

# **A Review of Recent UK Price Review Innovations**

**A report prepared for the CAA**

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## 1. Introduction

This report contains a review of innovations that have appeared recently in price reviews carried out by Ofcom, Ofgem, Ofwat, ORR and the Competition Commission (CC) / Competition & Markets Authority (CMA).

Our terms of reference have been to look ahead to the forthcoming Q7 reviews, particularly the H7 review of Heathrow Airport's price cap, and to think about how the CAA's approach to price setting could evolve to embrace regulatory 'best practice' from other sectors. To this end, the reports seeks first and foremost to:

- provide an overview of the approaches that other regulators have been taking in recent reviews, focusing especially on the aspects of the other regulators' methodologies that have not previously been a feature of airport regulation; and
- give the CAA an objective assessment of the transferability of these ideas to an airport setting.

The paper is structured into four main parts as follows:

- section 2 looks at the importance that Ofgem and Ofwat have attached to 'well-justified' or 'high-quality' business plans and runs through some of the measures that the regulators have put in place to encourage companies to challenge themselves when they compile their cost and service quality forecasts;
- section 3 focuses on developments in the regulators' technical methodologies for price control calculation and incentive design;
- section 4 sifts through these ideas and make a first attempt to identify which innovations might be applicable and of benefit in an airport context; and
- section 5 concludes.

In producing this report, we have benefited from discussions with regulators and regulated companies from the relevant regulated sectors. The views contained herein are, however, our own.

## 2. Business Plans

A good deal of the thinking in the energy and water sectors in recent times has been directed at getting regulated companies to compile challenging business plans at the outset of the price review process. The perception has been that companies' plans have in the past sometimes been tactical in nature, in that they have been directed towards getting the best possible price review outcome for shareholders rather than at delivering the best possible outcomes for customers at lowest possible cost. Seeing this, Ofgem and Ofwat have sought to change companies' incentives and behaviours in the early stages of the price review, so that the regulators begin their work with much more realistic assumptions from companies about future revenue requirements.

There have been a number of complementary innovations, as follows.

### 2.1 Well-justified / high-quality business plans

As a starting point, Ofgem and Ofwat have been clear that company business plans are to be more than bidding documents. Ofgem has coined the term 'well-justified business plan' to capture the expectations that it has of companies:<sup>1</sup>

Under the RIIO model our assessment of the outputs that network companies are required to deliver and the associated revenue to be earned from consumers will be informed, to a large degree, by the plans put forward by network companies. In the business plans a network company will set out what it intends to deliver for consumers of network services over time and what revenue it needs to earn from existing and future consumers to ensure delivery is financed. The onus is on network companies to justify their view of required expenditure.

A business plan will be considered well-justified where network companies demonstrate, amongst other things:

- focus on output delivery ...;
- a clear and well-evidenced case for their proposals ...;
- an open minded consideration of available options ...;
- link between costs and primary outputs ...;
- a consideration of the longer term ...;
- value for money ...;
- effective engagement with a range of stakeholders ...; and
- value for money ....

Ofwat has referred repeatedly to 'high-quality plans':<sup>2</sup>

We explained in our business planning consultation that we wanted to bring about a significant cultural change in the business planning process. We wanted to move away from companies being overly focused on meeting tightly specified regulatory guidelines, and instead place the emphasis on companies developing plans that deliver for consumers, including current and future customers and the environment, in the long term.

To deliver a proportionate price setting process, we will put an assessment of the quality of companies' business plans at the heart of the price setting process, using it to focus our scrutiny and challenge where it is most needed – and where we can deliver the greatest benefits for consumers (including current and future customers and the environment). We will complement this approach with a suite of powerful incentives for companies to deliver high-quality plans.

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<sup>1</sup> Ofgem (2010), Handbook for implementing the RIIO model.

<sup>2</sup> Ofwat (2013), Setting price controls for 2015-20 – final methodology and expectations for companies' business plans.

...

A high-quality plan:

- is designed to deliver good outcomes for current and future customers and the environment; has a coherent narrative based on sound reasoning and contains proportionate evidence;
- will ensure that a company meets its statutory obligations and enables the relevant regulators to confirm this ...;
- is based on good-quality engagement with customers and consumers, and the results of this engagement are reflected in the proposed outcome commitments, and the plan more generally;
- is cost efficient, containing accurate projections and estimates;
- proposes a reasonable balance of risk and reward between customers, investors, and other stakeholders, with efficient proposals to share 'pain and gain' with customers;
- is both affordable and financeable;
- comes with a high level of assurance – in the form of a statement from the company's whole Board that the plan is of a high quality, will ensure that it meets its statutory obligations, and that estimates and data have been arrived at appropriately, and independently of other companies and competitors; and
- does not seek to game the regulatory process in any way.

## **2.2 Business plan competitions, proportionate scrutiny and fast-tracking**

Both regulators have put in place a range of incentives to reward companies that produce well-justified / high-quality plans. The idea has been that a change in mindset requires more than exhortation and that companies should see that it is in their own best interests to challenge themselves and self-regulate ahead of the formal price review process.

When Ofgem was devising its RIIO framework in 2009-10, it took the view that a promise to give proportionate scrutiny to companies' plans would help to change behaviours. At this time, it had the notion that it would sort plans into three categories:<sup>3</sup>

We will take a proportionate approach to assessing base revenue for the network companies. In particular, our approach to assessing network company plans will vary according to (a) the quality of the business plan submitted and (b) the network company's performance in delivering outputs and value for money in previous periods.

- companies in category A will be subject to relatively lower levels of scrutiny of their business plans, with an expectation that our assessment of primary outputs, secondary deliverables and expected efficient costs will be close to the proposals in their business plan ...;
- companies in category B will receive relatively higher levels of scrutiny of their business plans, with the level potentially similar to what companies experienced in price reviews in the past; and
- companies in category C will be subject to the most intensive assessment. For example, we might send in engineering experts to consider in detail the justifications that network companies have provided for the asset strategies proposed. Our questions will be likely to focus particularly on areas of failed past delivery and areas of their business plan highlighted as potentially inefficient compared with those of other network companies. This focus will help to highlight material inefficiencies and allow us to implement more significant reductions to the base revenues in such cases.

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<sup>3</sup> Ofgem, op. cit.

Ofgem also identified the scope for fast-tracking:

Where we are confident that the business plan of a company in category A is well-justified and provides value for money for consumers over the long term we may reach an early decision on the company's final proposal.

In its methodology paper for its most recent price control review, the 2014 RIIO-ED1 electricity distribution network operator (DNO) review, Ofgem explained what it saw as the benefits to companies of this approach:<sup>4</sup>

The scope for proportionate treatment and, to a greater degree fast-tracking, incentivises companies to submit realistic and well-justified business plans. This is because these approaches will allow DNOs to:

- get on with business as usual without focusing as much resource on the price control process;
- plan with greater certainty earlier in the process;
- be a significant driver of its own review outcome; and
- gain reputational advantage.

It also sought to strengthen incentives still further by announcing two further forms of reward for fast-track companies:

we will provide a fast-tracked company with upfront additional revenues of 2.5 per cent of totex

and

any DNO that is fast tracked will receive an efficiency incentive rate of 70 per cent.

(NB: the 'efficiency incentive rate' is the share that the company keeps of any out-/under-performance of its cost allowance. Ofgem's thinking is that a higher percentage acts as a form of reward.)

In November 2013, following the submission of the DNOs' business plans in July 2013, Ofgem announced it had found that that one company, Western Power Distribution (WPD), had produced a well-justified business plan and would be eligible for fast-tracking and the associated rewards. WPD was subsequently taken to a price control determination in February 2014,<sup>5</sup> while the slow-track companies were asked to resubmit their plans and received their determinations nine months later in November 2014.<sup>6</sup>

Ofwat was meanwhile factoring a very similar approach into its PR14 review of water and sewerage companies. It spoke from an early stage of a 'risk-based review' in which it would:

... focus our challenge and scrutiny of companies' business plans where it is most needed – and where we can deliver the greatest benefit for consumers

It too considered it useful to sort plans into categories:

... our approach to implementing a risk-based review [contains] reputational, procedural and financial incentives for companies' Boards to produce high-quality business plans. Our risk-based review will ... assign each company to one of three categories – enhanced, standard or resubmission – which determines procedural, reputational and financial benefits.

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<sup>4</sup> Ofgem (2013), Strategy decision for the RIIO-ED1 electricity distribution price control.

<sup>5</sup> Ofgem (2014), Decision to fast-track Western Power Distribution.

<sup>6</sup> Ofgem (2014), RIIO-ED1 final determinations for the slow-track electricity distribution companies.

The incentives were described in the following terms:

... our package of incentives for high-quality business plans comprises:

- publishing our assessments of each company's overall business plan quality as early as is practical to do so creating reputational incentives – our proposals should give a clear signal to investors and other stakeholders to allow them to identify those companies that have – or do not have – high quality plans;
- tailoring our approach to scrutiny and challenge according to our assessment of the quality of the elements of companies' plans creating process incentives, focusing regulatory effort where it is needed and reducing costs;
- tailoring the process for setting price controls according to our assessment of overall business plan quality – including early draft determinations for enhanced companies and potentially the option of early final determinations to deliver procedural incentives; and
- financial incentives for enhanced category plans – enhanced category companies will have ... greater shares of cost outperformance, and will be better off overall than companies in the standard category.

Ofwat provisionally conferred enhanced status on two companies, Affinity Water and South West Water, in March 2014,<sup>7</sup> following the submission of business plans in December 2013. The companies were subsequently given early draft determinations in April 2014,<sup>8</sup> although Ofwat decided in the end not to proceed with early final determinations. For the other 16 companies, Ofwat dispensed with the idea of separate standard and resubmission categories and instead dealt with the rest of the industry as one group.

### 2.3 Customer engagement

Ofgem's criteria for a well-justified plan and Ofwat's criteria for a high-quality plan, reproduced in section 2.1 above, both spoke about the importance of customer and stakeholder engagement. This reflects a more general theme underpinning the two regulators' approach to price reviews in which end-consumers have been given more of a role than has been the case in the past.

Ofgem's RIIO documents coined the term 'enhanced engagement' to capture the change in mindset it was seeking to bring about:

Network companies should proactively engage with consumers of their network services ... It will be important that there is scope for this engagement to impact on the business plans developed by the network companies. Where effective engagement takes place this will provide opportunities for (a) stakeholders to drive changes to the regulatory regime, (b) network companies to explore and get stakeholder buy-in to proposed approaches for the delivery of primary outputs, and (c) network companies and stakeholders to identify delivery solutions that involve them working together.

Evidence that a company took such engagement seriously, and that it had an impact on the company's business plan, contributed one of the criteria that Ofgem used for fast-tracking purposes. Ofgem consciously stopped short, however, of spelling out to companies how they ought to interact with users, explaining:

we do not want to be prescriptive about how the DNOs engage with their stakeholders ... It is not a 'box-ticking' exercise but is about seeking to understand and, where appropriate, act on the information that is gathered.

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<sup>7</sup> Ofwat (2014), PR14: Ofwat announces results of pre-qualification tests.

<sup>8</sup> Ofwat (2014), Setting price controls for 2015-20 – draft price control determination notice April 2014.

Ofwat possibly went further than Ofgem in its PR14 review. It mandated that each company should set up a Customer Challenge Group (CCG), comprising end customers, customer representatives and interest groups, to do three things:<sup>9</sup>

- review the company's engagement process and the evidence emerging from it. This is to ensure customers' views are considered as the company develops its business plan;
- challenge the phasing, scope and scale of work required to deliver outcomes, including legally prescribed standards and the requirements of other regulators; and
- advise [Ofwat] on the effectiveness of the company's engagement, and on the acceptability to customers or otherwise of its overall business plan and bill impacts.

Each CCG was to submit a report to Ofwat on the above things at the same time that the company submitted its business plan to Ofwat. The regulator was clear that:

Customer engagement will be an important factor in determining whether we will accept the companies' business plans. How much evidence of customer support we need, and how detailed our scrutiny of plans is, will be proportionate to the scale of changes to bills and services that an individual company is seeking. Customer acceptability is a key factor in our decisions.

## **2.4 Requirements for Board sign-off**

The final strand in Ofwat's efforts to secure better plans was a focus on the role of a company's Board in the plan development and sign-off process. Ofwat wanted to ensure that the plans it were receiving were the companies' actual plans for the 2015-20 control period and not documents compiled for purely regulatory purposes. It sought assurance on this point from each company's Board, directing much of the discussion in its price control documents at these individuals. For example, the following statements appeared in Ofwat's price control methodology paper:

We stress the importance of the role of company Boards and the need for them to have good governance arrangements and ownership of their business plans.

... we expect companies' Boards – the whole Board, not just one or some executive member(s) – to take responsibility for signing off business plans. We also expect them to put in place any processes that they feel they need to be assured that they are submitting high-quality plans ...

Boards need to give us a statement, in their own words, of why they consider that all the elements (and supporting data) add up to a business plan that is high quality. For example, a Board might want to explain its assurance process (including any external assurance it used) to arrive at its conclusion that the plan is the best it can be, rather than simply asserting confidence in the plan.

In preparing their statement, Boards should also ... explain the governance processes of the Board and demonstrate how it provided strategic leadership, a transparent process and compliance with the relevant licence conditions and UK Corporate Governance Code.

It should be noted that Ofwat's efforts on this front were part of a wider push to entrench good corporate governance in the water sector, including a particular focus on strengthening the RegCo Board and the role of independent non-executive directors.<sup>10</sup>

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<sup>9</sup> Ofwat (2011), Involving customers in price setting – Ofwat's customer engagement policy statement.

<sup>10</sup> In a September 2013 consultation document on Board leadership, Ofwat set out 'principles' which included the following statements:

## 2.5 Information quality incentive

The final part of Ofgem's toolkit has been an Information Quality Incentive (IQI), of the form set out in figure 1.

**Figure 1: Ofgem's RIIO-ED1 IQI**

DNO:Ofgem Ratio	90	95	100	105	110	115	120	125	130
Efficiency Incentive	65%	63%	60%	58%	55%	53%	50%	48%	45%
Additional income (£/100m)	3.1	2.4	1.7	0.9	0.1	-0.8	-1.8	-2.8	-3.9
Rewards & Penalties									
Allowed expenditure	97.50	98.75	100.00	101.25	102.50	103.75	105.00	106.25	107.50
Actual Exp									
90	7.95	7.9	7.7	7.4	7.0	6.4	5.7	4.9	4.0
95	4.7	4.76	4.7	4.5	4.2	3.8	3.2	2.5	1.7
100	1.5	1.6	1.7	1.6	1.5	1.1	0.7	0.1	-0.6
105	-1.8	-1.5	-1.3	-1.2	-1.3	-1.5	-1.8	-2.2	-2.8
110	-5.1	-4.6	-4.3	-4.1	-4.1	-4.1	-4.3	-4.6	-5.1
115	-8.3	-7.7	-7.3	-7.0	-6.8	-6.7	-6.8	-7.0	-7.3
120	-11.6	-10.9	-10.3	-9.9	-9.6	-9.4	-9.3	-9.4	-9.6
125	-14.8	-14.0	-13.3	-12.7	-12.3	-12.0	-11.8	-11.7	-11.8
130	-18.1	-17.1	-16.3	-15.6	-15.1	-14.6	-14.3	-14.1	-14.1
135	-21.3	-20.2	-19.3	-18.5	-17.8	-17.2	-16.8	-16.5	-16.3
140	-24.6	-23.4	-22.3	-21.4	-20.6	-19.9	-19.3	-18.9	-18.6
145	-27.8	-26.5	-25.3	-24.2	-23.3	-22.5	-21.8	-21.2	-20.8
150	-31.1	-29.6	-28.3	-27.1	-26.1	-25.1	-24.3	-23.6	-23.1

Source: Ofgem.

The IQI is a mechanism which compares the amount of expenditure in a company's business plan to the regulator's assessment of efficient expenditure (shown in row 1 of the matrix). This ratio then determines:

- the amount of expenditure that the regulator factors into its price control calculations, normally set at one quarter of the way between the parties' assessments (row 4);
- an amount of additional upfront revenue or a revenue deduction (row 3); and
- a sharing rule to be used in the event that the company under- or over-spends against its price control allowance (row 2).

As Ofgem puts it:

The aim of the tool is to encourage companies to submit more accurate expenditure forecasts to Ofgem.

Under the scheme, each company group is positioned in one of the columns of the IQI (NB: the matrix in figure 1 shows selected columns; there is, in fact, a continuum of columns for ratios that sit between the round numbers shown) and can read off the above three things. Crucially, a company will observe that if it expects to spend x (as represented in the row

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We expect the Board of the regulated company (RegCo) to have full control of the business ... We expect a position where, by and large, a unitary Board operates and decisions are made at that level ... In practice, we recognise there may be decisions where, as an exception, the holding company (HoldCo) Board is involved ... These should be clearly articulated in the annual report. Useful guidance may be found in the matters reserved in a listed company for shareholder approval.

The contribution of independent non-executive directors is invaluable to Boards as they provide challenge and a different perspective to Board members who are more operationally involved with the business, or Board members who represent investors. We expect the independent non-executive directors to be the largest single group on the Board, compared to (i) executive directors and (ii) non-executive directors that are not independent.

Ofwat (2013), Board leadership, transparency and governance: principles.

headings on the left-hand side of the matrix) it is best off declaring that value  $x$  to the regulator in its plan and not some other value  $y$ . It is for this reason that IQI matrices contain shaded squares – i.e. the shaded squares show that if a company expects to spend, say, 115 and come out in the 115 row, it maximises its pay off by declaring 115 to the regulator and getting itself allocated to the 115 column.<sup>11</sup>

IQIs of this form, with slightly different calibrations, have been deployed in all of the Ofgem's RIIO reviews. Companies have tended to come out, on average, around the 110 column.

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<sup>11</sup> Compare the -6.7 pay-off that the company gets in Table 1 when it is in column 115 to the -7.0, -6.8, -6.8 and -7.0 pay-off that it would get if it were untruthfully declare expected spend of 105, 110, 120 and 125 respectively.

### 3. Regulatory Mechanisms

The price controls that Ofgem and Ofwat put in place between 2013 and 2015 differ in a number of ways from the price controls seen in earlier regulatory cycles. There has also been some new thinking from the likes of Ofcom, ORR and the CC/CMA in their reviews, as follows.

#### 3.1 Outcomes / outputs

An important part of Ofgem's new RIIO framework has been a focus on outputs. The philosophy has been that the 'regulatory contract' is best defined as a set of outputs that a company is to deliver over a control period for the benefit of customers, and that a regulator should not concern itself after a price review is finished with the way that the company chooses to meet its output obligations. Ofgem explained the benefits that it sees in this kind of approach in the following terms:<sup>12</sup>

Outcomes would be the cornerstone of a new regulatory framework, influencing how network companies plan and operate, and how we assess network planning and delivery ... Based on discussions with a range of stakeholders we have identified a number of arguments for moving to a more outcomes-led framework:

- It would allow Ofgem, network companies and stakeholders engaged in the process to have a genuine understanding of what consumers are getting for their money.
- It would promote a focus on value for money in the short and long term, with an understanding that delivery must be assured and the costs of delivery managed.
- By focusing on what is delivered rather than how it is delivered, the framework should encourage network companies to identify the best means of delivering for the long term as they would retain benefits from being innovative and efficient.
- A focus on outcomes would provide Ofgem and network companies with an incentive to be flexible and innovative in considering what needs to be delivered to meet the desired outcomes (subject to statutory requirements).
- It could lead to a more streamlined price control review process, building on regular monitoring of progress on delivery of outputs.

During recent reviews, companies' plans and Ofgem's price control decisions have all contained a chapter documenting companies' output commitments. These have been split into primary outputs, focusing on measurable aspects of service quality around which financial incentives have often been put, and secondary deliverables, which comprise longer term asset stewardship obligations:<sup>13</sup>

primary outputs will be developed at the price control review to enable us, network companies and stakeholders to have a clear understanding of what is being delivered ... These primary outputs should reflect the expectations that consumers have with respect to the delivery of network services and network companies will be responsible for determining how best to deliver against these.

Secondary deliverables are not the 'ends' relating to consumer experience of network services but are the 'means to the end'. They are needed to ensure delivery of primary outputs over time and that long-term value for money is not put at risk.

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<sup>12</sup> Ofgem (2010), Regulating energy networks for the future: RPI-X@20 emerging thinking.

<sup>13</sup> Ofgem (2010), Handbook for implementing the RIIO model.

A broadly similar approach came through in Ofwat's PR14.<sup>14</sup>

A key element of the new framework is that companies will develop and propose in their business plans the outcomes they will deliver rather than the [scheme-by-scheme] outputs. Outcomes are likely to be longer lived than the current [scheme] outputs, which are generally restricted to the five-year price control period.

This approach has a number of advantages, which are enhanced when they are considered alongside other elements of the framework.

First, by giving the companies responsibility and accountability for setting outcomes they should become less dependent on the regulatory framework to determine deliverables. This places decisions clearly with those that are best placed to take them, and should lead to better results for companies, the environment and customers.

Second, by setting longer-term outcomes rather than short-term outputs, the companies will be incentivised to plan for the longer term.

Third, by holding the companies to account for delivering their outcomes rather than more detailed inputs or outputs, we will give them significantly more freedom to innovate and improve how they do this. If they find innovative ways of delivering outcomes and achieve significant savings, they will benefit from keeping this outperformance. When combined with a totex approach – which will enable companies to choose between the types of solution they use without fear of preferential treatment of one type of expenditure over the other – the scope for outperformance is even greater.

Fourth, by monitoring compliance with outcome delivery (including through monitoring milestones if appropriate), we expect the regulatory burden on Ofwat and the companies to reduce considerably. There are more than 11,000 schemes comprising about 2,000 'outputs' in the current price control period and delivery of these will have to be measured at the end of the period. We expect there to be a greatly reduced number of compliance measures in the next price review period under an outcomes approach.

Crucially, when combined with the other elements of the framework this approach gives the companies greater scope to innovate and find more sustainable solutions. Those that do this will outperform. And because the scope for outperformance is greater, so too are the rewards for those companies that succeed.

Ofwat's new approach resulted in just over 500 performance commitments across the 18 companies, covering aspects of service like water quality, supply interruptions and leakage. A good number of these commitments come with financial rewards/penalties, so that customers get an automatic rebate if a company falls short of its commitments and pay a little bit more if a company finds a way to deliver more than it originally promised.<sup>15</sup> The process was as follows:

- Ofwat encouraged companies to identify in their business plans outcomes for customers which were supported by cost-benefit analysis and which were affordable to customers as a package; and
- companies were also encouraged to place financial incentives around the achievement of those outcomes, calibrated in monetary terms to match researched evidence of customers' willingness to pay (so as to send appropriate signals about the detriment that customers would suffer in the event of under-delivery and the gain that customers would see if there could be over-delivery).

Interestingly, companies in their business plans originally proposed outcome delivery incentives (ODIs) that contained much more scope for financial penalty than financial

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<sup>14</sup> Ofwat (2012), Future price limits – statement of principles.

<sup>15</sup> See Ofwat (2014), Setting price controls for 2015-20: final price control determination notice policy chapter A2.

reward. Ofwat found it necessary to intervene so that the final ODIs were much more symmetric in nature, giving roughly equal downside and upside potential.<sup>16</sup> Ofwat also intervened late on in the review to bring a degree of consistency to ODIs across the industry, both in relation to the level of some of the targets that companies were set and the calibration of the associated financial incentives.

### 3.2 Totex

A closely related theme in Ofgem's and Ofwat's recent price reviews has been a deliberate softening of the traditional regulatory compartmentalisation of opex and capex. The thinking here has been that companies ought ideally to be focusing on delivering outputs at lowest possible whole-life cost, but that separate regulatory rules around opex and capex have in the past given companies reason to favour one type of spend over the other. In particular, there has been a sense in both the energy and water sectors that there has been a 'capex bias', with companies favouring projects over recurring expenditures.

As far back as 2009, Ofgem described its aspirations for companies in the following way:<sup>17</sup>

We are looking to ensure that DNOs have given appropriate consideration to innovative solutions including potentially deferring greater volumes of work and doing more to actively manage and monitor levels of risk. Given the climate change agenda, it is also important that the price control does not reduce the incentive on DNOs to adopt non-network solutions such as demand-side management or contracting with distributed generation to manage constraints.

Our objectives in this area ... are to:

- ensure that economic trade-offs are not distorted between capex and opex solutions;
- ensure that DNOs are not discouraged from applying non-network solutions which are compatible with tackling climate change, such as contracting with distributed generation and demand side management;
- avoid incentives for reclassifying costs (boundary issues).

Ofwat has used very similar language in its documents:<sup>18 19</sup>

The different regulatory treatment of different types of costs makes the process for determining allowed costs complex. It has also led to different incentives for companies to deliver opex and capex efficiency savings. And it may have distorted companies' investment decisions.

Total expenditure approaches can help to encourage innovation by allowing companies more flexibility to choose between capital expenditure ('capex') and operating expenditure ('opex') solutions, helping to address undue capex bias. This greater flexibility can help ensure companies make the most sustainable long-term investment choices, which in turn deliver the optimum benefits to customers and the environment.

The initiatives that the regulators have rolled out to shift the focus from opex and capex to total expenditure (totex) come in three parts.

#### 3.2.1 Totex benchmarking

First, both regulators have tried as far as possible to benchmark at totex level when assessing the efficiency of companies' expenditures. Ofgem in its work has been clear about

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<sup>16</sup> Ofwat (2014), Setting price controls for 2015-20 – risk and reward guidance.

<sup>17</sup> Ofgem (2009), Electricity distribution price control review methodology and initial results paper.

<sup>18</sup> Ofwat (2013), Setting price controls for 2015-20 – framework and approach: a consultation.

<sup>19</sup> Ofwat (2012), Consultation on wholesale incentives for the 2014 price review.

the level of aspiration as well as the practical constraints that it faces:<sup>20</sup>

When undertaking benchmarking analysis we will consider the following principles:

- total costs should be the basis of assessment given the ambition to avoid biasing the network company into particular solutions (e.g. capex solutions over opex);
- we do not expect to use total cost benchmarking in a mechanistic analysis of the base revenue requirement given potential concerns about the robustness of the analysis; and
- no single measure of total cost is ideal, particularly given the lumpy nature of capital expenditure and variation in the historic capital investment programmes (and hence RAVs) of network companies in a sector, and it may be appropriate to use a number of alternative measures as cross-checks on the analysis.

In its recent RIIO-ED1 review of electricity distribution networks, 2/3rds of the comparative efficiency analysis was totex benchmarking, with the remaining 1/3<sup>rd</sup> comprising a more traditional line-by-line review of the individual cost categories in companies' plans.

Ofwat had similar ambition at the start of PR14:<sup>21</sup>

We want to make our assessment of companies' efficiency more consistent across different types of expenditure. This is different from what we do now, where we treat companies' opex and capex differently.

... we want to make this change because assessing operating and capital expenditure separately can lead to different incentives for companies to deliver operating and capital efficiency savings, and might contribute to a possible bias towards capital intensive solutions.

As it turned out, Ofwat went slightly further than Ofgem. Its final price reviews were built around a new suite of econometric totex and botex (i.e. opex plus capital maintenance, not including capital enhancement expenditure) comparative efficiency models, through which Ofwat believed that it could predict companies' total expenditure needs with a high degree of accuracy.

### 3.2.2 Totex incentives

The second part of the shift to totex has involved a rewriting of Ofgem's and Ofwat's rules around the treatment of under- and over-spending. Ofgem explained the need for change in the following terms:<sup>22</sup>

There are currently imbalances between in the incentives for costs that are classified as opex and costs that are classified as capex under RAV rules. These imbalances may distort real economic trade-offs between capex and opex solutions and create boundary issues. DNOs bear the full cost if they spend £1 of additional opex but only 29p to 40p if they spend £1 of additional capex.

A significant amount of our resources during the DPCR4 period have been spent monitoring the boundary between various categories of costs, for example the distinction between fault costs and asset replacement or the treatment of site engineer costs. Equalising cost incentives could reduce the reporting burden for both the DNOs and Ofgem. It may also lessen concerns with definitional issues.

The 29p to 40p in the pound in this quote is Ofgem's estimate of the revenue that companies keep or lose when the regulatory asset base is adjusted to reflect actual rather than

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<sup>20</sup> Ofgem (2010), Handbook for implementing the RIIO model.

<sup>21</sup> Ofwat (2012), Consultation on wholesale incentives for the 2014 price review.

<sup>22</sup> Ofgem (2008), Electricity distribution price control review policy paper.

assumed capital expenditure at the end of a control period, expressed as a fraction of the amount of under- or over-spending. This compares to the 100p in the pound that companies keep or suffer when they under- or over-spend against an opex allowance. Ofgem's response to unequalness in these amounts has been to declare that companies will get a fixed z% share, typically between 50% and 70%, of any under- or over-spend, regardless of whether the expenditure is opex or capex.

Ofwat applied exactly the same idea in PR14:<sup>23</sup>

We want to provide consistent incentives to outperform against these planned costs within the price review period. We propose to do this by allowing companies to keep a consistent proportion of the cost savings regardless of the type of expenditure they incur. This should encourage them to innovate and respond flexibly to find ways of reducing the long-term costs of delivering their outcomes.

Companies would also benefit because our proposals would simplify the process they need to follow when choosing between solutions. They would no longer need to consider which type of expenditure they would incur for regulatory reasons.

Its incentive rates are typically between 45% and 60%.

Notably, the CC intervened to bring about a move to equalised incentives in the 2013-14 Northern Ireland Electricity price control inquiry. Neither the regulator nor the company sought such a change, but the CC elected to follow the Ofgem and Ofwat approach anyway:<sup>24</sup>

We saw merit in better aligning the approach to cost-risk sharing – and hence efficiency incentives – across opex and capex. This regulatory approach has been applied by Ofgem to energy network price control reviews over the last few years and has also been proposed by Ofwat for its current review of water and sewerage price limits.

The approach of specifying a fixed percentage is more amenable to alignment of cost risk-sharing across capex and opex than an approach of making adjustments for out-turn expenditure after a delay of five years.

The CC selected an incentive rate of 50%, meaning that under-spend and over-spend is split 50:50 between company and customers.

(Note that the CC chose not to make changes in the areas of totex benchmarking and totex cost recovery. Its intervention was limited to totex incentives only.)

### **3.2.3 Totex cost recovery**

The third aspect of totex has been a change to the way that expenditure is factored into the calculation of a company's revenue requirement. In the past, Ofgem and Ofwat would match efficient opex with revenue on a pound-for-pound basis but take capex through the regulatory asset base so that companies received payment for their work in instalments via depreciation charges. Both regulators have taken the view that this difference in treatment is unhelpful if there is desire to make a company indifferent to the type of expenditure it incurs.

Ofgem again was in the lead in this area deciding as far back as 2009 that it would:<sup>25</sup>

... treat all network investment, network operating costs and closely associated indirect costs in the same way by capitalising a fixed percentage of costs across all these

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<sup>23</sup> Ofwat (2012), Consultation on wholesale incentives for the 2014 price review.

<sup>24</sup> Competition Commission (2014), Northern Ireland Electricity Limited price determination.

<sup>25</sup> Ofgem (2009), Electricity distribution price control review – initial proposals.

activities into the Regulatory Asset Value ... In making this adjustment we propose to capitalise around the same proportion of total costs as occurred [historically] - this is designed to help ensure that the RAV is not distorted by the change and so that financeability issues are not created by the change in approach.

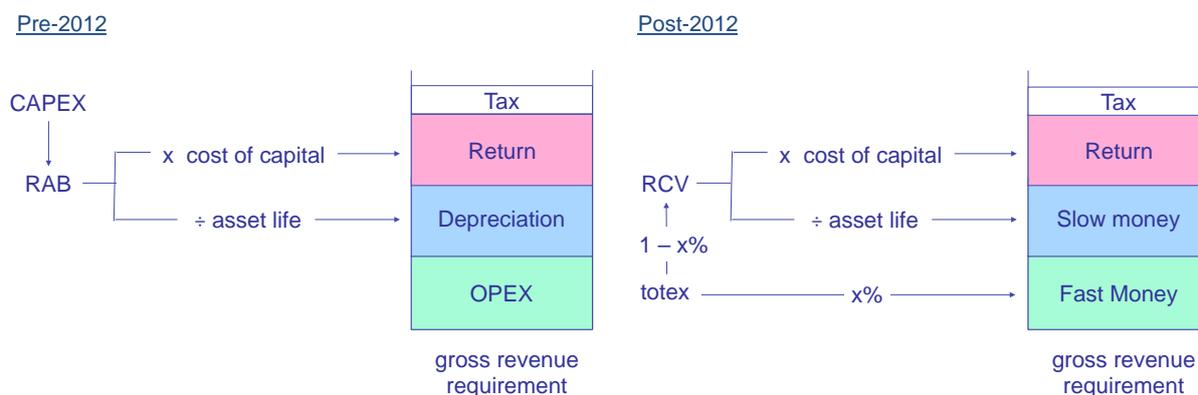
The effect of this new approach is that the regulatory asset value is no longer a vessel containing historical capex, but a more flexible 'regulatory value' comprising a mix of expenditures that companies have incurred but customers have not yet paid for.

Ofwat opted to take the same approach in PR14, and, like Ofgem, gave companies a certain amount of flexibility to decide how much expenditure is paid for in year and how much goes through the regulatory capital value.<sup>26</sup>

We will continue to use an RCV-based approach, but for expenditure for 2015-20 we will do so as part of a totex approach to cost recovery. Instead of considering capex in isolation, we will look at the recovery of totex as a whole. Companies will decide how much of this will be recovered in the year the costs are incurred. This is known as 'pay-as-you-go' or PAYG expenditure. The remaining totex will then be added to the RCV ... The PAYG ratio can vary from company to company, and between water and wastewater costs ... Companies will be able to propose PAYG ratios in their business plans.

The change in regulatory methodology that this represents is depicted in figure 1. The left-hand side of the picture shows the 'traditional' way of calculating a company's revenue entitlement; the right-hand side shows Ofgem's and Ofwat's current methodology.

**Figure 1: Price control building blocks**



### 3.3 Menu regulation

The idea that regulated companies should have choices in a price review led Ofwat to explore the use of menu regulation in PR14. The principles was follows:<sup>27</sup>

In traditional price control regulation, the regulator determines both companies' allowed costs and the strength of the incentives companies face to deliver actual costs below their allowed costs.

Under a menu regulation approach, we would instead form a view on the efficient costs each company needs to deliver its outcomes (the baseline). Companies then choose from a menu of options – each of which combines a different level of allowed expenditure relative to our baseline with a matching cost incentive rate.

<sup>26</sup> Ofwat (2013), Setting price controls for 2015-20 – framework and approach: a consultation.

<sup>27</sup> Ofwat (2013), Setting price controls for 2015-20 – framework and approach: a consultation.

Those that opt to spend less than our baseline and select a more demanding efficiency challenge can earn higher returns on any cost savings they then make; conversely, higher expenditure choices lead to lower returns on cost savings.

Ofwat offered different menus to enhanced companies and other companies. The menu for the latter group of companies is show below.<sup>28</sup>

**Figure 2: Ofwat’s PR14 menu for non-enhanced companies**

Company menu choice	80	85	90	95	100	105	110	115	120	125	130
Cost sharing rate	54%	53%	52%	51%	50%	49%	48%	47%	46%	45%	44%
Allowed expenditure	95.00	96.25	97.50	98.75	100.00	101.25	102.50	103.75	105.00	106.25	107.50
Additional income	2.30	1.76	1.20	0.61	0.00	-0.64	-1.30	-1.99	-2.70	-3.44	-4.20
Actual expenditure	Reward/penalty										
70	15.8	15.7	15.5	15.3	15.0	14.7	14.3	13.9	13.4	12.9	12.3
80	10.4	10.4	10.3	10.2	10.0	9.8	9.5	9.2	8.8	8.4	7.9
85	7.7	7.7	7.7	7.6	7.5	7.3	7.1	6.8	6.5	6.1	5.7
90	5.0	5.1	5.1	5.1	5.0	4.9	4.7	4.5	4.2	3.9	3.5
95	2.3	2.4	2.5	2.5	2.5	2.4	2.3	2.1	1.9	1.6	1.3
100	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.1	-0.2	-0.4	-0.6	-0.9
105	-3.1	-2.9	-2.7	-2.6	-2.5	-2.5	-2.5	-2.6	-2.7	-2.9	-3.1
110	-5.8	-5.5	-5.3	-5.1	-5.0	-4.9	-4.9	-4.9	-5.0	-5.1	-5.3
115	-8.5	-8.2	-7.9	-7.7	-7.5	-7.4	-7.3	-7.3	-7.3	-7.4	-7.5
120	-11.2	-10.8	-10.5	-10.2	-10.0	-9.8	-9.7	-9.6	-9.6	-9.6	-9.7
125	-13.9	-13.5	-13.1	-12.8	-12.5	-12.3	-12.1	-12.0	-11.9	-11.9	-11.9
130	-16.6	-16.1	-15.7	-15.3	-15.0	-14.7	-14.5	-14.3	-14.2	-14.1	-14.1
140	-22.0	-21.4	-20.9	-20.4	-20.0	-19.6	-19.3	-19.0	-18.8	-18.6	-18.5

Source: Ofwat.

The above menu was formally put to companies in December 2014, at the point when Ofwat issued its final determination and when companies had certainty about Ofwat’s assessment of efficient expenditure. Companies were asked to notify Ofwat of the column that they wished to select by January 2015.

<sup>28</sup> Ofwat (2014), Setting price controls for 2015-20 – final price control determination notice policy chapter A3.

### 3.4 Pain-/gain-sharing

Sections 3.1 through 3.3 deal with the sharing of out- and under-performance against output targets and cost allowances. Ofwat has also given thought recently to other sources of out- and under-performance. Ofwat's Chairman, Jonson Cox, in particular, was quite vocal on this matter, based on his sense of the benefit that companies took from Ofwat's PR09 determination:<sup>29</sup>

It appears that a significant part of the returns derives from factors outside the control of management and boards: the high level of retail price inflation, to which revenues and asset bases are indexed, and the exceptionally low interest rates on debt compared with those assumed in PR09. Given that the licence relates to a long term monopoly public service, I would have hoped that companies would have shared gains that derive from external factors with their customers ('gainshare') just as pain is shared with customers ('painshare') through, for example, notified items. In the past, companies have done this. I have personal experience of doing so in two companies, without regulatory intervention.

In PR14, Ofwat invited companies to make proposals on pain-/gain-sharing. There was a range of ideas, some of which Ofwat accepted and some of which it did not.

To give one example, one water company proposed a pain-/gain-share arrangement around RPI which categorised the indexation that there would be to allowed revenues in the following way:<sup>30</sup>

- RPI inflation < 3% per annum – full RPI increase in allowed revenues;
- 3% < RPI inflation < 4.5% – allowed revenues increase by 3% + ( RPI inflation – 3% ) / 2; and
- RPI inflation > 4.5% – increase in allowed revenues to be the subject of a review.

A second company has said that it will produce an annual scorecard to calculate the aggregate pain or gain that it experiences each year. There is then to be a process of dialogue with customer representatives about how to divide that pain and gain between shareholders and customers.<sup>31</sup>

ORR also gave pain-/gain-sharing some attention in its most recent review of Network Rail. Its interest was slightly different in that it wanted to align the interests of the company and its train operator customers around a continuous search for new efficiency improvements. It took the view that a 'benefit sharing mechanism' could contribute to this:<sup>32</sup>

[A] route-level efficiency benefit sharing (REBS) mechanism will encourage Network Rail and train operators (passenger and freight) to work together and allow both to share in Network Rail's efficiency gains or losses on an annual basis. REBS is designed to strengthen the alignment of incentives between Network Rail and train operators in order to support greater co-operation to drive down industry costs.

The sharing mechanism provides for out- and under-performance against certain categories of cost and service quality targets to be split between Network Rail and train operators according to pre-determined rules. It operates at a regional level and focuses on aggregate spend / performance – i.e. there is no attempt to allocate efficiencies to specific initiatives or to specific operators.

<sup>29</sup> Johnson Cox (2013), Observations on the regulation of the water sector.

<sup>30</sup> Anglian Water (2013), Business plan 2015-20.

<sup>31</sup> South West Water (2013), WaterFuture business plan.

<sup>32</sup> ORR (2014), Guide to the route level efficiency benefit sharing (REBS) mechanism in CP5.

Going forward, ORR has said that it sees the mechanism as a stepping stone to something more bilateral:

We see REBS as a default mechanism for those train operators that do not want to enter into direct commercial agreements with Network Rail, as well as being a stepping stone to the development of more commercial relationships within the industry. As our preference is for more commercial arrangements, we would be content to see train operators opting out of REBS to pursue their own commercially negotiated risk and reward sharing agreements with Network Rail, provided such arrangements were transparent and non-discriminatory.

### **3.5 Innovation**

One of the criticisms that has sometimes been made of regulation in other sectors is that price caps and associated incentives have focused companies on short-term cost reduction and led to a neglect of research and development and innovation. Several regulators have tried to address this in recent years.

Innovation was a key area of focus when Ofgem was developing its RIIO framework (one of the 'I's in RIIO stands for Innovation). It now has an 'innovation stimulus package', set up as follows:<sup>33</sup>

The innovation stimulus package will provide partial funding for innovation projects that relate to the provision of network services and have as their intent delivery of a sustainable energy sector. There will be two separate 'pots' of money available under the innovation stimulus package; one related to innovation on the gas networks; and the other related to innovation on the electricity networks. Under the package, network and non-network parties will be eligible to apply for funding to progress projects at any stage of innovation, from R&D to trials and pilot schemes. Partial funding will be awarded through a competitive process. An independent panel will be appointed to evaluate the bids submitted and the Authority will take the final decisions on the awarding of funding. We will seek to facilitate sharing of intellectual property and lessons learned to ensure that the benefits attained through the innovation stimulus package are shared within the industry, and ultimately with consumers.

Specific allowances for research and development expenditure have been factored into all of Ofgem's recent price controls, with most of the money pooled at a national level and disbursed via competitions as set out above.

ORR has embraced a similar framework into the Network Rail price control. The company's five-year revenue entitlement includes a £100m allowance for a strategic R&D fund and an innovation fund, the latter of which Network Rail passes to a third-party (the Railway Safety and Standards Board) to disburse.<sup>34</sup>

Low levels of R&D and innovation have been identified by several studies as a reason for poor productivity in the rail industry ... The Secretary of State's HLOS included a ring-fenced fund ... £50m (2011-12 prices) of this is assumed to fund R&D (including innovation) expenditure, which Network Rail will be able to access ... [ORR will also] introduce a matched-funding financial incentive whereby we would make provision in the settlement for each additional pound which Network Rail spends on R&D or innovation to be matched.

### **3.6 Cost of debt indexation**

During the Q6 reviews, the CAA considered, but ultimately rejected, the possibility of moving

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<sup>33</sup> Ofgem (2010), Handbook for implementing the RIIO model.

<sup>34</sup> ORR (2013), Periodic review 2013: final determination of Network Rail's outputs and funding for 2014-19.

away from a fixed allowed rate of return to an indexed return that adjusts annually in line with the prevailing level of the cost of debt. Ofgem has taken a different position in its RIIO reviews and has been setting price controls that provide for annual adjustment of returns.

The precise mechanism has evolved over time. Ofgem's original specification provided for the allowed cost of debt to be set in line with:

the simple average of the reported yields on the iBoxx non-financials 10+ maturity BBB corporate bond series and the iBoxx non-financials 10+ maturity A corporate bond series over the preceding ten years

*less*

expected inflation, measured as the difference between the yields on conventional 10-year gilts and index-linked 10-year gilts, over the preceding ten years

During the recent RIIO-ED1 review, the electricity DNOs sought a change to this approach on the grounds that the specification would give a poor match to their actual borrowing costs. Ofgem responded as follows:<sup>35</sup>

We tested a wide range of candidate index specifications by varying the trailing average lengths. We compared forecasts of cost of debt allowances with forecasts of DNOs' actual costs of debt for the sector as a whole ...

As well as considering absolute differences, we considered the sensitivity of those differences to market interest rates. Low levels of sensitivity would indicate low levels of investor exposure to market interest rate uncertainty.

We found that trailing average periods that extend trombone like from a fixed starting point until they reach about 20 years provided the lowest sensitivity to interest rates. Fixed trailing average periods would expose investors to more uncertainty. We consider that a trombone index would therefore have significant advantages in terms of limiting investor risk and improving financeability. This kind of risk reduction would be of value to investors.

The RIIO-ED1 controls therefore contain a modified index that gives a better match to actual DNO interest costs. The index is:

the simple average of the reported yields on the iBoxx non-financials 10+ maturity BBB corporate bond series and the iBoxx non-financials 10+ maturity A corporate bond series since 1 October 2004

*less*

expected inflation, measured as the difference between the yields on conventional 10-year gilts and index-linked 10-year gilts, since 1 October 2004

### **3.7 CPI vs RPI**

The merits of RPI vs CPI indexation was another issue that came up in the Q6 reviews, with the CAA electing to stick with RPI indexation. This issue has since received a great deal of attention in other regulated sectors.

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<sup>35</sup> Ofgem (2014), RIIO-ED1: draft determinations for the slow-track electricity distribution companies – financial issues supplementary annex.

Ofcom has recently shifted all of its price controls to CPI indexation. Its assessment was as follows:<sup>36</sup>

In considering whether we should propose RPI or CPI ... we have found it useful to consider each under the following factors. We also consider that these factors are likely to represent a useful framework for identifying whether, in particular circumstances, a departure from the default inflation index might be appropriate:

- **Official status of the index:** is the index compiled by a recognised independent body?
- **Cost causality:** to what extent do the costs of the regulated firm move with the index in question?
- **Exogeneity:** is the index outside the control of the regulated firm?
- **Availability of independent forecasts:** since charge controls are set over a period of a few years, typically three, are independent forecasts available for that period?
- **Regulatory predictability:** is the choice of index clearly reasoned?

#### Official status

As noted above, the ONS has found that the “the formula used to produce the RPI does not meet international standards”, and the formula has a “propensity to have an upward bias”. The RPI has since been de-designated as a National Statistic.

CPI is not calculated using the same formula that the ONS identified as problematic in the case of RPI. CPI also remains a National Statistic.

...

#### Availability of independent forecasts

...

Another useful feature of CPI is that it forms the basis of the Bank of England's official inflation target. While actual CPI will inevitably vary from the official target, the Bank of England seeks to set monetary policy to achieve 2% p.a., so in the medium to longer term, we might expect to see CPI at or around 2% p.a.

#### Regulatory predictability

As noted previously in this section, regulatory predictability is important for dynamic efficiency. However, regulatory predictability does not mean doing the same thing at every market review. Instead, regulatory predictability requires that regulatory decisions are clearly reasoned, consulted on, and that stakeholders are given sufficient notice of regulatory changes.

While RPI has been the mainstay for indexing telecoms price caps to date, given the concerns with the RPI formula identified by the ONS and the UK Statistics Authority's decision to no longer designate RPI as a National Statistic, we do not think that past regulatory practice should mean that RPI is presumed to stay for as long as the index is still published. CPI has not been used in the regulation of BT's services but, as noted above, it has been used by Ofcom in setting charge controls in the postal sector.

#### Proposed index

In light of the above, we propose to make CPI the default inflation index for future charge controls.

Ofgem and Ofwat used RPI in their recent price control decisions, but Ofwat recently signalled that it would be considering the possibility of switching to CPI in PR19.<sup>37</sup>

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<sup>36</sup> Ofcom (2013), Fixed access market reviews: approach to setting LLU and WLR charge controls.

<sup>37</sup> Ofwat (2015), Towards Water 2020 – policy issues: regulating monopolies.

We considered indexation and the use of RPI as part of PR14. However, in January 2015, a report by Paul Johnson of the Institute of Fiscal Studies (IFS) for the UKSA5 stated that RPI is “no longer fit for purpose” and recommended that ...: “Government and regulators should move towards ending the use of the RPI as soon as practicable and, where they decide to keep using it, the Authority should ask them to set out clearly and publicly their reasons for doing so.”

The UKSA is currently consulting on this and intends to issue its final response in early 2016.

So we need to consider, alongside other UK regulators, whether indexing the RCV by RPI remains appropriate for future price control periods, particularly given the importance of reliable indexation in maintaining the trust and confidence of investors.

The choice of indexation method should not impact on the total level of returns earned by investors. In determining real costs and the real allowed cost of capital, we would use a consistent approach to the level of inflation. For example, if CPI was used rather than RPI, then the cost allowances and the cost of capital would also be determined using CPI rather than RPI.

If the link to RPI is removed, which index should be used? Should different indices apply to different parts of the water and wastewater value chains? While the Consumer Price Index (CPI) is widely used in indexing prices, the recent review by the Office for National Statistics (ONS) proposed the use of CPIH, which is an alternative measure of CPI that includes owner occupiers' housing costs.

If we decide that CPI (or CPIH) is more appropriate for indexing the RCV, then we would need to manage a number of issues during the transition away from RPI. We have identified four [sic] key issues that would need to be managed.

- Impact upon customer bills in the short- to medium-term. Long term trends indicate that RPI is likely to be greater than CPI or CPIH. So a move towards CPI (or CPIH) is likely to reduce the proportion of return earned through growth in the RCV and increase the level of cash returns earned through the real cost of capital. This would tend to bring forward the revenue requirement as the real weighted average cost of capital (WACC) would need to increase. This could increase bills in the next control period and result in lower levels of RCV growth (and so lower bills in the longer term), unless the impact is offset through the use of pay-as-you-go (PAYG) levers or some other financially neutral adjustment.
- Phasing-in of a new index. If a new index were to be adopted, it would be possible to phase-in the introduction of the new index by continuing to apply RPI to some proportion of the RCV and the new index to the remaining proportion. This would increase complexity of price control, but would provide greater time for adjustment.
- Impact upon company financeability. Water companies have a significant amount of long dated RPI-linked debt and our view of a notional company in PR14 assumed that 33% of debt was RPI linked. Companies may be able to raise new CPI-linked debt (similar to the Lloyds bank CPI bond issue for the Greater London Authority to part finance a new London tube link). But companies may face some additional risk from exposure to differences between RPI and CPI or CPIH on existing index-linked debt.

## 4. Discussion

Before considering the transferability that there might be from the ideas identified in sections 2 and 3 to the upcoming Q7 reviews, it is important to highlight that circumstances and the backdrop to regulation in the different sectors are very different. When one compares airports to energy and water, in particular, one observes that:

- Ofgem and Ofwat have the good fortune of regulating multiple companies doing broadly the same thing at the same time. The CAA, by contrast, sets price caps for just two heterogeneous airports whose Q7 reviews are likely to take place on different timescales;
- the energy networks and water and sewerage networks are, for the most part, natural monopolies, whereas the scope for competition between airports impacts on the regulation of both Heathrow and Gatwick airports (to different degrees);
- the CAA has previously had some success with processes of ‘constructive engagement’ and commercial negotiation between airports and airlines;
- the task of maintaining and upgrading network assets can be quite different from the challenges that an airport faces in bringing on lumpy new investments (e.g. a new runway); and
- possibly as a consequence, there has, to our knowledge, not to date been the sense of ‘capex bias’ at airports that various commentators have perceived in the energy and water sectors.

These things mean that what was right for one sector need not necessarily be right for airports. This does not mean to say that regulation in different sectors should naturally go down different paths or that regulators collectively should be unconcerned if their methodologies are becoming quite different. However, it does mean that the CAA ought to evaluate the relevance and usefulness of other regulators’ ideas on their merits, having regard to the specific features of airport regulation and the circumstances it is likely to be dealing with in the Q7 reviews.

It is to this task that we now turn.

### 4.1 Business plans

Section 2 set out a total of five ways in which Ofgem and Ofwat had sought to improve the amount of challenge that regulated companies set themselves in their business plans.

#### 4.1.1 Well-justified / high-quality business plans

It is difficult to argue against the idea that a regulator should call for ‘well-justified’ or ‘high-quality’ plans. But it is also difficult to say that exhortation alone is likely to bring about a noticeable change in a company’s behaviour. To this end, the first of the innovations we highlighted is possibly best considered as a helpful scene-setter for the other innovations that follow behind it.

#### 4.1.2 Business plans, proportionate scrutiny and fast-tracking

The conceptually quite simple idea that a regulator should grade companies’ plans and offer reward to the companies that produce very good plans appears to have produced significant benefits for Ofgem and Ofwat in their recent reviews. Evidence for this can be found in a paper that Anglian Water published earlier this year, which found widespread impact across the sector:<sup>38</sup>

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<sup>38</sup> Anglian Water (2015), Future use of menus as part of price setting methodology.

It was very apparent from conversations between company representatives over the course of the price review period that all Boards were very aware of the enhanced business plan incentive and actively responding to it ...

To test our view of the enhanced business plan incentive across the industry, we surveyed the regulation managers of all 18 companies whose price controls were set at PR14. The survey question was this: Thinking about PR14, how strong was the incentive in your company to achieve enhanced status, or avoid re-submission status, when putting together your plan, on a scale of 1 (very weak) to 5 (very strong)?

We received responses from 12 companies, representing two-thirds of the industry and a mixture of water only and water and sewerage companies. Of these, five responded with a score of 5 and five with 4. Two companies responded with a 3, but of those one said that because of company-specific issues it regarded the prospect of being assessed as enhanced as very low. No company gave a score lower than 3.

The Anglian Water paper also cites the reputational advantage of being held up as the best in the industry, over and above fast-tracking and financial rewards, as the key motivator:

Reputational incentives have always been powerful in water and it was clear from all industry forums that this one was no different. One reported comment from an industry employee probably sums it up: "if there's a competition going, my chief exec is going to want to win it".

This sense that reputational competition between firms was critical is obviously important to the CAA given that it will not have the opportunity to pit multiple firms in competition with each other in its reviews. However, this is not to say that Ofgem's and Ofwat's experiences hold no lessons for airport regulation. Even if the CAA is unable to harness the power of comparative competition, it may still be worth exploring whether there is any way of harnessing the importance that chief executives, directors and management place on reputation.

The practical steps that the CAA could take lie outside the scope of this project, but we can start to think of a price review in which the CAA describes to an airport two price review tracks: one track in which an airport submits a 'well-justified' and challenging business plan, is publicly recognised for doing so, and gets lighter-touch scrutiny from the regulator; and another track in which the airport falls short of the standards that other regulated firms have set, is publicly criticised, and gets a more heavy-handed review from the CAA. The difficult bit will be to persuade an airport that it wants to put in the efforts that are required to get on the first track, including by convincing the airport that its plan will be graded fairly and in a way that means that both tracks are credible options. If the CAA were somehow able to work its way through such obstacles, we would say that experience in other sectors indicates that there could be quite a substantial prize for the regulator and for users.

#### **4.1.3 Customer engagement**

The efforts that Ofgem and Ofwat put into improving customer and stakeholder engagement were, at least in part, a response to the successes that the CAA has had with constructive engagement. As such, the energy and water sector have been actively learning from airports, making it difficult to make a transfer back of their ideas to the Q7 reviews.

That said, the one feature of engagement in other sectors which stands out as being different from the experience in the airports (and NATS) reviews has been the focus that there has been on final consumers. At one level, this has been a natural consequence of the structure of the sectors (i.e. the absence of anyone who can take on the role played by airlines). However, it also reflects a sense that regulators' duties are focused towards end consumers and that regulator and companies need therefore to be more directly informed by consumers about their preferences and wants if a regulator is to legitimately claim that it has set a price control that discharges those duties.

The CAA has made some efforts in recent years to engage with passengers, e.g. through the formation of its Consumer Panel. However, the CAA may still wish to take note of the breadth and depth of the engagement that there has been with end consumers in other reviews, with a view to implanting a consumer voice more deeply in the Q7 price review process. Company-facing consumer challenge groups, survey work and focus groups, consultation with end consumers over airport business plans, and dissemination via websites and social media – to name some of the forms of end consumer engagement we have seen in the energy and water sectors – could all conceivably play a greater role in the next round of reviews, especially in areas where the CAA is not confident that airline views reflect the views of passengers.

#### **4.1.4 Requirements for Board sign-off**

Our contacts with water companies suggest that Ofwat's insistence that board members – and especially independent non-executive directors – put their names to a company's plan has been a very positive addition to the price review process. Making plans personal like this is said to have focused minds and ensured that every individual sat around the Board table is prepared to 'own' the company's ideas and numbers.

The CAA may want to take note of this at it considers its approach to Q7. Our understanding is that the CAA's contacts with the airports it regulates mostly take place below Board level and rarely, if ever, involve direct contact with non-executive directors. Experience in the water industry suggests that a more multi-layered approach may have benefits, and that leveraging the skills of the company's independent non-executive directors, in particular, can bring an added discipline to the inputs that a regulated company seeks to make to the regulatory process.

#### **4.1.5 Information quality incentive**

We encounter more mixed views around the energy network industry on the worth of Ofgem's IQI. The Competition & Markets Authority recently described schemes of this type as:<sup>39</sup>

complicated regulatory mechanisms that are vulnerable to misinterpretation

This reflects our own experience working with companies, and suggests that there is some tension between any desire to use an IQI and a desire to place greater responsibility in the hands of Boards.

Ofgem has also expressed reservations about the principles behind the incentive:

In theory the IQI would ensure that profit-seeking network companies submitted an expenditure forecast to Ofgem representing its unbiased forecast of expenditure over the price control period.

However, there are a number of conditions necessary for the IQI to achieve this result. These include: (i) companies must be risk neutral in the sense that they are indifferent between a higher or lower efficiency incentive rate; (ii) the efficiency incentive rate must be implemented in a way that exposes each company to the desired strength of incentives; and (iii) Ofgem must set the price control using an assessment of expenditure requirements that is completely independent of the company's own forecasts.

There is some uncertainty as to how well (i) and (ii) will be met in practice, but this will largely depend on the way in which the IQI is calibrated and on other aspects of the regulatory framework (e.g. how the allowed cost of capital reflects the financial risks that companies face). Condition (iii) is more fundamental.

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<sup>39</sup> CMA (2015), Bristol Water plc price determination – provisional findings.

Even Ofgem has accepted that it will not be able to meet the third condition in full; in an airport setting, the suggestion that the CAA could set expenditure allowances without making reference to a company's plan is a complete non-starter. Taking into account also the added complexity that an IQI would introduce to bring into airport price control reviews, our sense is that this is not an augmentation that would bring significant benefits in the Q7 reviews.

## **4.2 Regulatory mechanisms**

### **4.2.1 Outcomes / outputs**

The CAA's efforts on outcomes currently focus around the service quality rebate and bonus scheme (SQRB). Ofgem's and Ofwat's output and outcome incentives are similar in their basic construct and design. However, the material in section 3 serves as a reminder that there is merit in keeping the design and composition of the SQRB under review so that the airports' attention is constantly directed towards the things that matter to airlines and passengers.

Looking ahead to the next reviews, the airports' business plans should probably make clear what service quality levels the airports are aiming for in exchange for the charges they are seeking to levy on users. This could include dimensions of service quality that are not currently reflected in the SQRB – e.g. airport-caused delay to flights, baggage misconnection, passenger satisfaction with public transport options – where research shows that such measures matter to users.

The CAA would then need to review the calibration of the SQRB. Depending on the airports' plans, there may be merit in:

- altering the basket of metrics to better capture what the airports are promising and/or the dimensions of service quality that matter most to users;
- ratcheting individual benchmarks up or down so as to ensure that targets are set at the optimal level, having regard to the associated costs and benefits; and/or
- changing the amounts of money that are attached to individual measures to better reflect the value that users attach to different aspects of service quality.

It is difficult at this point in time to be any more precise. What the CAA might take from the discussion in section 3 is that the SQRB ought to fit back-to-back to the airports' plans and to user priorities and not become an incentive that exists in its own little bubble.

### **4.2.2 Totex**

In section 3 we described three complementary innovations that Ofgem and Ofwat have used to blur the distinction between opex and capex. Before considering the usefulness of these ideas in an airport context, it is important to emphasise that the regulators' actions have been conditioned by the sense that there is a palpable 'capex bias' in the energy and water sectors. The CAA may want to consider whether a similar bias is apparent in the way that airports respond to problems – e.g. is there a natural inclination to build; do the airports tend to avoid new recurring expenditure wherever possible?

Ofgem's attitudes to opex/capex/totex have also been influenced by difficulties policing changes in companies' capitalisation policies. Again, there may not be of the same level of concern within the CAA.

Without a sense of the scale of the 'issue', it is difficult to advise on the merits of the other regulators' innovations. We nevertheless offer the following thoughts.

### *Totex benchmarking*

Ofgem's and Ofwat's switch to totex benchmarking is a development of a regulatory approach which has always historically placed considerable weight on comparative efficiency analysis across regional companies in the same sector doing the same job. The CAA, by contrast, has found it very difficult to use intra-industry cost benchmarking in its price reviews, mainly because of the heterogeneous characteristics of airports, both in the UK and overseas. It is therefore quite a stretch to think that the CAA could leap from a starting position in which it has never really been able to make airport-to-airport cost benchmarking work to a destination in which it is able to use full totex comparisons.

The CAA should also be aware that the CMA has been critical of totex benchmarking in the ongoing Bristol Water price control inquiry.<sup>40</sup>

### *Totex incentives*

With Ofgem, Ofwat and the CC/CMA all moving to equalised sharing rules for under- and over-spending against price control cost allowances, there is more of a sense that totex incentives are a part of modern-day UK regulatory 'best practice'. We are not aware that there have been any great criticisms of the CAA's current treatment of under- and over-spending, but equally the CAA may wish to consider whether there is good reason going forward to distinguish the rules in the aviation sector from the rules in other regulatory regimes.

A move to equalised incentives would be fairly straight-forward to implement. The CAA would first need to settle on an appropriate sharing rule – a 50:50 split would seem to be a reasonable starting point, based on CC/CMA precedent. There would then need to be a process of annual true-up through which under- and over-spending in year accrues into a revenue entitlement or a revenue deduction.<sup>41</sup> Finally, the CAA would need to decide when company and users get to collect the monies that they are owed – i.e. would adjustments be made in period or stored up for future control periods.

### *Totex cost recovery*

Ofgem's and Ofwat's redesign of the building blocks in the allowed revenue calculation (as shown in figure 1) should also give the CAA some pause for thought. Ten years ago, it was a truism that opex should be paid for pound-for-pound as it is incurred while capex passes through the RAB. In 2015, matters are not nearly this simple.

Perhaps the main takeaway is that investors in regulated companies have become comfortable in recent years with the principle that companies and regulators can, within boundaries, select the balance between 'fast' and 'slow' money. This may be helpful to the CAA as it approaches a period of significant investment. For example, in any discussion about pre-funding, the CAA has the option of flexing up the amount of 'fast' money. Similarly, when new assets come into operation, the CAA need not be bound into depreciating investment according to accounting rules and has some freedom to flex up the amount of 'slow' money.

To be clear, it is not necessary for the CAA to use the exact same terminology and labelling that Ofgem and Ofwat have used in their reviews. Provided that the CAA's building blocks are grounded in sound logic, there may be other ways of effecting the flexibility that the other regulators have helped to unlock.

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<sup>40</sup> *ibid.*

<sup>41</sup> Ofgem and Ofwat have set out the mathematics. See, for example Ofwat (2015), Ofwat PR14 reconciliation rulebook.

### 4.2.3 Menu regulation

Ofwat's ideas around menus are probably the least well accepted of the innovations covered in this paper. The Anglian Water work cited previously produced the following findings:<sup>42</sup>

To understand companies' attitudes towards the menu, we again surveyed the regulation managers of all 18 companies whose price controls were set at PR14. The survey question was this: Thinking about PR14, how important was your final menu choice in comparison with other decisions at PR14, on a scale of 1 (comparatively unimportant) to 5 (very important)?

Again, we received responses from 12 companies. Of these, five companies responded with a score of 1 and six with a 2. Only one company responded with a 3. In other words, only one company thought this decision was averagely important and the majority thought it relatively unimportant.

The CMA has also been quite critical of Ofwat in the ongoing Bristol Water inquiry:<sup>43</sup>

Ofwat intended that the PR14 menu scheme would provide companies with the flexibility to make choices, particularly over the level of cost sharing incentive that each company faces. In our view, the design of the scheme does not do this.

Against this backdrop, we do not recommend that the CAA incorporates menu regulation into its Q7 reviews.

### 4.2.4 Pain-/gain-sharing

The CAA has previously given extensive consideration to the allocation of risk between airports and airlines – e.g. in relation to traffic forecasting risk. We would imagine that there will be discussions again in this area ahead of Q7, which will take into account the views that the parties have on the merits of certainty of price path versus the merits of in-period pain-and gain-sharing.

The ORR efficiency-sharing scheme, on the face of it, looks like something that could be applicable in an airport context. Like Network Rail, airports have large commercial customers with detailed knowledge of the regulated company's operations. The major difference is that airlines already have a keen interest in lower prices, whereas most of the train operators have an indemnity from government against any increase or reduction in charges that comes out of a periodic review. ORR's efficiency-benefit sharing scheme, therefore, was first and foremost a way of getting train operators interested in costs where otherwise they might have felt indifferent. The CAA might be able to rely more on the already commercial nature of airport-airline relationships. As such, it is for consideration whether the CAA needs to intervene in this area; if there is merit in sharing mechanism, it might be that airports and airlines can be nudged to enter into commercial arrangements voluntarily without the need for regulatory supervision.

### 4.2.5 Innovation

The initiatives that Ofgem and ORR have taken to stimulate R&D and innovation in the sectors they regulate have to be looked at in the industry context. Unlike the CAA, Ofgem and ORR are regulating whole industries. If the regulatory system is inadvertently limiting spend on R&D in the whole of the GB energy network sector and the whole of the GB railway sector, this is a problem. In an airport setting, the CAA is regulating just two airports, albeit two very large airports. There are dozens of other UK airports outside of the regulatory regime and dozens more airports overseas that these airports compete with.

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<sup>42</sup> Anglian Water, op. cit.

<sup>43</sup> CMA, op. cit.

In this way of looking at things, it is not clear why the CAA needs to create arrangements of the type set out in section 3 and apply them to two companies among many. Instead, we think the CAA can assume that there is a natural spillover of ideas between airports, aided to some extent by the competitive process.

#### **4.2.6 Cost of debt indexation**

As noted earlier, the idea that the CAA could set an indexed cost of debt is not a new proposition. We do not wish to take issue with the conclusions that the CAA reached when it evaluated indexation [three] years ago, but we can draw attention to the way that Ofgem's approach in the recent RIIO-ED1 review has moved 'best practice' a little further forward.

Ofgem's original proposition, based around a ten-year trailing average of the yield on two iBoxx indices, was sometimes perceived as pegging the allowed cost of debt to a very notional external benchmark. The mindset that Ofgem developed during the RIIO-ED1 review appeared to be slightly different: rather than aim for something detached and notional, Ofgem consciously tried to define an index that would match companies' actual financing costs through time, having regard to the balance that there would be at any point between embedded debt and new financing. The trombone index that it alighted on was therefore tailored very deliberately to the DNOs and is not the main takeaway; what the CAA might instead learn from Ofgem's work is that there are arguments for a cost of debt allowance that is capable of moving up when a company's actual cost of debt increases and down when the actual cost of debt falls.

Seen in this way, it is not the index design that is important but the concept of a mechanism that deals with uncertainty about market interest rates and forecasting risk. With at least one of the airports likely to have to take on significant amounts of new debt in Q7, the CAA might consider whether it is appropriate to set a fixed rate of return, based on what can be at most a 'best guess' about future financing costs, or whether there are mechanisms that the CAA can put in place to match revenue to actual interest rates as they are revealed (and without materially changing the airports' incentive to borrow in an optimal way).

#### **4.2.7 RPI vs CPI**

The CAA has made it clear to us during the project that it is aware of the questions that there are about the legitimacy of RPI indexation. It is not within the scope of this study to analyse the pros and cons of switching either to CPI or to some sort of hybrid RPI-CPI mix. The look across to Ofwat in section 3 does, however, highlight that at least one other regulator is likely to give its take on the way forward before the CAA gets into the detail of the Q7 reviews. This may provide a helpful pointer.

## 5. Conclusion

The discussion in section 4 elevates some of the ideas from sections 2 and 3 above others as matters that the CAA may wish to consider as part of its Q7 work programme. Table 1 gives a summary of our recommendations.

**Table 1: Summary of findings**

<b>Subject area</b>	<b>Matters that the CAA might consider ahead of the Q7 reviews</b>
Incentives for higher quality business plans	The scope that there might be for business plan grades and/or for presenting a multi-track approach to the airports, as part of a more general effort to bring reputational pressure to bear during the compilation of business plans
Board sign-off	The role of a regulated company's Board, and especially the independent non-executive directors, during the price review process
Consumer engagement	A sense that there might be more that the CAA can do to engage end-consumers (i.e. passengers) during the price review
Outcomes	The value of being clear about the outcomes that an airport is seeking to achieve and of aligning schemes like the SQRB to those aspirations
Totex cost incentives	The development in regulatory good practice in the design of opex and capex incentives
<b>Subject area</b>	<b>Further thinking required</b>
Totex cost recovery	The use that the CAA might make of apparent freedoms, within limits, around the mix of fast and slow money
Cost of debt indexation	The merits of a fixed cost of debt allowance versus an adjustable allowance in a period where an airport is taking on significant amounts of new debt at a yet-to-be-determined price
RPI vs CPI	The possibility of switching price controls to CPI indexation

We stress again that this paper should not be read as a call for change in any of the above areas. It is best read as an initial sift of a broader range of innovations that have come out of recent regulatory reviews and as a navigational aid into the much more detailed considerations that the CAA will need to make over the coming months.

## **Annex: Timetables for Periodic Reviews in Other Sectors**

### Ofgem's RIIO-ED1 price control review – key milestones

February 2012	Open letter from Ofgem on the way forward for the review
July 2012	Business plan guidance workshops
September 2012	Ofgem price review strategy consultation
March 2013	Ofgem price review strategy decision
June 2013	Companies finalise and publish business plans
July 2013	Ofgem open letter consultation on business plans
November 2013	Ofgem business plan assessment, fast-track decision and draft determination for the fast-track company
February 2014	Ofgem final determination for the fast-track company
March 2014	Statutory consultation on modifications to the fast-track company's licences
March 2014	Slow-track companies finalise and publish revised business plans
March 2014	Ofgem open letter consultation on revised business plans
May 2014	Modification of the fast-track company's licences
July 2014	Ofgem draft determinations for slow-track companies
November 2014	Ofgem final determinations for slow-track companies
December 2014	Statutory consultation on modifications to the slow-track companies' licences
February 2015	Modification of the slow-track companies' licences
March 2015	Appeals by British Gas Trading and Northern Powergrid to the CMA

### Ofwat's PR14 – key milestones

May 2012	Ofwat 'future price limits' statement of principles document
January 2013	Ofwat consultation on price review methodology
April 2013	Ofwat consultation on expectations for company business plans
July 2013	Ofwat final methodology and expectations for company business plans
December 2013	Companies finalise and publish business plans; CCGs submit reports to Ofwat
March 2014	Ofwat announcement of provisional list of enhanced companies

April 2014	Ofwat confirmation of enhanced companies
April 2014	Ofwat draft determinations for enhanced companies
May 2015	Ofwat draft determinations for two more companies
August 2014	Ofwat draft determinations for all remaining companies
December 2014	Ofwat final determinations for all companies
January 2015	Companies make menu choices
February 2015	Deadline for accepting price control determinations; Bristol Water asks for a reference to the CMA