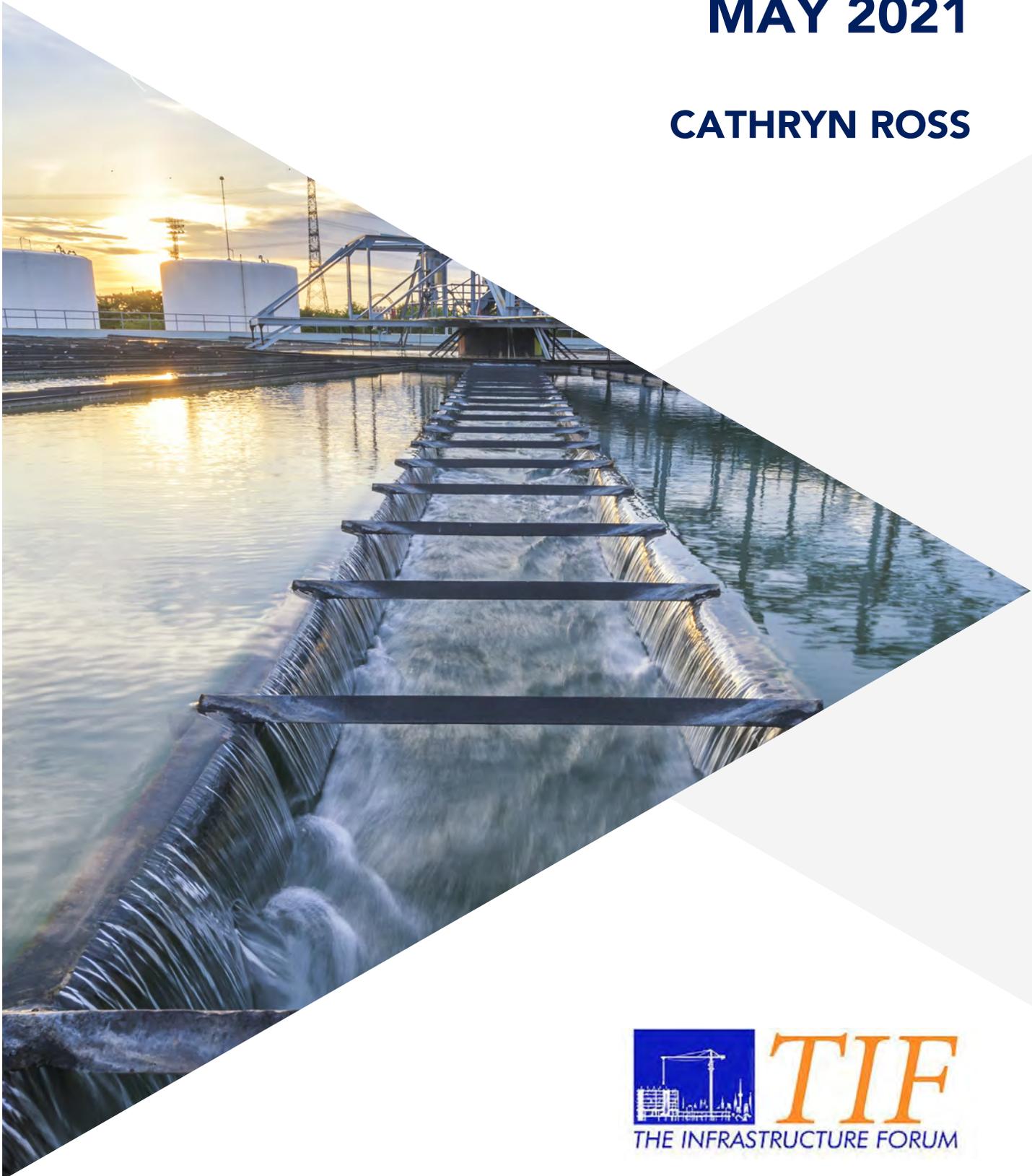


# RISK, REWARD & REGULATION

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This paper has benefitted enormously from a diverse and lively debate across The Infrastructure Forum community. The author is very grateful for the generosity of time, energy, and intellect that members of the community have shown throughout the preparation of this paper and accepts full responsibility for any errors and infelicities that remain

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# EXECUTIVE SUMMARY

## **Economic regulation UK-style has delivered success...**

Economic regulation of infrastructure sectors in the UK has delivered real success. In some markets, economic regulators have encouraged competition, helping to align the interests of companies with their customers, driving efficiencies and encouraging innovation. In others, they have challenged monopolies to improve efficiency, and have provided stability to enable the delivery of massive investment programmes at relatively low capital costs, in turn leading to improvements in service, sustainability and resilience. The UK is looked to as a global thought leader on regulation.

## **... but it faces a number of challenges...**

Inevitably, much has changed since the inception of economic regulation UK-style in the 1980s. The incentive regulation tool kit, which hinges around the allocation of risk, has proved itself robust to those developments. But as the world changes around them, economic regulators in different sectors are facing a set of challenges that bear some cross-cutting consideration. These include:

- **Demand uncertainties:** one of the great strengths of economic regulation has been its ability to smooth lumpy investment costs over time but still provide a high degree of certainty for investors over cost recovery. This is relatively straightforward where future revenue streams can be relied upon to provide the basis for that future cost recovery. But when future demand is less certain it becomes more challenging. Different sectors face different drivers of demand uncertainty, including technological change, competition, decarbonisation, and changing patterns of mobility for example as a result of more remote working.
- **The politics of profit:** economic regulation rests on the allocation of risk and acknowledges that risk needs to be remunerated. In part, this happens through the cost of capital allowances in traditional price controls, and it also happens when regulators permit companies to retain the gains they make from outperforming against their price controls. A company performing to the regulator's benchmark should return its cost of capital; companies that are doing better and generating more benefit for their customers and citizens are rewarded with profit in excess of their cost of capital. Profit plays an important

role in the ability of the regulatory regime to align the interests of companies and investors with those of customers and citizens. But there has been much debate recently about the extent to which society is comfortable with private investors earning a profit from the provision of public services, including, during the 2019 general election, a debate about whether some providers should be taken back into state ownership.

- **The prevalence of politics:** although regulated sectors have always been politically salient, regulators' ability to deliver many of the benefits for which they were established rests on their independence from government, and in particular their ability to take a long-term view. However, many regulated sectors are increasing in their importance for the delivery of key policy goals, such as decarbonisation and 'levelling up'. And these sectors in turn are increasingly affected by major government policy decisions on major issues such as the energy fuel mix, transport policy and carbon taxation. Further, with devolution in Scotland, Wales, and Northern Ireland, the growth of directly-elected mayors in England, the number of bodies with democratic legitimacy, and strong local voices, is increasing, growing in power, and taking a keen interest in regulated infrastructure sectors.
- **Institutional jeopardy:** regulators' willingness and ability to take the long view, setting enduring frameworks that enable competition to emerge and investment to be delivered, has been critical to their success. If our regulated infrastructure sectors are to make the contribution that is needed to create a more inclusive and sustainable UK, that long term approach will be more needed than ever. Of course, regulators should continuously learn, improve and adapt their approaches to changing needs, aspirations and contexts. While there are no such plans in place today, the prospect of major institutional reform (such as those proposed in the recent report by John Penrose MP) perennially risks, at best, a distraction from that process of evolution, and, at worst, a defensiveness that is inimical to learning and improvement.

### **... and so we make a number of recommendations to secure its continued success**

The economic regulatory tool kit has successfully evolved over time and can continue to do so in the future. The key is to acknowledge these challenges, to face them, and for regulators and policymakers to work together to plot

the course ahead, learning and refining along the way. This paper makes a number of recommendations in line with this.

To help address issues of demand uncertainty and ensure that regulators' allocation of risk and reward is appropriate for the particular circumstances of major investments, regulators **should work together through UKRN to consider project-specific regulatory approaches** and share their experience of implementing these. They should also **learn from experience of using real options assessment and scenario planning** with a view to setting out a framework for use in future price reviews. Regulators, through UKRN, should **also consider when and how forbearance from regulation (and deregulation) is best used** as a tool.

Given the long term, transformational nature of some forthcoming infrastructure investments, and the inherent and political uncertainties associated with them, it may be efficient for the taxpayer to take on some of the risk. **The UK government should consider how best the UK Infrastructure Bank might improve efficient financing of infrastructure investment**, specifically through the taking on of risk on behalf of the taxpayer and its interaction with economic regulatory regimes.

Innovation has a big role to play in helping the UK to deal with the challenges and maximise the opportunities it faces from things like decarbonisation and the drive for a more inclusive society. Economic regulation has a critical role to play in enabling and encouraging innovation. **The UK government should include in its forthcoming Innovation Strategy, and policy paper on economic regulation, the importance of pro-innovation regulation.** It should ask UKRN to **do a study to assess the effectiveness of different pro-innovation regulatory approaches** in their sectors and create a handbook of pro-innovation regulatory tools.

Acknowledging the increasing importance of the political context in which economic regulation sits, action is needed to ensure political institutions are given a voice in regulator's decisions, but one which does not undermine their independence and ability to take a long-term view. Specifically, **the UK government should give clear, cross-sectoral steers to regulators in respect of major areas of policy through cross-sector strategic policy statements**, starting with one on net zero carbon. The governments of the devolved nations should consider how best to set out transparently their strategic priorities for economic regulators. **The Local Government Association should consider facilitating a dialogue with economic regulators about how best the wishes of local populations can be reflected in regulatory decisions.**

And **directly elected mayors** – who have a potentially critical role in coordinating and expediting delivery of infrastructure - should work together to **establish a dialogue with economic regulators** about how best to provide their input into regulatory decisions. The option of linking finance in some circumstances from the UK Infrastructure Bank to support from directly elected mayors should also be considered. All of this should be done **against the backdrop of the principles for economic regulation** and the emphasis they place on getting the right balance between the political voice and regulatory independence.

Finally, regulated companies and their investors have an important role to play in ensuring the continued success of economic regulation in the UK. Critical to this is action to build and maintain their own legitimacy, and to ensure that the value they create is demonstrably shared fairly between shareholders, customers and citizens, now and into the future. **Companies and investors should work with regulators and civil society groups to consider the merits of existing metrics for reporting against purpose, the need for new metrics and whether and how these metrics could be used in regulation.**

# INTRODUCTION

The purpose of this paper is to identify some of the challenges that are facing economic regulators across sectors currently, and to suggest, taking account of experience and thinking across regulators, some tools that may be applied in meeting those challenges.

The challenges that are the focus of this note are a function of the application of tried and tested regulatory tool kits in changing, sometimes newly challenging circumstances. Those changing circumstances that directly affect the application of regulatory tools include the need for epoch shifting new investment programmes, unprecedented uncertainties in relation to future demand, and a heightened concern about the for-profit provision of public services. And these changes sit alongside an overall increase in the political salience of many regulators' sectors, given their impact on the future shape of our economy and society. The common theme here is that all these changes affect both the nature of the risk around the delivery of the outcomes that customers and citizens wish to see in relation to regulated sectors, and the regulator's ability to allocate those risks.

This paper begins by recapping briefly on the essential features of the economic regulatory tool kit, and providing a reminder (lest we forget!) of the successes of the UK regulatory model. It then sets out a number of relevant changes across a number of regulated sectors that appear to pose challenges to the exercise of the traditional regulatory tool kit. It concludes with some suggestions for ways in which these challenges might be addressed, by regulators, by government and by regulated companies.

The purpose of this paper is simply to draw out some changes and challenges that have commonalities across a number of regulated sectors and to prompt debate among those who may have useful levers at their disposal about how they may be addressed. All of this is in the interests of maintaining the effectiveness of regulation in UK, and our regulated sectors, to the benefit of consumers and citizens.

# ECONOMIC REGULATION IN THE UK – A BRIEF RECAP

Much has been written about economic regulation in the UK but for the purpose of this discussion its key feature is the allocation of risk with the aim of better aligning the interests of company management and shareholders with those of customers and wider society<sup>1</sup>.

In part, the risk that the regulator is allocating is inherent in the provision of the regulated products and services. In part, the regulator is creating risk by means of its regulatory framework – often designed to mimic the effects of the competitive market where that discipline is absent, for example through the creation of rewards and penalties according to the standard of a company's delivery for its customers.

## Risk Allocation

Those risks most obviously allocated by regulators in order to influence company behaviour are financial risks. It is for example exposure both to underperformance and outperformance against the regulator's assumed cost of delivery that creates the incentive on companies to drive efficiency. The regulator may also have rewards and penalties in place for delivery of customer outcomes, quality of service etc.

The regulator also uses other risks as important elements in their tool kit. Reputational risk – the regulator's ability to praise or shame a company – has always been important. More recently, regulators have made use of procedural devices – the extent to which company management for example, is fast-tracked or put through an extensive, time-consuming, distracting, regulatory process – to influence company behaviour<sup>2</sup>.

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<sup>1</sup> An interesting perspective on regulation as a set of tools to align interests, and enable 'good' companies to prosper while respecting broader interests, is set out in Robert Baldwin and Martin Cave's recent book 'Taming the Corporation: How to Regulate for Success', OUP, 2020.

<sup>2</sup> Ofgem used 'fast tracking' in RIIO ED1, assessing WPD's business plan as 'sufficiently high quality' to receive an early draft determination. See: <https://www.ofgem.gov.uk/publications-and-updates/decision-fast-track-western-power-distribution> In PR19, Ofwat conducted an 'initial assessment' of company business plans according to their quality. It graded 3 (South West Water, United Utilities and Severn Trent Water) as 'high quality' and these were 'fast tracked' to receive early draft determinations of their price, service and incentive packages. It put 10 companies on the 'slow track', with further work to do on their plans. It placed 4 companies (Hafren Dyfrdwy, Affinity, Southern Water and Thames Water) in the 'significant scrutiny' category requiring them to do substantial work to revise their plans. See: <https://www.ofwat.gov.uk/regulated-companies/price-review/2019-price-review/initial-assessment-of-plans/>

Economic regulation principally affects price, quality and choice of products and services provided by regulated companies to their customers. Thus, many of a regulator's decisions involve the allocation of risk between companies (their shareholders but also their management) and their customers. The use of sharing factors in respect of variations of outturn costs from assumptions in price controls is the clearest example of this.

## Choices

Regulators also have very real choices when it comes to the allocation of risk across time. In 'Regulated Asset Base' (RAB) model's regulators agree to include costs they are satisfied are efficiently incurred in the 'RAB', which as a matter of regulatory policy they pre-commit to allowing the regulated company to recover from regulated revenues over a long future period (potentially in perpetuity on the assumption that the physical performance of the asset base is kept at the same level through capital maintenance). This has enabled large lumpy investment costs to be smoothed over long periods, and in the water sector for example, has rendered affordable massive investment programmes that would otherwise (on a 'pay as you go' basis) have been prohibitively expensive. The water and sewerage sector for example has seen more than £130bn of investment since privatisation in 1989<sup>3</sup> and will see £51bn totex in the period 2020-25<sup>4</sup>. Ofgem's latest price controls on energy transmission and distribution networks will see a £40bn investment programme in the period 2021-26<sup>5</sup>. But this benefit comes as a result of the transfer (to a large extent) of the risk of asset stranding from companies to future customers.

Many regulated sectors involve substantial externalities. The telecoms sector, for example, has a massive impact on UK productivity. Water and energy sectors have a huge impact on the environment. Transport has a massive effect on housing and regional development. To the extent that regulatory frameworks affect the delivery of these external outcomes, regulators allocate risk beyond companies and customers to citizens. If a regulator, for example, sets a tough efficiency challenge for a company, and creates substantial penalties for poor product quality, but without being clear on the environmental standards it expects that company to achieve and ensuring those standards are adequately enforced, the net effect may be an

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<sup>3</sup> <https://www.ofwat.gov.uk/regulated-companies/ofwat-industry-overview/>

<sup>4</sup> See: <https://www.ofwat.gov.uk/pn-23-19-ofwat-gives-green-light-to-massive-investment-programme-to-transform-water-sector/>

<sup>5</sup> <https://www.ofgem.gov.uk/publications-and-updates/riio-2-final-determinations-transmission-and-gas-distribution-network-companies-and-electricity-system-operator>

allocation of risk to citizens as a result of the incentives within the framework to cut corners on environmental standards.

## **Bearing Risk: Companies, Customers, Taxpayers**

As a rule, regulators seek to allocate risk to whoever is best placed to manage it<sup>6</sup>. This might be in terms of the ability to influence the probability of the risk event occurring or the ability to mitigate the impact of it occurring. Regulators typically allocate risk to companies for these reasons. By allocating those risks to companies that they are well placed to manage, regulators create the incentive to manage the risk well; such risk allocation is efficiency-enhancing. It might also simply be appropriate to allocate risk on the basis of the ability to bear a risk, once it had crystallised. If a regulator allocates a risk to a company, which risk the company is unable to manage, this represents an inefficiency – other things being equal it will raise the company's financing costs, which will raise customer bills without corresponding benefit.

Where a regulator considers that a risk cannot be managed by a company, typically they will allocate it to the customer. An example of this is general inflation risk. The CPI-X formulation in a typical price control has the effect of passing general inflation risk on to the customer while exposing the company to the risk that *its specific costs* are different to those assumed by the regulator, taking account of an efficiency challenge.

On occasions, regulatory frameworks have the effect of allocating risk to government, or more accurately taxpayers. Thames Tideway is the clearest example, where a decision was taken *by government* that it should bear some of the 'long tail' of risk associated with the project, in order to allow investors better to price the project-risk and bid with confidence (and without including some additional premium on the cost of capital).

## **Regulatory Independence**

A final important point to note in recapping the essence of economic regulation UK-style is the independence of the economic regulators. Independence from government has been critical in enabling many of the successes of the various regimes, because it has allowed regulators to take a

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<sup>6</sup> Where regulator uses a process of 'constructive engagement' or 'negotiated settlement' (as the CAA and WICS do) some risk allocation will be contained within the agreement reached between regulated companies and their customers (or customer representatives); this still results in the regulatory framework having the effect of allocating risk, even if the exact allocation is not undertaken directly by the regulator.

long-term view of their regulatory frameworks. The stability and predictability this has provided enables companies to take a long-term view of investment programmes, which has been important given the long-term nature of much of the investment in these sectors. The regulatory tool kit in itself does enable regulators to smooth the lumpy costs of these investments over decades, using devices such as the RAB. But for this to deliver benefits to customers, those cost recovery promises must be credible with investors, and the insulation from political risk provided by regulatory independence is crucial for this.

Independence from government should not be mistaken, however, either for immunity from the public policy debate or a lack of accountability.

Regulators, as it is often said, are creatures of statute. Statute is enacted by parliament, and regulators are acutely aware that their duties and powers can be changed. Ofwat, for example, in the 2014 Water Act, notably in the wake of a spate of droughts and flooding acquired a new statutory duty in respect of resilience<sup>7</sup>. Other regulators like Ofgem and Ofcom have been created as a result of acts of parliament that merged pre-existing regulatory bodies and substantially expanded their duties and powers.

In 2011, government reaffirmed its commitment to economic regulation as ‘a critical enabler of infrastructure investment’<sup>8</sup> while acknowledging ‘the need for Government to set out a clearer policy and strategic context in which independent economic regulators, consumers and investors can take informed decisions, and for Government to exercise restraint when making changes to this context.’ Its Principles for Economic Regulation set out that, among other things: roles and responsibilities between government and regulators should ensure that regulatory decisions are taken by a body with appropriate legitimacy, expertise and capability; regulators should have clearly defined, articulated and prioritised statutory responsibilities focussed on outcomes; that the framework for economic regulation should allow those affected to make long term investment decisions with confidence and not unreasonably unravel part decisions; and that regulatory frameworks should form a logical part of the government’s broader policy context consistent with established priorities.

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<sup>7</sup> This requires Ofwat to ‘further’ the resilience objective, and highlights the need to promote long term planning and investment and the use of a range of measures to manage water resources in sustainable ways, as well as increasing efficiency in water resource use and reducing demand for water resources.

<sup>8</sup> See, BIS, Principles for Economic Regulation’, April 2011, available at: <https://www.gov.uk/government/publications/principles-for-economic-regulation>

Also in the Principles for Economic Regulation, government committed to put in place for each regulated sector, 'strategy and policy statements for the individual regulators to provide context and guidance about priorities and desired outcomes'. Ofwat is required to 'act in accordance with' the government's statement of strategic priorities<sup>9</sup>. Other regulators such as Ofcom<sup>10</sup> or Ofgem<sup>11</sup> are required (in line with requirements the UK was then bound by from the EU around the independence of economic regulators in their sectors) to act having regard to these statements.

In its November 2020, National Infrastructure Strategy government again confirmed that it '...is committed to the model of independent economic regulation', flagging its intention to refine to ensure delivery of the major investment the country needs. In the same document the government also suggested it would consider the merits of a 'cross-sectoral Strategic Policy Statement'<sup>12</sup>.

Beyond any (codified) relationship with government, regulators are very much aware of their wide accountability. They are accountable to parliament both in respect of the performance against their statutory duties and specifically for their use of public funds. And they are subject to the checks and balances provided both by administrative law and the specific appeal regimes that apply in their sectors. Regulators are also held to account directly, if informally, in various media by journalists, civil society groups and increasingly, via social media, by customers themselves. Far from being in tension with the independence of economic regulators, this level of accountability, scrutiny and challenge underpins it. Without meaningful accountability, regulators' wide 'margin of appreciation' would – eventually if not immediately – be seen as illegitimate and would likely be curtailed.

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<sup>9</sup> Ofwat receives two statements of strategic priorities. One is from the Welsh Government covering its regulation of companies 'wholly or mainly in Wales', see: <https://gov.wales/sites/default/files/publications/2019-06/water-priorities-for-ofwat-2017.pdf> One is from the UK Government covering its regulation of other companies, see: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/661803/sps-ofwat-2017.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/661803/sps-ofwat-2017.pdf)

<sup>10</sup> Ofcom has a statement of strategic priorities from the UK government covering regulation of telecommunications, spectrum and post, see: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/779226/SSP\\_Consultation\\_-\\_Publication\\_Version\\_2\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779226/SSP_Consultation_-_Publication_Version_2_.pdf)

<sup>11</sup> The UK government did consult on a strategic and policy statement covering Ofgem's regulation of the energy sector, but it did not, as yet, come into force, see: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/343314/SPS\\_consultation\\_paper\\_.pdf#:~:text=Once%20a%20SPS%20is%20designated%2C%20Ofgem%20must%20have,to%20further%20the%20delivery%20of%20the%20policy%20outcomes.](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/343314/SPS_consultation_paper_.pdf#:~:text=Once%20a%20SPS%20is%20designated%2C%20Ofgem%20must%20have,to%20further%20the%20delivery%20of%20the%20policy%20outcomes.)

<sup>12</sup> See: <https://www.gov.uk/government/publications/national-infrastructure-strategy>, both statements on page 13.

## Achievements

As a framework, independent economic regulation has served the UK well<sup>13</sup>. It has enabled the delivery of transformative investment in some sectors, such as water and transport, efficiently and with costs spread over time to assist affordability. It has driven improvements in outcomes efficiencies in sectors – many of them network industries like water, energy networks, and final mile fixed telecoms - where competition could not be relied upon to align the interests of service providers and their customers. And, where supported by the economics, regulators have helped the roll out of competition, bringing both static efficiency benefits but also innovation in products and production processes. This has often been at the retail but sometimes, as in some parts of the telecoms and energy sectors, also at the network level. The net effect of all of this has been a wide variety of benefits for consumers in terms of lower prices, more choice, and better-quality products, and for citizens, especially in terms of environmental improvements.

Of course, it is important to recognise that the framework and its outcomes is not without criticism. There have been criticisms that regulators have leant too far towards investor interests at the expense of consumers<sup>14</sup>, and that they have not done enough to influence the actions of regulated companies in respect of different groups in society, especially the disadvantaged<sup>15</sup>. Some have argued that regulators have focussed too much on short term consumer outcomes, and not enough on longer term outcomes or the best interests of citizens. And there has been a debate about the relative merits of the private, for-profit model of public service provision and other potential models – quite distinct from but relevant to the debate about economic regulation. But it is also important to put these criticisms in context. The vast majority of it relates to the detail of how the regulatory tool kit has been used in specific sectors at specific times. Indeed, much of it relates to inevitable differences of view about the relative priorities that should be attached to competing objectives. There has been relatively little said that undermines the usefulness of incentive regulation, i.e. the use of risk

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<sup>13</sup> This is statement is supported by the academic literature. See: Ennis, S. Tutton, T. Deller, D. *Synthesis of literature on the impact of the UK regulatory model*, CCP, University of East Anglia, available at: [https://www.ukrn.org.uk/wp-content/uploads/2020/09/UKRN\\_literature-review\\_final\\_20200405\\_clean.pdf](https://www.ukrn.org.uk/wp-content/uploads/2020/09/UKRN_literature-review_final_20200405_clean.pdf)

<sup>14</sup> See for example the NAO's 2015 report on the economic regulation of the water sector, available at: <https://www.nao.org.uk/report/the-economic-regulation-of-the-water-sector/>

<sup>15</sup> See for example Citizens' Advice's super-complaint to the CMA on the 'loyalty penalty': <https://www.citizensadvice.org.uk/about-us/our-campaigns/all-our-current-campaigns/citizens-advice-super-complaint-on-the-loyalty-penalty/> See also, the UK government decision in 2018 to impose a retail price cap in energy: <https://www.gov.uk/government/news/victory-for-consumers-as-cap-on-energy-tariffs-to-become-law>

allocation tools to align the interests of companies (and their shareholders) with those of customers and citizens.

It is in this spirit that we now consider some challenges to traditional economic regulatory tools posed by particular changes in the context for their operation, before we move to offer some possible ways forward.

# CHANGES AND CHALLENGES

If regulation UK-style is accepted as having been born in the report by Stephen Littlechild in February 1983<sup>16</sup> proposing an RPI-X formula for capping the prices to be charged by the soon-to-be privatised BT, it is blindingly obvious that much has changed over its lifetime. However, right now and grouped within a few themes, there appear to be some issues that are posing significant challenges to economic regulatory 'business as usual', and that are to some extent common across a number of sectors. These challenges relate to: uncertainties over future demand, the acceptability of profit, and an increasing prevalence of political decision-making.

## Demand Uncertainties

As noted above, one of the mainstays of economic regulation in many sectors has been the ability to spread cost cover long periods of time, smoothing lumpy investment costs and aiding affordability. Regulators' ability to do this with a high degree of certainty around the recovery of those costs from future regulated revenue streams has been key. Without this, the lack of certainty on this point would have created concerns about asset stranding and raised financing costs, likely such that the consumer benefits of such an approach would have been questionable.

The ability of regulators to provide a high degree of certainty on this point has long raised questions of regulatory policy. Ofgem and Ofwat, for example, have through long-established regulatory policy and practice, created a high degree of certainty that they will enable costs accepted as included in the RAB or RCV to be recovered from future regulated revenues, and they have been explicit about the approaches they would take to depreciation underpinning this. Ofcom does have a long history of tracking the valuation of BT regulatory assets and uses this as the basis for setting forward-looking prices in each control period but without an established pre-commitment to a particular approach such as a RAB or RCV. To date, regulators have made these sorts of policy choices secure in the knowledge that should they choose to spread cost over time future regulated revenues would be sufficient to allow its recovery. It may now be necessary to subject the assumption that future demand will follow the same trajectory as it has in the past, to greater scrutiny and to factor this into regulatory decision-making.

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<sup>16</sup> S. Littlechild, *Regulation of British Telecommunications' Profitability* (Department of Industry, London, 1983).

Climate change and the drive to net zero is one reason for this. The Committee of Climate Change in its 2020 Progress Report<sup>17</sup> notes that for the UK to achieve net zero carbon by 2050 we will, among other things need to reduce energy demand across the country; engage in extensive electrification, especially of transport and heating, supported by a major expansion of renewables and low carbon generation; develop a hydrogen economy; invest in carbon capture and storage in industry, and in bioenergy for hydrogen and electricity production. While some regulated products and services, such as connectivity to communications and electricity networks, may benefit from the push for net zero, others, such as traditional gas transmission, could see demand plummet. Unless these assets can be repurposed in the context of a low carbon economy, regulators will face a challenge to make good on the cost recovery guarantee that underpinned historical investment at relatively low financing costs while maintaining affordability. And to the extent that these shifts in demand are dependent on political decisions (such as the role of hydrogen in our future fuel mix), the longer those decisions take to be made, the steeper the cliff edge in demand will be, and the tougher the challenge.

Technological changes may bring other challenges to historical demand patterns. The Covid-19 pandemic has provided a stark illustration of the impact that large scale home working could have on traditional patterns of demand. It is to be hoped that the impact of the pandemic will be short lived. But it may have accelerated changes to behaviour<sup>18</sup> that will persist in future, which could have implications for future demand for various modes of transport. It may cause shifts in demand for utilities away from providers who service cities and industrial areas, and towards providers who are more focussed on servicing residential areas.

### ***Investment, Competition and Price Controls***

Similar challenges are presented by competition. Underlying demand for the product or service might be robust, but the product or service might be available from different providers, or indeed may be provided in different ways, for example using different technologies. In either case, any one company is faced with uncertain demand for its own products or services, which – other things equal – makes investment more challenging.

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<sup>17</sup> Available at: <https://www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament/>

<sup>18</sup> See for example a recent McKinsey study on the impact of covid-19 on mobility, available at: <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/from-no-mobility-to-future-mobility-where-covid-19-has-accelerated-change>

This is so in telecoms, where the regulator is faced with the need to resolve some difficult tensions between competing objectives. Both government and Ofcom have pursued policy focussed on the development of competition between networks, and this has been helpful in terms of providing the incentive for BT (through Openreach) to invest in the fibre fixed final mile, and enabling alternative network provider fibre investment too. However, the inevitable uncertainty that network competition creates about fibre providers' future revenues both increases the risk associated with the investment and reduces Ofcom's ability to use RAB-like tools to reduce risk by increasing the certainty of cost recovery over time. This effect is compounded by increasing convergence in provision of connectivity using different technologies, which also has the effect of increasing competition and revenue risk at the firm level.

Trade-offs between the dynamic benefits of competition and the (more static) benefits of a regulated monopoly model for delivery of investment have been faced by other sectors too. In water and energy networks this has generally resulted in 'competition for the market' rather than 'competition in the market'. In energy for example, Ofgem manages a competitive tender process for the granting of offshore transmission licences with a view to ensuring that generators are partnered with the most efficient, competitive players in the market<sup>19</sup>. Ofgem is also introducing competition for the delivery of onshore electricity transmission projects<sup>20</sup>. In its PR19 framework Ofwat introduced 'direct procurement for customers', a requirement on companies to test the market for large scale enhancements projects (where costs were expected to exceed £100mn whole life totex)<sup>21</sup>.

In water, the biggest example of the use of competition to deliver investment has been Thames Tideway<sup>22</sup>. Government and Ofwat created a bespoke regime designed to maximise the benefits from the contestability of the project by ensuring that the risks the project providers would bear would be those risks they were able to manage, meaning that the winner of the project would be the bidder best able to manage those risks, ie the most efficient provider. Ofwat also provided a high degree of certainty over the long term regulatory framework for the asset in operation, reducing the extent to which bids would – unhelpfully - reflect the bidder's speculation on how the future regime might operate.

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<sup>19</sup> See: <https://www.ofgem.gov.uk/electricity/transmission-networks/offshore-transmission>

<sup>20</sup> See: <https://www.ofgem.gov.uk/electricity/transmission-networks/competition-onshore-transmission>

<sup>21</sup> See: <https://www.ofwat.gov.uk/publication/1810-direct-procurement-customers-dpc-setting-expectations-high-quality-well-evidenced-case/>

<sup>22</sup> See: <https://www.ofwat.gov.uk/regulated-companies/markets/direct-procurement/thames-tideway/>

In PR19 Ofwat formalised some of the ‘competition for the market’ already undertaken by water companies, by creating a ‘direct procurement’ regime<sup>23</sup>. This required water companies as part of their business planning process to test the market and seek third party bids for projects in excess of £200mn whole life totex, before the costs associated with the project could be recovered in the price control. Again, this secured some of the benefits of a competitive process but without duplication of assets and maintaining the integrity of the revenues that would fund the investment.

A further debate highlighting the potential tension between competition and investment took place in the water sector in connection with the introduction of retail competition for non-domestic customers in England. A great deal of energy was spent in setting up the competitive retail market in ensuring that the introduction of competition *at the retail level* would not undermine the integrity of revenue streams *at the wholesale level*, thereby raising the risk associated with investment. The concern stemmed from the possibility that retailers might exit the market owing money for wholesale services. While keen not to raise risk unduly at the wholesale level, Ofwat was also keen to ensure that it did not create undue barriers to entry at the retail level. This was resolved by enabling the use of a variety of commercial tools for wholesalers and retailers to reflect downstream credit risk in their contracts<sup>24</sup>.

## **The Politics of Profit**

In recent years there has been a heated debate about the extent to which the provision of public services by private, for-profit, companies is the best model and whether, at least in some sectors, alternative models should be considered. Like many other features of the current political landscape, this probably has its roots in the 2008 global financial crisis and the inequalities in its impact. The issue came to a head in the UK with Labour’s 2019 election promise to take companies in the rail, water and sewerage, post and energy network industries – and at a late stage Openreach - back into some form of state ownership. But there has been a debate running for some time, for example with various NAO reports<sup>25</sup> and commentary by, among others, the

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<sup>23</sup> See: <https://www.ofwat.gov.uk/publication/delivering-water-2020-final-methodology-2019-price-review-appendix-9-direct-procurement-customers/>

<sup>24</sup> See: <https://www.ofwat.gov.uk/wp-content/uploads/2018/06/Ofwat-review-of-credit-arrangements-in-the-business-retail-market.pdf#:~:text=Ofwat%20review%20of%20credit%20arrangements%20in%20the%20business,entrants%20from%20entering%20or%20expanding%20in%20the%20market.>

<sup>25</sup> For example NAO, 2015, The Economic Regulation of the Water Sector, available at: <https://www.nao.org.uk/report/the-economic-regulation-of-the-water-sector/> See also NAO, 2020, Electricity Networks, available at: <https://www.nao.org.uk/report/electricity-networks/>

Financial Times<sup>26</sup>, about the high levels of returns earned by regulated private companies from the provision of public services.

Ideology aside, much of this debate stems from two things. The first is from a view that the returns these companies are earning are beyond those commensurate with the risk they are managing. The second is a view that these companies are earning returns that are beyond those commensurate with the performance they are delivering, for customers and for wider society. The two may be linked, as for example, in the debate about the extent to which water companies have passed high returns back to shareholders as a result of financial engineering, which delivered little benefit to customers and indeed some disbenefit where it reduced companies' financial resilience and lessened incentives to improve cost efficiency or service outperformance.

There is certainly room for some clarification of what risk is actually being borne by whom. In water, for example, while the regime expressly provides for companies to fail (ensuring that the assets remain in operation and customers are protected) there persists a perception that company failure would prove unacceptable, perhaps especially for the larger companies. This has the potential to create a mismatch between the level of risk that the regulator allows to be remunerated through the cost of capital and the level of risk that investors believe they bear and therefore manage, and indeed the public perception of the risk that investors bear. In other sectors, for example, airports, despite much debate, there is no such provision for company failure in the regime. As noted above, the pandemic has revealed some other ambiguities about actual risk allocation, for example in respect of performance, which have probably long existed but gone unnoticed.

There is also certainly room for regulators to step back and reassess their understanding, allocation and pricing of risk, and the extent to which that creates incentives aligned with consumer and citizen interests. And this can be done without fundamental change to the economic regulatory tool kit. Both Ofwat and Ofgem have explicitly acknowledged that, with hindsight, their allowances in price controls for the cost of capital have been too generous and they have sought to address this in their most recent reviews. Ofwat in particular has acknowledged the impact that making outperformance on financing costs too easy has had in reducing the companies' incentives to achieve 'tougher' outperformance in areas like

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<sup>26</sup> See for example, Gill Plimmer and Javier Espinosa, Thames Water: The Murky Structure of a Utility Company, Financial Times, 4 May 2017, available at: <https://www.ft.com/content/5413ebf8-24f1-11e7-8691-d5f7e0cd0a16>

scope and unit cost efficiencies, which would have delivered more lasting benefits for customers<sup>27</sup>.

However, this debate has gone beyond questions of the technical merits of different approaches to the understanding and remuneration of risk (such as the relative merits of different approaches to the indexation of cost of debt, or the use of the dividend growth model versus the capital asset pricing model). Economic regulators are being held to account in relation to essentially political questions about the acceptability of levels of return earned by private providers of public services.

This matters because, as we have discussed, regulation UK-style works by exposing companies to risk, including financial risk, thereby creating incentives for those companies to manage those risks well, delivering benefits for customers and citizens in the process. If it becomes somehow unacceptable for these companies to profit – and earn profits in excess of their cost of capital – by responding to these incentives, the incentive-based model is no longer viable.

It matters *increasingly* because there may be a *growing* misalignment between politics and the economics of profit. Persistently monopolistic regulated infrastructure has traditionally been seen as a relatively low risk, low return investment. But this low risk has in large part stemmed from a combination of very robust underlying revenue streams and the insulation from some risks that regulation has provided to shareholders. If the changes set out in the previous section do materially change both the robustness of those underlying revenue streams and regulators' ability to use their tool kit to remove from shareholders those risks they are not best placed to manage, then the risk profile of these sectors could change materially. The inevitable pressure on regulators to reduce returns in the face of perceptions of historically unreasonably high profits, may be coming at precisely the wrong time to secure transformational investment with a greater allocation of risk to shareholders.

## **The Prevalence of Politics**

A final challenge to the tried and tested economic regulatory tool kit comes from the increasing prevalence of political decision-making in regulated sectors.

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<sup>27</sup> See Ofwat CEO's speech, Moody's 2017 UK Water Sector Conference, available at: <https://www.ofwat.gov.uk/publication/cathryn-ross-speaking-notes-moodys-2017-uk-water-sector-conference/>

Regulated sectors have always been politically salient; they are regulated not only because there is market power but also because they matter to their customers and to society. These sectors have always sat within a wider policy context such that political decisions have affected them. In water, for example, evolving environmental standards set by government within the UK and at the EU level have had a huge impact on investment programmes and ultimately on bills.

The political salience of these sectors is only growing. All of our regulated infrastructure sectors – transport, energy, telecoms – have a huge role to play in the transformation of our economy and society. This is true in relation to climate change, social cohesion and global competitiveness. Politicians will, rightly, wish to influence their direction. And decisions that politicians take to influence the direction of our economy and society beyond the sector-specific will also have huge impacts on these sectors.

Perhaps the clearest example here is in energy, where future demand for the gas network depends on government policy decisions about whether and how the UK is to embrace hydrogen as a future fuel. A less stark, but still significant, example is the effect on demand for air travel from government decisions on taxation, as air passenger revenues underpin cost recovery for Heathrow, and indeed the funding (depending on another government decision) of a major expansion in its capacity. Such decisions will have huge potential impact on future demand for otherwise long-lived assets, with potential impacts on cost recovery and therefore network prices. Any transition of this scale will be easier to implement – for customers and for investors – if planned over a suitable timescale. But the fact that delay is not without cost or impact may not make it easier to get clear and timely decisions.

Not only is the political salience of these sectors growing and their exposure to broader political decisions increasing, but the number of political decision-makers that are relevant to regulated sectors is also rising.

Devolution in Scotland, Wales and Northern Ireland has created new governments, with their own legislative and policy-making loci in areas of relevance to regulated sectors. Transport policy, environmental policy, rural affairs and agriculture are devolved powers. But more than this, devolution is enabling different parts of the UK to reflect the different expectations and priorities of their citizens, and they are expecting regulators to take these into account in their work. In water, for example Ofwat has received separate

strategic policy statements from the UK government in respect of its regulation of companies in England and the Welsh government in respect of its regulation of companies 'wholly or mainly' in Wales.

There are also now 24 directly-elected mayors across England. Their interests often centre on regional development, but also include environmental issues, jobs and skills in their areas, and some of them – perhaps most notably in London - have taken a keen interest in the outcomes that regulated sectors are helping (or otherwise) to deliver in their areas.

There is undoubtedly an important role for democratically-elected representatives at all levels in setting priorities and making the inevitable trade-offs. But the increased breadth and depth of political interest in regulated sectors pose challenges for economic regulation, in terms of getting the right input, at the right time and in the right way. Further, in the absence of other mechanisms for doing so, there is a risk that regulators face the need to make some very difficult trade-offs between the interests of different parts of the country, which could pose a challenge to their legitimacy in future.

A further challenge is to ensure that political decisions are made at a time and in a way that enables impacts on regulated sectors to be taken into account. The track record here – for example on Thames Tideway, HS2 and even more so on Heathrow expansion - gives limited reason for optimism. And there are numerous, potentially more contentious, decisions to come as we face into challenges like climate change, for example in respect of whether, when and how to transition to hydrogen as an energy source. These decisions will often have huge potential impact on future demand for otherwise long-lived assets, with potential impacts on cost recovery and therefore network prices. Any transition of this scale will be easier to implement – for customers and for investors – if planned over a suitable timescale. But the fact that delay is not without cost or impact may not make it easier to get clear and timely decisions.

Perhaps it is inevitable that governments tend to decisions that are both slow yet opportunistic, short term, and stop-go(-reverse). But it is profoundly unhelpful in relation to long term investments, past and future. And the political decision-making part of the infrastructure investment process sits in stark contrast to the benefits that are evident from the long term, stable, predictable decision-making that takes place within regulatory frameworks.

## Institutional Jeopardy

A final challenge for economic regulation comes from the inevitable desire to tinker with institutions. In some cases, this may be driven by a dissatisfaction among policymakers with the outcomes that regulators are seen to be delivering. It could be driven by a desire to cut cost or 'update' the institutional set up. Or it could simply be driven by some form of 'not invented here' syndrome. The paradox facing economic regulators currently is that, precisely at a time when they need to deliver transformational investment in the face of considerable uncertainty and therefore when the expertise, stability and predictability of the current institutional framework is most valuable, the same transformational forces may tempt policy makers to seek to revise that framework.

There are no current plans for such institutional reform. However, the government's National Infrastructure Strategy states, for example, that, 'the government is committed to the model of independent economic regulation but will refine it, to ensure it provides a clear and enduring framework for investors and businesses to deliver the major investment needed in decades to come, while continuing to deliver fair outcomes for consumers'. It also flags an 'overarching policy paper on economic regulation in 2021 which will consider regulator duties...'<sup>28</sup>.

A recent report on competition and regulation by John Penrose MP<sup>29</sup>, commissioned by HM Treasury and BEIS, recommends far-reaching reforms of the regulatory and competition policy architecture. Penrose advocates a system that is more focussed on consumer outcomes, more focussed on creating competition and more inherently deregulatory. He also advocates (on page 39) extending the scope of existing statute that enables the transfer of some of the powers of the economic regulators to the CMA so that it extends to all economic regulators. He further recommends introducing a means for consumer groups, or for more than half of the regulated firms in a sector (by revenue) to request that Ministers table a statutory motion to trigger the transfer of a regulator's economic regulatory responsibilities to the CMA. Penrose does concede that any such transfer would only apply to legal powers and responsibility for future regulatory decisions and 'should not allow retrospective unpicking' of decisions already in place 'since that would increase uncertainty rather than reducing it'. But handing certain

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<sup>28</sup> See: <https://www.gov.uk/government/publications/national-infrastructure-strategy> , both statements on page 66.

<sup>29</sup> See John Penrose MP, 'Power to the People' available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/961665/penrose-report-final.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/961665/penrose-report-final.pdf)

interest groups the direct ability effectively to precipitate the abolition of economic regulators hardly seems conducive to their balancing the interests of diverse stakeholders, including future generations, through the exercise of long term, predictable frameworks. And his recommendations would give ministers – not Parliament through the legislative process – direct powers to make profound changes to the carefully crafted statutory frameworks that comprise our regulatory architecture. They would make the whole system more volatile, short term and exposed to political intervention.

There is clearly the potential for benefit in refreshing the legal and policy framework within which regulation functions – as suggested later in this note. But simplicity, neatness and a desire for ‘quick’ structural fixes to complex behavioural problems can be falsely seductive. And the potential for disbenefit, including through distraction and displacement of effort, unhealthy concentrations of power and lost opportunities for different approaches and learning, must also be considered.

# TOOLS IN THE REGULATORY TOOL BAG

It is clear that not all the challenges set out above are manifest in every economically regulated sector, and they are not manifest in the same ways and to the same extent. Moreover, different sectors have different underlying economics and have taken different paths, with each regulator building up a different regulatory policy *acquis*. However, without being prescriptive about what any given regulator *should* do, it seems helpful to set out some things that they *could* do in the face of these changing circumstances.

## Unpacking (Repacking?) the Price Control and Project-Specific Approaches

Some regulators have responded to the increasing uncertainties facing their sectors by 'unpacking' their price controls in ways that enable them to distinguish between the 'business as usual' activities that are relatively well-known and relatively well-understood, and other less well-known potential enhancements that are carved out and treated differently. By distinguishing the less certain areas of spend, this allows regulators and regulated companies to have a different conversation with stakeholders about the outcomes and outputs to be delivered, and enables this to happen without the rather tight constraints of the overall price control process. It also enables regulators, in principle, to take different approaches to the assessment of this expenditure, perhaps by applying a different approach to cost modelling, or by market testing which could be done by reference to outputs or outcomes. Regulators could also choose to take a different approach to risk allocation and financing costs, should they consider the risk profile of the particular project to be materially different from business as usual activities.

One example of a full application of such an approach has been Thames Tideway<sup>30</sup>. This project – the construction of a brand new 25km sewer under the Thames - was of a scale and nature that would have made it difficult to accommodate within Thames Water without materially changing the nature of its business. The estimated project cost was £4.2bn at a time when Thames Water's RCV was £10.9bn. Government and Ofwat also saw benefit

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<sup>30</sup> A good explanation of the project approach and pros and cons can be found in the NAO's 2017 report: <https://www.nao.org.uk/report/review-of-the-thames-tideway-tunnel/>

in market testing its delivery, and so it was put out to tender, under a process managed by Thames Water. Government agreed to bear some of the risk of associated with the project where this would enhance, rather than undermine, efficiency. Ofwat provided considerable upfront clarity about how it would regulate the asset in operation, and how it would enable the efficient costs of construction to be recovered through the Thames Water price control. The right to build, own and operate the tunnel was then subject to competition, the risk allocation framework being such that this competition was focussed on management of those risks appropriately within management control (notably construction risk) and on the resultant financing costs. The cost of capital bid by the successful bidder was 2.497%, which at the time was the lowest for a utility. The 'direct procurement for customers' framework that Ofwat introduced to require market testing for projects in excess of £200mn whole life totex, could provide the basis for more project-specific approaches in the water regulatory regime in future.

A similar approach has been followed by Ofgem in respect of the offshore transmission regime. Here Ofgem explicitly references the need for a 'step change in network investment [that] calls for a more dynamic approach to the development of transmission networks: an open, competitive approach that is built on encouraging innovation and new sources of technical expertise and finance'<sup>31</sup>. Bidders bid for OFTO licences on the basis of the revenue stream they think they will need to deliver the obligations set out, and Ofgem enables the successful bidder to recover those revenues, subject to incentives for performance. As with Tideway, there is a high degree of clarity around the terms of regulation, such that competition for the market is focussed on the efficient management of risks within the control of the operator.

Project-specific approaches do not have to go as far as distinct 'competitions for the market' and separate regulatory regimes. In its recent RII0-2 electricity transmission and gas distribution price controls Ofgem has followed something of a 'hybrid' approach. It has set what are essentially baseline price controls, and is making use of an extensive set of uncertainty mechanisms, notably for the purposes of this paper, including for spend related to net zero<sup>32</sup>. This enables distinct focus on this expenditure, perhaps at a time when more will be known about some of the key policy decisions. However, these uncertainty mechanisms are still very much within the remit of the RII0-2 controls, given that Ofgem's methodology is clear that the

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<sup>31</sup> <https://www.ofgem.gov.uk/electricity/transmission-networks/offshore-transmission>

<sup>32</sup> See especially chapter 8 of Ofgem's RII0-T2 methodology 'core document': [https://www.ofgem.gov.uk/system/files/docs/2020/12/final\\_determinations\\_-\\_core\\_document.pdf](https://www.ofgem.gov.uk/system/files/docs/2020/12/final_determinations_-_core_document.pdf)

WACC that will apply to them is the WACC from the final determinations in December 2020. This provides clarity and certainty on a key variable. But Ofgem will have had the challenge of building into its assessment of that WACC the systematic risk associated with these future, and by definition, uncertain investments.

Ofcom has also been considering project-specific issues in the context of its Wholesale Fixed Telecoms Market Review. It considered what price limits to set for access to Openreach's residential and business copper final mile, and also whether and to what extent it should regulate prices Openreach's (new) fibre final mile. To be clear, the price review itself is not project-specific in nature, but one of Ofcom's explicit aims is to encourage investment in new fibre connections, by BT through Openreach and by others. This has presented Ofcom with the challenge of ensuring that its price controls enable an expected return on the fibre investment project that is at least equal to the WACC for the project, and on how to ensure that investors have confidence in this. In its final statement, Ofcom did not explicitly state the level of return that it would be comfortable for BT to earn on its fibre investment project. Neither did it reach its own view on the project-specific cost of capital. Ofcom was clear that it could not prejudge its future actions. But it did state explicitly that it would honour the principle that the investment should be a 'fair bet', gave some indication of its view on the project cost of capital, and the risks that it would need to compensate for by leaving upside in play beyond the cost of capital<sup>33</sup>.

Project-specific approaches certainly have their merit, for example in enabling more market-testing, and – especially for large projects – enabling an approach to the allocation that better reflects the nature of that project rather than regulated activity as a whole. But they also bring challenges. In particular, if a project is large enough to justify a project-specific regulatory approach it is likely to be long term enough that – as in the case of Thames Tideway – a high degree of certainty over the future regulatory approach will be needed in order to ensure that the 'go/no go' decision on the project does not collapse to a bet on how regulation will be applied in future (and the attendant pricing of that regulatory risk into the cost of capital). Having said that, project-specific approaches also give regulators flexibility to provide that certainty, without compromising their general regulatory framework. They may also provide regulators with vehicles that can be used to test longer-term approaches that might prove useful elsewhere in their frameworks.

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<sup>33</sup> See <https://www.ofcom.org.uk/consultations-and-statements/category-1/2021-26-wholesale-fixed-telecoms-market-review> specifically vol. 4, pricing remedies, for example in paragraph 1.1.06 et seq

**Recommendation: Regulators should work together through UKRN to consider the appropriateness of project-specific approaches in different circumstances, to identify a set of principles and tools that can be used, and to share experiences of implementing such approaches.**

## **Real Options Theory and Scenario Planning**

Competition for the market provides a useful mechanism for market testing ways of dealing with uncertainty – the competition itself will reveal views of possible futures and should reward those with the best approaches to manage risk across those (or possibly those with the greatest optimism?). But there will remain instances where regulators will need to decide whether to include in a price control, funding for a particular activity at a point when it simply is not clear what outputs, or even outcomes are needed. As is the case with net zero, that clarity may be some way off, but some action may be needed today. The regulator may therefore need to take a view on the cost/benefit associated with a regulated company's proposed action, *including assessing the value in the flexibility* associated with different options and including where the action proposed is to delay.

This takes regulated companies, regulators and potentially government<sup>34</sup> into the territory of real options theory. Regulators have acknowledged the potential value in the approach<sup>35</sup>, but they have also acknowledged the complexity it brings<sup>36</sup>.

If regulators were inclined to encourage companies to take such an approach in preparing their business plans for price reviews, it would be important for them to be clear about their expectations in respect of methodology. Noting the potential complexity, regulators could usefully set out a framework indicating where real options approaches would be likely to add most value. This might, for example, be in relation to very large investment decisions,

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<sup>34</sup> A November 2020 update to HM Treasury's green book, Accounting for the Effects of Climate Change' identified tools and techniques for assessing investment in the face of uncertainty, including real options assessment and scenario planning. It is available at:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/934339/Accounting\\_for\\_the\\_Effects\\_of\\_Climate\\_Change\\_-\\_Supplementary\\_Green\\_Book\\_...pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/934339/Accounting_for_the_Effects_of_Climate_Change_-_Supplementary_Green_Book_...pdf)

<sup>35</sup> See for example Ofgem:

[https://www.ofgem.gov.uk/sites/default/files/docs/2012/03/real\\_options\\_investment\\_decision\\_making.pdf](https://www.ofgem.gov.uk/sites/default/files/docs/2012/03/real_options_investment_decision_making.pdf)

<sup>36</sup> A very useful consideration of real options theory in the context of energy regulation is provided in a paper by Maxine Frerk and Daniel Kenway (2018), 'Real options assessment: energy network investment under uncertainty', Grid Edge Policy Working Paper, available at: [https://b13f0e05-ddc3-484d-ab4f-7e31f496e1c8.filesusr.com/ugd/140d4b\\_49269cdc44114fc5806f01c70165303b.pdf](https://b13f0e05-ddc3-484d-ab4f-7e31f496e1c8.filesusr.com/ugd/140d4b_49269cdc44114fc5806f01c70165303b.pdf) Maxine is undertaking further work on this topic as a Visiting Fellow at Oxford University's Martin School.

where different options exist and where the key drivers for the investment are uncertain. A real options approach might be especially useful where investment could be broken down into stages, so that a decision to fund an initial stage could be taken separately from the decision to fund later stages.

Beyond this, if they were to apply real options approaches, regulators would need to focus on achieving outcomes (rather than outputs, although once an output had been agreed it might be appropriate to hold the company to account for its delivery). They would also need to be clear upfront about how prescriptive they wish to be about the detail of the options appraisal, recognising that more detailed methods (such as pricing the value options by reference to the insurance market) could add substantially more complexity, with the potential for spurious accuracy. Whatever the level of specificity the regulator desired, it would also be important to be clear what they would accept as 'evidence' in relation to the cost associated with different options. While regulators must challenge companies to provide good quality evidence on costs, there is a risk that a high evidential bar causes companies to favour solutions that are more easily bounded and that are 'tried and tested' rather than innovative. Finally, if any sort of options valuation is to be successfully implemented, the regulatory system would need to get better at putting each individual control period in the context of the longer term, as the choice of option for the next, say, five-year period, would only make sense in the context of a longer-term path towards an outcome. If each successive price review were seen as a complete 'reset' then the overall path could be lost.

Even without going as far as real options valuation, regulators and regulated firms could do more to introduce scenario planning into their business planning processes. This has been done recently by National Grid's Electricity Systems Operator through the development of their 'Future Energy Scenarios'<sup>37</sup>. These provide a set of scenarios in relation to energy consumption (consumers, industrial, transport), the energy system, and the energy mix and flexibility and help to provide a common basis, or at least a common starting point, for modelling across all actors in the system. Although it will always be the case that decision-making is vulnerable to the precise construction of any set of scenarios, having a set of scenarios that vary in respect of key drivers for investment, helps to ensure the robustness of investment decisions in the face of a range of possible states of the world.

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<sup>37</sup> Available at: <https://www.nationalgrideso.com/future-energy/future-energy-scenarios>

**Recommendation: Regulators should undertake joint work to learn from experience of real options assessment and scenario planning, with a view to setting out a framework that could be used in future price reviews. A framework that could be used across regulated infrastructure sectors, could be useful in enabling consistent assessment of options in respect of policy goals that cut across sectors, such as net zero. This work could be led by UKRN.**

## **Deregulation**

Inaction – perhaps better expressed as forbearance - by regulators is an important and often overlooked tool, at least where it is exercised as the result of conscious choice<sup>38</sup>. If we characterise regulation as ‘red tape’ that requires cutting through and as a ‘burden on business’ that must be minimised, we risk creating a dangerous narrative that undervalues the issues that regulation was put in place to help to address. But a recognition that regulatory and government failures are as real as market failures, and that, more generally, regulatory interventions entail a panoply of costs – direct and indirect, intended and unintended – as well as benefits, is imperative.

As discussed above, there are changes across many of our regulated sectors that are bringing about fundamental shifts in their underlying economics and in the balance of power through the value chain. We have discussed disruption to demand, but also how technological change is revolutionising both demand and supply. In the face of such changes, there is considerable value in a process of discovery, of allowing different responses to emerge, to be tried, some to work and some to fail. Where investment is needed in the face of such uncertainties, especially where it is not certain that there will be market power, it may be better explicitly to forebear from regulating prices at least, and allow companies to take their chances in the market as to the returns they will earn.

This is an approach that Ofcom has taken. In line with its pro-competition approach and taking advantage of the dynamics in its sector, Ofcom has typically not regulated new technologies even where they formed the basis of products supplied by an operator with Significant Market Power. It has instead let the market for the new technology develop, while relying on some

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<sup>38</sup> John Penrose MP in his February 2021 report ‘Power to the People’ sets out various ideas designed to hold regulators to account for advancing deregulation, as well as their regulatory interventions. His report is available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/961665/penrose-report-final.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/961665/penrose-report-final.pdf)

constraint being imposed by legacy products as the market for the new products has developed. This was its approach, for example, when BT invested in super-fast (fibre to the cabinet) broadband, which Ofcom left unregulated until 2017<sup>39</sup>. It is also the approach that Ofcom has adopted in respect of the regulation of full fibre access supplied by Openreach. It has said that it expects no further regulation of fibre prices for at least the next two price control periods (ie until 2031)<sup>40</sup>.

This approach has the advantage of letting the market dynamic play out, and giving the companies an opportunity to earn upside on their investment in advance of regulation. However, it does mean that any investment decision will be a function of future expectations about whether, when and in what form regulation may be applied in future. Where significant investment is likely to be required, regulators should therefore expect to accompany any forbearance with a clear statement of the principles they will apply in considering when they might regulate in future, and of the key elements of their future approach to such future regulation.

**Recommendation: UKRN should consider a study on forbearance as a regulatory tool, considering the circumstances in which it is likely to be useful, and how best to assess its costs and benefits alongside more traditional regulatory interventions.**

## **Pro-Innovation Regulation**

The challenges set out in this paper around cost recovery would all be made easier if regulated sectors could achieve a step change in efficiency. The effects of demand uncertainties would be less acute if more could be achieved for less. The challenge of net zero and climate change is fundamentally one of how to make better use of scarce resources. Liberalisation and the promotion of competition helped to increase innovation in some sectors, such as telecoms<sup>41</sup>. But not all markets are

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<sup>39</sup> See Ofcom's 2017 Wholesale Local Access Market Review, available at:

[https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0020/112475/wla-statement-vol-1.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0020/112475/wla-statement-vol-1.pdf)

<sup>40</sup> It envisages continuing to regulate legacy copper access prices and to regulate the 40/10 fibre product as an 'anchor price'. See Ofcom's Wholesale Fixed Telecoms Market Review statement, available at: <https://www.ofcom.org.uk/consultations-and-statements/category-1/2021-26-wholesale-fixed-telecoms-market-review>

<sup>41</sup> In June 2020, after a 3-year investigation, the Office for National Statistics concluded that it had failed to measure appropriately productivity increases in the UK telecoms sectors. Instead of showing real prices in telecoms falling by slightly more than 50% between 1997 and 2016, they should have been shown falling by 95%, with output in sector increasing 8 times more than shown in the original statistics. The ONS will correct its statistics in autumn 2021. An article by the ONS explaining the issue can be found at:

susceptible to competition, and here regulators have tried different techniques to encourage and enable innovation.

In general terms, regulators have long expected that setting tough delivery targets for regulated firms alongside challenging efficiency targets would not only spur companies to achieving improvements in productive efficiency but also to innovation. The success of Ofwat's 15% leakage reduction target in PR19 in prompting companies to find new ways of tackling a decades-old problem shows that this can still be effective.

Recent shifts to price control methodologies based on outcomes and totex – as in Ofgem's in RIIO-1 and Ofwat's PR14 and PR19 – have also enabled greater innovation. This has been achieved by focussing companies on things that matter for customers and society, while giving greater flexibility in how those things are achieved, notably as between capital expenditure schemes and other (more 'opex') focussed approaches. Indeed, it could be argued that this shift was so successful in encouraging energy network companies to improve cost effectiveness that the levels of outperformance achieved by some companies (such as National Grid Electricity Transmission) have seen the regulator return in RIIO-2 to a more tightly-specified approach that holds companies to account for output delivery.

Regulators have also organised competitions for funding for innovation. In RIIO-1 Ofgem held annual National Innovation Competitions, one each year for gas networks and another for electricity networks. Ofgem invited bids for specific funding for research, development and demonstration of new technologies, new operating arrangements or new commercial arrangements, and assessed them, with help from independent panels, against a set of upfront evaluation criteria<sup>42</sup>. In RIIO-2 Ofgem has focussed more on providing funding for projects designed to help energy transition, for example with £660mn available for high value projects through the Strategic Innovation Fund and Network Innovation Allowance. Ofwat has recently established a £200mn innovation fund, with two competitions running in 2021 – a £40mn main competition and a £2mn Innovation in Water Challenge<sup>43</sup>.

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<https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/improvementstothemeasurementofukgdp/anupdateonprogress>

<sup>42</sup> For more on the electricity transmission competition see: <https://www.ofgem.gov.uk/electricity/transmission-networks/network-innovation> For the gas transmission competition see: <https://www.ofgem.gov.uk/gas/transmission-networks/network-innovation>

<sup>43</sup> More information is available at: <https://waterinnovation.challenges.org/>

Further, regulators have recognised the innovation-enhancing value of bringing regulated companies together with others, who may have fresh ideas or who may be able to help create the kind of joined-up thinking that is needed to solve system-wide problems. Liberalisation and greater use of market mechanisms does this. But more specific interventions have also been useful. Ofgem's 'Innovation Link' portal<sup>44</sup> brings together existing players in the sector with start-ups and new entrants. The Ofwat initiative creating the 'RAPID' alliance brings Ofwat together with the Drinking Water Inspectorate and the Environment Agency to create a seamless regulatory interface for those with ideas on how to develop national water resources infrastructure that is in the best interests of users and the environment<sup>45</sup>.

## **Adaptive or Anticipatory Regulation**

The traditional regulatory policymaking approach is characterised by a desire to collect and analyse evidence, to develop options, to consult, to refine and to decide on an approach, before then implementing it. As both Ofgem (with RIIO-1) and Ofwat (with PR14) have found, to re-think a price control from first principles takes longer than a single price control period. The risk that regulatory policy, and even more so decision-making on specifics, lags reality is high; regulators, unless they consciously strive to avoid it, are condemned to solve the problems of the past at the risk of creating problems for the future. A nimbler, possibly even future-back, approach to regulation is essential if regulators are to enable and encourage those they regulate to navigate the challenges ahead successfully.

Recent discussions about adaptive approaches to regulation are therefore to be welcomed. Adaptive regulation seeks to shorten the feedback loop between developments in the market and the regulatory response to those developments. Using adaptive regulatory approaches, regulators seek to build discovery processes into their regulation, and put processes in place that enable them to observe, learn and adapt their processes. The use of 'sandboxes' is one such example. Regulators also use the UK Regulators' Network and their informal networks to learn from each other.

There is clearly a risk that adaptive regulatory approaches undermine the predictability of regulatory regimes, but this can be managed with the use of clear, explicitly enduring policy principles and potentially guardrails. There is also a risk that in responding more quickly to developments, corners may be

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<sup>44</sup> See: <https://www.ofgem.gov.uk/about-us/how-we-engage/innovation-link>

<sup>45</sup> See: <https://www.ofwat.gov.uk/regulated-companies/rapid/>

cut in important aspects of process. But it would seem possible to take an approach to process that is proportionate to the decisions to be taken, and due process does not have to take years.

In sectors where the pace of change is particularly fast, an adaptive approach may not be sufficient; regulators may need to adopt an *anticipatory* approach. This has been particularly advocated by Nesta, as a way of enabling regulation better to enable and encourage innovation<sup>46</sup>. It comprises 6 key attributes: inclusive and collaborative, future-facing, proactive, iterative, outcomes-based, and experimental. Crucially, an anticipatory approach is no less evidence-based than traditional approaches, neither does it require the regulator to reach a definitive view about the future. It does require regulators to scan the horizon, think forward into different futures, consider how their regulatory actions will drive behaviour and outcomes in those different futures, and when regulatory action has been taken, to pay attention to its effects, learn and refine.

**Recommendation: The UK government should build into its forthcoming Innovation Strategy a chapter on the importance of pro-innovation regulation. This should also be included within any forthcoming policy paper on economic regulation. As part of this, the government should ask the UKRN to undertake a study assessing the effectiveness of different approaches to pro-innovation regulation in economic- regulated sectors and creation of a handbook of pro-innovation regulatory tools.**

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<sup>46</sup> See Nesta, 2019, Renewing regulation: 'anticipatory regulation in an age of disruption', available at: [https://media.nesta.org.uk/documents/Renewing\\_regulation\\_v3.pdf#:~:text=Renewing%20regulation%3A%20%E2%80%98Anticipatory%20regulation%E2%80%99%20in%20an%20age%20of,needed%20is%20usually%20the%20wrong%20question%20to%20ask.](https://media.nesta.org.uk/documents/Renewing_regulation_v3.pdf#:~:text=Renewing%20regulation%3A%20%E2%80%98Anticipatory%20regulation%E2%80%99%20in%20an%20age%20of,needed%20is%20usually%20the%20wrong%20question%20to%20ask.)

# THE ROLE OF GOVERNMENT

The independence from government of regulators has been a key attribute of economic regulation UK-style. It is fundamental to the value that regulators bring. Talk of the 'boundary' between regulators and government, with its connotations of some 'clear bright line' could be seen as always having been misguided. But as the political salience of these sectors shifts, it may be worth re-evaluating where and how government could usefully take a role.

## Principles for Economic Regulation 2.0

A set of 'Principles for Economic Regulation' were developed by government, working with regulators, and published in April 2011<sup>47</sup>. They set out principles of accountability, focus, predictability, coherence, adaptability, and efficiency that economic regulation should conform to. The elaboration of these principles in the document, and the context provided for them, do much to set out the then government's view of how independent economic regulation sits alongside and within wider government policy frameworks and accountabilities.

Such a document felt important in 2011, especially given the stated desire of the Conservative party to see government take back responsibility for policy decisions which it saw as having crept into the remit of regulators without the necessary democratic legitimacy to take them. It had also included regulators on a list of public bodies being considered for reform, with a view to stripping back and streamlining their number (the so-called 'bonfire of the quangos')<sup>48</sup>. While the desire for reform in this space was widely understood, questions were raised, especially among the investor community as to the government's commitment to economic regulation and the extent to which there could be an increasing exposure to political risk. In this context, explicit statements such as 'the fundamentals of the UK's system for economic regulation are sound and are not in need of major reform' (para 6) and the government's desire to 'reaffirm the importance of, and the Government's commitment to, stable and predictable regulatory frameworks to facilitate efficient investment and sustainable growth' (para 7) provided important reassurance.

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<sup>47</sup> See: <https://www.gov.uk/government/publications/principles-for-economic-regulation>

<sup>48</sup> The full list and assessment can be found at: <https://www.scribd.com/doc/39318110/2010-10-14-Public-Bodies-List-FINAL>

Looking at them today the principles themselves remain sensible, but considerable time has elapsed since they were put in place. There would be benefit in bringing them to the fore once more. The government's National Infrastructure Strategy, published in December 2020, reflecting the National Infrastructure Commission's October 2019 report on economic regulation 'Strategic investment and public confidence'<sup>49</sup>, refers to the publication of a policy paper on economic regulation, envisaged for later in 2021, and this could provide an opportunity to do so.

**Recommendation: The government should include the principles for economic regulation in its forthcoming policy paper on economic regulation.**

## **Strategic Policy Statements 2.0**

The idea of strategic policy statements as documents that would enable government to set out clearly, at an appropriately strategic level and once a parliament, its priorities for regulated sectors, is a sensible one. As discussed, central government will rightly have things to say about these sectors; having a transparent means of saying them and saying them appropriately, in a way that does not compromise the day to day independence of regulators, should be beneficial. There is also arguably a further benefit in that these statements are statements of the *government* and not simply of the government department that faces the relevant regulator, which means that they can – and should - provide a useful prompt for joining up across government, or at least for the flushing out of different views.

However, to date, it could be argued that strategic policy statements have not achieved their full potential in providing that voice of government into regulatory policy- and decision-making.

First, only Ofcom and Ofwat have received finalised strategic policy statements. A statement for Ofgem was produced and consulted on, but never finalised. Finalised strategic policy statements for other economic regulators could be useful for them in setting out the government's priorities. They would certainly be useful in providing a coherent picture of how government views economic regulation across the piece. They could link back, explicitly, to any refreshed statement of the Principles of Economic Regulation. Further, if it became a matter of course for all economic

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<sup>49</sup> Available at: <https://nic.org.uk/app/uploads/NIC-Strategic-Investment-Public-Confidence-October-2019.pdf>

regulators to have a strategic policy statement from government, this would usefully remove any perception – however unjust – that a regulator receiving such a statement had in some way transgressed. Strategic policy statements would simply be part of the regulatory architecture; they would be normalised.

Second, if they are to achieve maximum value, strategic policy statements must focus on the truly important strategic questions facing the sector, must acknowledge the trade-offs in addressing those questions, and should provide real directional clarity on how regulators should approach such trade-offs. It may be tempting to characterise government as wanting regulators to deliver on *everything*, even where this is highly unlikely to be possible – as expressed in the energy ‘trilemma’ of low cost, sustainability and security of supply. But in practice, government’s strategic policy statements to Ofcom and Ofwat have been clear on the direction in which government would like to see key trade-offs made. In the government’s statement of strategic priorities to Ofcom<sup>50</sup>, for example, it says clearly, ‘The Government’s view is that promoting investment should be prioritised over interventions to further reduce retail prices in the near term’ (para 18). Such clarity could prove useful in respect of other sectors too.

The governments recently published National Infrastructure Strategy contains a statement<sup>51</sup> that ‘the government will produce *an overarching policy paper on economic regulation in 2021, which will consider regulator duties, injecting more competition into strategic investments, and the benefits of a cross-sectoral Strategic Policy statement*’ [emphasis added], so there does appear to be an appetite for such a move. If a holistic cross-sector policy statement proved too ambitious, then perhaps one that covered the strategic priorities that are needed in pursuit of net zero carbon by 2050 – building out from the government’s recent Energy White Paper<sup>52</sup> - could provide a useful proof of concept.

Thirdly, and finally, there is scope for similar approaches by governments in Scotland, Wales and Northern Ireland to provide greater clarity and transparency on their strategic priorities. As noted, Ofwat does have a

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<sup>50</sup> Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/842918/SSP\\_-\\_as\\_designated\\_by\\_S\\_of\\_S\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/842918/SSP_-_as_designated_by_S_of_S_.pdf)

<sup>51</sup> See: <https://www.gov.uk/government/publications/national-infrastructure-strategy-under-'Supporting-private-investment'-on-page-66>.

<sup>52</sup> Available at: <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>. While the white paper does look beyond the energy sector into transport, it does not, for example, recognise the contribution that could be made to decarbonisation through greater fibre and 5G connectivity or by improvements in water efficiency.

separate strategic policy statement from the Welsh government, and perhaps the politics of water in Wales and the centrality of water issues too for the implementation of the Welsh government's flagship Wellbeing of Future Generations Act, made water the obvious first candidate. But there would be merit in other national governments going through the discipline of having to set out their priorities clearly in writing, consult on them, and use them as a touchstone for their own relationships with regulators. The process of producing such statements may also be useful in working through any interdependencies between the priorities of the national governments and the UK government in respect of England.

**Recommendation: The UK government should provide a set of cross-sector strategic policy statements to economic regulators, starting with one covering net zero.**

**Recommendation: The governments of the devolved nations should consider how best to set out transparently their strategic priorities for economic regulators.**

## **More Formalised Relationships with Regions?**

The process of producing a strategic policy statement is onerous and difficult. Indeed, much of their value lies precisely in working through contentious issues via the process of producing a document. The application of such an approach to regional bodies, such as mayors, feels less likely to generate benefit that would justify the cost. The priorities for regional representatives tend to be more specific, relating to particular outputs or outcomes that are important for that area.

In practice, in line with this, regulators already engage with regional representatives where their decisions will affect their area, and regional representatives seek out regulators where they believe the regulator has the power to influence something of importance to them. There is then, arguably, not a regional democratic deficit in the regulatory process.

There may be a case, however, for formalising some of these relationships, especially where they extend beyond the ad hoc and into the longer term and strategic. This is increasingly the case with some of the larger mayor's offices. Following the approach of the Mayor of London, other more recently created directly elected mayors are taking long term views of the needs of their region, putting in place development plans, and acting to coordinate and unblock the levers needed to deliver them. In this context regulators

could benefit from some increased formality that would crystallise the mayor's aims and priorities, flush out any tensions with other interests, and enable a degree of accountability that would bolster the regulator's legitimacy.

**Recommendation: The Local Government Association should consider facilitating a dialogue with economic regulators about how best the wishes of local populations can be reflected in regulatory decisions.**

**Recommendation: Directly elected mayors should work together to establish a dialogue with economic regulators about how best their input could be provided into regulatory decisions. This could be facilitated by a third party, such as the Institute for Government.**

We discuss below the potential for the new UK Infrastructure Bank to work with directly elected mayors to provide financing for locally supported infrastructure projects. Where such a project was supported by the mayor and had secured financing from the NIB, there could be merit in a presumption that the regulator would enable the relevant costs (with an appropriate efficiency challenge) to be recovered from regulated prices. Recognising the inherent attractiveness of schemes that deliver local benefits but entail costs that are more widely socialised, it would be important for the regulator to retain the ability to scrutinise these schemes by reference to the outcomes they would deliver and their efficacy in delivering them. But it could be appropriate to apply a high bar for any decision not to enable their efficient cost to be recovered from regulated charges. Were such an approach to be adopted, it would obviously be vitally important that the decision-making processes within both the mayors' offices and the NIB were transparent and open to scrutiny, and that those involved in the decisions were appropriately accountable.

## **Taxpayer as Risk-Taker**

As discussed, many of our regulated sectors are increasingly exposed to risks that stem from fundamental shifts in their underlying economics, which themselves stem from macro-level changes such as climate change and the need to respond to it. Clearly, it is neither practicable nor desirable to insulate regulated firms completely from such risks. They can take steps to manage these risks, to some extent reducing probability and certainly mitigating impact, and their exposure to the risk creates the incentive to do

so. However, there is a case for greater, explicit, consideration of the circumstances in which some risk may be more efficiently allocated to the taxpayer, for example, where regulated companies can have little impact on the management of the risk.

There may be instances where the distribution of possible outcomes is so wide that the markets find it difficult to price the risk with any confidence. This could result in a premium on the cost of capital, ultimately paid by the customer, when it would have been more cost effective for government to 'insure' against those outcomes in the long tail of the distribution curve. At a limit, difficulties in pricing the long tail of risk could make a project uninvestable, for example if the premium on the cost of capital is such that the price of the scheme becomes greater than customers' willingness to pay, or simply unaffordable. It is possible to imagine that there could be such schemes where the cost to the citizen of such investment not happening, justifies the cost to the taxpayer of bearing the risk<sup>53</sup>.

It should be explicitly acknowledged that there *is* a cost to the taxpayer of bearing risk. A transfer of risk from the private sector to the public sector does not magically cause it to disappear. One largely missing aspect of the debate during the last election about transferring back into state ownership some of our utilities was why the taxpayer as shareholder should be any less remunerated for the equity risk she was taking on than the current shareholder. Even in respect of debt, it should be recognised that the public balance sheet is finite, and a shift in allocation of risk to the public sector will have an opportunity cost at the margin.

However, there will be instances in which the taxpayer, through the government, may be able to manage risk more efficiently than a regulated company. This might be, for example, where government policy decisions are key to when and how the risk may crystallise. And the allocation of such risk to government might usefully prompt greater consideration of it in the relevant policy decisions. It may also be more efficient for the taxpayer to bear a risk if the economy-wide hedge they provide is useful, for example with some low probability, high impact events.

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<sup>53</sup> This was debated in relation to Thames Tideway and is currently being debated in relation to new nuclear, see for example: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/943762/Nuclear\\_RAB\\_Consultation\\_Government\\_Response-.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/943762/Nuclear_RAB_Consultation_Government_Response-.pdf)

In March 2019 HM Treasury and the Infrastructure Projects Authority launched the 'Infrastructure Financing Review'<sup>54</sup>. The government's conclusions from this review were contained within the recently published National Infrastructure Strategy. While the NIS focusses strongly on supporting private investment, it also signals the creation of a UK infrastructure bank, 'to coinvest alongside the private sector in infrastructure projects'<sup>55</sup> and 'use a range of tools to support private projects: as well as offering guarantees through the existing UK Guarantees scheme, it will be able to offer debt, equity and hybrid products'<sup>56</sup>.

The UKIB could be one way in which the taxpayer could take on risk to support investment in regulated infrastructure. In doing so, it could help pick up some of the investment previously financed by the European Investment Bank (EIB), which helped to unlock private capital in major utilities projects, such as Thames Tideway. Not only does the EIB offer below market rate lending to help bring down the cost of financing for consumers, but its extensive due diligence process reassures private investors on risk exposure and has the effect of 'crowding in' private capital. Now that the UK is no longer a member of the EIB post-Brexit, the UKIB could play a similar role, effectively taking on risk that may otherwise be passed on to consumers and helping deliver efficient financing solutions, particular where there are clear market failures, to drive investment in infrastructure.

There is also scope for the UKIB to work closely with mayors' offices and give life to infrastructure projects that have support in city regions. For example, the UKIB could have a set proportion of its financing capacity designated for to provide backing for such schemes. In this way, the NIB could give impetus to city-wide development plans, and the support of the mayor would help to ensure that their office uses the tools at their disposal, for example through planning and coordination, to smooth the path for development; indeed, a commitment to 'barrier busting' could be a pre-condition of UKIB financing for such schemes.

**Recommendation: In considering how best the NIB might be established and operate, government should explicitly consider how it might improve the efficient financing of infrastructure investment, specifically through the taking on**

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<sup>54</sup> See: <https://www.gov.uk/government/consultations/infrastructure-finance-review> . This review ran alongside the National Infrastructure Commission's review of the system of economic regulation, see: <https://nic.org.uk/studies-reports/regulation/>

<sup>55</sup> See: <https://www.gov.uk/government/publications/national-infrastructure-strategy> under 'Supporting private investment' on page 66.

<sup>56</sup> Ibid. page 70.

of risk on behalf of the taxpayer. The government should consider explicitly the role of the UKIB in economically regulated sectors, and the interaction between its financing and economic regulatory regimes. The government should also consider the possibility of UKIB financing being linked to support from directly elected mayors.

# THE ROLE OF COMPANIES

This paper is focussed on a current set of challenges facing regulation. It is therefore easy to conclude that the answer to those challenges is to be found somewhere within the regulatory tool-kit and its wider policy context, and to make a set of recommendations to regulators and policy makers. But to do that is to ignore the fundamental importance in economic regulation UK-style of the ability to allocation and remunerate risk, and the equally fundamental challenge that is therefore posed to regulation from the set of issues we discussed above relating to the politics of profit.

Regulators and policy-makers can certainly help to address that challenge. They can and should be open about the risk that sits with companies, what a fair return for that risk looks like, and how outperformance benefits customers and citizens over time. And beyond this there is a useful debate about how regulators can help to encourage purposeful business and the delivery of public value by those they regulate<sup>57</sup>. However, regulated companies cannot outsource their responsibility to customers and citizens to regulators and policy makers; regulated companies themselves have a critical role to play in maintaining the legitimacy of private capital providing public services under regulation.

There is increasing alignment on the importance of purpose for companies, and on the need for that purpose to reflect broad considerations of stakeholder legitimacy, rather than narrow and short-term shareholder interests. Section 172 of the Companies Act, introduced in 2008, introduced the concept of 'enlightened shareholder value', and requirements for 'large' companies to consider the long-term consequences of decisions, the interests of employees, suppliers, customers, communities and the environment. Provision 5 of the UK Corporate Governance Code 2018 requires listed company boards to understand the views of the company's key stakeholders and to describe how they do this, and give effect to s172 of the Companies Act in their annual reports. Investors are increasingly paying attention to 'environmental, social and governance' (ESG) factors in making investment decisions and managing their investments. In the most recent of

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<sup>57</sup> Sustainability First have produced a very useful report on this, 'Regulation for the Future: The Implications of Public Purpose for Policy and Regulation in Utilities', available at: <https://www.sustainabilityfirst.org.uk/project-research-reports/242-regulation-for-the-future>. Among the economic regulators, Ofwat has reflected on the application Professor Mark Moore's concept of public value to regulation, with a consultation document on this in December 2020, available at: <https://www.ofwat.gov.uk/consultation/a-discussion-paper-on-public-value-in-the-water-sector/>

his annual letters to CEO's<sup>58</sup> Larry Fink, Chairman and CEO of BlackRock, wrote: 'we have long believed that our clients, as shareholders in your company, will benefit if you can create enduring, sustainable value for *all* of your stakeholders.' He cites evidence that companies with better 'ESG profiles' earn a 'sustainability premium' on their returns.

The extent to which all of this causes a shift in public perception, and therefore alleviates the political problems associated with profit, remains to be seen. There is certainly a risk that firms who do not 'walk the talk' in a consistent and demonstrable way will undermine the credibility of the concept and take the debate back to square one<sup>59</sup>. For regulated companies therefore, there would be merit not only in embracing public purpose explicitly in strategy and business planning, but also investing time and effort to engage constructively with each other and with regulators about the best way to develop meaningful and verifiable metrics around the quality of their purpose and the extent to which their performance and behaviour reflects it.

**Recommendation: Regulated companies and their investors should work with regulators and civil society groups to consider the merits of existing metrics for reporting against purpose, the need for new metrics, and whether and how these metrics could be used in regulation.**

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<sup>58</sup> Available at: <https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter>

<sup>59</sup> The clearest example of a verifiable framework for alignment with a wider stakeholder purpose is to be found in the B Corporation movement, see: <https://bcorporation.uk/>. Work has been done elsewhere on metrics for long term value, for example, by the Coalition for Inclusive Capitalism, see: <https://www.coalitionforinclusivecapitalism.com/about/#:~:text=The Coalition for Inclusive Capitalism is a global,economic systems more inclusive, sustainable, strong, and trusted.>

# APPENDIX 1

## The Principles for Economic Regulation<sup>60</sup>

### Accountability

- Independent regulation needs to take place within a framework of duties and policies set by a democratically accountable Parliament and Government
- Roles and responsibilities between Government and economic regulators should be allocated in such a way as to ensure that regulatory decisions are taken by the body that has the legitimacy, expertise and capability to arbitrate between the required trade-offs
- Decision-making powers of regulators should be, within the constraints imposed by the need to preserve commercial confidentiality, exercised transparently and subject to appropriate scrutiny and challenge

### Focus

- The role of economic regulators should be concentrated on protecting the interests of end users of infrastructure services (i.e. current and future consumers, and in some sectors taxpayers, who ultimately pay for the services)
- Economic regulators should have clearly defined, articulated and prioritised statutory responsibilities focussed on outcomes rather than specified inputs or tools by ensuring the operation of well-functioning and contestable markets where appropriate or by designing a system of incentives and penalties that replicate as far as possible the outcomes of competitive markets.
- Economic regulators should have adequate discretion to choose the tools that best achieve these outcomes

### Predictability

- The framework for economic regulation should provide a stable and objective environment enabling all those affected to anticipate the

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<sup>60</sup> See: Principles for Economic Regulation. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/31623/11-795-principles-for-economic-regulation.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/31623/11-795-principles-for-economic-regulation.pdf)

context for future decisions and to make long term investment decisions with confidence

- The framework of economic regulation should not unreasonably unravel past decisions, and should allow efficient and necessary investments to receive a reasonable return, subject to the normal risks inherent in markets

### **Coherence**

- Regulatory frameworks should form a logical part of the Government's broader policy context, consistent with established priorities
- Regulatory frameworks should enable cross-sector delivery of policy goals where appropriate

### **Adaptability**

- The framework of economic regulation needs capacity to evolve to respond to changing circumstances and continue to be relevant and effective over time

### **Efficiency**

- Policy interventions must be proportionate and cost-effective while decision making should be timely, and robust

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