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# INVERSE INFLATION EXPOSURE

Response to ED2 Draft Determination

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# CONTENTS

Executive Summary	3
1 Introduction	4
2 What is the inverse inflation exposure?	4
3 Should Ofgem change its approach for RIIO-ED2?	7
3.1 Undermining legitimately-held expectations	7
3.2 Increasing perception of opportunistic regulation	8
3.3 Fundamentally altering the regulatory framework without due process	11

# Executive Summary

In its RIIO-ED2 DD, Ofgem says it is contemplating whether to adjust its approach to allowed returns so that any inverse inflation exposure (which Ofgem terms a “leveraging effect”) is removed. Ofgem has invited views on the consequences of doing so for consumers and DNOs. Frontier has been commissioned by the ENA to consider these questions.

Under the current system, Ofgem changes the value of past investments (the Regulated Asset Value or RAV) by outturn inflation each year using CPI-H. This means that those past investments are worth the same in real terms over time, regardless of what happens to inflation. Consistent with this, the allowed rate of return is specified in real terms – with a real cost of debt set by deflating a nominal debt cost index by long-term inflation expectations. Indexing the RAV to outturn inflation has been a fundamental component of the regulatory model since privatisation – not just for energy networks but across regulated sectors. This approach has been a key underpinning of investors’ understanding of the risks associated with investing in network assets, and business decisions will have been taken over decades in reliance on this long standing indexation treatment. One of the consequences of this approach is that investors who choose to issue fixed-coupon nominal debt can take on an inverse inflation exposure.

Having considered the overall effect of these arrangements, we consider it would be highly counter-productive and detrimental for consumers if Ofgem attempts to eliminate the inverse inflation exposure, for three reasons.

- First, any change would contradict the companies’ legitimately-held expectations about the risks they were bearing at the time they made long-lasting decisions about their debt structure. Ofgem has long-held that the regulatory framework involves RAV indexation with a real WACC, and that networks were free to adopt their own financing positions. A change now would represent a major and sudden change in investors’ risk exposure which may fundamentally disturb their chosen financial risk management strategy, and which (if introduced for RIIO-ED2) would be imposed on them without anything like sufficient notice to allow them to adapt their financial risk management position to reflect the new arrangements.
- Second, seeking to eliminate the inverse inflation exposure at a point in time when inflation is high is likely to be perceived by investors as a highly opportunistic regulatory intervention.
- Third, it is likely that any attempt Ofgem might make to address the inverse inflation exposure would *de facto* mean that the RAV is no longer fully indexed to outturn inflation. This would therefore amount to a major change in one of the fundamental cornerstones of the regulatory model that has been in place since privatisation. For a regulator to contemplate introducing such fundamental and material changes to the regulatory framework, despite an absence of any evidence that the current framework causes harm to consumers; without any impact assessment; and at such short notice would be completely out of line with regulatory good practice.

All of these effects – both individually and in combination – would de-stabilise the credibility of the regulatory framework and shake investor confidence. This de-stabilisation would be detrimental for consumers – it would increase perceptions of regulatory risk and can be expected to lead to higher financing and risk

management costs; and it would detract from the critical objective of securing potentially significant increases in investment to deliver Net Zero. Ultimately it can be expected to lead to unnecessary increases in customer bills in the long run.

## 1 Introduction

Ofgem's RIIO-ED2 Draft Determination was published on 29<sup>th</sup> June 2022. In it, Ofgem has invited views on what it terms a “leveraging effect”.<sup>1</sup> As we explain in this paper, it is more accurate to describe this as a net inverse inflation exposure which arises as a result of financing choices made by investors, in the context of a regulatory framework where RAV is indexed to inflation. We use the term “inverse inflation exposure” for shorthand.

In its DD Ofgem says it is contemplating whether to adjust its approach to allowed returns so that the inverse inflation exposure is removed, and has invited views on the consequences of doing so to consumers and DNOs. Frontier has been commissioned by the ENA to consider these questions.

The remainder of this paper is structured as follows:

- In Section 2, we explain what the inverse inflation exposure is;
- In Section 3, we explain why Ofgem should not adjust its approach.

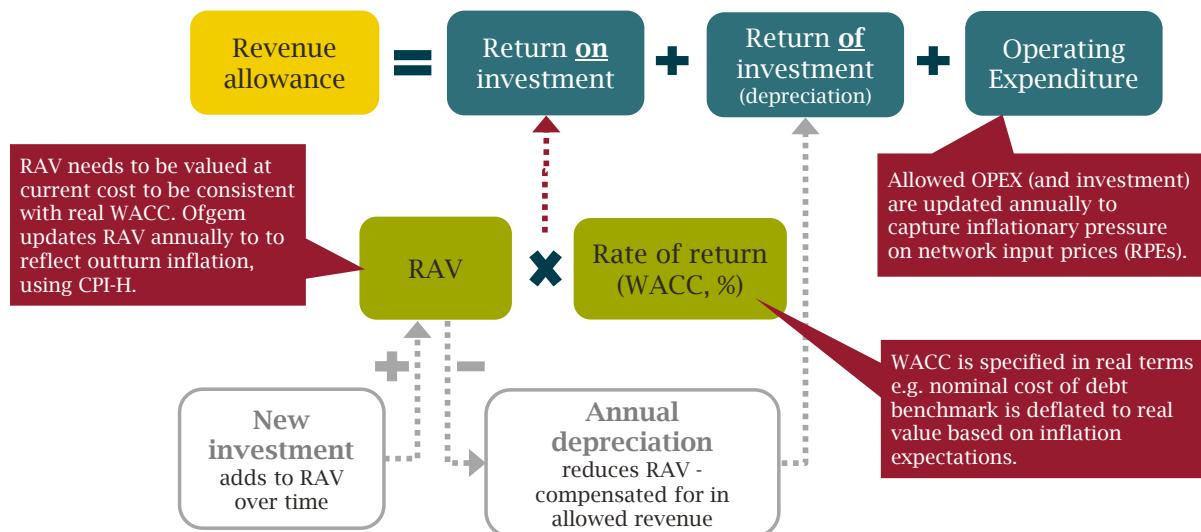
## 2 What is the inverse inflation exposure?

Figure 1 sets out the standard building blocks of the regulatory model. While this contains some simplifications relative to Ofgem’s complex financial model, it sets out the key components of the framework and describes how inflation is treated within these components.

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<sup>1</sup> RIIO-ED2 Draft Determination – Finance Annex, paragraphs 4.3 – 4.11.

**Figure 1 Overview of standard regulatory model ‘building blocks’ and treatment of inflation**



Source: Frontier illustrative

Under this system, Ofgem changes the value of past investments (the Regulated Asset Value or RAV) by outturn inflation each year (Ofgem uses CPI-H for RIIO-2, previously it used RPI). This means that those past investments are worth the same in real terms, regardless of what happens to inflation. Consistent with this, the allowed rate of return is specified in real terms. Using a real (as opposed to nominal) WACC means investors are only compensated for inflation once, through the indexation of RAV to CPI-H.

This mechanism of indexing RAV over time and using a real WACC is part of an overall system which is described as providing ‘inflation protection’ for energy networks.<sup>2</sup> Indexing the RAV to outturn inflation has been a fundamental component of the regulatory model since privatisation – not just for energy networks but across regulated sectors. This approach has been a key underpinning of investors’ understanding of the risks associated with investing in network assets, and business decisions will have been taken over decades in reliance on this long standing indexation treatment.

To set an allowed real cost of debt, Ofgem starts by calculating a nominal benchmark debt cost allowance based on an iBoxx index.<sup>3</sup> This is converted into a real debt cost allowance using a contemporaneous CPI expectation – in RIIO-ED2 Ofgem proposes to use the year-5 OBR CPI forecast.<sup>4</sup> In RIIO-GD1/T1 Ofgem explained that:

<sup>2</sup> The other key part of the system relating to inflation is the indexation of costs based on price indices intended to measure Real Price Effects (RPEs) which is intended to ensure networks can recover efficient costs over time, given that those costs are subject to inflationary pressure on input prices.

<sup>3</sup> The proposed benchmark for ED2 is based on a 17-year trailing average of the iBoxx GBP Utilities 10yr+ index, with additional costs of borrowing of 25bps.

<sup>4</sup> RIIO-ED2 DD Finance Annex, paragraph 2.66. We note that Ofgem takes contemporaneous forecasts for each of the historical years included in the 17-year trailing average of the iBoxx index – so eg the iBoxx nominal debt costs in 2020 will be matched with the OBR forecast in 2020; the index in 2019 will be matched to OBR forecast in 2019 etc.

*“The approach used to calculate the cost of debt index implicitly assumes that all network debt is index-linked. In reality, only a small proportion of the networks’ debt is index linked and the networks are exposed to inflation risk on the rest of their debt profile.”<sup>5</sup>*

In short, by using a real WACC and indexing RAV to inflation, Ofgem has hitherto implicitly assumed that companies in theory could issue entirely index-linked debt, for which the principal of the debt and hence interest payments will vary with inflation. The same effect may also be achieved by purchasing derivatives or other financial instruments which have the effect (in financial terms) of converting fixed-coupon debt to index-linked debt.

In a system with RAV indexation, companies with debt portfolios comprised solely of index-linked debt (or derivatives which achieve that effect) would be fully hedged against outturn inflation risk on their debt costs, although in reality it may be challenging for companies to issue solely index-linked debt due to practical limitations in the capital market.

In addition, investors in network assets can choose, if they so wish, to issue fixed coupon nominal debt. The principal and interest paid on this nominal debt are fixed at issuance and do not change with inflation over the life time of the instrument (unlike index-linked debt). If a network issues fixed coupon nominal debt it therefore takes on a “net inverse inflation exposure” – i.e. if outturn inflation in a given year is higher (lower) than long-term inflation expectations, any company that has issued fixed coupon nominal debt will receive a higher (lower) level of RAV indexation than is needed to match the profile of debt costs arising from its debt book in that year. We do not see any leverage here in the traditional sense of the word, which is why we have not echoed Ofgem’s terminology of “leverage effect”.

In expectation, there is no reason to believe that the long-run inflation assumption used in setting the cost of debt will systematically over/under-forecast inflation over time. We therefore see no reason to believe that the potential existence of an inverse inflation exposure will lead to companies expecting to receive more or less than Ofgem’s intended level of allowed return over time, regardless of the make-up of debt portfolios as between fixed and index-linked debt. Further, the effect of lower or higher outturn inflation in any given year will only flow through into cashflows (and hence customer bill levels) over a long time horizon i.e. accruing in the RAV before being released through depreciation of and return on RAV.

As Ofgem’s statement from GD1/T1 (referenced above) makes clear, the extent of the inverse inflation exposure borne by any individual company depends on its proportion of fixed to indexed linked debt (including derivatives) i.e. its chosen financial risk management strategy. There is nothing inherent in the system that creates this exposure, i.e. it is not arising as a result of any flaw in the underlying policy of indexation – it arises on a company-specific level and is a discretionary choice for each company when deciding how to finance its business. Hitherto (and as we explain further below) Ofgem has been clear that choices around how to finance were a matter for the company, subject to ensuring adherence to standard licence conditions. Ofgem’s ED2 DD states that as of today, on average 75% of electricity DNO debt is nominal, with the remaining 25% made up of index-linked debt - although we understand that this assessment does not capture any derivatives which achieve the effect of converting fixed-coupon debt to index-linked debt. Based on its

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<sup>5</sup> Decision on strategy for the next transmission and gas distribution price controls - RIIO-T1 and GD1 Financial issues, para 3.55.  
[https://www.ofgem.gov.uk/sites/default/files/docs/2011/03/gd1decisionfinance\\_0.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2011/03/gd1decisionfinance_0.pdf)

observation of the actual companies' financing strategies (averaged across the sector), Ofgem assumes for ED2 that the notional company holds 25% index-linked debt and 75% nominal debt.

### 3 Should Ofgem change its approach for RIIO-ED2?

We consider that it would be highly counter-productive and detrimental for consumers if Ofgem attempts to eliminate the inverse inflation exposure, for three reasons:

- First, it would undermine investors' legitimately held expectations about the regulatory framework;
- Second, it would increase the perception of opportunistic regulation;
- Third, it would fundamentally alter the regulatory framework without sufficient signalling.

We discuss each issue more fully in turn below.

#### 3.1 Undermining legitimately-held expectations

The fact that Ofgem has to-date provided investors in networks with the option to create an inverse inflation exposure is not *per se* a flaw in regulatory policy. In fact, investors can be expected to have perceived it as an intrinsic characteristic of the investment proposition, enabling pension/investment funds to deliver their target inflation position on a portfolio basis. Any change to the system that seeks to remove the inverse inflation exposure would fundamentally alter the basis on which companies have made financing decisions.

Ofgem's approach has been that it sets an allowed return for a notional company – and licensees are then free to choose their own financing and risk management strategy. Some networks may have chosen to issue predominantly fixed-rate debt in the past and effectively chosen a degree of inverse inflation exposure, or used it to complement their inflation exposure elsewhere in their wider portfolio. Other networks may have chosen to issue predominantly index-linked debt (or procure derivatives/instruments which have the equivalent effect) and thereby effectively insulated equity returns from inflation exposure (subject to any limitations around inflation-linked debt capacity).

Ofgem has repeatedly stated that the financing positions adopted by the networks, and the associated risk borne by investors, is a matter for the companies to decide for themselves. Ofgem has also been well aware (and effectively accepted) that networks might choose to take on an inverse inflation exposure (see for example the earlier quote from RIIO-GD1/T1). Off the back of this, networks' debt portfolios will have been built up over time, generally involving long-dated debt instruments.

As a result, if Ofgem were to change the system for ED2 – with insufficient prior signalling and despite its previously held position that companies were free to adopt their own financing risk strategies – Ofgem would be making a decision which effectively imposes an entirely different risk profile with respect to inflation on investors, compared to the positions they had believed they were adopting when debt was issued. So for example, should Ofgem introduce a change now, any networks with higher proportions of actual or synthetic index-linked debt would suddenly become exposed to inflation under a revised approach – despite having adopted a financing strategy which they thought had mitigated their inflation risk. If Ofgem were to introduce

such a change for RIIO-ED2, there would not be sufficient time for networks to adapt debt portfolios to re-balance this risk efficiently in light of any new regulatory arrangements. Changes to financing positions cannot be made at very short notice without incurring significant extra cost.

Ultimately, this would directly increase the financing and risk management cost for all companies. It would also shake investor confidence in the transparency of regulation, where material changes are generally subject to extensive and careful consultation, and given long signalling periods to allow sufficient time to prepare and adapt. These impacts would inevitably increase the cost of capital of the sector to the detriment of customers. Any proposal seeking to remove the inverse inflation exposure would need a sufficient notice period to allow investors to unwind positions that have been adopted, so as to avoid these detrimental effects for investors and customers.

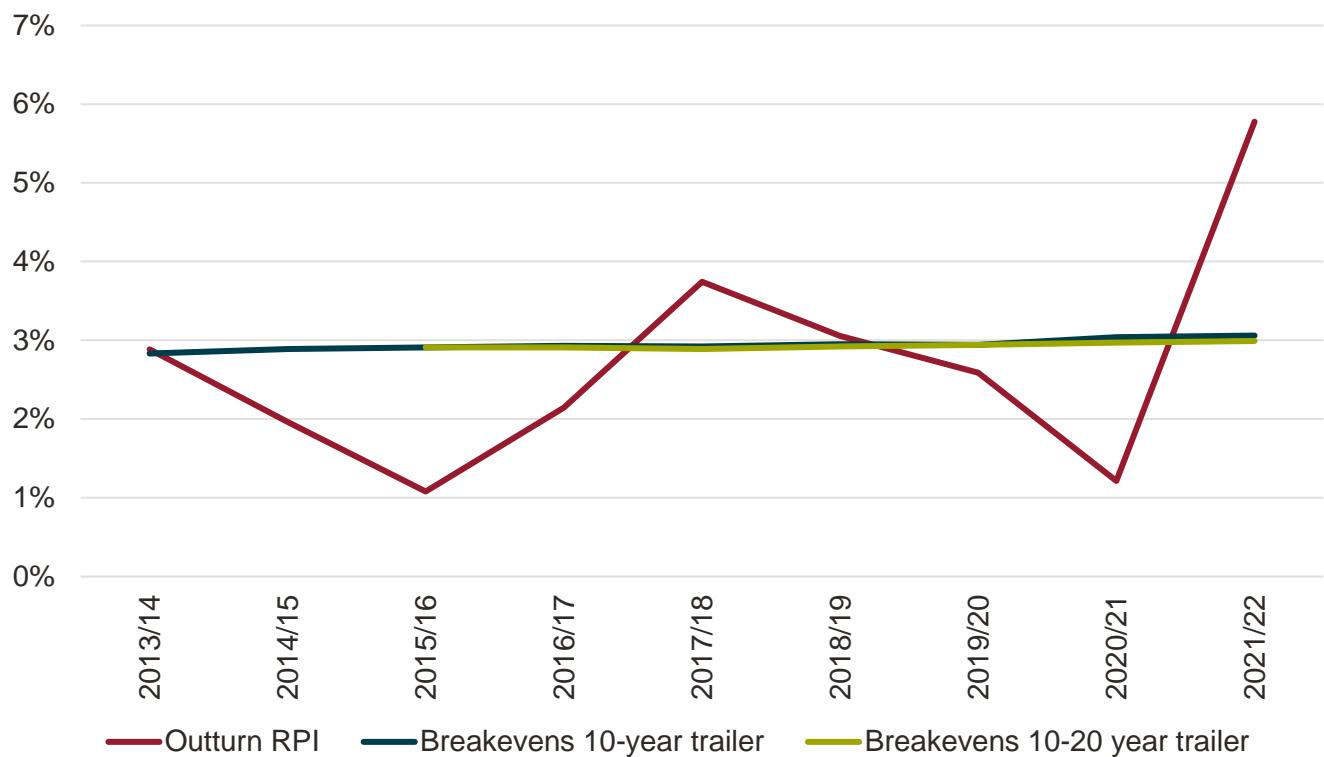
### 3.2 Increasing perception of opportunistic regulation

As explained in Section 2, while it is of course to be expected that there are periods of time when outturn inflation will be above or below Ofgem's inflation forecast, there is no inherent reason to believe that over the long-term inflation should be expected to be systematically above or below that forecast on average.

Indeed, during RIIO-1 to-date, investors who had chosen to take an inverse inflation exposure have lost out. For RIIO-1 the RAV (and price control generally) was indexed to RPI rather than CPI-H. In setting the allowed cost of debt, instead of the OBR's inflation forecasts Ofgem used the 10-year breakeven RPI inflation implied by comparing yields on RPI-linked Government bonds with nominal bonds. Ofgem's RIIO-1 approach was to match breakeven inflation with the iBoxx index trailing average.

Figure 4 plots the breakeven inflation used to set the allowed cost of debt for each regulatory year of RIIO-1 to-date, against outturn RPI inflation reported by Ofgem. It shows that outturn RPI was at or below the inflation assumption Ofgem used to set the real cost of debt in most years. On average, RPI outturn was 2.72% over the window so far, with average break-evens contained in Ofgem's trailing averages of 2.97%. This implies that any investors who took on an inverse inflation exposure will have lost out overall during RIIO-1 to-date.

**Figure 2 RIIO-1 inflation breakevens used to set allowed cost of debt versus outturn RPI**



Source: Frontier calculations of trailing average breakevens using the 2021 AIP cost of debt model here: <https://www.ofgem.gov.uk/publications/riio-ed1-annual-iteration-process-2021>. Outturn RPI as reported by Ofgem in GD2 PCFM for regulatory years here: <https://www.ofgem.gov.uk/publications/gd2-price-control-financial-model>

Note: RIIO-GD1/T1 ran from 2013/14 to 2020/21. RIIO-ED2 ran from 2015/16 and the final year (for which outturn data is not yet available) will be 2022/23. Some networks' allowed cost of debt was based on a 10-year trailing average of the iBoxx index while other networks were allowed a 10-20 year trailing average "trombone". The chart shows that the breakevens implied by these two trailing average methods were not materially different.

To our knowledge, at no point during RIIO-1 did Ofgem entertain the idea of removing the inverse inflation exposure so as to protect equity investors against the downside they were experiencing. This is of course entirely consistent with Ofgem's long-standing position that investors can choose to finance themselves and take on associated risks as they see fit.

As such, the timing of Ofgem's suggestion to introduce a change in the framework now – when inflation is higher than forecast and therefore currently benefiting investors, but immediately following a period where investors have suffered a loss from this effect – raises obvious questions about stability and credibility over time. In our view, investors would perceive the timing of this change to be opportunistic by Ofgem.

The perception of opportunism would be exacerbated by inaccurate statements made by Ofgem in its DD on this issue. Ofgem's DD suggests that its view is that it is simply seeking to provide "*similar protection in extremis for consumers in the event of high inflation*" to what it already provides for network investors in the event of extreme circumstances, including low inflation.<sup>6</sup> In support of this, Ofgem refers to its RIIO-GD2/T2 re-opener mechanism that enables additional totex allowances to be released if very high-demand scenarios

<sup>6</sup> RIIO-ED2 DD Finance Annex, paragraph 4.8.

emerge in the context of progress towards Net Zero.<sup>7</sup> Ofgem's ED2 DD appears to portray this mechanism as if it provides a generous protection to investors, for which there is no customer equivalent - but this misses the point that it is catering for a scenario where customer demand is very high i.e. it is in customers' interests for Ofgem to ensure that networks can finance investment in very high demand scenarios. Furthermore, Ofgem also stated that any change that was required to ensure financeability under this re-opener would be done in a way that was "*net present value neutral for investors and consumers*", i.e. there was no scope for companies to gain value from this reopener, only to have their revenues reprofiled.<sup>8</sup>

Ofgem also references its Position Paper from December 2008 on 'Arrangements for responding in the event that a network company experiences deteriorating financial health'. These arrangements appear to specifically rule out Ofgem making an intervention in a low-inflation scenario due to a network having chosen to take on an inverse inflation exposure by issuing fixed coupon debt (since that would be deemed to be a decision that was within companies' control and therefore excluded from any bail-out).<sup>9</sup> Ofgem was also clear that the guidance does not fetter Ofgem's discretion or create legitimate expectations about how any specific case would be treated.<sup>10</sup> Ofgem's suggestion in the ED2 DD that it is merely trying to offer customers the same protection it offers investors in the event of low inflation therefore lacks credibility.

If investors did perceive opportunism on the part of Ofgem, this would have the effect of increasing risk which has consequences for the cost of capital and hence, in the long run, adversely impacting customer bills. As ever with issues of this kind, the question of Ofgem's future conduct and decision making would not be contained to this narrow topic alone. Investors would now perceive that **any** risk they are led to believe they are bearing under the price control package could be amended in circumstances where that risk worked in investors' short-term favour; but left unchanged in circumstances where that risk worked against them. Since this general form of regulatory design (i.e. to fix an allowance in expectation that ex ante is fair, around which the outturn may in practice vary) is not uncommon, investors would naturally wonder where such opportunism would emerge next. It is likely that this would result in an overall perception of asymmetry of risk to investors, across the whole price control.

At a time when the delivery of Net Zero investment is increasingly critical, investors should be able to have confidence that the framework they are investing in is stable and will credibly be maintained over time. In contrast, if investors perceived that Ofgem can be expected to act opportunistically, the regulatory system would likely be viewed as inherently asymmetric and investor confidence would be weakened, increasing the cost of delivering Net Zero.

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<sup>7</sup> Specifically Ofgem refers to paragraph 5.42 page 85: [https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final\\_determinations\\_-\\_finance\\_annex\\_revised\\_002.pdf#page%3D85](https://www.ofgem.gov.uk/sites/default/files/docs/2021/02/final_determinations_-_finance_annex_revised_002.pdf#page%3D85)

<sup>8</sup> Ibid, paragraph 5.14

<sup>9</sup> <https://www.ofgem.gov.uk/sites/default/files/docs/2008/12/position-paper---responding-to-deteriorating-financial-health-final.pdf#page%3D1>. We note that a procedural manual was subsequently consulted on in May 2009 and a final decision taken in October 2009:  
<https://www.ofgem.gov.uk/publications/arrangements-responding-event-network-company-experiences-deteriorating-financial-health-decision-document>

<sup>10</sup> Eg the final guidance document states: "Any case of network company financial distress or failure that occurs will likely turn on its own particular facts. As such, the guidance document published alongside this document is not intended to fetter the scope of the Authority's powers or the exercise of its discretion whether under licence, statute or otherwise. This document should not create any legitimate expectation that specific cases will be dealt with in a particular manner."

### 3.3 Fundamentally altering the regulatory framework without due process

In our view, it is likely that any attempt Ofgem might make to address the inverse inflation exposure would *de facto* mean that the RAV is no longer fully indexed to outturn inflation. This is because, to the extent that **any** index-linked debt is assumed for the notional company, actual companies will always be able to choose to issue fixed-coupon debt instead and thereby take on an inverse inflation exposure. Therefore, if Ofgem wishes to remove the prospect of companies being able to take on an inverse inflation exposure, this cannot be done unless the notional company is assumed to have no index-linked debt. In other words, removing the inverse inflation exposure entails moving part way towards a regime that sets a nominal WACC and does not index RAV i.e. a world where there is no inflation protection on debt at all. Ofgem should not regard this as a static phenomenon or assume that it can be easily eliminated by changing the inflation treatment in the price control.

This would therefore amount to a major change in one of the fundamental cornerstones of the regulatory model that has been in place since privatisation. RAV indexation has been central to the stability of the regulatory framework over time that is offered to investors and helps to reduce the cost of capital. A change of this magnitude should generally be associated with an extensive, transparent and well-signalled consultation process. The DD does not set out any specific set of proposals which Ofgem is considering, or any evaluation of those options, and no impact assessment has been provided.

It seems possible that Ofgem perceives that the benefit to customers of eliminating the inverse inflation exposure in RIIO-ED2 is that it would reduce bills, relative to the status quo, in response to the cost of living crisis that is driven by high inflation. But this too has not been evidenced – and as explained above, any short-term gains that may be accruing to investors in the current high inflation environment would only affect cashflows over the long-term through depreciation of and return on RAV. It is also clearly possible that inflation might return to levels below the OBR forecast in the course of RIIO-ED2 and beyond – in which case, if the inverse inflation exposure is removed, customers would be paying more than they would under the status quo system.

For a regulator to contemplate introducing such fundamental and material changes to the regulatory framework, despite an absence of any evidence that the current framework causes harm to consumers; without any impact assessment; and at such short notice would, in our view, be completely out of line with regulatory good practice.



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