Costs

Chapter summary

In this chapter we describe the monetised direct impacts of the reform packages we have estimated for industry and the public sector. For industry, we assessed impacts for suppliers, DCC and the central service providers (eg the CSS provider), GTs and Xoserve, DNOs, ECOES, Meter Asset Providers (MAPs), electricity Meter Operators (MOPs), gas Meter Asset Maintainers (MAMs) and PCWs. We also describe our analysis of four policy issues that has allowed us to develop a "best version" for each of our reform packages.

Question Box

Question 1: Do you agree that our assessment of industry and public sector costs, including our approach to managing uncertainty, provides a sound basis for making a decision on a preferred reform package?

Question 2: Do you agree that we have selected the appropriate policy option around objections, cooling off, meter agent appointment and MCP ID for each reform package?

3.1. In this chapter we describe our overall approach to monetising direct costs for industry and the public sector and the results of our analysis. A summary of the direct monetised costs is set out in Table 3.1 below. We have developed a low, central and high case for these costs and the table below presents our central case. The cost ranges are described at the end of this chapter. In this table we have highlighted the costs for suppliers and DCC and the central system providers it is expected to procure as these have the greatest impact on our overall assessment.

Table 3.1: NPV of industry and public sector net costs by reform package (2018-2035, £millions)

	RP1	RP2	RP3	RP2a
Suppliers	148.8	405.6	440.2	182.9
DCC and central system provider(s)		145.3	154.9	147.1
Other	42.4	47.2	48.6	38.7
Total	191.2	598.1	643.8	368.7

3.2. We have estimated the net costs of each of the reform packages relative to a counterfactual described in Chapter 2. The costs shown are incremental to the counterfactual. Other key modelling assumptions are set out within the relevant sections of analysis.

3.3. Unless stated, the transitional costs are shown as discounted values as they can occur over several years. Where ongoing costs are shown as an annual cost they are not discounted. The 18 year NPV includes discounting for both transitional and ongoing costs.

Approach to assessing direct industry costs

3.4. We expect industry to incur costs in implementing and operating each reform package, which would vary significantly between packages and for each participant.[31] We have described the requirements of RP2a for each market participants in a document published alongside this IA.[32]

3.5. Our reform packages are expected to generate a range of costs for industry participants, which we have classified either as transitional costs (which relate to the investment needed to implemented the changes), or ongoing costs. The main industry impacts in these categories are summarised below.

Transitional costs:

- Upgrades to existing industry participants' IT capabilities so that they are able to interact as necessary with the new central systems.
- Design, procurement, build and testing of the new CSS and the Customer Enquiry Service (CES).[33]
- Programme design and engagement costs, including for Ofgem.
- Central delivery assurance costs.
- Training of staff to manage and deliver new procedures, including developing new scripts for call centre staff.
- Exercises to migrate data from the existing separate systems for gas and electricity into the new CSS in preparation for go-live, as well as cleanse the data and match meter point numbers to a single newly procured premises address database.
- Post-implementation costs to monitor the new arrangements in live operation and deal with unexpected problems experienced after launch.

Ongoing costs:

- Operation of the CSS, including management of a support contact centre for CSS users and business as usual modifications to reflect user requirements.
- Operation of the CES.
- IT costs for industry participants to maintain and operate their new IT arrangements, including maintaining an acceptable level of IT resilience.
- Changes to staffing requirements to manage the new switching processes and for managing consumer interactions based on new processes and tighter timescales.
- Any reduction in costs for parties that are no longer required to perform services or for increased efficiency in the processes operated.

3.6. There is no single standard business model across the industry, with competing organisations operating different IT systems of different levels of sophistication, internal processes, and ratios of staff to IT deployment, for example. The changes required by

[31] While we expect industry to incur an overall net cost, these are likely to be distributed unevenly between individual participants. In some areas, for example linked to efficiency savings from harmonisation of gas and electricity systems and processes, we expect industry costs to reduce against the counterfactual. These benefits are incorporated within the overall costs reported in this chapter.
[32] Reform Package 2a Stakeholder Requirements, https://www.ofgem.gov.uk/system/files/docs/2017/09/reform_package_2a_stakeholder_requirements.xlsx
[33] This is a single, centralised facility for consumers to find out the identity of their current supplier and the MPxN for the meter points at their premises. This information can be used by consumers to compare supplier offers and to switch reliably.

each industry party may be quite varied and, as a result, so will the costs incurred. We therefore concluded that it would be inappropriate to view each group of stakeholders in the market as homogenous and to estimate a single set of efficient costs that ought to apply to each. Instead, we have sought to estimate the full market costs of our reform packages, including costs for suppliers that did not respond to our RFI, accounting for the variation between individual organisations. This approach gives us greater confidence that we have taken into account the total costs that could ultimately be passed through to consumers.

3.7. Our estimates of industry's net incremental costs are based on estimates provided by suppliers, DCC, GTs, Xoserve, DNOs, MEC (in relation to ECOES), MAPs, MOPs and MAMs. Information was sought through a January request for information (RFI) to all parties and a further request was sent to suppliers and DCC in July.

3.8. In the January RFI we asked parties to provide estimates of the additional transitional and average annual on-going costs arising from the reform packages.[34] We also requested:

- Information to allow us to test policy options for several key processes eg on objections and cooling off described later in this chapter.

- Data on existing performance and reliability issues eg on ESs. This information has been used in the reliability analysis reported in this IA.

3.9. Following the January RFI we responded to the identified high costs of RP2 and RP3 by developing a new reform package, RP2a. We used the July RFI to test our assumptions on the costs for RP2a. The July RFI was much narrower in scope and was sent to suppliers and the DCC only. In addition to testing the RP2a costs it also asked for further information to support proposed changes to the components of the reform packages to allow us to present the best version of each reform package.

3.10. Data provided by respondents was reviewed by Ofgem and validated through a process which involved:

- review of individual responses to identify any potential errors, inconsistences and unexpected results (eg following comparison with other similar parties);

- follow-up questions sent to respondents and further review of information received;

- one-to-one meetings with parties to understand and challenge their estimates;

- re-submission of responses by parties to correct previous submissions.

3.11. The aim of this iterative validation process was to check and challenge the information provided to ensure consistency in the approach used by parties in responding to the information request. This process has allowed us to identify outliers and to verify that only additional costs directly attributable to the programme have been captured

[34] In the RFI we asked respondents to use an assessment period up to the end of 2029. The assessment period we have used in this IA is 2018 to 2035. As we requested ongoing costs for an average year we do not think that this has had a material impact on our analysis.

within respondents' estimates.

3.12. Having undertaken this validation exercise we have derived the total net cost of each reform package as the sum of the net incremental cost incurred by each industry group.

Accounting for uncertainty

3.13. We recognise that there are significant costs to industry and we have made extensive efforts to ensure that all those costs are understood as well as possible and included. Where the costs have been difficult to obtain or verify we have adopted a consciously cautious approach to ensure that we were as far as possible mitigating the risk of underestimating these.

3.14. In addition, we have developed ranges for our cost estimates around our central case by varying the assumptions that we have made in order to ensure we appropriately reflect the level of uncertainty in our estimates. Ranges have been developed for the following costs:

- transitional costs for suppliers that did not respond to the January RFI
- transitional and ongoing costs for DCC and its procured central service providers
- transitional and ongoing costs for PCWs
- programme costs, and
- post implementation costs.

Policy variations

3.15. In the January RFI, we asked suppliers to provide information on different policy options for objections and cooling off. For both of these, we included a central case assumption within each reform package and asked additional questions to understand the impacts of alternative proposals.

3.16. In response to information received from this request and subsequent discussions with stakeholders through the Business Process Design workstream, we identified additional options that we tested through the RFI in July. The options tested related to meter agent appointment/de-appointment, removing the proposal to add a new Meter Communications Provider (MCP) ID data item and a further refinement to the objections policy options.

3.17. Our analysis of this information has allowed us to refine the components of each reform package. In making these refinements we have sought to develop the best version of each reform package for comparison in this IA.

3.18. The policy refinements we review in this chapter relate to:

- Objections
- Cooling off
- Meter agent appointment
- MCP ID

3.19. We have published further detail on the policy variations that we propose for objections, meter agent appointment and MCP ID and the reasons for these proposals. We welcome comments on these policy papers as part of this wider consultation.[35]

3.20. In this IA, we have included costs for our preferred policy positions in the overall impacts presented for each reform package.

Objections

3.21. The current objection window is five working days in electricity and seven to two working days for gas. In the January supplier RFI we set out our central case for objections under each reform package. For RP1 this was a one-working-day objection window. For RP2 and RP3 this was an instant reactive objections process whereby a supplier needed to respond within two seconds to a notification from the CSS. We also set out three alternative proposals for RP2 and RP3 that we wanted to test with suppliers. These were: having a centralised objections database operated by the CSS, a five working hour objection window and lastly, combining an instant reactive objection process for domestic consumers with a 20 working hour window for non-domestic consumers.

3.22. Based on feedback from the January RFI on the high costs of the RP2 and RP3 objections options we developed a new reform proposal which includes a one working day objection window for domestic consumers and a two working day window for non-domestic consumers. As noted above, we tested the impact of this in the July RFI.

3.23. Following the January RFI, we received responses on objection costs from 16 suppliers. These accounted for 81.4% of supplier consumer losses during 2016. To account for non-respondents we have multiplied this figure by 1.23 to get a figure for 100% of the market.

3.24. We have also estimated the one-off costs of non-respondents. For the options applicable to RP1 and RP2a the transitional costs added to account for non-respondents are £2.9mn. For the RP2 and RP3 options we have added £10.1mn. This value is based on our estimate that the transitional costs of objection reforms are equivalent to 70% of expected one-off costs of suppliers that responded on this question. This estimate has been informed by discussions with third parties that provide switching services for many small and mid-tier suppliers in the market. Our approach to account for non-respondent supplier costs is further explained later in this chapter.

3.25. To ensure consistency with our approach on supplier adjustments (also discussed later in this chapter), for the respondents that we have applied an overall adjustment to either their one-off or ongoing costs, the same methodology has been applied in relation to their objections costs. We have also made a minor adjustment to the specific objections costs provided by one supplier. This is also discussed later in this chapter.

3.26. The estimated net cost impact of the objection options for suppliers is shown in Table 3.2 below. Option 1 is the refined objection process that we propose to use for RP1 and RP2a. Option 2 is the proposal that we have retained as the central case assumption

[35] Policy Update paper: Objections, https://www.ofgem.gov.uk/system/files/docs/2017/09/policy_update_objections.pdf and Policy update paper: Agents, https://www.ofgem.gov.uk/system/files/docs/2017/09/policy_update_agent_appointments.pdf

for RP2 and RP3. As noted above, Options 3 to 5 were tested as alternatives for RP2 and RP3.

Table 3.2: NPV incremental net supplier costs of objection process options (2018-35, £millions)

	Transitional	Annual on-going net costs (undiscounted)	Total (18 year NPV)
Option 1: 1WD domestic and 2WD non-domestic	6.9	0.3	10.2
Option 2: Instant reactive	23.2	6.8	95.9
Option 3: Central objections register	24.4	8.7	117.6
Option 4: 5 hour window	22.1	9.0	118.4
Option 5: 20 hour window for non-domestic	20.3	6.8	93.9

3.27. Option 1, which is part of our preferred option still incurs cost for suppliers compared to the current arrangements. However, we consider that it has benefit in speeding up the overall switching process and giving consumers confidence in a timelier way that their switch will proceed. For this new objection process, most suppliers that have not already done so, said that they would need to automate their objections processes.

3.28. Non-domestic suppliers flagged a risk that Option 2 (instant reactive) would not allow them to validate use of the Change of Occupancy (CoO) flag. Some said they would struggle to do this in a one-day window. We have therefore proposed a 2WD window for non-domestic consumers for RP1 and RP2a.

3.29. For RP2a, the CSS has been costed up to include functionality for the objection window to be separately configurable for domestic and non-domestic consumers. It has also included a cost of the "Objection Annulment" process which allows the incumbent supplier to prevent an ES, the CoO process, as well as implementing systems that are capable of managing instant objections from the start.[36]

3.30. Suppliers reported high costs for Options 2 to 5, which were tested for RP2 and RP3. For Option 2 (instant reactive) this was largely driven by the costs of upgrading systems to process objections in very short timescales (ie 2 seconds) and the need to upgrade systems resilience to operate on an "always on" basis. For Option 3, suppliers also reported high costs for processing consumer accounts on a daily basis and maintaining the central database on which consumers they would object to. For Option 4, suppliers said that a five-hour window was too short and most would need to develop arrangements similar to instant reactive objections to manage these. There was some support for having a longer objections timescale for non-domestic consumers (Option 5) although some suppliers said that it would be costly to run an instant process for domestic and a longer objection window for non-domestic consumers.[37]

[36] Note that these costs have not been included in the table above as they are not supplier costs, but are included in DCC's estimated costs later in this chapter.
[37] Were we to choose RP2 or RP3 as the preferred reform package we would review further with industry the potential to adopt Option 5.

Cooling off

3.31. Faster switching requires a switch to take place during the statutory cooling off period (normally 14 days).[38] A consumer may choose to switch and then cancel the contract within the cooling off period. The cooling off period does not apply to non-domestic suppliers so we have excluded them from our assessment of this policy reform.

3.32. Our central case assumption under all reform packages is that Supplier A (the losing supplier) will be required to offer a consumer that cancels within the cooling off period and wants to return to them equivalent terms to those they would have been on had they not switched away. In the January supplier RFI we requested information on the impact of removing the requirement on Supplier A to offer equivalent terms.

3.33. We received responses from 12 domestic suppliers. These included the six largest suppliers, three mid-tier suppliers and three smaller suppliers.

3.34. Suppliers that responded accounted for 84.5% of all switches in the domestic market during 2016. To account for the costs of domestic suppliers that did not respond to the RFI, we have multiplied ongoing cost savings from those that did respond by 1.18 to reflect 100% of the market. To account for transitional cost savings, we have included a value of -£1.4m. This value is based on our estimate that the requirement to offer equivalent terms will account for 75% of expected one-off costs of suppliers that responded on this question. This is an approximation based on the number of suppliers that did not provide a response to the RFI as well as those that responded but did not provides information on this question.

3.35. Table 3.3 below shows the impact of removing the requirement to offer equivalent terms where a consumer has cancelled during the cooling off period. For the avoidance of doubt, these would be cost savings.

Table 3.3: NPV net supplier costs of removing obligation to offer equivalent terms (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Transitional	(3.2)	(3.1)	(3.1)	(3.1)
Annual on-going net costs (undiscounted)	(0.8)	(0.8)	(0.8)	(0.8)
Total (18 year NPV)	(12.1)	(12.1)	(12.1)	(12.1)

3.36. In other areas of our assessment of supplier costs we have sought to adjust the costs provided by two outliers. We have not done this for the information presented above. We do not consider that this has had an impact on our policy proposal. The effect of not making this adjustment is to exaggerate the cost reduction that would be applied from removing this policy.

3.37. We consider that the additional value to consumers of retaining a requirement for Supplier A to offer equivalent terms significantly outweighs the costs to suppliers. We have therefore retained this requirement for all reform packages assessed in this IA. We

[38] Under the Customer Contracts Regulations 2013 a customer can terminate their contract without detriment within 14 days.

expect that it will increase engagement by helping to give consumers the confidence to switch with the knowledge that, if they change their mind, they will be able to return to their old supplier on equivalent arrangements.

Metering agent appointment

3.38. In the SOC, we proposed that MOP, MAM,[39] DA and DC ID would be mastered in CSS for RP2 and RP3. Suppliers would include the MOP, DA and DC ID in switch requests. The CSS would notify losing and gaining agents of the confirmed and executed switch so that these notifications could replace the existing agent appointment and de-appointment process.

3.39. Analysis of RFI responses and further work by the Business Process Design workstream suggested that the most suppliers wanted to retain the existing agent appointment and de-appointment process and that moving to the new arrangements would add cost and complexity.

3.40. To support our further analysis of this issue we requested information from suppliers and DCC at the start of July on the impact of removing this requirement. We have also used information from MOPs and MAMs to estimate the cost reductions that they would expect. The total estimated cost reduction from removing this policy proposal for suppliers, DCC and MOPs and MAMs is shown in the table below.

Table 3.4: NPV cost reduction from removing meter agent appointment reform proposal (2018- 35, £millions)

	RP1	RP2	RP3	RP2a
Transitional		(6.0)	(6.0)	(6.0)
Annual on-going net costs (undiscounted)		(1.0)	(1.0)	(1.0)
Total (18 year NPV)		(17.2)	(17.2)	(17.2)

3.41. On the basis of the high costs reported and the assurances from industry that these reforms are not required to meet the switching programme objectives we propose to remove this policy proposal.

3.42. For the avoidance of doubt, our reform proposals for RP2a, RP2 and RP3 require the CSS to hold these data items and notify the losing MOP, MAM, DA and DC on switch confirmation and execution.

MCP ID

3.43. For RP2 and RP3 we proposed in the SOC that a new data item, the MCP ID, was mastered in CSS.[40]

[39] Note that we propose to redefine these terms as the electricity Meter Equipment Manager (MEM) and the gas MEM.
[40] Defined in the SOC as a party responsible for communications services to enable the interchange of information between a meter and a supplier or its data collection agent.

3.44. Analysis of RFI responses and further work with stakeholders through the Business Process Design workstream suggested that the most suppliers did not want to include this new data item. While suppliers initially welcomed the possibility of being able to identify the MCP at each metering point, in practice they recognised that the variations in communications arrangements could not be captured within a single data item.

3.45. To support our further analysis of this issue we requested impacts from suppliers and DCC at the start of July on removing this requirement. Table 3.5 below summarises these cost reductions as well as the expected cost reductions from Xoserve and DNOs (both would be required to master this data).

Table 3.5: NPV net cost reductions from removing MCP ID reform proposal (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Transitional	(0.41)	(0.40)	(0.40)	(0.40)
Annual on-going net costs (undiscounted)	(0.02)	(0.02)	(0.02)	(0.02)
Total (18 year NPV)	(0.59)	(0.57)	(0.57)	(0.57)

3.46. On the basis that this reform would be complex to implement and offer limited value, we have excluded it from the reform packages assessed in this IA. Further information on the justification for this decision is included in the above noted published agent appointment policy paper.

Suppliers

3.47. In this section we present estimates of the net impacts for suppliers of our reform packages.

3.48. Estimates of net incremental costs for suppliers are largely based on the information provided in response to our two RFIs

3.49. The RFI was mandatory for the largest six suppliers, had mandatory questions for the next six largest suppliers (the mid-tier suppliers) and was voluntary for other suppliers.

3.50. Responses were received from 21 suppliers. This included the largest 12 suppliers in the market. Six of the 21 were suppliers that operate exclusively or predominantly in the non-domestic market.

3.51. Thirteen suppliers, including 11 of the largest suppliers and two smaller suppliers responded to a further (voluntary) RFI, published at the start of July. This RFI asked suppliers to provide information on the assumptions that Ofgem proposed to use to derive the impact of RP2a.

Adjustments to individual supplier figures

3.52. Information provided by two of the largest six suppliers was significantly different in scale from others, including suppliers of equivalent size and operating in a similar part of the market. The scale was such that these responses would, if included, materially

impact the outcome of the analysis.

3.53. Following discussions with these suppliers we have made adjustments to the information provided. In making these adjustments we recognise the view of these suppliers that their costs are higher than others. However, we either do not at this time have sufficient justification and explanation to allow us to accept these estimates in their entirety, or we consider that the organisations' submissions have not fully reflected both the costs and the benefits of their intended response to our reforms.

3.54. For one of these suppliers, we have adjusted the transitional costs provided for RP1, 2 and 3. For the other supplier, we have made an equivalent adjustment to their ongoing costs. The adjustment made has been to use the average (mean) cost estimates of the other five of the largest six suppliers.

3.55. In the absence of other information, we think that this is a reasonable approach that brings the suppliers' net costs in to line with suppliers of equivalent size in the market.

3.56. We have considered an alternative approach which is to use the median costs provided by the remaining five of the largest six suppliers in the market. Using a median would reduce the RP2 NPV costs by a similar amount over the assessment period.

3.57. For a third supplier, we have made a small adjustment to the cost of the new objection arrangements for all reform packages. This adjustment has been made as we consider that the costs provided do not account for any changes of behaviour under the new arrangements. We have also discounted some additional costs that it provided linked to RP2a. This is based on our assumption, supported by nearly all respondents, that the costs of contracting consumers for RP2a would be more similar to RP1 than RP2 (further information on the assumptions that we have used to derive RP2a costs is set out in Appendix 1).

3.58. To protect confidentiality of responses, we have not provided a table showing the individual changes made. We welcome views on our approach to dealing with these outlier costs.

3.59. Unless stated, all other industry cost information in this IA has been directly provided by industry parties and no further changes have been made by Ofgem.

Accounting for non-respondents

3.60. There are 77 suppliers that were active in the market at the end of 2016. We have defined active suppliers as being those for which we have meter point data in December 2016; have more than 100 meter points across their licences; and have 60 or more switching gains in the second half of 2016.[41]

[41] We have chosen this definition so that we focus on those parties that are likely to need to make material changes to systems and processes. For some very small or dormant suppliers, we have assumed that they will be able to manage their existing transaction rates with limited further investment. We welcome views on this assumption.

3.61. We did not receive responses from 56 active suppliers and we need to account for these in our assessment. All had fewer than 300,000 gas and electricity meter points combined, with most being much smaller. To estimate the impact of the reform packages for these suppliers we have applied the methodology set out below. We welcome views on this approach. As this calculation relies on a range of assumptions, we have developed high and low cost ranges around our central case in an attempt to show the impact of uncertainty. These are shown at end of this chapter and are based on a +/- 20% variation in transitional costs.

Transitional cost uplift to account for non-respondents

3.62. We received information from three providers of back office services to suppliers and one provider of consumer relationship management and billing services on the costs of amending supplier systems for managing the key switching process eg interfacing with central switching services.

3.63. Information from these service providers covered 29 of the 56 supplier non-respondents.[42]

3.64. We have used this information to estimate the costs of undertaking the key switching processes and interfacing with the central switching services for their client suppliers (other than those that have provided a separate response). We uplifted this figure to account for all suppliers that did not provide a response.

3.65. We identified the equivalent costs provided by those suppliers that responded and the proportion that these represent of the total costs provided by supplier respondents. Using this ratio, and our derived non-respondent costs for key switching processes we have estimated the total transitional costs for non-responding suppliers.

3.66. The information provided by service providers has allowed us to calculate a different value for each reform package.

3.67. The values shown in Table 3.6 below have been added to the overall calculation of supplier transitional costs for each reform package.

3.68. As explained in Appendix 1, RP2a costs have been derived from RP2 with certain costs removed. Both RP2, and the costs areas that have been adjusted have been subject to uplifts to account for supplier non-respondents. We have therefore not shown a separate value for RP2a non-respondent costs.
3.69.

Table 3.6: NPV estimated net one-off costs for supplier non-respondents (2018-35, £millions)

	RP1	RP2	RP3
Total (18 year NPV)	13.6	53.9	60.1

[42] We have not provided information on the number of suppliers that use the customer relationship management and billing service provide to protect commercially confidential information.

Ongoing cost uplift to account for non-respondents

3.70. We have assumed that, for the purpose of this impact assessment, the average ongoing costs per switch for non-responding suppliers will be the same as the average ongoing cost for respondents. Our methodology has therefore calculated the proportion of the market that provided cost data and uplifted this to provide a whole market cost.

3.71. We received cost data from supplier respondents that accounted for 82.0% of gained consumers in 2016[43] and 93.7% of consumer losses over this period.

3.72. The proportion of total costs linked to switching interaction with the CSS and objections differs for each reform package.

3.73. We have assumed that costs will be weighted towards gaining suppliers for consumer contracting costs. For other costs, we have assumed that these will apply equally to gaining and losing suppliers. On this basis, we have calculated that the ongoing cost data we have received from supplier respondents cover 84.7% of the market for RP1, 84.6% for RP2 and 84.5% for RP3.

3.74. Using this calculation, we have derived the uplift factors for each reform package shown in Table 3.7 below. These factors have been applied to the total costs for responding suppliers to account for non-respondents.

Table 3.7: Uplift percentage applied to ongoing supplier cost data for respondents to account for non-respondents

	RP1	RP2	RP3
Uplift to account for non-respondents	16.5%	15.8%	16.0%

3.75. RP2a has been derived using RP2 as a central case. The methodology we have applied means that the costs presented for RP2a includes an uplift of 15.8% (see Appendix 1 for further information on how the costs of RP2a have been estimated).

Balancing costs

3.76. We asked suppliers to provide information to test if the shorter switch speed envisaged for each reform package would materially affect a gaining and losing supplier's ability to purchase the right amount of gas or electricity to meet the expected demand of their consumers. Seven suppliers provided information on their expected costs. These costs were typically very low and have been included in the overall cost assessment. We have not uplifted these to account for non-respondents as they related to specific balancing strategies adopted which are not necessarily replicable across other suppliers.

3.77. We have undertaken an additional assessment of 2016 electricity market data to understand the potential impacts on electricity balancing costs across suppliers of switching in shorter timescales. With faster switching, gaining suppliers would need to

[43] This is based on gas switching data for the whole of 2016 and electricity switching data for June to December 2016. It includes switching in both the domestic and non-domestic market.

purchase energy and losing suppliers would need to sell energy at shorter notice. We have also considered whether those potential impacts are material in the context of counterfactual costs and the broader demand forecasting error that suppliers can face.

3.78. We found that the potential change in balancing costs, for both the losing and gaining suppliers, was small as a percentage of the counterfactual costs, if suppliers took available mitigating actions when they became aware of switch that were possible within working hours (8am-6pm). For RP2a, this ranged from 0.5% to 4% in the least and most expensive months for imbalance prices. We identified the biggest impacts for RP2 and RP3, as there was less time to react. But even in these circumstances, the observed low demand and flat imbalance prices overnight limited the impact. Our analysis therefore suggests that there would have been no additional benefit to suppliers of trading outside of normal working hours.

3.79. Based on 2016 prices, we have observed that if all suppliers took available mitigating actions when they became aware of a switch, then gaining suppliers would have benefited on average (ie have lower balancing costs) across the year from the shorter switching timescales. Conversely, losing suppliers would have higher balancing costs. This is because month-ahead prices were higher than nearer-term prices on average during 2016.

3.80. In the months where imbalance prices were low and demand was low (relative to the levels observed during the whole of 2016), we observed a small increase in gaining supplier balancing costs and losing suppliers' balancing benefits with the reforms.

3.81. In the scenario where imbalance and within-day product prices are significantly higher than day-ahead and other longer-term products, the overall impacts are expected to be higher. The losing suppliers would benefit and gaining suppliers would have higher costs. However, gaining suppliers are expected to be better placed than losing suppliers to manage risks of price spikes as they can predict the number of consumers that they will take on (eg because of their marketing strategies and relative position in the market place).

3.82. Our conclusion is that the scale of the impacts are not likely to be outside of those that suppliers are expected to manage in normal circumstances. To provide some context, the average National Grid daily demand forecasting error in 2016 equated to 2.75m domestic consumers' energy consumption and even if switching volumes increased by 15% from peak volumes observed since 2013, the volume of demand moving between suppliers would be a small fraction of that (ie less than 1%).

3.83. We have not sought to provide a monetised impact in the IA as it not possible to predict market conditions and how the market will respond to the new arrangements with any degree of confidence.

Summary of supplier direct costs

3.84. Table 3.8 below summarises the estimated net incremental costs of our reform packages for suppliers. It includes the adjustments noted above to supplier cost data and to account for non-respondents.

Table 3.8: NPV net supplier cost of RP1, RP2, RP3 and RP2a (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Total transitional costs	62.9	161.1	176.1	112.3
Annual on-going net costs (undiscounted)	7.3	22.7	24.6	6.6
Total (18 year NPV)	148.8	405.6	440.2	182.9

3.85. For all reform packages, suppliers would need to invest in new IT systems/upgrade existing IT systems to process consumers' switching requests within the faster timescales assumed. They would also need to make changes to consumer contract data capture and switching processes including the way they would handle objections and cooling-off. Suppliers would incur one-off costs to train staff how to use the new systems. There would also be on-going costs associated with the maintenance of systems over the assessment period.

3.86. There was considerable difference between suppliers on their costs drivers. This depended on factors such as the flexibility and cost of amending existing systems, different levels of efficiency in implementing and operating new processes and design decisions around automation versus using operational staff.

3.87. For RP1, total net costs for suppliers are expected to be the lowest of all of the reform packages. Most suppliers would incur one-off costs for amending IT systems to manage a shorter switching process of two working days for domestic consumers and three working days for non-domestic consumers as well as a shortened objection window.

3.88. The cost of RP2a is significantly less than RP2 and RP3. This reflects design decisions on objections and the longer switch for RP2a which do not require suppliers to have in place instant processing of data and near real-time communications. By comparison to RP1, these have higher transitional costs to set up the new interfaces and processes with the CSS, but are expected to operate at lower ongoing costs. We think that this is as a result of efficiencies that suppliers will achieve through operating a harmonised gas and electricity switching process.

3.89. RP3 is the highest cost package for suppliers as it includes the most extensive set of reforms. The additional costs, compared to RP2, related to suppliers' costs is setting up and operating new arrangements to interface with the MIS.

3.90. One of the key drivers of cost for RP2 and RP3, compared to RP2a and RP1 is the requirement to provide consumers with real-time feedback on whether their switch will proceed (ie that it has been accepted by the CSS and not objected to by their incumbent supplier).

3.91. The costs of interfacing with the CSS is also much higher for RP2 and RP3 compared to RP1 and RP2a. The primary driver for this is the different objection arrangements. RP1 and RP2a would have a one working day window for non-domestic consumers and a two working day window for non-domestic consumers. RP2 and RP3 include "instant reactive" objections where a supplier would have around 2 seconds to

respond.

3.92. We consider that some suppliers may also benefit from cost savings under each reform package. These could result from fewer consumers contacting suppliers to report problems experienced and from the automation of functions that were previously done manually and/or in a less efficient way. As part of our RFI request, we asked suppliers to take potential cost savings into account when estimating the cost of our reform package. We recognise that many suppliers found this more challenging than identifying the costs of the proposed changes and that reported costs may therefore be overstated.

DCC and central service provider costs

3.93. In January, we requested information from DCC on all functional and operational requirements of the CSS (and for RP3 only, the MIS), and their related business processes. We requested information on costs to manage data improvement and migration for the CSS and MIS, as well as DCC support for delivery in the Design Build and Test phase. We also requested information on any impacts on DCC's smart meter communication services.

3.94. DCC has reported transitional and ongoing internal and external costs. The internal cost activities that DCC expects to undertake to put in place and manage the CSS and any other central services are set out below:

Programme	Within Programme, DCC activities include: • Programme, management and governance, including stakeholder engagement and attendance at Programme and Assurance Boards • Activities to ensure that all the internal DCC activities are being delivered according to plan and budget.
Design & Build	Within Design & Build: • Manage the high level CSS design and requirements • Undertake design assurance against the detailed design and build activities undertaken by service providers • Provide oversight of all internal and external activities across application and infrastructure design and service management build. • Provide security oversight and assurance.
Testing	Within integration testing: • CSS security testing • Provision of oversight of System Integration Testing and Pre-Integration Testing and industry testing including appointment and management of independent auditor if required. • Provision of a level of System Integration assurance.
Service Management	Service Management relates to: • The function of supporting the CSS through operations, which includes the help desk, incident management and technical support. • For RP3, where the reform package includes MIS as a service, it also factors in the required support.
Business Change	Within Business Change: • Analysis, planning and delivery of early life support and transition management. This also includes the data migration and communication pieces.

3.95. The external costs are for third party contracts, eg for the CSS. DCC has also provided illustrative costs for additional services to help Ofgem understand the impacts of central coordination and assurance.[44]

3.96. We have had an ongoing dialogue with DCC to refine our reform proposals and the associated costs. This has included obtaining information on DCC's estimated costs for RP2a, refinements to policy proposals and DCC provision of a consumer facing enquiry service (the CES).

3.97. The estimates provided by DCC are its best estimate based on experience and market engagement to date, including a workshop with tech companies. We note that DCC is shortly to start the process of early market engagement which will be followed by detailed market engagement and pre-tender workshops with companies who may want to bid. DCC will use this information to help define procurement lots and to provide further refinements to their cost estimates.[45]

3.98. The DCC RFI requests covered the period from the Design, Build and Test Phase onwards. Costs for activity up to this point, covering CSS design, procurement and other programme support, have been provided to Ofgem in the DCC Business Plan.[46] The DCC Business Plan has been consulted upon and published. The estimated costs of DCC's activity in its Business Plan is £24.1m. As £10.2m of these expected costs will be incurred before the start of the appraisal period (ie prior to January 2018) we have not included it in the IA calculations. We anticipate that these costs will be incurred prior to any decision on whether a CSS should be procured by DCC to have been taken. For RP3, we have assumed an increase in expected costs of 6% from January 2018 to the start of the Design, Build and Test Phase. This is to cover any additional procurement requirements for the MIS.

3.99. In providing its responses to all of the information requested, DCC has included margin at 15% and shared services at 9.5% to the relevant portion of Internal Costs. We have included these as indicative rates only at this stage. Further work on DCC's margin will be undertaken and we expect to consult on our proposals in 2018. For the period up to the start of the Design, Build and Test Phase, covered by DCC's published Business Case, DCC's costs include margin at 12% and a 9.5% shared services charge which must be justified through DCC's price control submission.

Consumer enquiry service (CES)

3.100. We asked GTs, Xoserve and DNOs to provide us with data as part of their January RFI submissions, on existing consumer demand for enquiry services to identify MPxNs and their current supplier. Consumers use this service to help facilitate the switching process.

[44] DCC was asked to provide costs for PMO, systems integration and assurance and these have been included in our assessment. In Chapter 7 of the consultation document we note that discussions are ongoing on the definition and responsibility for these functions.
[45] Both Ofgem and DCC would be happy to review a breakdown of DCC's cost estimates with individual stakeholders. We have not provided this detail in this document as we do not want to unduly influence the outcome of DCC's procurement activity. We will consider when it would be appropriate to publish this information.
[46] https://www.ofgem.gov.uk/publications-and-updates/stakeholder-views-draft-dcc-business-case-dcc-activities-during-transitional-phase-switching-programme

3.101. We then used the DNO, Xoserve and GT data to generate assumptions for DCC to estimate costs of it providing a single, centralised consumer facing helpdesk.

3.102. We asked DCC to base its estimates on 2m requests per annum. Of these, we assumed that 80% would be serviced through a website and 20% would be handled through a telephone service. For the telephone service, 90% of contacts would be managed through an automated service and the remainder would be managed through direct contact call centres. For costing purposes, we have assumed that DCC would not offer an email address for consumers to send queries.

3.103. The CES would be required to pass on more complex queries to the relevant industry party, for example GTs, Xoserve or DNOs, when they related to how metering points had been set up.

3.104. We have assumed that the CES would be delivered at the same time as the CSS. On that basis, the central coordination and assurance costs provided by DCC for RP2, RP2a and RP3 have not been uplifted. If a later delivery date was chosen, for example to reduce delivery risk, then this additional cost would need to be added. DCC's working assumption is that it would issue separate procurement lots for the telephone and web services.

3.105. On the basis of these assumptions, DCC has estimated costs which in NPV terms would provide a cost saving over the current arrangements.[47] This is in line with our expectation that a single, central service would be both more efficient to operate and better for consumers.

Summary of DCC direct costs

3.106. Table 3.9 below summarises the total net costs DCC estimated would be incurred under RP2, RP2a and RP3.

3.107. There is limited variation between reform packages. Under RP2, RP2a and RP3, DCC would be responsible for implementing and operating the CSS and the CES. For RP3 DCC would also be responsible for the MIS, this accounts for the additional transitional costs of £5.8m and ongoing annual cost of £0.4m compared to RP2. There is no CSS or MIS under RP1 and therefore no involvement for the DCC.

Table 3.9: NPV net costs for DCC (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Transitional costs		53.8	59.6	54.7
Annual on-going net costs (undiscounted)		8.5	8.9	8.6
Total (18 year NPV)		145.3	154.9	147.1

[47] This analysis takes into account the avoided costs for DNOs and Xoserve who provide existing services as well as residual cost for DNOs, Xoserve and GTs in managing more complex queries that would be passed through to them by the CES.

3.108. For RP2a, we asked DCC to ensure that the CSS has the capability to operate the instant objections policy option as well as the one and two working day objection window for domestic and non-domestic consumers respectively. The intention here is to avoid the CSS being a blocker to moving to a same day switching process in the future. This is the main driver of additional DCC costs for RP2a compared to RP2.

Gas transporters and Xoserve

In the January RFI, we requested information from GTs and Xoserve on functional requirements and operational service requirements to amend existing systems registering and processing switches (for RP1) and for interfacing with the CSS (for RP2a, RP2 and RP3), as well as related business processes. We requested data on the costs of operating DES as well as for existing gas consumer enquiry services for MPRNs and Supplier IDs. For delivery, we requested information on the costs of migrating or capturing new data items and data improvement activities in advance of the reforms going live.

3.109. We received four responses covering all large GTs, nine responses from iGTs and a response from Xoserve.

3.110. Given the high response rate and meter point coverage from GTs and our expectation that these responses, and in particular Xoserve's response, cover the vast majority of costs we have not uplifted responses to account for the one active (and small) iGT that did not respond.

Summary of GT and Xoserve direct costs

3.111. Table 3.10 below presents net costs for gas transporters and Xoserve.

Table 3.10: NPV of net costs for GTs and Xoserve (2018-2035, £millions)

	RP1	RP2	RP3	RP2a
Transitional costs	4.7	7.3	9.2	7.3
Annual on-going net costs (undiscounted)	0.3	(1.0)	(0.9)	(1.0)
Total (18 year NPV)	8.5	(3.4)	(0.3)	(3.4)

3.112. Transitional costs for RP1 are lower than for other reform options as respondents considered that the scale of the required changes would be lower cost to implement than for RP2 and RP3. Under RP1, Xoserve would retain its current role in managing switching and the consumer facing enquiry service, which would be removed for other reform packages.

3.113. Transitional costs are highest for RP3. The main driver for these additional costs being the requirements for Xoserve to provide data to the MIS.

3.114. A significant proportion of transitional costs for all reform packages are linked to data capture, migration and cleanse activities.

3.115. The ongoing costs for RP2a, PR2 and RP3 represent an overall cost saving compared to the counterfactual. This is driven by the removal of requirements around the consumer enquiry service (which would become a DCC requirement). For other activities linked to the switching process, GTs and Xoserve have reported higher ongoing costs for RP2, RP2a and RP3 compared to both RP1 and the counterfactual. This is despite the reduced scope of activity around the removal of UK Link's role in managing the switching arrangements.

Distribution Network Operators (DNOs) and ECOES

DNOs

3.116. In the January RFI we requested information from DNOs on functional requirements and operational service requirements for systems registering and processing switches (for RP1) and for interfacing with the CSS (for RP2, RP2a and RP3), as well as related business processes. We also requested data on existing electricity consumer enquiry services for MPANs and Supplier IDs. For delivery, we requested information on the costs of migrating or capturing new data items and data improvement activities in advance of the reforms going live.

3.117. We received responses from all six DNOs and six iDNOs. Given the high response rate and meter point coverage of respondents we have not uplifted responses to account for the two active (small) iDNOs that did not respond.

ECOES

3.118. We requested information from the MRA Executive Committee (MEC) on the current costs of operating ECOES and the impact of adding additional data items under RP1 and RP2 and supporting data cleanse activities. We have assumed that the costs of RP2a would be the same as for RP2.

Summary of DNO and ECOES direct costs

3.119. Table 3.11 below presents net costs for DNOs and ECOES. We have presented these costs together to ensure the confidentiality of the data provided by MEC in relation to ECOES.

Table 3.11: *NPV net costs for DNOs and ECOES (2018-35, £millions)*

	RP1	RP2	RP3	RP2a
Transitional costs	4.7	7.7	8.0	7.7
Annual on-going net costs (undiscounted)	0.2	0.1	(0.4)	0.1
Total (18 year NPV)	6.8	8.9	4.0	8.9

3.120. As with GTs and Xoserve, DNO transitional costs for RP1 are lower than for other reform options. Respondents considered that the scale of the required changes would be

lower cost to implement. Transitional costs are highest for RP3. The main driver for this being the requirements for DNOs to provide data to the MIS.

3.121. A significant proportion of DNO transitional costs for all reform packages are linked to data capture, migration and cleanse activities.

3.122. The ongoing DNO costs for all reform packages represent a small overall cost increase compared to the counterfactual. For RP2, RP2a and RP3, there is an overall cost reduction for DNOs linked to removal of requirements around the consumer enquiry service. This is more than offset by the estimated higher DNO ongoing costs of operating MPRS. Despite the reduced role of MPRS under RP2, RP2a and RP3, DNOs have suggested that it would have higher ongoing costs compared to both RP1 and the counterfactual. Under RP2, RP2a and RP3, MPRS would no longer be responsible for managing the switching process.

3.123. For RP1, the focus of costs for ECOES relates to the one off migration of data (meter serial number, installation date, MAP ID etc) to MPRS and supporting any cleanse of meter technical data.

3.124. For the reform packages, costs for RP2 (and therefore RP2a) are expected to be highest in relation to ECOES as it would need to interface with CSS in addition the one off data migration and cleanse requirements.

3.125. For RP3, the existing enquiry service would move to the MIS and there is an associated reduction in costs. MEC noted that ECOES currently provides a range of other services that were not included within the description of the MIS, eg Central Charge Database for Green Deal consumers, support for feed-in tariffs, and the processing of data for electricity prepayment transaction. We have included these costs for completeness but note that, were RP3 to be chosen, further work would be needed to determine where these activities would best sit.

3.126. We note the current industry led work to develop a joint gas and electricity enquiry service. This work is at an early stage and we have not accounted for it in this assessment. We will make any necessary adjustments to this IA if there is additional progress on these proposals.

MAPs

3.127. Information was requested in January from MAPs on the impacts of the MAP ID being mastered in UK Link and MRPS for all reform packages. This includes MAPs being provided with notification of a confirmed and executed switch as well as notification to MAPs of changes of other relevant agents. Costs were also requested for MAP support for populating MAP ID and cleansing MTD.

3.128. We received data from six MAPs as well as written responses from other MAPs. We recognise that this is only a small proportion of active market participants. We understand that there are currently around 50 MAPs although many are very small. Many of the MAPs that provided views said that the proposal to hold the MAP ID on UK Link and MPRS would avoid the cost of a live modification to SEC. We note that this modification has now been

rejected. We have therefore removed the avoided costs of this modification. We note that the rejection letter referenced the better potential for the MAP ID to be addressed through the Switching Programme.[48] Given the low materiality of cost impacts to MAPs, our lack of knowledge on how many meter points each MAP serves, we have not sought to uplift the responses received.

Summary of direct MAP impacts

3.129. Table 3.12 below presents net costs for MAPs.

Table 3.12: NPV net cost for MAPs (2018-2035, £millions)

	RP1	RP2	RP3	RP2a
Transitional costs	0.1	0.2	0.2	0.2
Annual on-going net costs (undiscounted)	(0.1)	(0.1)	(0.1)	(0.1)
Total (18 year NPV)	(1.1)	(0.8)	(1.0)	(0.8)

3.130. Costs provided by MAPs were mixed. Some, in particular those that operated in the electricity market only, thought that they would incur additional costs. Others, in particular the independent MAPs that operated in both the gas and electricity market said that that ongoing costs would reduce as they would be better able to invoice suppliers and to manage invoice queries. It was also noted that contracts for MAP services for the majority of smart meters were still to be struck, or could be amended to take account of MAPs lower cost to serve and that these cost reductions could flow through to suppliers and consumers.

3.131. Costs from MAPs were relatively small with the main impact of the reform proposal to centrally hold the MAP ID being identified by suppliers in participating in a one-off gas MAP ID data population exercise. For clarity, the supplier costs are included in Table 3.8 above rather than in Table 3.12. We are currently considering if there is a more efficient way to populate the gas MAP ID data.

MOPs and MAMs

3.132. For MOPs, we requested information in January on a requirement, under each reform package to update MPRS with meter technical data at the same frequency that they currently update ECOES. We asked MAMs for costs to update UK Link with MAP IDs. For MOPs and MAMs we asked for information on the impact of CSS providing notifications of change of supplier and these being used to replace current agent appointment and de-appointment flows for RP2 and RP3. As described earlier in this chapter, this specific reform has now been dropped and these costs do not appear in the analysis presented below. We also asked MOPs and MAMs for information on improving data quality in preparation for go-live.

[48] Smart Energy Code (SEC) Modification proposals 0011: Consideration of Including the MAP ID in the Smart Meter Inventory. https://www.smartenergycodecompany.co.uk/docs/default-source/modificationfiles/2017-06-02-modification-proposal-0011---authority-decision.pdf?sfvrsn=0

3.133. We received responses from nine MOPs and MAMs combined. We recognise that this is only a small proportion of active market participants. We understand that there are currently around 34 MAMs and 36 MOPs that are active in the market although there is cross over between these organisations and many are very small. Given that we have received cost estimates from two MOP/MAMs which we think may be significantly overstated, both in reality and when compared to the other responses received, and given the lack of information from other organisations, we have not sought to uplift these costs to account for non-respondents. We do not think that the impact of the reform packages on MOPs and MAMs is likely to be significant. We will undertake further work during the consultation period to validate these assumptions.

Summary of direct MOP and MAM costs

3.134. Table 3.13 below presents net costs for MOPs and MAMs.

Table 3.13: NPV net costs for MOPs and MAMs (2018-2035, £millions)

	RP1	RP2	RP3	RP2a
Transitional costs	2.0	2.2	2.2	2.2
Annual on-going net costs (undiscounted)	0.8	0.9	0.8	0.9
Total (18 year NPV)	10.8	11.9	11.1	11.9

3.135. Most MOPs and MAMs reported relatively low costs to support the reform proposals (noting that these now exclude our original proposals around using CSS notification to replace existing agent appointment and de-appointment flows). MOPs and MAPs would, under RP2a, RP2 and RP3, still be sent notification by the CSS, as the incumbent agent, to notify them of a switch. It would be an option for MOPs and MAMs to use this data and we have not attempted to monetise any associated benefits.

3.136. The costs presented above were largely reported by two MOPs/MAMs directly linked to suppliers. Other large MOP/MAMs linked to suppliers, reported relatively low costs.

3.137. We are reconsidering the role of MAMs in updating MAP ID on UK Link. Our initial view is that this should be a supplier responsibility and that a supplier may discharge this through its contracted MAM if it chooses to do so. However, to ensure that a cost for this activity is covered in the IA, and because we do not have supplier costs for undertaking this role, we have retained this element of MAM costs.

Price comparison websites (PCW) direct costs

3.138. We asked suppliers to include any anticipated changes in charges (eg commission for sales) that they expected to see from TPIs. Our expectation was that there may be costs from TPIs, and in particular PCWs. Supplies may ask PCWs to process contracts more quickly, collect additional data items from consumers to confirm that they agree to pay for any energy consumers during the cooling-off period as well as if they want to link the gas and electricity switch. For RP2 and RP3 we asked suppliers to assume an "Amazon-style experience" whereby a supplier or PCW would confirm to the consumer at

the point of sign up if their switch would proceed or if it had been objected to by the incumbent supplier. When a consumer signs up through a PCW, this would require instant processing of information and communication between the PCW and the supplier as part of the initial transaction with the consumer.

3.139. Discussions with suppliers suggested that this was a difficult cost for them to estimate and it was only attempted by one supplier. On that basis, we have removed the cost provided by that supplier and sought information directly from PCWs. To do this we have spoken directly with one of the largest PCWs to estimate costs. We recognise that this is a small sample set and have therefore developed a high and low case around the central case for inclusion in the cost ranges shown at the end of this chapter. We propose to discuss costs further with PCWs during the consultation period.

3.140. Rather than the instant "Amazon-style experience", for RP1 and RP2a our assumption is that a PCW would need to process a consumer request and send this through to the supplier so that the supplier could send a switch request the same day. For all reform packages, we expect PCWs to be able to access data held on enquiry services, through APIs, to better validate contract data and help ensure the reliability of the switching process. We expect PCWs to have access to additional information under our reform packages, for example a domestic/non-domestic consumer indicator, to help this additional validation.

3.141. Table 3.14 below summarises the costs that we have estimated for PCWs under a central case.

Table 3.14: NPV net cost for PCWs (2018-2035, £millions)

	RP1	RP2	RP3	RP2a
Transitional costs		0.5	0.5	
Annual on-going net costs (undiscounted)		0.7	0.7	
Total (18 year NPV)		8.5	8.5	

3.142. In estimating these costs, we have assumed that there are ten PCWs in the market that provide a service to directly facilitate the switch with a supplier. Each of these PCWs would have interfaces in place with 20 suppliers. Our further assumptions are set out in Appendix 4.

3.143. For RP1 and RP2a, we have assumed that there will be no additional costs or benefits compared to the counterfactual. Our expectation is that PCWs will already have arrangements in place to batch contracts and that the frequency of this batching can be increased without significant investment or ongoing cost to ensure that suppliers can send these the same day that the consumer enters into a contract. We have assumed that in our counterfactual, PCWs will already have in place API links to enquiry services, as envisaged and facilitated by the CMA's order on MRASCo and Xoserve.[49] We have assumed that any additional costs for PCWs in using new data items held on the enquiry services to

[49] We understand the ECOES already provides API access to PCWs. A modification to the UNC and IGT UNC is being progressed to facilitate PCW access to data held on DES. If these modifications are approved, we understand that access to DES data could be achieved shortly after.

validate consumer contract data will be more than offset by a reduction in the switch failure rate, and an increase in any associated commission that they receive.

Other costs

3.144. In three instances we have followed a different approach to estimating common costs areas that would be incurred by parties under the reform packages. These relate to communication costs, programme costs and post implementation costs. We describe below how we have estimated these costs.

Communication costs

3.145. In the January RFI we asked parties to assume that the Data Transfer Network (DTN) would be used to communicate with the CSS. In the absence of other information, we are carrying this assumption forward into this impact assessment. As described in Chapter 4 of the consultation, we expect DCC to tender for this service and we are consulting on this approach.

3.146. To ensure that a value is incorporated in this assessment, we have assumed the following communication charges. This has been informed by discussions with Electralink. The use of DTN costs in our assessment should not be taken as an indication of a preference from Ofgem. The costs only relate to, and are the same for, RP2a, RP2 and RP3. For RP1 we assume that existing communication arrangements and costs will continue.

- One off cost of £500k to upgrade the existing DTN systems to manage real-time communication to the service levels envisaged (shown below as £475k as a result of discounting).
- Annual costs of £600 each for 21 remote volume user gateways for gas market participants that are not currently connected to the DTN. This includes 16 gas suppliers and 5 GTs.[50]
- Annual costs of £2,700 for each of DCC and Xoserve to cover a high volume internet gateway as these parties do not have a DTN connection.
- For existing DTN users we have assumed no change to charges as the underlying infrastructure is fixed cost and therefore additional volumes would be absorbed.

Table 3.15: NPV net cost of additional communication requirements (2018-2035, £millions)

Transitional	0.47
Annual on-going net costs (undiscounted)	0.02
Total (18 year NPV)	0.69

[50] We note that GTs may choose to operate through Xoserve but have included costs here for completeness.

Programme costs

3.147. We asked RFI respondents to provide an estimate of their costs for supporting the Switching Programme in calendar year 2016. This was expected to cover additional costs of supporting the Switching Programme work streams incurred by the regulatory and legal functions i.e. attending meetings and replying to consultations. This was not intended to cover costs that would be incurred by the organisation for business as usual regulatory work or in developing, testing or operating the new arrangements. We also asked for views on whether we should use 2016 costs as the basis to estimate Switching Programme costs for future years.

3.148. We received highly variable data on costs for 2016 and some parties were concerned that using 2016 data was not an appropriate marker for future years as costs within a year were dependent on issues such as the number of RFIs, consultations and meetings.

3.149. On that basis we have developed a model to estimate programme costs. We have estimated costs for each calendar year based on the expected number of meetings, consultation and RFIs. We have also estimated the FTE costs for attending meetings (including reviewing meeting papers) as well as responding to RFIs and consultations.

3.150. The key assumptions that we have used are summarised below (see Appendix 4 for more detail on the assumptions). We have not sought to link costs to particular stakeholder groups eg suppliers, networks etc. Instead, we have treated these as a separate cost item. As we have used a bespoke model rather than using industry cost data, it is not necessary to uplift the values to account for non-respondents.

3.151. Our definition of programme costs includes the additional costs incurred by suppliers, network companies, metering agents; code administrators etc. to participate and support Ofgem in the design of the new switching arrangements under the governance structure reported in the Strategic Outline Case. It excludes DCC costs which are already included in its estimates. Specifically the estimated costs include:

- participation in work streams (we have assumed four workstreams, each having meetings around every month)
- participation to the Switching Programme Delivery Group, Switching Programme Steering Group, Technical Design Authority
- reviewing and responding to policy and statutory consultations published by Ofgem
- responding to requests for information
- financial resources provided by industry code bodies to design work streams
- cost of modifying industry codes, including funding from SPAAEC and MEC to draft code modifications.

3.152. Based on our implementation assumptions we have modelled programme costs for RP1 over the period 2018 to 2019. For the other reform packages, they have been

modelled over the period 2018 to 2020.

3.153. We expect most of these costs to be staff cost. For simplicity we have assumed that they are fixed for each year and do not vary by reform packages.

3.154. Further, to simplify their estimation we have generally disregarded differences in size between the different organizations involved and assumed there are differences only with respect to time spent reviewing and responding to consultations. This reflects our understanding of the likely resource constraints between organisations.

3.155. We recognise that that is a degree of uncertainty in these costs as they are based on assumptions. We have therefore developed a high and low case around the central case for inclusion in the cost ranges shown at the end of this chapter.

Table 3.16: NPV net programme costs (2018-2035, £millions)

	RP1	RP2	RP3	RP2a
Total (18 year NPV)	6.9	9.6	9.6	9.6

Post implementation costs

3.156. Industry parties were asked to provide information on the additional support needed following go-live. This included the costs and duration of resource needed to resolve unforeseen problems occurring immediately following go-live. Our expectation is that industry parties may choose to retain some of the resource employed to build and test the new arrangements over this initial phase. For the avoidance of doubt, this was resource over and above business as usual.

3.157. The data provided by industry was highly variable both in costs between similar type of party and on duration. We have therefore undertaken an exercise to model the expected cost. In doing this we have made the assumptions on the number of large, medium, small and very small organisations in the market that will have post implementation costs. We have also made assumptions around and the duration of these costs. We have sought to validate these assumptions with experts in this field.

3.158. To simplify our modelling, we have assumed that these costs will fall in 2021 for RP2, RP3 and RP2a. For RP1 they are expected to be incurred in 2020. We have not sought to link costs to particular stakeholder groups eg suppliers, networks etc in the results shown for these industry groups. Instead, we have treated these as a separate cost item. As we have used a bespoke model rather than using industry cost data, it is not necessary to uplift the values to account for non-respondents. To account for uncertainty, we have varied the assumptions around our central case to provide a high and low case which are described at the end of this chapter.

3.159. The assumptions that we have used to derive our costs are shown in Table 3.17 below. We recognise that, were there to be a significant problem at implementation, the

consequences would be far reaching for consumers and the industry and could potentially involve very high costs. We are aware of these potential impacts and will put in place delivery and assurance arrangements commensurate with this risk. In developing the high and low case costs we have not sought to model the impact of a significant failure at implementation but have instead varied the assumptions around the number of FTEs and length of time that a team will be in place around the expected delivery quality, ie that there will be some issues to resolve but that these do not have a serious impact on implementation costs and consumers.

Table 3.17: Assumptions used to derive central case post-implementation costs

	RP1	RP2	RP3	RP2a
Estimated run time (months)	2	3	5	3
Large organisations	21	21	21	21
Medium organisations	14	14	14	14
Small organisations	63	63	63	63
Very small organisations	94	94	94	94
FTEs in each large organisation	10	10	10	10
FTEs in each medium organisation	6	6	6	6
FTEs in each small organisation	1	1	1	1
FTEs in each very small organisation	0.5	0.5	0.5	0.5

Table 3.18: NPV net post-implementation costs (2018-2035, £millions)

	RP1	RP2	RP3	RP2a
Total (18 year NPV)	4.4	6.4	10.7	6.4

Public sector

3.160. For each of the reform packages, Ofgem would incur some transitional costs of continuing to manage the programme through to its conclusion, as well as some very small ongoing staff costs of managing the DCC price control arrangements. These are shown in the table below. The ongoing costs would be incurred for RP2a, RP2 and RP3 only.

Table 3.19: NPV of Ofgem programme costs (2018-2015, £millions)

Transitional	5.76
Annual on-going net costs (undiscounted)	0.02
Total (18 year NPV)	5.99

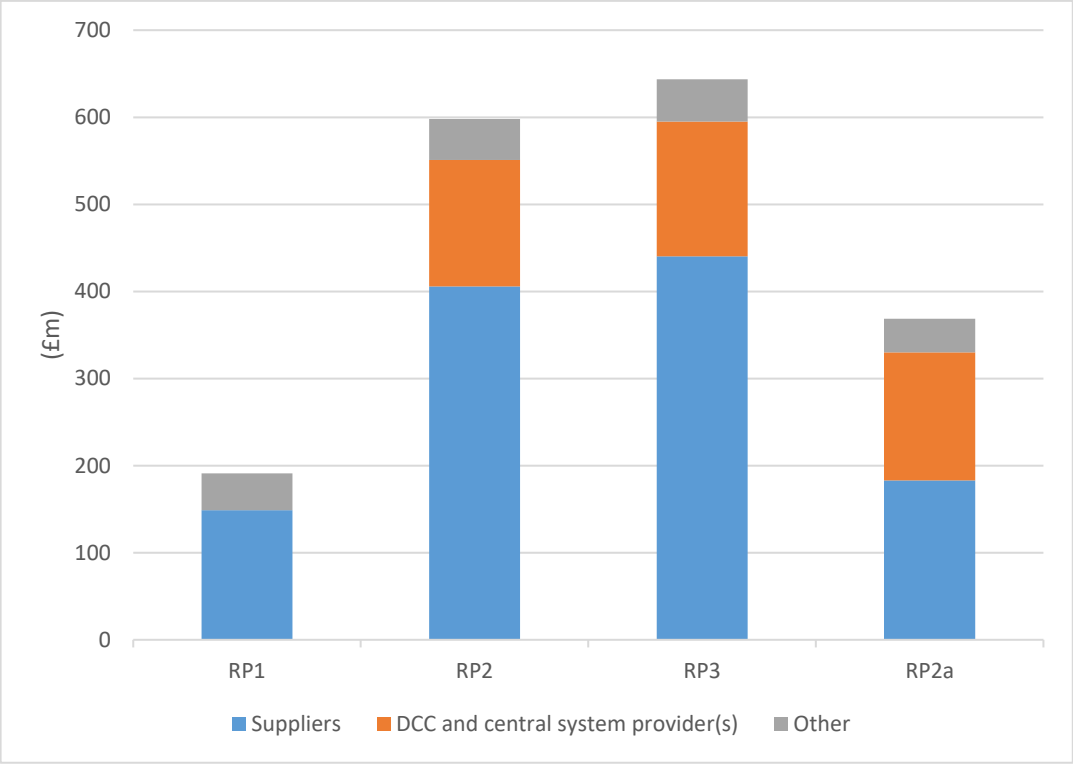
Summary of direct costs and ranges

Summary of direct costs (central case)

3.161. Table 3.1 presented at the start of this chapter summarises the central case direct net costs estimated for industry and the public sector for each reform package.
3.162. This information is shown in graphical form in Figure 3.1 below. This shows that the bulk of the costs would be incurred by suppliers under RP1 and by suppliers and DCC for the other reform packages.

3.163. As described in Chapter 7, we do not think that these costs will be fully passed through to consumers by way of higher bills. Our analysis on the net consumer impacts in Chapter 7 includes an adjustment to these direct costs to account for our expectations on pass through.

Figure 3.1: NPV of total net industry and public sector incremental direct costs by party (2018-35, £millions)



3.164. Table 3.20 below summarises the detailed information provided earlier in this chapter on the costs expected to be incurred by each type of market participant that we have assessed. Note that the category of other includes Ofgem costs, programme costs and post-implementation costs.

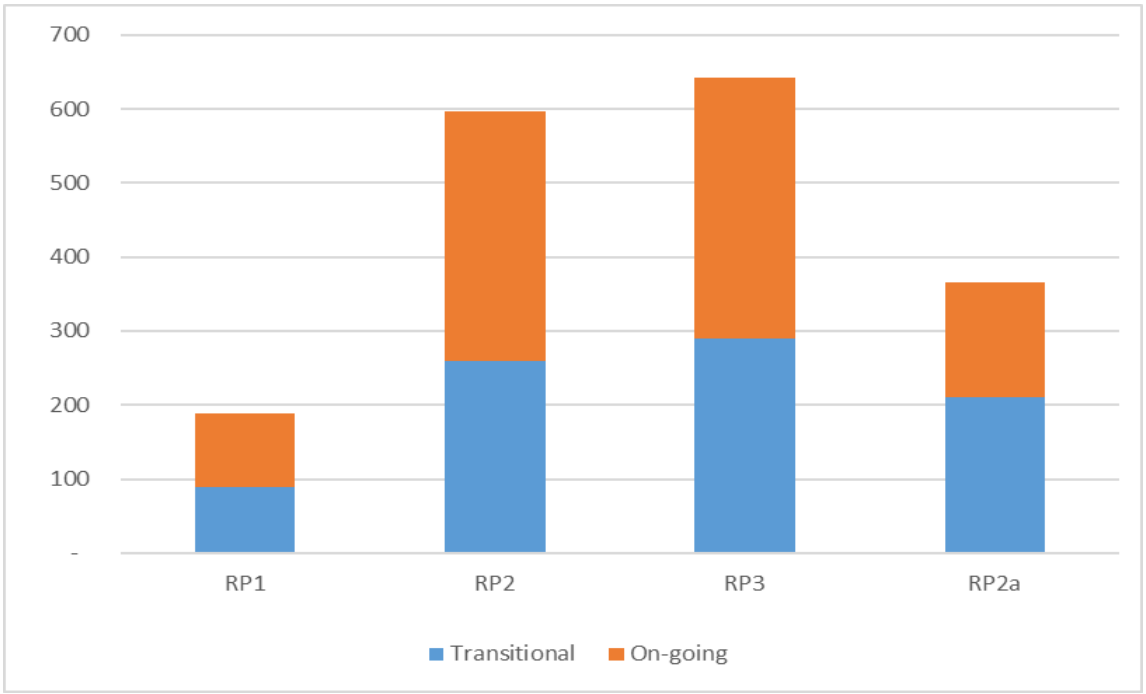
Table 3.20: NPV net incremental costs by party (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Suppliers	148.8	405.6	440.2	182.9
DNOs and ECOES	6.8	8.9	4.0	8.9
GTs	8.5	(3.4)	(0.3)	(3.4)
DCC and central system provider(s)		145.3	154.9	147.1
MAPs	(1.1)	(0.8)	(1.0)	(0.8)
MAMs & MOPs	10.8	11.9	11.1	11.9
TPI		8.5	8.5	
Other	17.4	22.0	26.3	22.0
Total (18 year NPV)	191.2	598.1	643.8	368.7

3.165. In Figure 3.2 below we can see that the investment needed to put in place RP2 and RP3 is the highest of the reform packages. The ongoing costs are also significantly higher than the other reform packages. RP3 is estimated to cost £48mn more than RP2 over the assessment period, with the majority of these costs (£34mn) coming from suppliers. As the MIS in RP3 was intending to deliver efficiency and cost savings for industry, this does not therefore appear offer good value.

3.166. RP2a also requires a significant one-off investment and this is higher than for RP1. However, once in place, the expected ongoing costs for RP2a and RP1 are similar.

Figure 3.2: NPV of total net industry and public sector incremental direct costs by cost type (2018-35, £millions)



Direct cost ranges

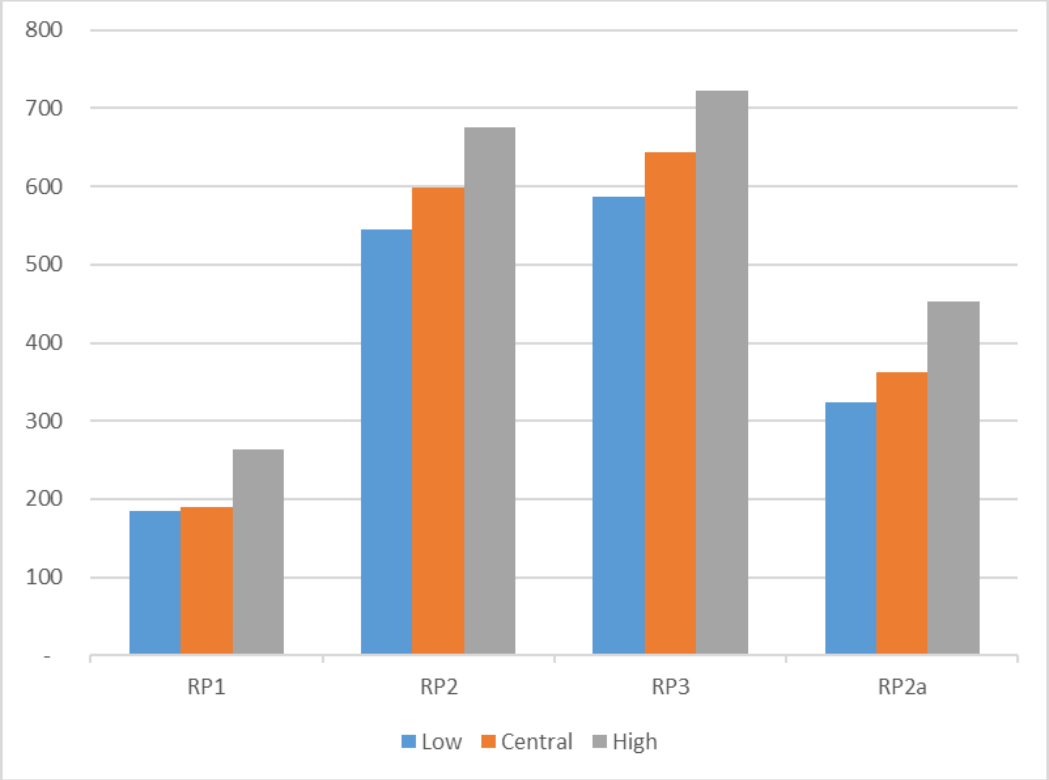
3.167. We recognise that there are significant costs to industry for each of the reform package. We have made extensive efforts to ensure that all those costs are understood as well as possible and included and where the costs have been difficult to obtain or verify we have adopted a consciously cautious approach to ensure that we were as far as possible mitigating the risk of underestimating the costs.

3.168. To account for uncertainty, we have developed high and low costs ranges around our central case. We have developed ranges around the following areas of cost uncertainty:

- programme costs
- post implementation costs
- transitional costs for suppliers that did not response to the January RFI
- transitional and ongoing costs for PCWs
- DCC transitional costs to DBT phase
- DCC internal and external transitional costs during DBT (excluding central coordination and assurance costs)
- DCC and CSS (as well as MIS for RP3) provider ongoing costs

3.169. Figure 3.3 below summarised the range of costs that we have developed around the central case. We have used this range to develop the potential net impacts for consumers shown in Chapter 7. Appendix 4 provides further detail on the assumptions that we have used to derive these ranges and the impacts of these for each stakeholder group.

Figure 3.3: NPV net incremental low, central and high case costs for RP1, RP2, RP3 and RP2a (2018-35, £millions)



4. Monetised Direct Benefits

Chapter summary

This chapter describes our analysis of the direct benefits that we have been able to monetise from faster and more reliable switching arrangements. We have identified significant benefits for RP2a, RP2 and RP3. Our analysis indicates that RP1 would offer lower benefits as it is likely to increase the level of erroneous switches.

Question Box

Question 3: Do you agree that our assessment of the direct benefits of the reforms, including the various assumptions that we have adopted, provides a sound basis for making a decision on a preferred reform package?

4.1. In this section of the impact assessment we set out our analysis of the direct benefits of the reforms that we have been able to monetise. This includes the direct benefits to consumers as well as the efficiency savings for suppliers from more reliable switching. We have estimated the net incremental benefits of each of the reform packages relative to a counterfactual described in Chapter 2. Other key modelling assumptions are set out within the relevant sections of analysis. Our full list of assumptions is in Appendix 4.

4.2. In this chapter we sought to monetise:

- The benefits to consumers and suppliers of improved reliability;
- Consumer time savings from faster switching; and
- Consumer cost saving linked to faster access to improved terms.

Improved reliability

4.3. A core objective of the switching programme is to improve consumers' experiences and perceptions of switching by making the switching process more reliable. This is to reduce the harm that negative switching outcomes can cause directly to consumers, but also to avoid having consumers being put off from engaging with the market in future.

4.4. Where industry premises address data has been recorded in an inaccurate, inconsistent or confusing way, it can lead to a number of unsatisfactory outcomes or experiences for consumers, including those who have not even attempted to switch suppliers. The three main outcomes we have sought to explore within this quantified analysis are where; (i) a consumer is switched in error; (ii) the switch is unsuccessful; or (iii) the switch is delayed.

(i) **Erroneous switches:** these have the potential to be the most harmful and damaging outcomes for consumers, both in terms of the direct harm caused at

the time and also on consumers' trust in the industry and ultimately their likelihood to engage in the future. In a small proportion of cases when a consumer requests a switch, the wrong meter point is identified, and as a result a different consumer, who had not requested a switch, is transferred to the new supplier. This will be confusing, and can be distressing, for the consumer that is unexpectedly switched to a different supplier, potentially receiving a 'sorry to see you go' letter or email from their original supplier. It could also be harmful for the consumer that requested the switch, as they would continue to be supplied by their original supplier, but could start receiving bills (and potentially paying by direct debit) for the supply to two premises. Reversing an erroneous switch then adds unnecessary cost to the suppliers involved and can be a stressful and worrying time for the consumers affected. The primary reason for an erroneous switch is the incorrect meter point being identified by the gaining supplier when registering the switch. There are several potential causes for this, including human error on the part of the consumer and the consumer service operative, but the most prevalent cause is thought to be industry address data that is either incorrect or ambiguous.

(ii) **Unsuccessful switches**: there are a number of points throughout the switching process where the switch may be abandoned by the consumer or their gaining supplier, or rejected by the central switching service. Many of these decisions to give up on a switch are caused by discrepancies between the consumer's understanding of their address, the energy industry's record of their address, and the difficulty of matching these to the consumer's correct meter point. At the initial stage, a consumer may give up at the first hurdle, when going through a PCW and not being able to identify their address in the detail or format they would recognise. Secondly, when seeking to agree a switch with a new supplier, either party may abandon the process before a registration request has been submitted because they are unable to verify the correct address or meter point. Thirdly, following a switch request being submitted, UK Link and MPRS may reject the registrations because they do not contain the appropriate information. Many of the consumers affected may try again and ultimately be successful, meaning they are able to achieve the desired savings, though on a delayed timescale, but they will have wasted time on the initial unsuccessful switch. Many others will be put off by the process and give up, or the problem will continue to prevent them from switching. These consumers miss out on the savings they would have achieved from a successful switch.

(iii) **Delayed switches:** these are switches that, without valid reason (such as an objection or the consumer requesting a specific switch date), are not completed within the existing 21-day standard. There are a number of potential reasons for a switch being delayed, but we know that many are caused by the need to verify data or gather further information regarding a consumer's address, meter point or meter type. This journey can be frustrating for the consumer as things haven't gone as they expected, but also because often it will involve further unexpected communication and effort from them. Also, while a switch is being delayed, a consumer is being prevented from moving to their chosen terms, and may, for example be unnecessarily overpaying for their energy consumption. We have identified from our recent research into the impacts on

consumers of negative switching experiences[51] that the consumer might need to invest a lot of time and effort to rectify the issue, making several phone calls to both suppliers involved, sometimes over a protracted period of time.

4.5. Within our quantified analysis of the reliability impacts of our reforms, we have considered the impact of the improvements that will be made to industry address data, including the initial cleansing activity and matching gas and electricity meter points to a single central premises address database, as well as the ongoing stewardship and maintenance arrangements that will be set out in the new industry data model. These proposed reforms are set out in detail in Chapter 6 of our consultation document. For this quantified analysis, we have firstly sought to estimate the impact the reforms will have on the volume of these incidents occurring, and then secondly we have attempted to place monetary values on the harm that these outcomes cause. Combined, these two pieces of analysis allow us to derive monetised estimates of the direct benefits that will be generated by this element of our reforms through improved reliability.

Methodology and assumptions

4.6. In order to assess the impact of our reforms to industry address data and the ongoing industry data model on each of the reliability issues, we sought to answer the following questions in turn through our analysis, which has been conducted separately for domestic and non-domestic consumers:

a) what is the current scale of the problem?

b) how much of the problem will continue under the counterfactual?

c) will the scale of the problem increase due to faster switching? If so, by how much?

d) what proportion of the problem is caused by poor quality industry address data?

e) what proportion of problems caused by issues with industry address data will our reforms solve?

f) what will be the net impact of our reforms to industry address data on the scale of the problem, relative to the assumed counterfactual?

g) what impact does each instance of the problem have, on consumers and suppliers?

4.7. In order to answer these questions, we have relied where possible on industry reported data, including data provided in response to our January RFI. In the absence of reliable data or relevant evidence or research, we have made a number of judgement-based assumptions that we have sought to explain and justify – see assumptions log in Appendix 4 for detail. In these cases, we have taken a deliberately cautious approach so as to avoid overstating the benefits of the reforms.

[51] Ofgem 2017 research on unreliable switching

4.8. For each of the three areas of analysis, the answers to the above questions a to e are summarised in the table below.

Question	Erroneous Switches	Abandoned switches	Rejected switches	Delayed switches
a) Scale of problem	74,000 (5,800)	140,000 (7,000)	Gas: 385,000 (700) Electricity: 58,000 (9,000)	105,000 (5,000)
b) Continues in counterfactual	85%			
c) Impact of faster switching	130,000 (6,900) withdrawn in current switching window. X 0.4 (year 1 all packages) X 0.975 (RP2 / RP3) X 0.9 (RP2a) X 0.8 (RP1)	N/A	N/A	N/A
d) Proportion caused by poor quality address data	75%	100% (total above estimated in relation to address data issues)	15%	100% (total above estimated in relation to address data issues)
e) Proportion solved by our reforms	Year 1: 65% (RP1) 85% (RP2a / RP2 / RP3) Year 2 onwards: 60% (RP1) 90% (RP2a / RP2 / RP3)			

a) what will be the net impact of our reforms on the scale of the problem, relative to the assumed counterfactual?

4.9. For each of the three areas of analysis, the answers to the above questions a to e have been applied in the following calculation to answer question f) for domestic and non-

HHS non-domestic consumers:

$$f = [a \times b] - [((a \times b) + c) \times d \times e]$$

Erroneous Switches

	RP1	RP2a	RP2	RP3
Impact on volume of erroneous switches in year 1 (domestic)	-8,000	-25,200	-25,200	-25,200
Impact on volume of erroneous switches in year 1 (non-domestic)	-1,700	-2,700	-2,700	-2,700
Impact on volume of erroneous switches in year 2 and for years thereafter (domestic)	+20,900	-12,400	-9,300	-9,300
Impact on volume of erroneous switches in year 2 and for years thereafter (non-domestic)	+200	-1,900	-1,800	-1,800

Unsuccessful switches

	RP1	RP2 / RP3 / RP2a
Impact on the annual volume of abandoned domestic switches in year 1	-78,700	-102,900
Impact on the annual volume of abandoned non-domestic switches in year 1	-3,800	-5,000
Impact on the annual volume of abandoned domestic switches in year 2 onwards	-72,600	-109,000
Impact on the annual volume of abandoned non-domestic switches in year 2 onwards	-3,500	-5,300
Impact on the annual volume of rejected domestic switches in year 1	Gas -31,900 Elec -4,800	Gas -41,700 Elec -6,300
Impact on the annual volume of rejected non-domestic switches in year 1	Gas 0*	Gas 0*

	Elec -700	Elec -1,000
Impact on the annual volume of rejected domestic switches in year 2 onwards	Gas -29,500 Elec -4,400	Gas -44,200 Elec -6,600
Impact on the annual volume of rejected non-domestic switches in year 2 onwards	Gas 0* Elec -700	Gas 0* Elec -1,000

Delayed switches

	RP1	RP2a / RP2 / RP3
Reduction in the annual volume of delays to domestic switches in year 1	-58,000	-75,800
Reduction in the annual volume of delays to domestic switches in year 2 onwards	-53,500	-80,300
Reduction in the annual volume of delays to non-domestic switches in year 1	-2,800	-3,700
Reduction in the annual volume of delays to non-domestic switches in year 2 onwards	-2,600	-3,900

b) what impact does each instance of the problem have, on consumers and suppliers?

4.10. Table 4.1 below sets out our assumptions for the impact each of the reliability issues has on consumers and suppliers. The basis of these assumptions is explained in full in the assumptions log in Appendix 4. The estimates for supplier costs have been informed by responses to our RFI in January. Assumptions for consumer time and effort are partially informed by our recent qualitative survey of consumers on the impacts of negative switching experiences, which found that those consumers faced with a delayed or failed switch would typically go back and forth between suppliers, making several phone calls as a result.[52]

[52] Ofgem research on unreliable switching

Table 4.1: Assumptions for the impact of each reliability issue has on consumers and suppliers

	Consumers	Suppliers
Erroneous Switches	Harm to each consumer valued at £40	Cost to both gaining and losing supplier of £63
Abandoned switches	70% achieve savings of an additional switch 30% save one hour of time @ £5.59 (£14.59)	Cost to gaining supplier of an abandoned switch of £20
Rejected switches	10% achieve savings of an additional switch 90% save one hour of time at above rates.	Cost to gaining supplier of a rejected switch of £20
Delayed switches	Cost of one hour of time at above rates.	Cost to gaining supplier of £60.

4.11. The estimates for the reduction in each of the negative switching outcomes (question f) has been multiplied by the assumptions for the impact of each of these outcomes on consumers and suppliers (question g) to produce estimates for the total benefits of improved reliability. These aggregated benefits are set out in Tables 4.2 and 4.3.

Table 4.2: Monetised reliability benefits, by switching outcomes

	Erroneous switches NPV	Unsuccessful switches NPV	Delayed switches NPV	Total reliability impacts NPV
RP1	-£41mn	£100mn	£40mn	£99mn
RP2a	£34mn	£148mn	£59mn	£243mn
RP2 / RP3	£28mn	£148mn	£59mn	£236mn

Table 4.3: Monetised reliability benefits, by stakeholder

	Domestic consumers	Non-domestic consumers	All consumers	Suppliers
RP1	£56mn	£9mn	£65mn	£35mn
RP2a	£118mn	£15mn	£133mn	£111mn
RP2 / RP3	£116mn	£14mn	£130mn	£107mn

4.12. Our central analysis suggests that RP1 would result in a substantial increase in ESs, which would place the benefits of increased engagement at risk. This is supported by our recent qualitative survey of consumers on the impacts of negative switching experiences, which found that some consumers that had experienced erroneous switches were less likely to consider switching again. Some also told their family and friends about

the experience.[53] This finding suggests that RP1 is unable to simultaneously achieve our objectives for fast, and more reliable switching.

4.13. The results are much more positive for the other reform packages, with an ongoing reduction in erroneous switches expected in our central analysis.

4.14. By introducing our data improvement measures, we could see the number of switches going through smoothly, successfully, and on time, increase by several hundred thousand each year. This would be hundreds of thousands of consumers each year that would be left with a more positive experience of the process, and no doubt be more likely to engage again in future.

4.15. The findings of our analysis for RP2a, RP2 and RP3 differ only very slightly on erroneous switches. We have estimated that RP2a would deliver a slightly larger reduction in the volume of erroneous switches as the expected switching time would be slightly longer, giving suppliers an extra day or two to identify and withdraw erroneous switches before they are executed.

4.16. However, given the high level of uncertainty in the assumptions adopted, and the relatively small margin for error in the estimated benefits, we consider that there may be a significant residual risk of an increase in the volume of erroneous switches under RP2a, RP2, and RP3 if the industry were to move to next day switching but the expected improvements to data quality had not materialised. The analysis therefore suggests that an initial transitional period with expectations for switching speeds of around one week would be prudent. During this period Ofgem would monitor and test whether its expectations for the effectiveness of data improvement measures were accurate. We would only move to an expectation of next-day switching once we are confident that the desired improvement in reliability has been achieved. Should the monitoring show that significant reliability issues remain we should seek to identify further improvements to data quality or industry best practice before moving to an expectation of next-day switching.

Consumer time savings

4.17. During the existing switching time of around three weeks, consumers may unnecessarily spend time engaging emotionally or actively with the switch. This could manifest itself in a number of ways:

- Consumers are likely to spend small amounts of time sporadically thinking about their switch, wondering what is happening, or being frustrated by the lack of progress.
- Seeking out updates or information on when their switch will go through, or what is holding it up. They may do this through electronic channels such as checking mobile apps or online accounts, or through live chats or email. These activities would only be expected to take a small number of minutes. Where consumers call

[53] Ofgem research on unreliable switching

up their supplier to request an update, this would take more time, depending on the supplier in question.[54]

- Currently, when suppliers are ready to execute a switch, the gaining supplier will contact the consumer to request a meter read to be used as the opening and closing read. This will require the consumer to re-engage with their switch, possibly reading their meter for a second time, but certainly either logging back into an online account or having an additional phone call.

4.18. By introducing much faster switching that takes place within a few days, consumers are unlikely to spend additional time thinking about their switch or seeking updates. This is likely to be down to a combination of the much faster switch, and the greater certainty and clarity they will have about the timescales to expect. Where switches are successful, consumers should only have to engage with the issue once at the time of the initial switch request. Faster switching should therefore save consumers small amounts of time. We have had to make an assumption about the average amount of time consumers might spend on the activities highlighted above. We recognise that for many consumers the figure may be just a few minutes, while for others that seek to get in contact with their supplier for an update and/or submit opening/closing meter readings by phone, the time saving could well be in excess of 30 minutes. We have assumed a cautious range of 5 – 15 minutes saving for each consumer that would have switched in the counterfactual (10 minutes in our central case) using the existing slow switching arrangements.

4.19. Though the actual number of recorded switches over the year is assumed to be 7.76mn in the counterfactual, the majority of these switches are part of a dual fuel switch request, meaning that the consumer is going through one active switching journey for two meter-point switches. To apply a time saving to every single meter point switch would therefore be double counting much of the benefit. We do not collect data for the volume of dual fuel switches, so we have made an estimate based on the proportion of homes that have supply of both fuels, with a slight adjustment to account for some households that choose different suppliers for gas and electricity. On this basis, we have assumed that 30% of consumers' requests to switch are for a single fuel, and the remaining 70% are part of a dual fuel switch. This gives us an estimate of 4.6 million unique (successful) domestic consumer switching journeys.

4.20. For domestic consumers, we have valued this time saving in line with DfT's valuation of individuals' non-working time in relation to travel at £5.59 per hour.[55] For non-domestic consumers the time has been valued as £14.59 per hour, based on Annual Survey of Hours and Earnings data for earnings of employees working in micro-businesses (0-9 employees).[56] We have only assumed that this benefit will apply to micro-businesses switching their non-domestic supply of electricity. This is on the basis that larger businesses are likely to agree their contracts in advance, and are less likely to have

[54] Research by Which? suggests average call waiting times vary from under one minute to as much as 14 minutes.
[55] DfT webtag databook. Figure in 2010 prices at source has been uprated to 2017 prices to account for inflation.
[56] ASHE 2016 provisional results for 2016 suggests an average weekly wage for full time employees of micro-businesses of £448.80. This has been divided by 40 to get an hourly rate, and uprated by 30% to account for non-wage labour costs. This is in line with HMT Green Book guidance on the factors typically applied by other government departments.

contractual arrangements in place that would allow them to benefit from faster switching. We have focused on electricity switches only as we do not have data to inform assumptions for the volume of non-domestic gas switches conducted by microbusinesses. Nevertheless, the impact in the gas market, where switching volumes are much lower, is likely to be small. To derive the number of microbusinesses switching each year, we applied the non-domestic electricity switching rate to the number of micro-businesses that we estimate have a non-domestic electricity account (ie they are not based in their own home).

4.21. This analysis was conducted separately for microbusinesses with no employees, and for those with 1-9 employees. There are approximately 4.18mn microbusinesses with zero employees,[57] and we estimate that 35%[58] of these businesses have a non-domestic electricity account. There are a further 1.1mn microbusinesses with 1-9 employees, of which we have assumed 69%[59] have a non-domestic electricity account.

Calculation for domestic consumers' time saving:

	Variable	Central assumption
a	Annual volume of unique domestic switching journeys in the counterfactual	4,600,000
b	Time saving (hours)	0.17 (10 minutes)
c	Value per hour of non-working time	£5.59

Value of domestic annual time saving = a x b x c
= £4.37mn pa

Over 15 years, this gives a PV benefit of £47mn.

Calculation for non-domestic consumers' time saving:

	Variable	Central assumption
d	Non-domestic electricity switching rate	16%
e	Number of microbusinesses with zero employees	4,180,000

[57] BEIS Longitudinal Small Business Survey (2016)
[58] Ofgem research conducted by BMG Research Ltd, Micro and small business engagement in the energy markets, Figure A.3.1.
[59] BEIS Longitudinal Small Business Survey (2016), Table 3.6.

f	Proportion of microbusinesses with zero employees that has a non-domestic electricity account[60]	35%
g	Number of microbusinesses with 1-9 employees	1,100,000
h	Proportion of microbusinesses with 1-9 employees that has a non-domestic electricity account	69%
i	Time saving (hours)	0.17 (10 minutes)
j	Cost per hour of a microbusiness employee	£14.59

Value of annual time saving to microbusinesses = [(e x f) + (g x h)] x d x i x j = £0.82mn.

Over 15 years, this gives a PV benefit of £8.82mn.

4.22. The time saving is assumed to be achieved equally under each reform package, as they would all likely avoid the time-wasting activities identified in the analysis above.

Bill saving to highly engaged consumers through faster access to improved terms

4.23. Faster switching will enable consumers to switch to improved terms two-to-three weeks earlier than they otherwise would have been able to. However, due to the automatic roll-back onto standard variable terms at the end of fixed term deals, if these consumers take no further action, they will also return to the less favourable SVT a few weeks earlier than they otherwise would have. In most cases, consumers will end up paying the same amount for the energy over a period of a number of years, but the profile of their bills may be very slightly adjusted.

4.24. Consumers that are very highly engaged in the market could be the exception to this rule. If consumers take action to avoid reverting back onto the SVT for prolonged periods each and every time their fixed term contract ends, they can effectively 'bank' the savings brought forward by faster switching in perpetuity. Though the most engaged consumers in the market may agree new fixed deals on a regular basis, they may occasionally lapse onto the SVT for very brief periods (ie if they only remember to switch at the very end of their deal). A consequence of faster switching would be that these lapses would automatically be reduced or avoided as the lag between decision and switch would be removed. This benefit is assumed to apply only to domestic consumers. The more complex nature of non-domestic contractual arrangements, coupled with the much lower absolute volume of non-domestic consumers likely to exhibit this type of behaviour, mean the benefit would be negligible once monetised, if applicable at all.

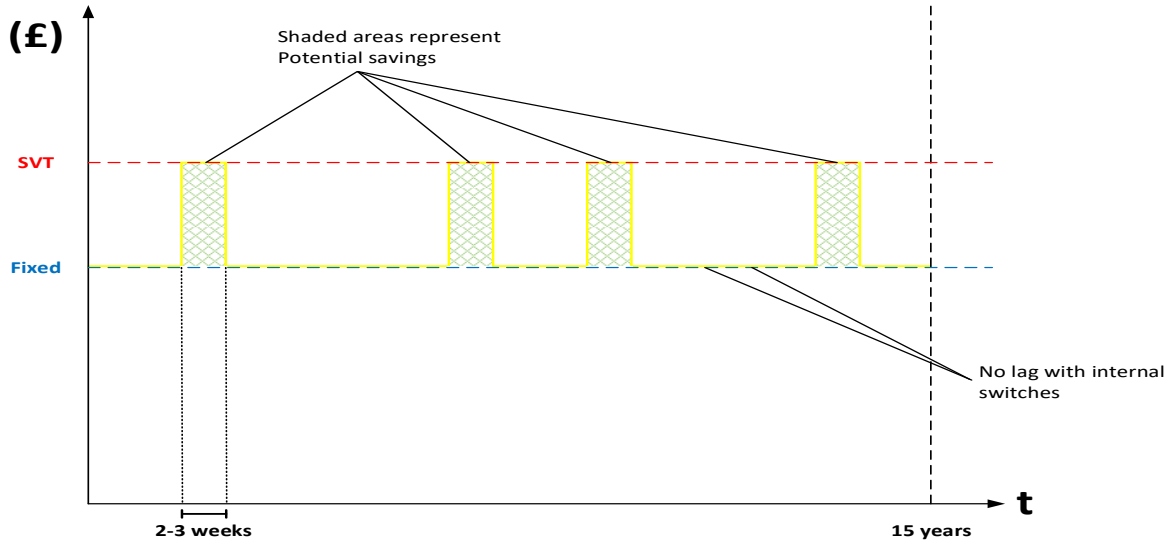
[60] Some very small businesses, including those that operate out of their owner's home, will only have a domestic energy account. We have therefore had to make an assumption for the proportion that do have a non-domestic account. We have conducted this analysis separately for businesses with zero employees, as they are much more likely to be managed from a home.

4.25. For faster switching to deliver a direct bill saving to consumers, they would need to exhibit two key behaviours in the counterfactual, as well as once the reforms are implemented:

- They are highly engaged in the market – they recognise the savings available from agreeing fixed term deals, and will seek to avoid being on the SVT for any prolonged periods at any stage. They will do this by regularly, each and every time their fixed deal comes to an end, either by switching tariffs with their existing supplier, or switching to a new supplier.

- They will sometimes leave things until the last minute – while they are keen to avoid reverting back on to the SVT for prolonged periods, managing energy bills is rarely anyone's top priority. Each time their fixed term deal comes to an end, they will seek to agree a new one, but it is unlikely that they will always get around to doing so early enough to avoid lapsing onto the SVT. In the current arrangements, if a consumer seeks to switch suppliers at the very end of their contract, they will spend around three weeks on a more expensive SVT rate before their switch is executed. Consumers would need to be organised enough to request their switch several weeks in advance of their contract end-date to avoid this situation. Though some suppliers may send out reminders in advance of this date, we know that prompts do not always translate into action, particularly when the consumer will feel they have plenty of time. One example where this may be particularly common is when consumers move home, and seek to switch away from the incumbent supplier once they have moved in.

Figure 4.1: An illustrative profile of a highly engaged consumer's energy bills over our appraisal period



4.26. By speeding up switching, we will enable these consumers to avoid or shrink the temporary spikes in their energy bills, saving each of them a small sum of money across the appraisal period. Though this saving is not the central rationale for intervention, it is a positive consequence for those effected and has therefore been factored into our analysis. We have developed a methodology and supporting assumptions to estimate this benefit

for domestic consumers only. For simplicity, we have assumed that the most highly-engaged consumers captured within this analysis are all direct debit consumers.

4.27. Where non-domestic consumers fail to agree new fixed terms in time to avoid lapsing onto a variable tariff, we know that many of them will automatically have a notice period introduced with their variable contract. Even with faster switching, these non-domestic consumers will not be able to avoid spending their notice period on the variable tariff. We have therefore excluded non-domestic consumers from this analysis as the benefit is likely to apply in a very small number of cases.

Calculation for savings to highly engaged domestic consumers

4.28. We have first sought to estimate the savings that each of these highly engaged domestic consumers might achieve over the fifteen-year period that we are appraising benefits. We have then sought to estimate the number of domestic consumers that might currently adopt this pattern of behaviour. The approach to these calculations is set out below.

i) How much will an average 'highly engaged' domestic consumer save over fifteen years due to faster switching?

	Variable	Central assumptions
k	Average number of new contracts agreed over 15 years by a highly engaged consumer	10.7
l	Proportion of new contracts agreed through external switches (as opposed to internal switching)	50%
m	Number of external switches conducted by a highly engaged consumer over 15 years	k x l
n	Proportion of switches executed after the end of a fixed term contract	60%
o	Reduction in average switching time (days)	RP1/2a = 15.5 RP2/3 = 18
p	Daily saving available from a dual fuel switch	£0.72
q	Daily saving available from an electricity only switch	£0.31
r	Total number of dual fuel domestic consumers	21,400,000
s	Total number of electricity only domestic consumers	5,700,000
t	Proportion of domestic consumers that are highly engaged[61]	6%

[61] The Ofgem annual consumer engagement survey for 2016 found that 12% of consumers had conducted at least four external switches in the past. It also found that 7% of consumers had conducted at least four internal

Additional saving per highly engaged dual fuel consumer over 15 years = m x n x o x p

	Dual fuel	Electricity only
RP1 / RP2a	£36	£15
RP2 / RP3	£41	£18

ii) How many 'highly engaged' domestic consumers will there be over the appraisal period?

Number of 'highly engaged' dual fuel domestic consumers = r x t
= 1,284,000

Number of highly engaged electricity only domestic consumers = s x t
= 342,000

Total nominal saving to highly engaged consumers over 15 years = saving per consumer x number of highly engaged consumers

4.29. These nominal benefits have been assumed to be evenly spread across the 15-year operational period to and then discounted to produce an NPV. The NPV benefit to highly engaged domestic consumers is estimated to be £40.66mn for RP2 and RP3, and £35.26mn for RP1 and RP2a.

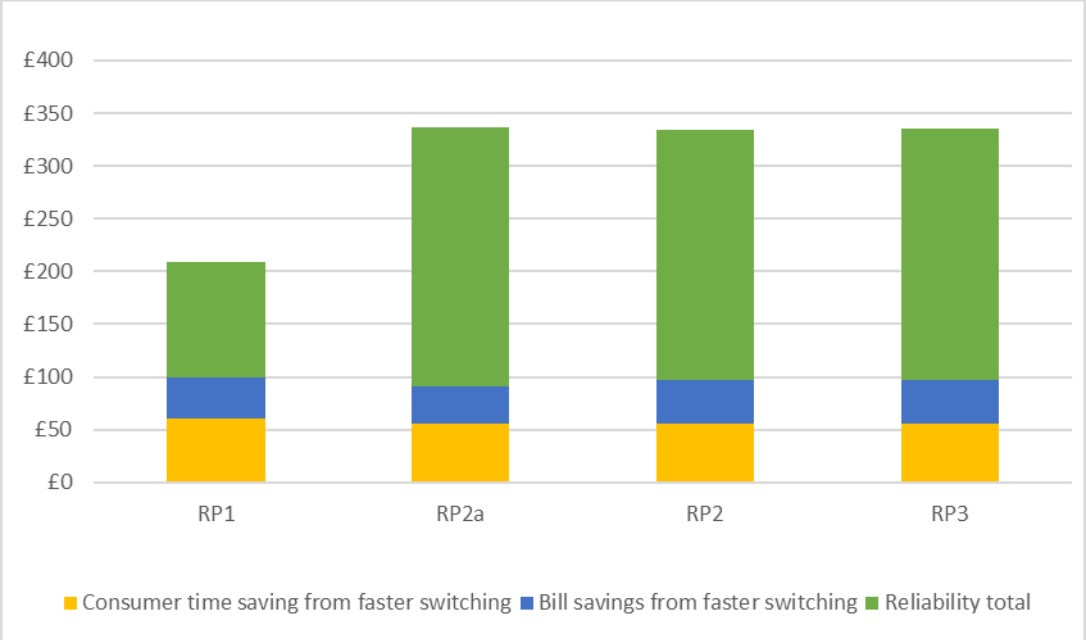
4.30. The scale of the benefit that will be accrued by these highly engaged consumers depends on the number of calendar days avoided on the SVT. RP2 and RP3 will both operate equally on a next calendar day basis, so the analysis is the same for both. There is likely to be only one day's difference in the average speeds of RP1 and RP2a, which would yield a negligible difference for this analysis. As both RP1 and RP2a would operate on a working day basis, we have assumed the average switching speed under those packages would be a couple of calendar days slower than under RP2 and RP3. This has fed through to a slightly larger benefit for RP2 and RP3.

Summary of monetised direct benefits

4.31. As figure 4.2 below shows, the main difference between the reform packages in the monetised benefits is the extent to which they deliver improvements to reliability. RP1 is expected to offer significantly lower benefits to consumers and the industry as the retention of separate systems for gas and electricity, as well as the existing arrangements for maintenance and stewardship of data. The direct benefits to the other three packages are very similar. The marginally higher reliability benefits of RP2a, due to slightly slower switching, are roughly offset by the small additional bill savings that the faster switching speed RP2 and RP3 delivers.

switches in the past. We have assumed there is likely to be significant overlap between these two groups, and that these individuals are the most likely to be highly engaged consumers going forwards. Our assumption of 6% is intended as a cautious based assumption based on this limited data.

Figure 4.2: Monetised central estimates of the direct benefits for each reform package (£mn)



5. Indirect benefits

Chapter summary

In this chapter we describe the indirect benefits that we monetised linked to consumer savings from increased engagement. It is difficult to predict what level of increase we can expect in consumer engagement. We have therefore developed three scenarios which are presented for illustrative purposes only.

Question Box

Question 4: Do you agree that our illustrative analysis of the indirect benefits provides a reasonable assessment of the potential scale of the savings that could be made by consumers through increased engagement in the market?

5.1. The retail energy market is sufficiently complex and dynamic that predicting long-term consumer and supplier behaviour to any reasonable level of accuracy in the counterfactual, or in response to our reforms, would not be practical. While there are events, such as price spikes that have predictable short term impacts on switching rates, trends over the longer term are much harder to explain. Though we are confident that removing friction from the switching arrangements and improving experiences through improved reliability will lead to increased engagement, we do not have sufficiently robust evidence to inform a central estimate for what this consumer response will be. While we have evidence from consumer research that informs us of the proportion of consumers that would value the changes we are proposing, we can't expect stated preferences to necessarily turn into action. Also, although it is helpful to look at other sectors that have made similar improvements to the switching arrangements, there is no comparator that can be fully relied upon with confidence.

5.2. We have therefore sought to produce several illustrative scenarios for a range of outcomes that we believe are plausible, supported by evidence where possible, in order to demonstrate the scale and range of benefits that could be achieved in the domestic market. We will use this analysis to give us confidence that our reforms will lead to positive outcomes for consumers, rather than to estimate the exact value of the benefit. In particular, we will demonstrate that a very modest consumer response to the reforms could generate significant consumer benefits. We have produced some scenario analysis to illustrate this point.

Expectations for increased engagement

5.3. By reforming the switching arrangements, we will improve consumers' experience of the process, which should in turn improve consumers' general perceptions of the level of hassle and risk involved. We know from consumer research that, although the potential savings available are by far the biggest driver of consumer behaviour, there are other barriers to engagement that are important to consumers. In response to our latest Consumer Engagement Survey, 46% agreed that switching is a hassle that they don't have time for, 41% agreed that they worry if they switch something will go wrong, and

27% said it takes too long. Speeding up the process should help to dispel the misconception that the process is complex and risky, or that it needs to be resource intensive, and making the process more reliable will give consumers greater faith that they can engage with the market without something going wrong.

5.4. By linking gas and electricity meters to the same single address, and giving the consumer greater confidence that they can switch both fuels together at the same time, we anticipate making the process much more consumer friendly.

5.5. Collectively, these changes will reduce the costs to consumers of switching, both perceived and real, and as a result make engaging with the market more appealing. We would therefore expect consumers to be more willing to shop around for the best deal and take up the savings on offer. This should lead to a higher level of switching than we would otherwise have seen, generating savings for those consumers on their energy bills. This may either be seen through increased switching by those who are already partially engaged in the market, or through completely disengaged consumers beginning to engage for the first time.

5.6. Both the threat and the experience of additional switching in the market will provide greater incentives for suppliers to try and attract new consumers, and to take steps to retain their existing consumers. They may seek to differentiate themselves by lowering their prices, improving their consumer service, and offering innovative new products and services.

5.7. As well as encouraging further increases in switching between suppliers, the stepping up of consumer retention efforts ought to result in more consumers switching tariffs with their existing supplier, generating further savings.

The counterfactual and modelling assumptions for the scenario analysis

5.8. As outlined above, it would not be practical to forecast consumer behaviour over a prolonged period, nor would it be feasible to accurately forecast the fluctuations in the energy market that would occur in our counterfactual. We have therefore made a series of simplifying assumptions about how the market would have continued to operate in the absence of our reforms, as well as for the benefits that will continue to be available to consumers that choose to switch suppliers or tariffs. The key element of these assumptions that enables us to conduct simple scenario analysis is that each of the variables are assumed to be constant over time. While we recognise that this will not be the case, and that there will be significant volatility in parameters such switching volumes, we do not feel that we could make any alternative assumptions with any greater degree of confidence. The key assumptions made to inform this are consistent with the assumptions made about the counterfactual for the rest of the impact assessment, but for clarity, they are presented below.

Time period

5.9. Following implementation of the reforms, we have modelled all ongoing costs and benefits over a 15-year operational period. For NPV purposes, the first year that benefits are accrued is the fourth year of our appraisal period.

Switching volumes

5.10. We have assumed that external and internal switching volumes in the counterfactual will be equal to the levels in 2016, and that they will be constant for the full 15 years of operation. This gives annual totals for external and internal switching of 7.76 million and 16.74 million respectively.[62]

Consumer savings from switching

5.11. We have estimated the savings available from switching by analysing the price differentials between the different tariffs available in the market. These assumptions are set out in the table below.

	Central assumption
External switch: domestic DD consumer	Dual fuel - £261
	Electricity only - £112
	Gas only - £149
External switch: domestic PPM dual fuel consumer	Dual fuel - £77
	Electricity only - £33
	Gas only - £44
Internal switch	Dual fuel - £133
	Single fuel - £67

5.12. The savings available from switching tariffs, externally or internally, are assumed to be constant over time.

5.13. While the above assumptions may overstate the financial benefits that some consumers actually achieve from switching, these assumptions are intended to value the full range of benefits to a consumer from switching. Where a consumer makes a choice to switch to a supplier or tariff that is not the cheapest in the market, we can expect that they must be valuing other benefits at least at the value of the savings foregone. For example, consumers may value switching to a supplier they are familiar with and have confidence in, or because they are known for their high levels of consumer service. We also know that many consumers are now switching to certain suppliers based on moral

[62] We have tested the impact of an increase in the rate of external switching in our sensitivity analysis in Appendix 3.

reasons eg to consume green energy.

Illustrative analysis for indirect consumer savings

5.14. We have modelled the three illustrative scenarios below:

1) Scenario 1 – based on very cautious and simple assumptions for an increase in both internal and external switching.

2) Scenario 2 – based on consumer survey evidence on barriers to switching

3) Scenario 3 – based on experience following reforms to the current account switching arrangements

5.15. While scenarios 1 – 3 are not specific to a particular reform package, we highlight later in this section why we would have the lowest level of confidence that RP1 would generate these benefits.

Scenario 1

5.16. We start the scenario analysis by seeking to illustrate, through a set of deliberately cautious assumptions, what might reasonably be seen as a lower bound on the savings we should expect to be generated from additional consumer engagement.

5.17. To start with, in the first year, we have assumed that additional media and public interest and advertising, particularly by PCWs, will generate a surge in switching over a one-month period. We have assumed this surge in switching will be similar to the one that followed the price rise announcements in November 2013, which increased switching volumes by 50% for that month. For all years that follow we have assumed that the volume of external switches will be 1% higher than in the counterfactual. We also assume that, due to increased competition and consumer retention efforts, the volume of internal switches[63] will be 2% higher than the counterfactual in every year.

5.18. To put these assumptions into context, a 1% increase in the volume of switches relative to our assumed counterfactual would represent an additional 77,600 individual meter point switches. With a market switching rate of 16%, this increase would only move the switching rate up to 16.16%. Over 15 years this would only mean an additional 1.4 million external switches, and around 4.7 million internal switches.

5.19. We are confident that the major improvements to the end-to-end switching experience being proposed as part of our reforms could be expected to generate a more significant consumer response than is assumed within this scenario. We are therefore treating the benefits estimated within this scenario as the lower bound for the consumer

[63] A consumer moving to a new tariff with their existing supplier is referred to in this document as an internal switch.

savings that could be generated from increased engagement.

5.20. Over 15 years, these small changes in consumer behaviour would deliver NPV savings to consumers of £339 million.

5.21. In addition to a loss of revenue, of the same value to suppliers, we estimate that this additional switching activity would also cost suppliers £51 million to facilitate in NPV terms. Increased switching is likely to increase supplier costs for example, through higher resource requirements to manage these switches. The total NPV cost to suppliers in this scenario would therefore be £390 million.

Scenario 2

5.22. For this scenario, we have considered how consumers may respond to the reforms by analysing reported attitudes towards particular triggers that may make them more likely to switch. When consumers were asked in January 2017[64] to select the most important factor that would make them more likely to switch or consider switching their energy supplier in the future, they responded in the following proportions:

Unweighted Base	*6734*
Base	*20394*
Better information about the deals available and likely savings	*12.86%*
Greater financial savings on offer	*61.16%*
Choice of when the switch takes place	*2.07%*
Ability to switch within a couple of days	*3.87%*
Confidence that nothing would go wrong	*9.56%*
Ability to switch my gas and electricity supply at the same time	*4.31%*
None of the above	*3.85%*
Other	*2.33%*

5.23. The rows highlighted in blue are the changes that will be partially or fully achieved by the Switching Programme reforms. Around a fifth of the consumers interviewed identified one of these issues as the most important factor that would make them more likely to switch or consider switching. It may therefore be reasonable to assume that the reforms will have an impact on some of this group's propensity to switch. For the basis of this scenario, we have assumed that half of this group will conduct just one additional dual fuel switch over the entire 15-year period. In other words, 10% of households[65] would conduct one additional switch in 15 years. This is not to suggest that the reforms will encourage over two million disengaged households to enter the market for the first time. Though we would hope the reforms would speak to the disengaged market, this level of change could be achieved largely by those households already engaged in the market switching slightly more frequently than before. For instance, a consumer may be less inclined to put off seeking out a better deal if they had confidence that the switch

[64] Source: GfK Energy360, a syndicated energy market tracker
[65] 10% of households equates to around 2.1million dual fuel accounts and 570,000 electricity only households.

could be completed quickly and reliably.

5.24. Similar to Scenario 1, we have assumed that there would be a spike in the first year due to media interest and increased advertising, though in this scenario we have assumed the high-profile advertising campaigns would run for a longer period of two months.

5.25. This approach leads to an assumption that there will be an additional 650k meter point switches in year 1 (a 12.5% increase across the year). This is then followed by an uplift from the baseline of 350k in each year thereafter. From a base of 7.76 million switches per year, an additional 350k switches pa would equate to a 4.46% increase in external switching.

5.26. This would increase the average number of individual meter point switches per household over the 15-year period from 4.31 to 4.54.

5.27. Over 15 years, these changes in consumer behaviour would deliver NPV savings to consumers of £511 million. This scenario does not include any potential benefits from additional internal switching that might result from increased consumer retention efforts, which we would expect to be additional to these benefits.

5.28. The total NPV cost to suppliers in this scenario, combining the loss of revenue and the additional switching costs, would be £611 million.

Scenario 3

5.29. We have developed this scenario based on our understanding of the experiences within the current account market following the reforms of the switching arrangements in September 2013. Through extensive discussions with Bacs we have developed the following understanding of the impact of the current account switching reforms:

- The reforms had a strong positive impact on the innovative offerings available in the market, both in the lead up to the launch (following announcement of the programme) and after the launch. The large increase in current account switching in the first year after the launch (around 20%) was believed to have been driven mainly by three factors: (i) the increase in more rewarding product offerings; (ii) the sustained high-profile media campaigns; and (iii) a drop off in switching the year before launch as banks and consumers waited for launch.

- In the two years that followed there was approximately a 13-14% increase in switching volumes relative to the years before the launch. This was still being driven by a combination of (i) and (ii) above.

- Over the last year both of those factors have diminished, and as a result the switching volume is likely to be below pre-launch levels.

- Product offerings and incentives to switch have fallen away as banks are focusing much more on consumer retention as a response to the increased switching. This

has included consumers taking up rewards and innovative product offerings to stay with their incumbent current account provider.

- This situation is currently forecast by Bacs to continue, and the increased innovative offerings to retain consumers is seen as the sustained impact of the reforms.

5.30. We have adapted the above narrative to generate this scenario for the domestic retail energy market, with the assumptions set out in the table below. Though this scenario is based on the experience in the current account market, it is not intended to replicate it exactly, nor should the assumptions adopted here be taken as an evaluation of the impact of the current account market reforms, or a forecast of their ongoing impact. The markets are different in a number of ways, including the existing levels of engagement, the incentives to switch, and the underlying barriers to engagement. There are good reasons why the supplier and consumer response in the energy market may be more or less pronounced, hence the scenario is presented purely as an illustration of scale.

Table 5.1: Profile of assumed impact on switching volumes in Scenario 3

	Year 1	Year 2	Year 3	Years 4-15
External	15%	5%	5%	3%
Internal	1%	1%	3%	5%

5.31. We have assumed the switching reforms in the energy market will have a larger sustained impact on external switching, as consumer research demonstrates the reforms are tackling genuine barriers to engagement, and there are clearer and larger financial incentives for repeat switching in the retail energy market.

5.32. Over 15 years, these changes in consumer behaviour would deliver NPV savings to consumers of £908 million.

5.33. The total NPV cost to suppliers in this scenario, combining the loss of revenue and the additional switching costs, would be £1,074 million.

Results

5.34. These scenarios are intended only to illustrate what the benefits of increased engagement could be as a result of improving the switching arrangements for consumers. Each of the scenarios is not linked to a particular reform package, nor are we suggesting that each package will have an equal impact on consumer engagement and competition. While we would expect the features of RP2a, 2, and 3 to generate a larger consumer response than RP1, we have not sought to reflect this variation within this analysis.

Table 5.2: Summary of NPV indirect benefits to consumers estimated for the three scenarios

Scenario	NPV Consumer saving (£mn)
1 – cautious assumptions, incorporating additional internal and external switching.	£339
2 – based on consumer research on barriers to switching	£511
3 – based on the experience in the current account market	£908

5.35. This illustrative analysis suggests demonstrates that just a small change in consumer behaviour would generate large financial savings. This analysis also gives us a high degree of confidence that, even if our most pessimistic estimates of the direct costs and benefits to consumers were to be accurate, the net direct costs of RP2a would be comfortably offset by these indirect benefits. Though the same can be said for RP1, we have a lower level of confidence that this would be achieved given the potentially harmful impacts the package could have on the volume of erroneous switches. The analysis is also less conclusive at this stage for RP2 and RP3, with both requiring a larger change in consumer behaviour to offset the costs that we would expect to be passed through.

Rebound effect

5.36. An increase in switching to cheaper tariffs will mean that consumers will be able to heat and light their homes and run their appliances in the same way, but at a lower cost. This is the same outcome from the consumers' perspectives as if they had made their home more energy efficient. Ultimately, it frees up funds which can be spent on energy or other goods and services. Any resulting increase in energy use is known as the "rebound effect". A financial saving or expenditure that changes the consumption of the same energy product is defined as a direct rebound effect. Conversely, a saving or expenditure that changes consumption of other energy products or other goods is defined as an indirect rebound effect.

5.37. As our above analysis of consumer savings is intended as illustrative only, and not linked specifically to any particular package of reforms, we are unable to robustly estimate the likely level of comfort taking that would apply to each reform package. This means that, although the consumer NPV estimate would be unchanged, there is an environmental cost of increased emissions that has not been quantified or monetised at this stage.

6. Non-monetised benefits

Chapter summary

This chapter identifies the wider benefits of faster and more reliable switching from reducing barriers to switching and providing a flexible platform for the future that will be able to support innovation in products, services and market structures.

Question Box

Question 5: Do you agree with our assessment of the wider non-monetised benefits of our reform proposals?

Supporting approaches to increased engagement

6.1. In a competitive energy market, it is vital that consumers can be confident that they can easily and quickly change their energy supplier. We know that the energy retail market is not working for all consumers. In particular, around 60%[66] of households who have not recently, or ever, made an active choice about their energy tariff are paying more than they should. The recent Competition and Markets Authority investigation identified significant costs to consumers as a result of a lack of engagement and consumers choosing not to switch supplier.

6.2. We know that some consumers are now being held back from switching because of concerns that something will go wrong with the switch or because the process takes too long. Implementing the proposals set out in the consultation document will lead directly to some consumers taking the decision to switch when they would not otherwise have done so and we have provided illustrative scenarios to show what that impact could be.

6.3. We also know that neither speed nor reliability of the switching process are the main drivers of consumer switching. However, whilst fast and reliable switching may not be sufficient on its own to drive the behaviour of the majority of the market, it is necessary to support growing consumer engagement. Those who have never switched supplier will require confidence to enter the market for the first time, and those who have had a bad experience will need to know that things have got better to try again. So in addition to the illustrative scenarios for increased switching, we would expect faster and more reliable switching to allow other approaches to increasing engagement in the market to be more successful than they would have been, or in the short term will be, working with the existing switching process.

Benefits of increased competition

6.4. Not everyone needs to switch for the market to work well and for there to be wider consumer benefits because increased switching will exert additional competitive pressure

[66] Ofgem Consumer Engagement Survey 2017

on suppliers. These potential indirect, dynamic competition benefits, set out below, are significantly greater than the – still important – direct consumer benefits from more reliable and faster switching.

6.5. Increasing consumer engagement in the market is expected to generate more competition between suppliers, both for attracting new consumers and retention of existing ones. Supported by the positive impacts of other reforms being delivered in the market such as those in response to the CMA remedies, this could have a number of positive impacts for consumers:

- Increased innovation of products and services, leading to greater choice in the market and more incentives to switch suppliers or agree new fixed term deals. This impact has been reflected to some extent in the illustrative analysis of increased engagement.

- Improved customer service, coming as part of a push towards improved customer satisfaction.

- Downward pressure on prices created by increased competition will benefit all consumers, including those that remain disengaged. It will place pressure on suppliers to resist putting their SVT rates up to compensate for lost revenues as more consumers switch to cheaper fixed deals.

- Increased competition will drive suppliers and the industry to become more efficient, as consumers switch towards the more efficient suppliers that are able to maintain their rates even though increased switching reduces the average price they receive.

Unlocking potential future innovation

6.6. Switching currently takes on average around two to three weeks. The energy market is facing rapid technological change, including the roll-out of smart meters, the move to half-hourly settlement, increased micro-generation and the growth of peer to peer networks. We are seeing increased market entry, the rise of new non-traditional business models, and the offering of new products and services. While we cannot predict where the innovation of the future will come from, we consider that a three week switching process will hold back innovation and act as a disincentive for new entrants. More reliable and faster switching will unlock innovation, creating more competitive pressure and improving outcomes for consumers, both in terms of price and quality of service.

6.7. In particular, we can envisage a situation in future where consumers may seek to be supplied by suppliers for relatively short periods of time, enabling them to be served by different suppliers on different days of the week. Consumers might want to power their houses from one supplier and their cars from another. It is possible that we might see the development of demand management services that source the most efficient energy for a consumer on a real time basis.

6.8. By introducing flexible, central systems designed with future change in mind, we will be ensuring that the neither the central switching systems, nor the regulatory rules relating to switching, will stand in the way of future transformative industry innovation of products, services and business models that were not anticipated when the existing platforms were developed and which they may not easily support.

6.9. There are a number of characteristics of the proposed new CSS that might enable this type of innovation to either be unlocked, or achieved more cheaply and easily than under the current arrangements:

- Speed of switching: by introducing new systems capable of instantaneous message flows, we would potentially be enabling a situation where a consumer switches frequently from one supplier to the next, or has supply arrangements with more than one supplier, for example to take advantage of different terms offered for peak and off-peak supply. High-volume switching could be performed by the consumer, or potentially by a third party that would agree contracts with suppliers on their behalf.

- System capacity: A new CSS would be designed so that it can be easily scaled up to be able to cope with the sort of increases in message flows that would be generated by very high volume frequent switching activity. The existing suite of systems were not designed to collectively cope with this level of change.

- Data model flexibility: by designing the CSS in a flexible way that allows additional data fields to be added and is not resistant to future change, we could enable innovation in relationships between consumers and suppliers. For example, the CSS could be relatively easily amended to be capable of having more than one supplier registered to a single MPxN at the same time, or including new types of parties to be registered to meter points. This would, for example, enable the CSS to support new models of demand management and changes to the supplier hub model.

6.10. These various avenues for future innovation could further transform the way in which consumers interact with their energy supply. The existing systems were not designed to collectively be flexed or scaled up in ways that would be required to facilitate these types of change. The existing switching systems and processes may not currently be the only barrier to this sort of innovation, nor does their replacement guarantee it would occur in future, but the implementation of these new arrangements will ensure that the switching platform is not a block or a drag on innovation and can support new business models and new approaches.

7. Summary of net impacts for consumers

Chapter summary

In this chapter we first describe the net impact for consumers of the direct costs and benefits that we have monetised for each reform package. We then introduce the potential indirect benefits from greater levels of switching to provide an illustrative range of direct and indirect consumer benefits. Lastly, we test the sensitivity of our analysis to changes in four key assumptions.

Question Box

Question 6: Do you agree that our assessment of the net impacts for consumers provides a sound basis for making a decision on a preferred reform package?

Net direct consumer impacts

7.1. The only direct cost to consumers we have identified is the potential upward pressure that will be placed on the volume of erroneous switches being executed as a result of faster switching. This effect has been included within our assessment of reliability impacts, where a net impact on erroneous switches has been estimated for each reform package.

7.2. While there are no other costs imposed directly on consumers by the reforms, we recognise that the majority of the costs incurred by the industry are likely to be passed through to consumers via their energy bills. In order to understand the likely net impact of the reforms on consumers overall, we have had to make some assumptions regarding the proportion of total direct industry costs (eg of implementing and operating the new processes) and cost savings (eg to suppliers of improved reliability) that would be passed through. For the purpose of our analysis, we have assumed a range of 75-95%, with a central assumption of 85% of the total net costs being passed through. Our central assumption is that there will not be complete cost pass-through to consumers on the following grounds:

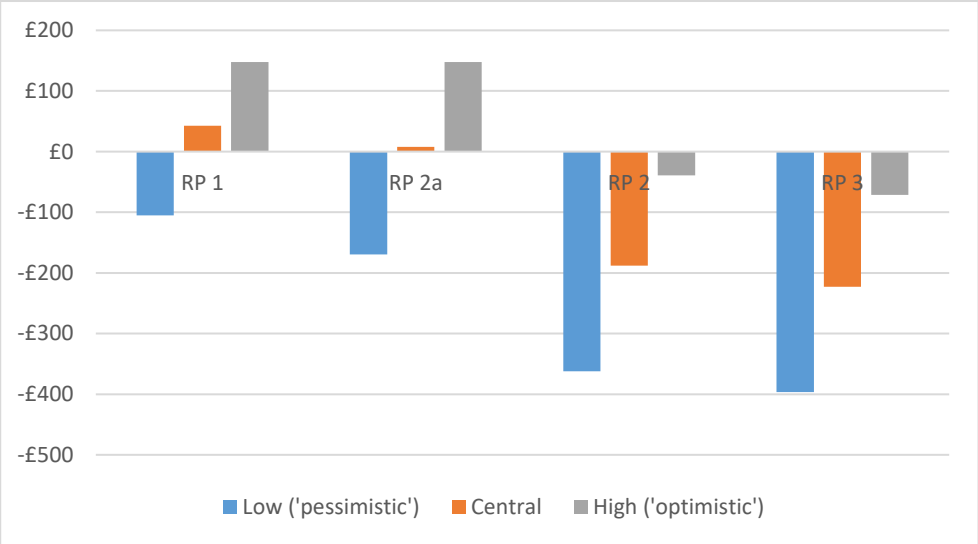
- Network distribution companies are regulated monopolies, and as such the revenue they can earn is restricted by price controls that are reviewed on a periodic basis. The current price controls will run until 2021 for GDNs and 2023 for DNOs. The transitional costs these companies incur will therefore not be passed through in full. The most likely outcome is that these costs would not meet the materiality threshold for a reopener, so these costs would be shared between the organisations, the exchequer, and consumers, by applying the sharing factor. Of the £14.5mn transitional costs expected to be incurred by these organisations, only around 25% would be expected to get passed on. The remaining 75% of these costs that will not be passed through represent around 3% of the total industry costs for RP2a.

- Suppliers have reported significant variations in the expected costs arising from our reform packages. Our expectation is that, while a significant proportion of the

transitional and on-going costs would be passed to consumers, competition between existing suppliers and new entry would limit prices increases.

7.3. Though there have been several attempts by academics to research the rate of cost pass-through in various markets, we have only found one paper that is relevant to the retail energy market. The study by Fabra and Reguant (2013) found that in Spain, the rate of pass-through of carbon costs to consumers was 80%. Though the GB and Spanish markets are not the same, this academic finding gives us some comfort that our central assumption is reasonable. Applying the above range has enabled us to generate a range for the costs that will be passed through to consumers via their energy bills. We have then subtracted these costs from our estimates of the direct consumer benefits to generate direct consumer NPVs for each reform package. These estimates are presented in the chart below.

Figure 7.1: NPV to consumers from direct monetised impacts only



7.4. This shows that, for our central case, there is a small NPV benefit of £8m for RP2a over our assessment period when just the direct impacts are considered. The direct NPV for RP2 and RP3 is negative. For RP1 there is a higher positive NPV, but this does not take into account our view that RP1 is likely to have wider negative implications for reliability through an increased rate of erroneous switches.

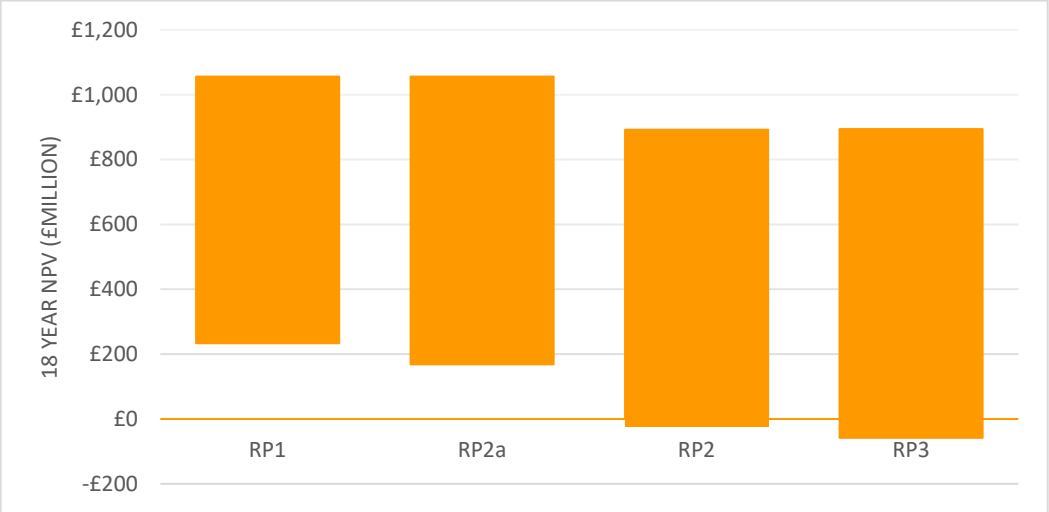
Net direct and indirect consumer impacts

7.5. In the chart below we show our central case for direct consumer impacts together with scenario 1 (our most pessimistic scenario) for indirect benefits.

7.6. We have also sought to show the potential range of impacts for consumers. We begin by combining the monetised estimates for the direct costs and benefits, to create NPV estimates for the direct impacts for consumers. By combining our most pessimistic direct consumer NPV analysis (high costs and low benefits) with illustrative scenario 1 in Chapter 5, and our most optimistic direct consumer NPV (low costs with high benefits)

with illustrative scenario 3, we are able to produce an illustrative range for the net direct and indirect benefits to consumers. For RP2a, this range is from £169mn to £1,056mn. These illustrative ranges are presented in the chart below.

Figure 7.2: NPV ranges for consumers from direct and illustrative monetised impacts only



7.7. While the investment in a new CSS under RP2a, RP2, and RP3 would offer consumers fully harmonised dual fuel switching, it would also ensure that the switching arrangements could be flexible to innovation by the industry and be responsive to evolving consumer expectations. A decision to implement RP1 would lock in the existing arrangements for many years to come and potentially hold back transformative innovation that we would hope to be brought forward in an increasingly competitive market.

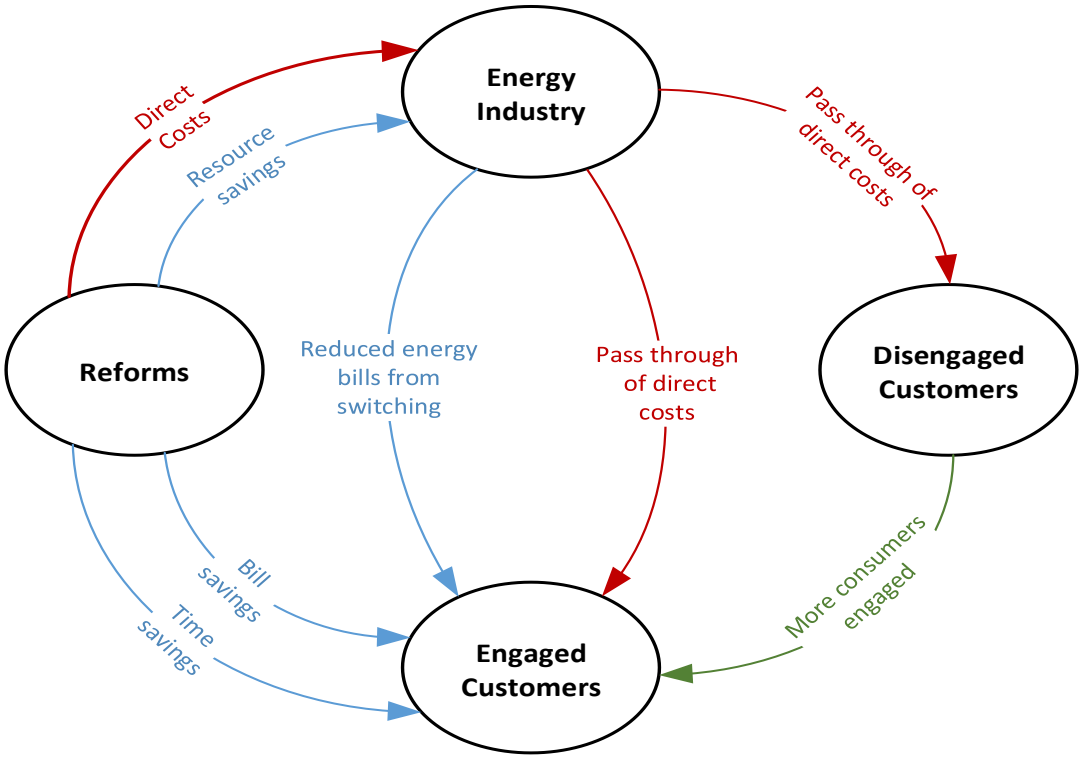
7.8. Once these three assessments have been combined (ie our monetised direct cost and direct benefits and illustrative indirect impacts), it is clear that RP2a would deliver the highest positive outcome for consumers, with the greatest level of confidence attached. Reform Packages 2 and 3 would deliver very similar outcomes for consumers as RP2a, but at considerably higher costs. RP1 could not be expected to deliver the same level of increased engagement as it would offer the least reliable and slowest switching of the packages. It could also hold back potential future innovation and competition in the market due to the retention of existing separate systems for gas and electricity. We have therefore concluded that RP1 would have the lowest net benefit to consumers, while RP2a would have the highest.

Distributional impacts

7.9. The reforms will impose costs directly onto the industry, as well as some resource savings. The majority of the net costs will be passed through to consumers, though we cannot be sure how suppliers would choose to do this. For those consumers that are already engaged in the market, the benefits will offset the costs. For those that become engaged, or more engaged, as a result of the reforms, the financial savings will more than outweigh any small increases in energy bills.

7.10. For those consumers that remain completely disengaged with the market, the reforms will introduce a small additional cost. If 85% of the annual ongoing costs are passed through evenly between 49 million customer accounts, then a dual fuel customer could expect their annual energy bill to increase by less than £1 above what they otherwise would have paid. There is potential for this cost to disengaged consumers to be higher, as the least efficient suppliers may seek to increase their tariffs for these consumers in response to the lower average price being paid across the market (due to increased switching away from the SVT). We expect that increased competition in the market, in particular for disengaged consumers, will negate these effects over time. This conclusion is consistent with the CMA's analysis of the expected impact of its remedies for the retail energy market, where it concluded that *'the benefits of our remedies will be seen in part through a reduction in the gains from switching that go unexploited by consumers. However, crucially, this would not be achieved by a levelling up of prices (a potential risk of regulatory interventions that seek to constrain price differences) but by a gradual reduction in prices towards the competitive benchmark level, as more efficient suppliers gain consumers from the less efficient'*.[67]

Figure 7.3: Flow chart showing the distributional impacts of the reforms to the switching arrangements



[67] CMA Assessment of the impact of domestic retail remedies on detriment

8. Conclusion

8.1. Reform Package 2a is preferred because it offers the most cost-effective solution to deliver fully on our programme objectives. Investment in a new CSS, with harmonised processes for gas and electricity would help ensure that the switching arrangements are future-proofed and capable of meeting consumers' evolving expectations for many years to come. It would deliver next working day switching for domestic consumers and two working day switching for non-domestic consumers while offering the largest reduction in the volume of negative switching experiences, offering benefits for consumers and suppliers. Our analysis gives us a high degree of confidence that the package would deliver a large net benefit to consumers, expected to range from £170 million, potentially up to over £1,000 million.

8.2. Our analysis of the reliability improvements has revealed that, even with RP2a, it would be prudent to introduce the reforms with an initial transitional period with switching speeds of around one week. This would give us the opportunity to confirm that the improvements to address data quality have had the expected effect on the volume of erroneous transfers.

8.3. RP2 and RP3 both also deliver fully our objectives, but are considerably less cost effective than RP2a at present. Introducing instant reactive objections that run over a calendar day operation would be extremely costly, yet these changes would only generate a relatively small improvement to switching speeds. In addition to offering worse value for money than RP2a, these additional costs to suppliers could also act as a barrier to entry, hindering the competition in the market that the reforms are intended to deliver. Also, with the industry now proposing to take forward a programme of work to introduce a new MIS, a DCC-led version as per RP3 would no longer offer additional benefit.

8.4. Reform Package 1 would not deliver sufficiently on our objectives to be considered an acceptable outcome for the programme. In the absence of investment in a new CSS, we would be locking in a potential barrier to innovation in the existing suite of systems for the next two decades. We would also be choosing to retain the separate systems and processes for gas and electricity when we know that the majority of consumers prefer to operate in a dual fuel market. In addition, our analysis has shown that RP1 is not capable of delivering on both more reliable and fast switching in parallel.

8.5. Based on the findings from our analysis of the impact of our reforms on the volume of erroneous switches, we have concluded that it would be prudent to introduce a transitional phase for the initial launch of the new arrangements. The proposed arrangements are discussed in detail in Chapter 5 of the consultation document.

8.6. These conclusions are illustrated by the table below, which scores our reform packages' performance against the programme's objectives.

Table 8.1: Summary of performance of each reform package against Ofgem's Switching Programme objectives

Programme Objectives		**RP1**	**RP2a**	**RP2**	**RP3**
1. To improve consumer experiences and perceptions of changing supplier, leading to increased engagement in the market, by delivering a switching service that:	a) Is more reliable, thereby reducing the instances of consumers being let down by delayed, unsuccessful or unwanted switches.	✓	✓✓✓	✓✓✓	✓✓✓
	b) Offers consumers control over when they switch, including providing the capability of doing so as fast as possible, and by no later than the end of the following day after a consumer has entered into a contract.	✓	✓✓	✓✓✓	✓✓✓
	c) Minimises any differences in consumer experiences of the switching process, to the extent that is possible, taking into account any physical constraints imposed by metering and issues relating to consumers' indebtedness.	✓✓	✓✓	✓✓	✓✓
d) To deliver a simple and robust system architecture design that harmonises business processes across the gas and electricity markets where possible, and is capable of efficiently adapting to future requirements.		×	✓✓✓	✓✓✓	✓✓✓
e) To encourage more effective competition by minimising barriers to entry for new entrants to the market, including the extent to which a successful switch may rely on the actions of an incumbent, and by having appropriate safeguards in place where this is not possible.		✓	✓✓	✓✓	✓✓
Cost-effectiveness (as per the programme's overarching objective)		✓✓	✓✓✓	✓	✓
Overall assessment against programme objectives		×	✓✓✓	✓✓	✓✓

Appendices

Index

Appendix	Name of appendix
1	RP2a direct industry costs
2	Industry direct cost ranges
3	Sensitivity Analysis
4	Assumptions Log (published as a separate document)

Appendix 1 – RP2a direct industry costs

1.1. Information collected through the January RFI revealed that some features of the reform packages would be especially expensive to implement. In particular, suppliers' costs to support the 'instant reactive' model of objections appeared high.

1.2. In response to this information we designed a new reform package based on a CSS and the other features identified for RP2. This revised reform package is labelled RP2a.

1.3. The main design change for RP2a was to replace an instant objections process with a 1 working day objection window for domestic consumers and a two working day window for non-domestic consumers. The effect of this change is that a consumer could, at the earliest, switch at midnight at the end of the next working day. Under RP2, the consumer could switch at midnight at the end of any calendar day that they entered into a contract (provided the switch request was sent before 5pm).

1.4. We derived the total net costs of RP2a from the information parties submitted to the January RFI. In deriving costs for RP2a, we made the following changes to the cost data provided for RP2:

- Apply the costs of objections for a one working day domestic and two working day objection window rather that instant objections
- Apply costs presented by suppliers on moving RP1 from a working day to calendar day operation as a cost saving.
- Apply the RP1 costs linked to contracting with the consumer rather than the RP2 costs

1.5. To validate our approach for deriving the costs of RP2a, we sought further inputs from suppliers and DCC through a supplementary RFI in July.

1.6. We received responses from 13 suppliers as well as DCC to this second RFI. As with the January RFI, we reviewed submissions with respondents to check and challenge the data submitted. Several suppliers provided additional cost information that we have incorporated in our results. We have not made any adjustments to the data provided by suppliers or DCC other than those agreed with respondents.

1.7. For each of the three changes to the RP2 costs that we have used to derive the net impact of RP2a, we have:

- Adjusted specific supplier responses based on the same methodology described above in Chapter 3.
- Uplifted costs to account for non-respondents.

1.8. The following section describes the adjustments we have made in more detail.

Objections

1.9. We have removed the objections costs identified for RP2 (instant reactive objections) and replaced these with the proposed objection approach for RP2a. Further information on how we have calculated the costs for these policy options is set out in Chapter 3 and is not repeated here. The adjustments reflect changes to cost data

provided by suppliers and DCC.

Working day vs calendar day

1.10. In the January RFI, 11 suppliers provided cost information on the cost of moving RP1 from a working day to a calendar day operation, including for objections. These costs were high and suppliers reported that they would need to increase staff and other operational costs to cover weekend and bank holiday operations.

1.11. The RP2 costs are similarly based on a calendar day operation. However, as RP2a will always have at least one working day included within the switching period for objections processing we consider, and tested through the July RFI, that costs for RP2a would be lower.

1.12. We have removed the costs reported for moving RP1 from a working day to a calendar day from RP2, subject to any adjustments provided to us by suppliers in response to the July RFI. This adjustment is shown below in Table A1.1.

Table A1.1: NPV of working day versus calendar day, (2018-2035, £millions)

	RP2a
Transitional	(1.6)
Annual on-going net costs (undiscounted)	(6.2)
Total (18 year NPV)	(67.9)

Customer contracting costs

1.13. In the January RFI, 21 suppliers provided cost information on contracting with the consumer. For RP1 these were significantly lower that for RP2. Under RP2 we had asked suppliers to assume that consumers would be given instant feedback when they signed up telling them that the switch would proceed or had failed. To do this a supplier (and a PCW if that was the sales route) would need to process contracts instantly and let the consumer know if the switch request had been accepted by the CSS and if had been objected to.

1.14. To calculate the costs of RP2a, which does not feature instant feedback to the consumer on whether their switch will proceed, we have removed the costs of RP2 and added the costs of RP1. We have also made additional adjustments reported by suppliers to the July RFI, other than in one instance described in Chapter 3. The overall adjustment is shown in Table A1.2 below.

Table A1.2: NPV of consumers contracting costs, (2018-2035, £millions)

	RP2a
Transitional	(30.7)
Annual on-going net costs (undiscounted)	(3.4)
Total (18 year NPV)	(67.4)

Appendix 2 – Industry direct cost ranges

2.1. The vast majority of the direct industry costs reported in Chapter 3 reflect information provided in response to our RFIs. In some instances we have modelled costs as we either had insufficient data, or confidence in the data we received to use it in this IA.

2.2. To address the uncertainty inherent in this modelling we have developed low and high cost ranges around this central case.

2.3. The areas we have developed cost ranges for are:

- Programme costs
- Post implementation costs
- Supplier costs for non-respondents
- DCC costs
- PCW costs

2.4. We have provided a summary of the cost ranges at the end of Chapter 3. In this appendix we describe the assumptions that we have used to develop the industry cost ranges (Table A2.1) and the impact of these (Tables A2.2 to A2.6) against the central costs reported in Chapter 3.

Table A2.1: Assumptions used to derive high and low case direct industry costs

Programme costs	We have varied our assumptions on the industry programme costs to create a high and low cost range. The assumptions used to generate the central, low and high cases are set out in Appendix 4. To create the low cost range, we have reduced the number of workstream meetings, reduced the number of TDA and SPDG meetings, reduced the number of SPSG meetings, reduced the FTE/day rate. . In the high case we have increased the number of workstream meetings, increased the number of TDA and SPDG meetings, increased the number of SPSG meetings, and increased the FTE/day rate. .
Post implementation costs	To develop the low and high costs we have varied the number of FTEs that each organisation would have in its post implementation team as well as the length of time that team is estimated to be operational. The assumptions used to generate the central, low and high cases are set out in Appendix 4.
Suppliers	We have estimated transitional costs for suppliers that did not respond to our request for information. To develop a high and low cost range we have used a +/- 10% variation around the central case.
DCC	We have focused of three areas to develop our cost range for the estimates provided by DCC 1) DCC transitional costs to DBT phase. In developing the low scenario we removed contingency from the costs reported in DCC's published Business Case. For the high scenario, we used the high case published in DCC's Business Case. This represented an 11% uplift compared to the central case.

	2) DCC transitional costs during DBT. We have included a range here to reflect the potential for design and build being more costly than anticipated and required greater management from DCC to manage. To calculate the range we have applied a +/-20% variance to internal and external costs (excluding central coordination and assurance costs). 3) DCC ongoing external costs. DCC and central service provider ongoing costs. We have included a range here to reflect the potential for third party contract costs for the CSS and MIS as well as DCC's supporting costs, being less or more costly than anticipated. To calculate the range we have applied a +/-20% variance to DCC's estimated ongoing costs.
PCWs	To generate the low and high cases we have varied assumptions on the number of PCWs in the market, the number of suppliers PCWs would have interfaces with, FTE costs and the time it would take to build and maintain these interfaces. A full list of the assumptions used to generate the central, low and high cases are set out in Appendix 4.

Table A2.2: NPV of high, low and central case net supplier costs (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Low	147.4	400.2	434.2	179.6
Base	148.8	405.6	440.2	182.9
High	150.1	411.6	443.6	188.3

Table A2.3: NPV of high, low and central case net DCC and central provider(s) costs (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Low		118.5	125.8	120.0
Base		145.3	154.9	147.1
High		171.4	183.1	173.5

Table A2.4: NPV of high, low and central case programme costs (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Low	6.6	9.0	9.0	9.0
Base	6.9	9.6	9.6	9.6
High	7.8	10.8	10.8	10.8

Table A2.5: NPV of high, low and central case post-implementation costs (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Low	1.5	2.9	5.9	2.9
Base	4.4	6.4	10.7	6.4
High	12.2	14.7	20.6	14.7

Table A2.6: NPV of high, low and central case PCWs costs (2018-35, £millions)

	RP1	RP2	RP3	RP2a
Low		2.7	2.7	
Base		8.5	8.5	
High	64.3	60.4	60.4	59.3

Appendix 3 – Sensitivity analysis

3.1 As we have described in previous chapters, we have sought to address uncertainty in the direct costs and benefits we have monetised by developing ranges. In this appendix we describe our analysis of the impact of four key assumptions and the sensitivity of our results to variation in these assumptions. The four assumptions we have examined in our sensitivity analysis are:

- Sensitivity analysis test 1 – Delay to the programme
- Sensitivity analysis test 2 – Reduction in the financial reward from switching
- Sensitivity analysis test 3 – Baseline switching rates higher than expected
- Sensitivity analysis test 4 – Data quality is less important to reliability than we thought

Sensitivity analysis test 1 – Delay to the programme

3.2 There are a range of potential risks to the successful and timely delivery of the new switching arrangements. These include the potential for slippage in programme timelines, for example due to optimism bias involved in planning, delays in procurement of the new CSS, or due to unforeseen challenges that are identified through testing of the new arrangements. Delays to public sector led investment programmes are not unusual, as illustrated by the 2002 Review of Large Public Procurement by Mott MacDonald[68] that identifies there is usually optimism bias present in the planning for such programmes. On this basis, we have tested through sensitivity analysis the impact on the costs and benefits of a full year's delay to implementation. This has three key impacts. Firstly, there will be an additional year of programme engagement costs. Second, implementation costs will be spread over three years instead of two. Thirdly, ongoing costs and benefits, including those that might come from increased engagement, will be delayed by one year.

3.3 We are reassured by the results below that, even with a whole year's delay to launch of the new arrangements, there are very small changes to the estimated impacts for consumers over the appraisal period. In fact, the reduction in benefits to consumers as a result of the delay is mostly offset by the reduction in costs that results from the large up-front costs occurring later, and hence being subject to discounting.

[68] https://www.parliament.vic.gov.au/images/stories/committees/paec/2010-11_Budget_Estimates/Extra_bits/Mott_McDonald_Flyvberg_Blake_Dawson_Waldron_studies.pdf

	Central direct consumer NPV	Range including indirect savings from illustrative scenario analysis	Central direct consumer NPV with a one year delay	Range for indirect savings from illustrative scenario analysis with a one year delay
RP1	£42mn	£234m – £1,056m	£34m	£204m - £998m
RP2a	£8m	£169m – £1,056m	£4m	£132m – £1,011m
RP2	-£188m	-£24m - £869m	-£170m	-£48m - £837m
RP3	-£223m	-£84 - £836m	-£204m	-£112m - £808m

Sensitivity analysis test 2 – Reduction in the financial reward from switching

3.4 As highlighted in the summary pages, a large proportion of the direct and indirect benefits to consumers are dependent on our assumption for the savings available from switching. These assumptions we have made for central analysis, and the range we have presented within that, are based on analysis of the differential between fixed and standard variable tariffs in recent years. We recognise that, either due to market forces or government intervention, this price differential could decrease well below our expectations in future. We have therefore tested through sensitivity analysis whether our conclusions would be robust in a world where the savings from switching have diminished. In this analysis we have assumed that the savings from external and internal switching for all consumer types are halved from our central assumptions. This yields the following results.

	Central direct consumer NPV	Indirect savings from Scenario 1 (most pessimistic scenario for increased consumer engagement)	Central direct consumer NPV with reduced savings assumptions	Indirect savings from Scenario 1 with reduced savings assumptions
RP1	£42mn	£339m	-£13	£279m
RP2a	£8m		-£49	
RP2	-£188m		-£248	
RP3	-£223m		-£283	

3.5 This analysis demonstrates that even with a significant reduction in the savings from switching, RP2a would be expected to deliver a large net benefit to consumers of

over £200 million even with a very small increase in switching. Regardless of this conclusion, as set out in Chapter 8, the key driver for Ofgem's intervention would continue to be the benefits of increased competition and innovation that have not been monetised. While the above analysis gives us increased certainty regarding the monetised benefits being realised, an alternative result would have been unlikely to affect our conclusions.

Sensitivity analysis test 3 – Baseline switching rates higher than expected

3.6 We have made some highly simplified assumptions in our counterfactual about expected consumer behaviour, in particular that switching rates will remain constant at levels equal to those experienced in 2016. Though this appears appropriate in the context of switching rates over a relatively long time horizon, it is true that current switching volumes are higher and appear to be rising. It is entirely possible that this trend may continue in the short-to-medium term due to other interventions in the market such as smart meter roll out and CMA remedies such as prompts to engage. This could have a few potential impacts. Firstly, it may affect suppliers' ongoing operational costs for each of the reform packages. Secondly, it will affect the volume for consumers that would directly benefit from the reforms. Thirdly, it could also reduce the scope for increases in consumer engagement that will generate indirect benefits. We have not sought to model this latter impact.

3.7 To test this assumption, we have conducted sensitivity analysis by increasing the baseline volume of external switches by all consumer types by 20%. We have used data from our January RFI to understand how this will affect suppliers' operating costs under each package, and scaled up the direct benefits to apply to the larger volume of consumers. The results are set out in the table below.

	Central direct PV consumer costs (after pass-through)	Central direct PV consumer benefits	Central direct consumer NPV	Central direct PV consumer costs (after pass-through) - increased baseline switching	Central direct PV consumer benefits (increased baseline switching)	Central direct consumer NPV (increased baseline switching)
RP1	**£162**	**£204**	**£42**	£176m	£215m	£39m
RP2a	**£313**	**£321**	**£8**	£329m	£373m	£44m
RP2	**£508**	**£320**	**-£188**	£539m	£371m	-£168m
RP3	**£543**	**£320**	**-£223**	£576m	£371m	-£205m

3.8 The analysis reveals that an increase in baseline switching volumes above our assumed level, which we consider to be more likely than a decrease, would result in even higher net direct benefits to consumers as the direct benefits of the reforms would be felt by a larger volume of consumers. Though the increased baseline switching would marginally reduce the scope for increases in consumer engagement, the overall annual

switching rate in this scenario would still only be around 20%, leaving significant capacity for further improvements.

Sensitivity analysis test 4 – Data quality is less important to reliability than we thought

3.9 From a consumer perspective, the most essential outcome from our reforms is that switching is reliable, and so they can have confidence they can engage in the market without something going wrong. Our reliability analysis suggests that, for erroneous switches in particular, there is a material residual risk that the harm caused by moving to faster switching may outweigh the benefits of improving data quality. This is because there is currently a high volume of erroneous switches that are identified and withdrawn during the existing long switching window. Though our central analysis for RP2a suggests a net reduction in erroneous switches, there is some uncertainty involved. For this reason we have introduced a transitional period into our plans, where we will expect switching speeds of around one week, before moving to next day switching once we have tested performance and the effectiveness of our reforms.

3.10 Though those planned transitional arrangements give us comfort, it is important that we can be sure that the switching speeds for that transitional period will be certain of having reduced erroneous switches. We have therefore tested this by varying one of the most influential assumptions within this analysis, which is the proportion of the underlying problem that is currently caused by data quality issues. If we have overestimated this, we will also have overestimated the impact our data improvement can have on the volume of erroneous switches. Given that our central assumption was based on data on the reasons recorded for erroneous switches, we do not believe that there is scope for being wrong by a large margin. However, we have had to take account of the proportion of incorrect MPANs selected that were solely down to human error. In our central analysis we had assumed, based on supplier feedback, that roughly 12% of incorrect MPAN selections were solely down to human error. In this sensitivity analysis we have assumed that 25% of them are down to human error. This gives an assumption of 64% for the proportion of ESs caused by poor address data quality, rather than our central assumption of 75%. Adopting this assumption yields the following results.

	Central estimate for net impact on annual volume of domestic erroneous switches in transitional phase (1 week switch)	Central estimate for net impact on annual volume of domestic erroneous switches in steady state	Central estimate for net impact on annual volume of domestic erroneous switches in transitional phase (1 week switch) – sensitivity analysis	Central estimate for net impact on annual volume of domestic erroneous switches in steady state – sensitivity analysis
RP1	-7989	20919	231	31950
RP2a	-25236	-12447	-14486	5389
RP2	-25236	-9269	-14486	9535
RP3	-25236	-9269	-14486	9535

3.11 This analysis confirms our existing conclusion that, even with RP2a, faster switching could lead to an increase in erroneous switches if our data-improvement work does not have the impact we expect. This validates our proposals to introduce the transitional phase. The analysis shows that even with this revised assumption, a one-week switch gives us a high level of confidence that there will be a reduction in erroneous switches under our preferred option. This analysis highlights a circumstance where we may need to take further action before we can move from one-week switching to next-day switching.

Appendix 4 – Assumptions log

This has been published separately on our website.

Assumptions log