
DIRECT PROCUREMENT OF WATER INDUSTRY PROJECTS

**An Independent Report Prepared for Anglian Water,
Severn Trent Water and Tideway**

Dr Harry Bush CB

John Earwaker

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EXECUTIVE SUMMARY

This report by Dr Harry Bush CB and John Earwaker was commissioned by Anglian Water, Severn Trent Water and Tideway as an independent contribution to the water sector's work on 'direct procurement'.

This new approach is seeking to capture the potential benefits for customers from competition for sizeable new water sector projects. The initiative runs alongside parallel efforts in several of the regulated sectors to move away from the automatic presumption that new investment should be the preserve of incumbent firms, and seeks to maximise the benefits that may be obtained by making contestable the different roles that regulated firms currently have in the delivery of schemes.

The report supports Ofwat's position that a framework that brings a greater array of market forces to bear on major new, discrete infrastructure projects can potentially deliver benefits to customers. Cost savings could arise, in particular, from the way in which rates of return can be fixed via a competitive process, rather than by regulatory determination. In addition, for certain asset types and in certain circumstances, savings could arise from better scheme design, tighter focus on delivery and/or lower ongoing operating expenditure. The existence and extent of such gains will depend on how far existing arrangements allow market testing already and the precise framework within which any third party may operate.

Ofwat's Water 2020 documents have focused on the potential for driving forward the direct procurement initiative for PR19 to secure early gains. The intention is that some significant new projects could be taken forward by third parties via a contract with an existing appointed business. This constitutes a different model from the structures that have been put in place in other recent transactions (e.g. Tideway, offshore electricity transmission), where (in addition to contractual arrangements with the regulated business) the third-party has been a licensed entity in its own right.

We recognise that Ofwat's room for manoeuvre is constrained by the construction of the Water Industry Act and associated Regulations, which limit project licence awards in the water sector only to schemes with a size and a complexity that threatens the incumbent appointed business's ability to provide services to its customers. However, the proposed contract-based approach appears to us to run into constraints which may reduce the value for customers that can be obtained from direct procurement and could create other difficulties.

Table A highlights some of the differences that there are in the long term between a contract-only approach and the licence-anchored approach that has been used in other settings.

Table A: Licence vs contract

Licence-anchored approach	Contract-only approach
Ofwat has a direct relationship with the asset owner	Ofwat would not be directly regulating the owner of a key piece of infrastructure
Ofwat can use the full Water Industry Act toolkit (licence, enforcement, financial penalties, etc.) to remedy poor performance on the part of the asset owner/manager	Ofwat must direct its regulatory actions at the appointed business, as the contractual partner to the infrastructure owner, whose own rights may themselves be constrained by the contractual structure
The Water Industry Act special administration regime applies	The infrastructure owner would sit outside the scope of the Water Industry Act special administration regime
The licence can be used to create an entitlement to be paid by customers	Customer funding would be channelled through the appointed business, and payment would depend on the appointed business's creditworthiness
Ofwat can conduct periodic reviews of payments due to the asset owner, subject to a right of appeal to the CMA	Ofwat cannot directly adjust the payment terms in the contract
Licences can be awarded for an indefinite period	Contracts have end dates

The discussions that we have had with current and potential financiers suggest that a licence-anchored approach is, other things being equal, likely to produce more advantageous financing costs than a contract-only approach would. This is primarily a function of the counterparty risk that the third party is exposed to when it is dependent on a contract with the incumbent water company as an unrelated corporate entity. This makes it more difficult for the third party's overall financing cost to come in below that of the incumbent.

We also think that the points highlighted in table A mean that there are other benefits in adopting a licence-based direct procurement model.

We have given some thought to steps that may be taken within a contract-only approach to mitigate some of the identified disadvantages (as set out in section 7.6 of this document). It might be possible, for example, for Ofwat to devise licence obligations which reinforce the contractual obligation on the appointed business to make payments under a direct procurement contract. It may also be possible to write contracts with third parties in such a way as to replicate some of the regulatory disciplines that appointed/licensed businesses have to adhere to and to avoid a normal Insolvency Act administration. But our initial assessment is that such modifications leave gaps, or otherwise could come at a cost, and our conclusion at this stage is that an approach that relies solely on a contract is likely to be second best (and therefore of lesser value to customers) than one which also incorporates a licence for a third party. This is likely to limit its applicability.

This leads to our first three recommendations.

Recommendation 1: The sector should examine further whether Ofwat’s existing powers might enable it to issue licences to the third parties in a direct procurement and, if not, explore with government the scope for making a minor change to the law to allow the regulator to issue project licences either prior to AMP7 or, if this is not feasible, as a policy priority thereafter.

Recommendation 2: Subject to the outcome of Recommendation 1, Ofwat should keep under review the customer benefits that there are likely to be in a direct procurement model that is not underpinned by the award of a new licence. This ongoing assessment should be informed by discussions with potential investors and other interested parties and consider in greater detail the scope that there is for a contractual third party to secure lower financing costs than the appointed business (under a status quo option of own-delivery) as well as some of the other potential costs and issues identified in this report. The aim should be to provide the foundation for companies’ own assessments of value in relation to individual projects.

Recommendation 3: Depending on the conclusions from the customer benefit work, the report envisages that direct procurements could conceivably develop in two stages: a tentative first stage in PR19 when companies are asked to consider the merits of contract-based transactions (i.e. without the benefit of a supporting licence) in a way that is targeted on those areas where direct procurement might be expected to yield sufficient value to overcome any drawbacks in the contract-only approach; and a later ‘first best’ stage if or when there has been an opportunity to modify the Water Industry Act to permit Ofwat to award stand-alone project licences to any third-party infrastructure owner. For the avoidance of doubt, there would only be a green light for projects to be taken forward via direct procurement – under either framework – when a prior impact assessment gives confidence that there is likely to be a net benefit to customers.

The report considers the responsibilities that could be transferred from an appointed business in a direct procurement transaction. Our assessment is that there is not one outstanding optimal structure. Different types of project – e.g. interconnectors, treatment works, reservoirs, metering programmes – are likely to present different kinds of opportunities and different kinds of challenges, making it difficult to discern a single best combination of design, build, finance and/or operation.

We put forward four main structures for further consideration. Illustrative examples showing how these structures could be applied to the above types of project are given in section 7 of the report.

Table B: Possible direct procurement structures

If the value in direct procurement is thought to lie in ...	Third-party’s responsibilities				Description
	D	B	F	O	
Financing, operation		✓	✓	✓	Tendering for an asset
Design, financing, operation	✓	✓	✓	✓	Tendering for solutions
Whole-life financing		✓	✓		Long-term construction and lease arrangement
Post-construction financing, operation			✓	✓	Long-term operating concession

Ofwat's starting position has understandably been that it is for companies to initiate and manage direct procurements case-by-case, consistent with its more general policy that companies must own their business plans. However, our report highlights that Ofwat might maximise the benefits that direct procurement could produce for customers if it were to take a visible, hands-on role alongside the industry during the structuring of future transactions. One of the lessons from the energy sector's experience with competitive tendering for transmission projects is that Ofgem's efforts to standardise projects and create a pipeline of transactions has increased investor interest and resulted in lower financing and transaction costs.

This leads to two further key recommendations.

Recommendation 4: companies and Ofwat should consider how Ofwat can best work alongside companies so as to brand direct procurement projects in investors' eyes as core regulated infrastructure. This may entail, inter alia, standardising the over-arching risk allocation in direct procurements, developing a common template for contracts/licences in partnership with the industry and co-ordinating a pipeline of deals to heighten and sustain investor interest.

Recommendation 5: Ofwat may also need to consider whether for PR19, especially in the absence of legislative cover for licence-anchored procurements, it focuses companies on a small number of 'pathfinder' projects that could be used to test concepts and learn lessons that will have application in an eventual wider programme.

The report also makes a number of other recommendations that might help to maximise the value for money that direct procurement will be able to achieve, in particular if companies are to proceed with a purely contract-based direct procurement.

Recommendation 6: Companies will need to recognise that direct procurements involve a different, more complex range of skills than existing well developed procurement processes. They need to equip themselves in good time with the necessary skills, including financial and legal advice.

Recommendation 7: Ofwat should explicitly identify a marginal PR19 rate of return for a marginal large capital project under the status quo option of self-delivery, as distinct from the industry cost of capital (e.g. to strip out the cost of legacy embedded debt), so that companies are clear about the benchmark financing costs that a direct procurement has to beat in order to represent value for money for consumers.

Recommendation 8: All existing appointed/licensed businesses should be permitted to compete for direct procurement contracts/licences. This will have the advantage of generating competition between existing incumbents as well as allowing new entrants to bid.

Recommendation 9: If the incumbent wishes to bid into the competitive process, it should be allowed to. However, a company that chooses to keep this option open should be required to set up a separate 'bidding unit' and hand the running of the procurement process over to an independent body.

Recommendation 10: The price control arrangements for a direct procurement scheme need not be bundled into an appointed business's standard wholesale price control(s). Instead, Ofwat should remain open to proposals for a bespoke price control with bespoke features (e.g. for a period longer

than 5 years). Even where retained within the overall price control there would be merit in Ofwat commitment to the long-term cash flows involved, from which investors may take comfort.

Recommendation 11: Ofwat should be clear about the way it will treat the costs emerging from a direct procurement exercise at future periodic reviews, especially as regards the allowance that it will make for the fixity of such costs in any intra-industry benchmarking.

Finally, the report considers the process for PR19, and the timescales for the price review vis-à-vis the lead times in a direct procurement transaction.

Recommendation 12: There needs to be recognition that direct procurement exercises for projects needed in AMP7 will not be completed by the time that Ofwat makes its PR19 determination. It may therefore be appropriate to include some placeholder measure of expected cost in companies' price controls, which can be adjusted when the results of each direct procurement are known.

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1. INTRODUCTION

This is a report by Dr Harry Bush CB and John Earwaker on the subject of direct procurement. It was commissioned by Tideway, Anglian Water and Severn Trent Water as a contribution to Ofwat's developing framework for PR19.

The report is structured as follows:

- section 2 outlines what a 'direct procurement' involves;
- section 3 examines a number of previous instances where infrastructure investments have been delivered by parties other than an incumbent regulated company, and attempts to draw out the lessons learned;
- section 4 considers the filters that may be used to identify when there might be value for money for customers in the water industry in a direct procurement approach;
- section 5 sets up a number of candidate direct procurement structures;
- section 6 lays out the evaluation criteria which can be used to assess the strengths and weaknesses of these structures;
- section 7 gives our evaluation; and
- section 8 concludes with our recommendations to companies and regulator on the directions which future work in this area might take.

The study has been informed by discussions with current and potential investors in infrastructure projects, as well as a workshop that brought together a number of interested parties. The content of those discussions is summarised in appendices A and B. The study was also assisted by a steering group which both challenged and informed the work carried out, and we have benefited from legal input from Herbert Smith Freehills. However, this was on the clear basis that this was to be an independent expert report embodying the authors' analysis, assessment and conclusions.

2. POLICY CONTEXT

Ofwat's thinking in relation to direct procurement has been set out in its Water 2020 documents, published during 2015 and 2016. Ofwat describes the concept as an expansion of the role that third-party organisations can play in the processes of delivering water and wastewater services to customers, as follows:

Appointees currently use a wide variety of arrangements to provide services, including self-provision and procuring services from third parties. We use the term 'direct procurement for customers' to describe arrangements whereby an appointee procures services on behalf of customers ... Under a 'direct procurement' framework, the appointee does not provide or finance the service, but instead seeks bids from third parties and selects the best value offer on behalf of its customers. ... A key difference between direct procurement and market testing is that under a direct procurement arrangement, the service provider is competing to provide finance as well as construction and potentially operation of the project. This provides market evidence on the cost of finance as well as the construction cost.¹

The ambition is that opening the financing of major programmes of expenditure, and potentially also the operation of built assets, up to third parties will reduce bills and stimulate innovation in the sector. Ofwat's early cost-benefit analysis, based primarily on a read-across from Ofgem's experience with competitions for offshore transmission, identified potential savings in industry financing costs of £100m to £480m and potential savings in operating costs of between £350m and £450m against a counterfactual in which large-scale projects are delivered by incumbents and funded through the normal price review process. After factoring in the costs associated with tendering, Ofwat concluded in its July 2016 Water 2020 document that:

Having considered the different policy option impacts, we think that our preferred option will generate the greatest net benefits, taking account of the risks and uncertainties involved. We estimate the net benefits of this approach to be between £400 million and £850 million.²

In pursuing this line of argument, Ofwat is treading a path that several other economic regulators have started to walk down in recent years. Figure 1 highlights a number of other settings in which regulators have made new investments contestable in an effort to improve value for money for customers, generally with some success in the specific circumstances shown.

¹ Ofwat (2015), Water 2020: regulatory framework for wholesale markets and the 2019 price review, appendix 4.

² Ofwat (2016), Water 2020: our regulatory approach for water and wastewater services in England & Wales.

Figure 1: Contestable investments in regulated industries

<p>Electricity</p> <p>Offshore transmission networks</p> <p>15 transmission networks transferred to new owners/operators after regulator-led competitions, 2011-15</p>	<p>Gas</p> <p>Gas to the West</p> <p>Two new licences awarded to companies to extend the gas network in Northern Ireland after regulator-led competition, 2014</p>
<p>Water and sewerage</p> <p>Tideway</p> <p>Licensee chosen to finance, build and operate the Thames Tideway Tunnel after competition, 2015</p>	<p>Rail</p> <p>Various third-party investments</p> <p>Small-scale infrastructure projects have been delivered by parties other than Network Rail under ORR's third-party investment framework</p>

There is also ongoing interest at the time of writing in finding out if the scope for third-party investment in established infrastructure networks can be extended still further. Ofgem, for example, has a work programme to open onshore transmission projects up to the third parties, while the Government is examining ways in which large-scale railway infrastructure projects could be financed and delivered by companies other than Network Rail.

Figure 2: Ongoing developments

<p>Electricity</p> <p>Onshore transmission networks</p> <p>Ofgem exploring ways of making new onshore transmission projects with a value > £100m contestable</p>	<p>Rail</p> <p>Large-scale infrastructure investments</p> <p>Government keen to bring third parties in to finance and manage upgrades to Network Rail's network</p>
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Although this study is squarely about direct procurement in a water industry context, it is nested within this broader context and needs to take account of what has been done elsewhere, the lessons learned and the future direction of travel, to the extent that is evident.

To date, Ofwat's focus has been on the arrangements that should be put in place for the upcoming PR19 review of water and sewerage price controls. Ofwat has said to the industry that it will not require companies to deliver any specific scheme via direct procurement. Instead, companies are to be encouraged to consider direct procurement for all discrete, large-scale enhancement projects with whole-life totex of more than £100m. The company's assessment of projects it has considered for direct procurement will be assessed as part of the PR19 risk-based review, and a company's

proposed method(s) of delivering such projects will be challenged as part of Ofwat's overall assessment of the company's business plan.

Ofwat has also indicated in its Water 2020 documents that:

- the move to direct procurement will be accommodated within existing industry legislation;
- companies will be responsible for the direct procurement tender process;
- no new licences will be awarded. Companies will contract with third parties for the delivery of eligible schemes, and remain responsible for the delivery of services to customers; and
- Ofwat will be willing to consider proposals from companies for non-standard price control arrangements, say to allow for a longer-term stream of revenues than a normal five-year control will provide.

This sets a slightly different starting position than is perhaps the case in the other examples mentioned above. The rigidity of the current legislation, and the assumption that third parties will have to work under contract to appointed businesses, in particular, make for a different proposition from that which has been put to the market in the Tideway and Ofgem licence awards, for example.

These things mean that Ofwat and companies are going to have to think quite carefully about the following sorts of issues, as they seek to capture the value for money for customers that has been achieved by deploying the same basic idea in other sectors.

- Rationale and objectives – while responses to Ofwat's Water 2020 consultations did not explicitly take issue with Ofwat's estimates of the possible benefits that might emerge from direct procurement, there was some questioning in the responses and in the discussions we have had of where exactly savings are most likely to be achieved (e.g. whether direct procurement is mainly about financing efficiencies or whether companies should also be targeting savings in the areas of design, construction and/or operation). The presumed sources of the assumed savings, and the trade-offs that there might be, bear on the procurement models that ought to be used and the guidance or process that might be put in place by Ofwat to assist companies to determine whether direct procurement is likely to yield benefits in specific circumstances.
- Possible structures and optimal risk allocation – in starting with the presumption that large projects will be taken out of the conventional, RCV-based price control regime, Ofwat is, in effect, asking the investor community to accept a different packaging of cashflows from that to which they are accustomed. This will enable a testing of the market for finance but it cannot be taken for granted that the resulting cost of capital will sit below that which RCV-based price regulation (implicitly) produces for new projects. Rather, all parties will need to think carefully about the risks that they wish investors to take on and the likely pricing of those risks.
- Ofwat's role – Ofwat's overall approach to regulation deliberately puts responsibility for meeting customers' needs in the hands of companies. To date, this line of thinking is also apparent in Ofwat's statements about direct procurement, with Ofwat signalling that it is for companies to take the basic idea forward and make direct procurement work in whatever

form they decide most benefits customers. There is, however, an argument that Ofwat should take a certain amount of upfront ownership of new procurement arrangements, in collaboration with companies, so that investors see the industry regulator's hand running through the structure(s) that they are asked to buy into and come to look upon the resulting investments as much as regulated investments as commercial contracts.

- Procurement – the view that companies should run the procurement process, when coupled with a sense that the value for money of third parties' proposals needs still to be compared against own-delivery, raises questions about how to create a level-playing field between new entrants and incumbents.
- Price control design – Ofwat's willingness to consider bespoke price control arrangements opens up the possibility of setting allowances for depreciation, operating costs, interest costs and the return on equity in innovative ways. In each case, there will be trade-offs to make between fixing building blocks through a competitive process, writing bid revenues into contracts and allowing for funding to be adjusted as circumstances change. Moreover, thought will need to be given to how far the results of the competitive process affect the overall price control on the contracting licensee.

3. MARKET CONTEXT AND EXPERIENCES

Before expanding on these issues, it is worth reviewing briefly the experiences that there have been in recent years in the market for private-sector financing and delivery of infrastructure projects.

3.1 Investor appetite for infrastructure investments

Our terms of reference for this study asked us to first review the body of studies that have looked at the role that private capital can play in infrastructure investments.

Perhaps the most striking point to emerge from this literature review is the sharp increase that there has been in the appetite that investors have for infrastructure and a proliferation in the number of different ways in which investor capital can nowadays be channelled into projects. Market surveys have identified that investors increasingly recognise infrastructure as an asset class its own right, as distinct and separate from other investment types.³ The emergence of specialist infrastructure funds, in particular, means that there is a pool of global investor capital worth in the region of an estimated US\$400 billion⁴ that is ring-fenced solely for infrastructure financing. More generally, surveys suggest that around two third of investors are actively seeking exposure to infrastructure investments in the coming years.⁵

The OECD recently set out a taxonomy of vehicles for infrastructure financing (Figure 3).⁶ The Modes column identifies the three main capital types – debt, equity and hybrid capital – followed by a further breakdown into asset types – i.e. debt into bonds and loans, and equity into listed and unlisted. The Infrastructure Financing Instruments column then identifies the specific vehicles through which infrastructure investments can raise capital, divided into one column for project finance and one column for more traditional corporate finance. The final column then shows how capital from different investors are sometimes aggregated together.

Many of the entries in this table, particularly as one moves from left to right across the page, represent new ways for infrastructure providers to tap investor capital.

³ See, for example, UBS (2011), An introduction to infrastructure as an asset class.

⁴ Extrapolation from Blackrock (2015), Infrastructure rising: an asset class takes shape, and other sources.

⁵ *ibid.*

⁶ OECD (2015), Infrastructure financing instruments and incentives.

Figure 3: OECD taxonomy of instruments and vehicles for infrastructure financing.

Modes		Infrastructure Finance Instruments		Market Vehicles
Asset Category	Instrument	Infrastructure Project	Corporate Balance Sheet / Other Entities	Capital Pool
Fixed Income	Bonds	Project Bonds	Corporate Bonds, Green Bonds	Bond Indices, Bond Funds, ETFs
		Municipal, Sub-sovereign bonds		
		Green Bonds, Sukuk	Subordinated Bonds	
	Loans	Direct/Co-Investment lending to Infrastructure project, Syndicated Project Loans	Direct/Co-investment lending to infrastructure corporate	Debt Funds (GPs)
			Syndicated Loans, Securitized Loans (ABS), CLOs	Loan Indices, Loan Funds
Mixed	Hybrid	Subordinated Loans/Bonds, Mezzanine Finance	Subordinated Bonds, Convertible Bonds, Preferred Stock	Mezzanine Debt Funds (GPs), Hybrid Debt Funds
Equity	Listed	YieldCos	Listed infrastructure & utilities stocks, Closed-end Funds, REITs, IITs, MLPs	Listed Infrastructure Equity Funds, Indices, trusts, ETFs
	Unlisted	Direct/Co-Investment in infrastructure project equity, PPP	Direct/Co-Investment in infrastructure corporate equity	Unlisted Infrastructure Funds

Source: OECD

The stereotype is often that investors in infrastructure always value predictable, stable cashflows and seek out projects that offer low risks and comparatively low rates of return. This was particularly the case in the immediate aftermath of the global financial crisis, when there was a flight to safety and sources of riskier, high-yielding capital – particularly on the debt side of things – dried up, and may still be true of many investors today. But in recent years there has also been evidence that there is a pool of investors willing to put up capital for riskier investments in exchange for higher returns. Strategies with labels like ‘core+’, ‘value-add’ and ‘opportunistic’ appear more and more often in infrastructure investor surveys, with a majority of investors saying that they are looking to invest in such assets alongside more conventional ‘core’ investments.⁷

In this context, it is not obvious that Ofwat’s push for direct procurement is constrained by investor appetite for only assets with a particular risk profile. (NB: We think this is something that Ofwat may wish to test more fully in its planned investor contacts.) Rather, thoughts can perhaps turn more usefully to the question of optimal risk transfer and to the design of structures which create a logical allocation of responsibilities between the incumbent water company and a third-party provider. All parties will also need to think about how investor appetite will also be affected by the size of the opportunity, the costs and risks of the bidding process relative to that opportunity, the regulatory

⁷ See, for example, Probitas Partners (2015), Infrastructure institutional investor trends for 2015 survey.

backing that is implied and how far there is likely to be repeat business that makes it worth investing upfront intellectual and financial resource in understanding the resulting asset class

3.2 Structures

The natural first thing to do is to look at models that have been used in the past in the water industry and other settings and to ascertain what can be learned from these experiences, focusing especially on cases that have involved third parties and which are therefore likely to present parallels to direct procurement. In table 1 we identify a range of structures that we have seen in the UK's regulated industries. The D, B, F and O columns identify different combinations of transfer of responsibility for the design,⁸ build, financing and operation of new assets to third parties. By implication, where a box is not ticked, responsibility fell primarily to the incumbent company.⁹

Table 1: Structures

Third-party's responsibilities				Licence award?	Examples
D	B	F	O		
	✓			No	Conventional regulated company - contractor relationships
	✓	✓	✓	No	Scottish Water PPPs NI Water PPPs
	✓	✓	✓	Yes	Tideway Gas to the West, Northern Ireland
		✓	✓	Yes	Energy network OFTOs
✓	✓	✓		No	Rail industry third-party investments (e.g. Evergreen)
	✓	✓	✓	Yes - prospectively	Energy network ONTOs

In the pages that follow, we try to draw out some of the lessons from these structures, drawing on the case studies listed in the right-hand side of the table. For the avoidance of doubt, the intention at this stage is not to suggest that these case studies give the 'candidate models' that companies might consider using for direct procurement. Rather, our aim is to tease out a set of learning points that will have more general application when we go on in section 4 to consider the form that direct procurement might take.

3.2.1 Conventional water company model

The first of our structures is the status quo. It is a structure that has been in place for more than 25 years and which has successfully delivered billions of pounds of capital investment.

⁸ Design is a term which may encapsulate a variety of activities. In this report, we refer principally to the process of coming up with a solution to a broadly specified problem.

⁹ Note that the incumbent company is in the public sector in the cases of the Scottish Water, NI Water and rail industry examples. In the other cases, the incumbent companies are private-sector regulated firms.

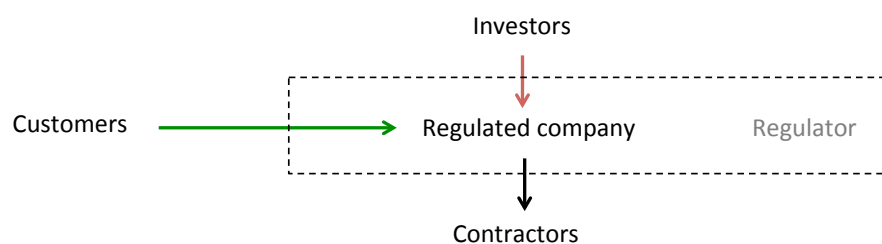
Background information: The 10 appointed water and sewerage companies in England & Wales were privatised in 1989, as part of a programme which transferred the country's energy, rail, airport and telecoms infrastructure companies out of the public sector. Part of the rationale for privatisation was that firms would finance investments on their own balance sheets, without recourse to public funding, and contribute to a significant increase in the run-rate of capital investment in the UK's network industries. (A number of smaller, water-only companies were already in the private sector at this time and were put on the same statutory footing by the Water Industry Act 1991).

Structure: Water-sector companies have financed new investment in a broad range of new assets. The companies use traditional corporate financing (albeit with some variations in approach between companies), comprising a mix of debt and equity capital.

The industry regulator fixes the amount of revenue that companies can collect from customers at five-year price reviews, save for annual inflation indexation. One of the building blocks within the calculation is an explicit allowance for the pay-back of past investment ("depreciation"), which Ofwat computes by reference to a running calculation of companies' historical and as-yet-unpaid-for expenditures (the "regulatory capital value" or "RCV"). Ofwat also provides at its periodic reviews for a return on the RCV, set in line with its estimate of the industry cost of capital,¹⁰ and a forward-looking allowance for efficient expenditure.

When delivering new capital projects, water companies typically engage the services of third-party contractors. Modern-day contracting arrangements take a variety of forms, from simple tendering through to 'alliance' arrangements, which provide for longer-term, collaborative relationships with contracting partners. The water companies will as a general rule cover contractors' costs as they are incurred, leaving financing squarely in the hands of the regulated entity.

Figure 4: Traditional water company financing structure



Key: funding from customer charges in green; financing from investors in red; contractual payments in black; boundary of economic regulation shown by the dotted line.

Evaluation and learning points: The UK's privatised utility model is very highly regarded. It is a model that has been exported around the world, both in terms of the structuring of private-sector

¹⁰ This is the cost of capital for the business as a whole, comprising the cost of financing the portfolio of historical investments already contained within the RCV and new expenditures. It will factor in the costs of embedded debt taken out in past years, as well as the prevailing costs of equity and debt capital for the ongoing business and new projects.

investment in infrastructure and in terms of the underlying independent regulatory set-up that supports that investment.

The creation of RCVs, in particular, has been held up as a hugely important innovation.¹¹ The RCV has enabled regulators, in effect, to commit successive generations of customers to the pay-back of investments, and hence helps to address risks of policy inconsistency that have long troubled investors in other infrastructure settings. Coupled with the flexibility that regular periodic reviews provide around the level of returns and allowances for ongoing operating costs and capital expenditure, the broad consensus is that regulators including Ofwat have devised a structure that enables investors to commit to investments at a very low cost of capital.

The success of the model can perhaps be seen in the interest which policymakers and other commentators express from time to time in the scope that there might be to bring elements of the regulated, RCV-based model into other infrastructure settings. Infrastructure UK (now subsumed into the Infrastructure and Projects Authority), in particular, has frequently returned to the proposition, based on a desire to lower the cost of capital on non-regulated investments down towards the cost of capital observed in regulated sectors.¹²

At the same time, the privatised model has not led to the elimination of competition around project delivery. As noted above, most regulated companies place work with third parties via competitive tenders, which serve to place continual downward pressure on capital costs. Companies may also use third-party contractors to deliver certain types of operating expenditure. Companies are incentivised in this direction by Ofwat's price control regime, including the new totex arrangements which have reduced the opportunities for arbitrage between capex and opex and placed more uniform downward pressure on all costs.

The regulated utility model is not, however, without its challenges.

One constant source of friction centres around the task that regulators have of estimating the prevailing cost of capital at each periodic review. Companies and investors, on the one hand, seek to avoid a situation in which the cost of capital is under-stated and allowed returns are set too low. Regulators also wish to avoid the deterrent to new investment that overly low allowed returns could involve. However, on behalf of customers, they are also keen to avoid the opposite outcome. Recent experience indicates that regulators find it hard to obtain good market evidence on investor requirements, not least in conditions of financial change and turbulence, potentially resulting in non-trivial errors.

There are also often issues around the asymmetry of information that a regulator has when it has to assess the cost forecasts in a company's business plan. This is particularly the case for large, discrete projects, which do not fit easily into industry benchmarking exercises. A regulator is often forced to deploy its expert judgment against the expert judgment of the company, meaning that any available market-based evidence would generally be deemed a welcome addition to the evidence base on which the regulator relies when it sets cost allowances.

¹¹ See, for example Stern (2013), The role of the regulatory asset base as an instrument of regulatory commitment.

¹² Infrastructure UK (2010), National infrastructure plan 2010.

3.2.2 Water industry PPPs

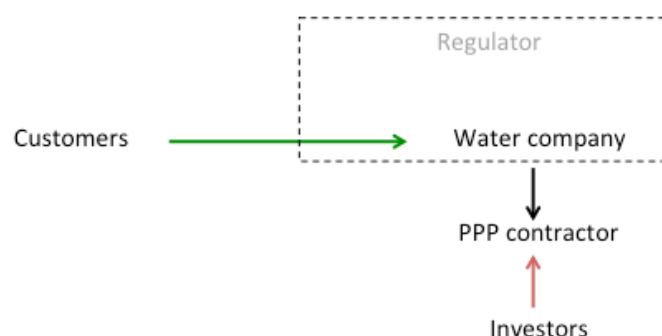
Although the vast majority of the water industry capital projects in the UK have been delivered via the conventional corporate finance model, set out above, there are two instances in which companies have elected to procure upgrades to infrastructure through a more novel PPP-style route. These two case studies come from Scotland and Northern Ireland.

Background information: The companies involved, Scottish Water and NI Water, are publicly owned entities. The PPPs, which were entered into between 1996-01 and 2006-07 respectively, were motivated partly by a desire to bypass public-sector capital constraints and partly by a belief that partnering with private-sector firms would reduce costs at a time when the companies were demonstrably less efficient than peer companies in England & Wales.

Structure: In both cases, the parties entered into traditional PPP structures, in which a third-party provider (often linked in some way to one of the England & Wales companies) took over responsibility for the construction, financing and operation of a discrete set of assets for a defined period in return for a series of contractual payments.

Scottish Water entered into nine PPP contracts and NI Water two contracts.

Figure 5: The Scottish Water and NI Water PPP structures



Key: funding from customer charges in green; financing from investors in red; contractual payments in black; boundary of economic regulation shown by the dotted line.

Procurement process: Scottish Water and NI Water let their contracts through competitive tenders.

Duration: The contracts have durations of between 25 years and 40 years.

Value: The individual contracts provided for capital expenditure / external financing of between £30m and £120m.

Funding and contract structure: Terms vary from contract to contract, but typically the third party providers are paid a mix of fixed charges and unitary charges for a defined service (e.g. the processing and disposal of sludge at identified treatment works). As part of its responsibilities, the third party was required to construct or upgrade certain assets in line with agreed construction

schedules and took construction cost risk away from the appointed businesses. Scottish Water and NI Water pay for the services that they receive through an agreed annual charge, which is structured to compensate the third-party provider in full for the costs that it originally predicted it will incur over the life of the contract. This means that operating cost risk sits with the contractor. The PPP agreements run to hundreds of pages and contain a very long list of rights and obligations designed to protect the interests of both sides to the contract.

Evaluation and learning points: For the purposes of this study, perhaps what is most interesting about the PPPs is the value for money that the companies and their customers have obtained from the contracts. In the early years, the perception was that the PPPs enabled the companies to deliver new investments – and the improvements in service that investment generated – more cheaply than would have otherwise been the case. The Scottish Parliament’s Transport and the Environment Committee found in 2001, for example, that “... PFI has been an appropriate and effective approach in securing completion of the major water industry schemes on which it has been applied to date”.¹³ The Water Industry Commissioner, Alan Sutherland, expressed a similar view in his first strategic review of charges in 2001, stating: “It is therefore possible to conclude that PPP to date in Scotland has delivered some quite significant benefits to customers. These benefits include more timely compliance with the UWWTD and the removal of operating cost and capital delivery risk. Most importantly, customers will actually pay less for the service provided by the PPP contractor than they would have done under traditional procurement.”¹⁴

The success story on the construction side (which reflected Scottish Water’s inefficiency at the time) has, however, sometimes been accompanied by concerns about the long-term costs associated with financing and ongoing operation, particularly in the case of the Scottish PPPs.

- On the financing side, the cost of capital has fallen in recent years, but Scottish Water and NI Water are locked into paying the prevailing cost of capital at the time that the contracts were let.
- In the case of operating costs, both the Water Industry Commission and the Northern Ireland Utility Regulator have found that costs are high relative to companies in England & Wales. Both regulators have also expressed the view that Scottish Water and NI Water, having delivered substantial efficiencies in their businesses in recent years, are probably now capable of operating the transferred assets at a lower cost than they are paying under the PPPs. In Scottish Water’s view that relates, in part, to its ability to, manage assets as part of a portfolio and so share operating costs and performance risk between them.
- As regards service, it is noticeable that the PPP contracts lock the companies into specific ways of working (e.g. incineration of sludge), even as the technologies have moved on. There have also been concerns in Scotland about the performance of certain contractors. Scottish Water itself has said that some of its contracts are not structured in a way that supports its current business plan objectives and that the risk of performance failure is likely to increase as the contracts progress towards their natural ends.

¹³ Transport and the Environment Committee (2001), 9th report.

¹⁴ Water Industry Commissioner for Scotland (2001), Strategic review of charges 2002-06.

- The contractual framework means that change (for instance, to implement new environmental standards), necessarily involves negotiation with PFI providers and is more difficult and expensive to achieve than in the standard company model.

As Alan Sutherland put it in 2006: “We do not have any doubt that the PPP contracts represented good value for money at the time they were concluded. However, ... it is less clear that the PPP contracts represent good value for money for customers today.”¹⁵

It should be noted that this critique is not dissimilar to the evaluation that many other PFI/PPP schemes have received.¹⁶ Often it has been possible to show that the process of competitive tendering leads to the efficient delivery of upfront capital investment. At the point when contracts are signed, there tends also to be an expectation that PPP schemes will minimise whole-life costs as against alternative delivery methods. However, this assessment has sometimes changed within a few years as circumstances change and the entity that has let a contract finds it is locked into fixed payments for fixed service over a long contract duration. With PFI/PPP contracts, by design, typically providing quite limited flexibility, it has not been uncommon to see contracts deemed poor value for money or to hear of frustrations about being trapped in less than ideal relationships with third party service providers.

Specifically in the context of the Scottish Water and NI Water PPPs, both the Water Industry Commission and the Northern Ireland Utility Regulator have from time to time asked whether they should apply some level of efficiency challenge to PPP costs or otherwise pass on only a fraction of charges to customers. In the end, both regulators have recognised that there is no real room for the companies to escape their obligations, and so have provided in full for PPP costs in their price control determinations.

3.2.3 Tideway

The only other substantive innovation in recent years in the financing and delivery of infrastructure projects within the water sector has been the Tideway licence award.

Background information: The Thames Tideway Tunnel is a major new sewer running under the River Thames in London. It is the first and so far only project to be awarded a project licence under the Water Industry (Specified Infrastructure Projects) (English Undertakers) Regulations 2013, as a project that was deemed by the government to be “of a size and complexity that threatens the incumbent undertaker’s [i.e. Thames Water’s] ability to provide service for its customers” and which “is likely to result in better value for money” if delivered by a third party.

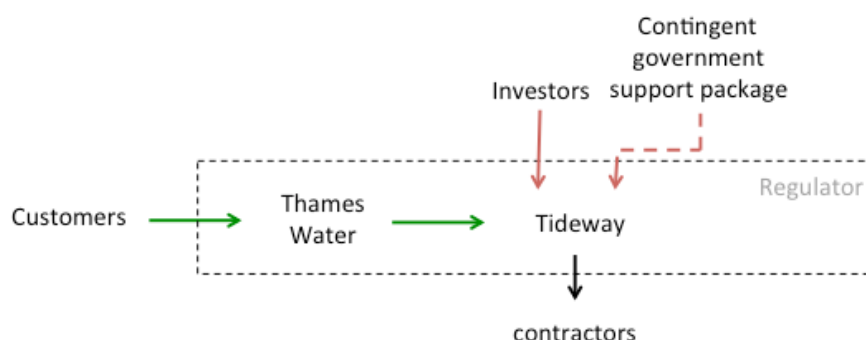
Structure: The financing/funding structure is shown in the chart below. The project is being financed by Bazalgette Tunnel Limited (“Tideway”), a new licensee. The physical work is being carried out by three main contractors under contract to Tideway. The scheme will be paid for over time via an increase in charges levied on Thames Water’s customers, which will pass the additional revenue it collects to Tideway.

¹⁵ Water Industry Commissioner for Scotland (2004), The scope for operating cost efficiency.

¹⁶ See, for example: NAO (2009), Performance of PFI construction; NAO (2011) Lessons from PFI and other projects; and Treasury Committee (2011), Private finance initiative.

In recognition of the risks involved in the project, the government has provided a contingent support package which provides for taxpayer money to be injected into the scheme as additional equity or for the government to make other payments to Tideway in the event that costs over-run beyond an agreed threshold or other defined events occur which threaten the completion of the project.

Figure 6: Tideway structure



Key: funding from customer charges in green; financing from investors in red; contractual payments in black; boundary of economic regulation shown by the dotted line.

Procurement process: Once the government designated the scheme to be a specified infrastructure project under the above-mentioned Regulations, Thames Water, as the incumbent appointee, was required by law to put the project out to competitive tender.

There was a single overarching competition for the right to finance, build, manage and operate the tunnel. The competition focused principally on the returns that bidders would require during the construction period. A consortium of four investors was named in July 2015 as the preferred bidder for the project licence that was then issued in August 2015 by Ofwat.

In parallel with the competition for the project licence, Thames Water elected to run separate competitions and award contracts for the three main packages of construction work and a systems integration contract. Tideway was required to take over these contracts upon licence award.

Duration of licence: The Tideway licence is permanent – i.e. there is no expiry date.

Funding structure: the charges that Tideway levies are regulated by Ofwat. The project licence divides the price control framework into a construction phase, an initial operations phase and a long-term operations phase.

Tideway will accrue an RCV as it incurs expenditure. During the construction phase and an initial operations phase, the company will be permitted to collect annual revenues broadly equal to the value of the RCV multiplied by a weighted average cost of capital (WACC), which has been fixed in line with its owners' bid WACC.¹⁷ These annual revenues index with RPI inflation. There are also rules that will apply if costs overrun, the project is delayed or interest rates change significantly.

¹⁷ The building blocks in the allowed revenue calculation are a return on the RCV, tax, and a liquidity allowance. There are also adjustment /true-up clauses for opex, actual costs/inflation, revenue under-/over-

After completion of the construction and initial operation phases, Ofwat will conduct its first full periodic review of Tideway's revenue requirement. This is currently expected to take effect from 1 April 2030. At this point, the expectation is that Ofwat will reset the allowed rate of return in line with a forward-looking assessment of the risks in the operation of the project and also make new forward-looking allowances for Tideway's ongoing expenditures. There will subsequently be regular periodic reviews, in line with Ofwat's approach elsewhere in the industry.

Evaluation and learning points: The Tideway project is a real-life illustration of how an appointed business has been able to procure the construction and financing of new infrastructure from a third party. It is, however, a case study that is rooted in a set of very specific circumstances that enabled the government to utilise the 2013 Regulations – i.e. it is a project that is “of a size and complexity that threatened the incumbent undertaker's ability to provide service for its customers”. Many of the schemes that Ofwat envisages that companies deliver through direct procurement will not have the same risk profile and, as such, under current legislation, will not be eligible for a stand-alone project licence and cannot be structured in the same way.

Notwithstanding the unique circumstances, there are lessons to be learned from certain of the steps that the government, regulator and company took to achieve value for money for customers.

The first noteworthy feature of the transaction was the maturity of the project at the point when Thames Water went out to tender. The company had not only worked up a design, undertaken some land acquisition and obtained planning permission, it had also created an organisation to deliver the project of some 400 people, inclusive of a Chairman and Chief Executive, and was set to endow that organisation with contractors. This meant that the competition that it ran could focus first and foremost on the cost of the financing, as distinct and separate from the bidders' ability to deliver the construction.¹⁸

From a funding perspective, the price control arrangements devised by Ofwat strike an interesting balance between fixed entitlements and parameters that will be determined later through a regulatory process. In leaving open the level of return that Tideway will earn after 2030, as well as the (likely limited) expenditure allowances during the operational phase of the project, Ofwat has created a degree of flexibility through the project's licence-based structure which contrasts with the more rigid long-term pricing in the contract-based structures deployed in Scotland and Northern Ireland.

Finally, it is evident that all parties took the view that the project should be de-risked before being put to investors, e.g. through the design of the regulatory arrangements and the government support package. The intention was that the project delivery model would appeal to a pool of utility-type investors looking for relatively predictable, returns. Ofwat has held up the bid WACC (2.497% in real, post-tax terms) as evidence of the success of the competitive tender process, but it is hard to know what baseline to compare this figure to and, hence, difficult to judge how much the bid WACC differs from the return that could realistically have been achieved had the parties elected to procure

recovery, and interest rates, and provision for additional return on RCV in the event of significant cost overruns (subject to Ofwat determination),

¹⁸ As noted above, there were separate competitions for major construction contracts.

additional financing for the scheme – as it was ultimately packaged – through the more conventional appointed business model.^{19 20}

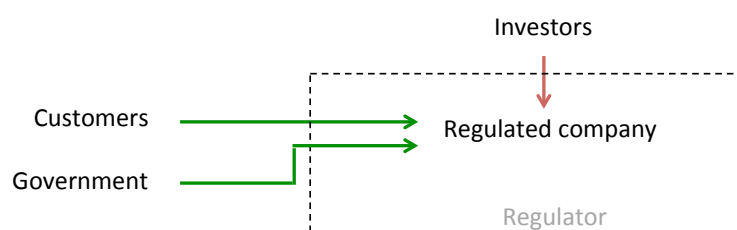
3.2.4 Gas to the West, Northern Ireland

A second example in which new licences have been awarded after a competitive tendering process can be found in Northern Ireland and the new Gas to the West project.

Background information: The project involves extending gas pipelines into areas that have not previously been connected to the gas network. The Northern Ireland government decided in 2013 that there was an economic case for new investment and would make available a small sum of money to improve the commercial case for the project. It was decided from the outset that the investment need not automatically be carried out by one of the incumbent licensed companies, but that there could instead be a process in which new network licences (one for the high pressure transmission network and one for the low pressure distribution network) were awarded via a competition.

Structure: The funding/financing for the new investment is based on the standard regulatory company model, save for the injection of a £32.5m subvention by the Northern Ireland government. The licensee finances the upfront investment and recovers its costs over time through connection charges.

Figure 7: Gas to the West structure



Key: funding from customer charges in green; financing from investors in red; contractual payments in black; boundary of economic regulation shown by the dotted line.

Procurement process: The competition for the new licences was run by the regulator. This necessitated changes to the legal framework for licence applications, in which the Department for Enterprise, Trade and Investment revised the Regulations governing licence awards and specified the criteria that the regulator was to use when assessing bids.²¹

¹⁹ The 3.6% rate of return that Ofwat allows appointed businesses, for example, compensates investors for a different set of risks to that which Tideway is taking on. It also factors in the cost of the embedded debt that companies took on when interest rates were higher than they are today.

²⁰ This issue is discussed further in Oxera (2015), The Thames Tideway Tunnel: returns underwater?

²¹ DETI (2013), Decision paper – gas applications Regulations and published criteria.

The regulator invited applications in 2014 to deliver a fixed network design.²² The applicant information pack called for interested parties to explain how their bids met a number of criteria, including in relation to the financial standing of the applicant, the quality of the business and value for money. Specifically in relation to costs:

- the regulator did not require companies to bid a fixed capex amount, arguing that there was too much uncertainty around costs to hold companies to a fixed price;
- opex was also excluded from the high pressure competition, but for the low pressure applications companies had to bid their opex for years 1-10 of the new 40-year licence period; and
- companies were asked to bid their WACCs for years 1-40 in the case of the high pressure licence and for years 1-10 in the case of the low pressure licence.

The regulator provided indicative amounts and/or roll forward formulae for the parameters that were taken outside of the competition, enabling it to calculate a net present value for each bidder's revenue requirement. Applicants were scored to give more marks to the firms that made the lowest bids.

Five companies participated in the competition. Four already had licensed gas network businesses in Northern Ireland and the fifth was one of the GB licensed companies. The licences were awarded to Northern Ireland Energy Holdings (Mutual Energy) and Scotia Gas Networks.²³

Duration: the licences are for a period of 40 years.

Value: forecast capital investment across the two licences is approximately £150m.

Funding and licence structure: At the time of the licence awards in 2014, the winning bidders' revenue lines were written into new price controls. However, the regulator was clear that the new licensees would be brought into the sector's periodic review processes, starting with the GD17 and GT17 price reviews for gas distribution and gas transmission businesses for the period starting 1 January 2017. The regulator's approach in these reviews has been to respect the outcome of the competitive process, but with a willingness to make incremental adjustments to submitted plans and forecasts where new circumstances and issues have emerged. The flexibility that this provided was something that both company and regulator took advantage of in the now-complete GD17 process and is starting to become apparent once again in the ongoing GT17 process.

Evaluation and learning points: As a relatively recent award, it is difficult at this stage to make an evaluation of the Northern Ireland competition. As far as execution is concerned, we can observe that the process of soliciting applications and evaluating bids appeared to go very smoothly and the actual physical investments in gas pipelines is currently proceeding according to schedule.

3.2.5 Transfer finance operate model: Competition for offshore transmission projects

The other big move towards introducing contestability in the financing of infrastructure projects in the UK's regulated industries has come in Ofgem's work on offshore transmission networks.

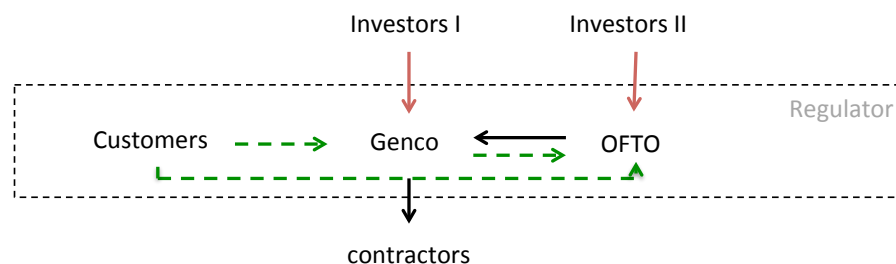
²² Utility Regulator (2013), Gas to the West applicant information pack.

²³ Utility Regulator (2014), Gas to the West licence applications: final decisions.

Background information: The move towards renewable energy has driven multiple new investments in wind farms located off the coast of Great Britain. This triggered Ofgem to think quite carefully about who should be the asset owner/operator of new transmission links, with Ofgem forming the view that it need not be one of the three regional onshore transmission networks (covering England & Wales, the south of Scotland and the north of Scotland respectively), but could instead be a new licensee (an offshore transmission operator or “OFTO”) selected via a competition.

Structure: To date, generators have decided that it is in their best interests to take responsibility for the construction of their own offshore transmission links. The focus has therefore been on transferring built assets to a new owner/operator. Ofgem’s competitions provide for a new licensee to acquire each new offshore transmission link at a price set by the regulator, and take on responsibility from this point onwards for the financing and operation of the assets. The OFTO then collects revenues²⁴ on an annual basis to cover the original investment, financing costs and all expected maintenance and operating costs.

Figure 8: OFTO structure



Key: funding from customer charges in green; financing from investors in red; contractual payments in black; boundary of economic regulation shown by the dotted line.

Procurement process: Ofgem runs the competitions to award new transmission licences. This required the government to enact new legislation, passed in 2004.

Bidders are asked to specify the year 1 revenue and inflation indexation they require (NB: for the early competitions, Ofgem specified that companies would receive full RPI Indexation). Ofgem awards the licence to a compliant bidder according to criteria that take account of net present value of bid revenues and an assessment of the quality of the underlying assumptions.

Duration: The price control arrangements cover a period of 20 years.

Value: The transfer payments made by the new licensees to the generators have been in the range of approximately £50m to £500m.

Funding structure: The winning bid is translated directly into a revenue control that Ofgem writes into the new licence. The expectation is that the licensee will have calculated the revenue amount so that its investment and costs are recovered in full within the 20-year period. The control is not

²⁴ These revenues are paid in the first instance by National Grid. National Grid then recovers the costs from the charges it levies on the generator and retailers under national charging arrangements.

subject to any kind of periodic review – i.e. it is fixed for 20 years, putting risk around financing and operating costs with companies. Ofgem inserts into licences an availability incentive, which provides for a small quantum of revenues bonuses and penalties according to the licensee's performance against an availability target, but the collection of revenues is not otherwise dependent on usage.²⁵

Evaluation and learning points: Ofgem has commissioned two ex post evaluations of the new regime.²⁶ In both cases, the regulator found that competitive tendering of licences was producing better value for money than a range of counterfactuals (ranging from merchant to regulated structures). Ofgem's view has been that savings have been achieved in relation to both financing costs and operating costs. In addition to the competition that comes from tendering, this has been attributed to:²⁷

- the large, new and separable nature of the assets;
- the well-defined contractual and regulatory structure and clarity around risk profile;
- the pipeline of opportunities that there has been, and the way that investors have been able to tighten their pricing as they have become comfortable with the risks and the nature of the assets.

OFTOs also benefitted from the availability of significant quantities of EIB financing.

The OFTO regime was also reviewed by the NAO in 2012²⁸ and the NAO also found that the first round of competitions generally delivered good value for money. The NAO did, however, highlight a number of issues, including:

- high transaction costs – combined costs across Ofgem, the generator and the bidders in the first round of tenders were in the range £7-8m per transaction, equivalent to 7-21% of the value of the assets transferred;
- potential for further reductions in financing costs – investors' expected returns on equity were of the order of 11-12%, which the NAO noted was higher than the returns sought by investors buying into post-construction PFI projects, and could indicate a lack of familiarity with or confidence in the new model;
- risk to consumers – in awarding licensees a fixed revenue entitlement, irrespective of use, Ofgem was transferring risk to users; and
- subjective cost-benefit analysis – the NAO suggested that some of Ofgem's early claims about the benefits its competition had produced might be overstated.

These points highlight some of the issues that the first stages of a direct procurement exercise might encounter and could be relevant to the water sector. Ofgem sought to address a number of these points as it moved from the first round of tenders to the second and third rounds offered between 2013 and 2016. It focused especially on reducing, or at least containing, transaction costs, by setting up an enhanced pre-qualification process that compressed the original shortlisting process.

²⁵ More details of the revenue control design can be found in KPMG (2014), Offshore transmission: an investor perspective – update report.

²⁶ CEPA/BDO (2014), Evaluation of OFTO tender round 1 benefits, and CEPA (2016), Evaluation of OFTO tender round 2 and 3 benefits.

²⁷ *ibid.*

²⁸ NAO (2012), Offshore electricity transmission: a new model for delivering infrastructure.

The evidence is that market appetite for OFTO licences remains strong. Ofgem is currently preparing for the fourth and fifth tender rounds.

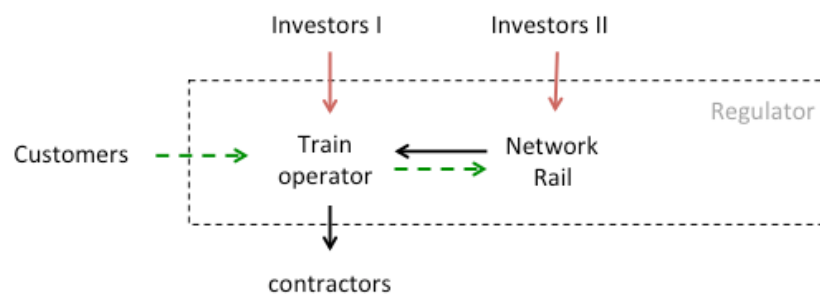
3.2.6 Design Build Finance Transfer model: Third-party investment in rail infrastructure projects

Probably the first UK regulated industry to contemplate the scope for making infrastructure work contestable was rail. The history here goes back more than ten years to the time of Railtrack, and an over-arching sense that it is not obvious that Network Rail (Railtrack's successor company) is the only party capable of delivering large enhancement schemes around the railway.

Background information: The industry regulator, ORR, has invested considerable time over the years in breaking down the barriers around third-party investment and has a policy document²⁹ which provides a starting template which parties can use if they have ideas for new projects, but do not necessarily want Network Rail to deliver a scheme. This framework has so far been used on several occasions by train operating companies – notably Chiltern Railways and Virgin Trains. At the time of writing, there is also considerable interest in the possible ways in which central government might be able to bring third parties in to finance and deliver new upgrades,³⁰ mainly as a response to Network Rail's poor cost performance over the last five years.

Structure: The key feature of the railway's framework for third-party investment is that a third party – in this case, a train operator – is allowed to take responsibility for the construction and initial financing of the project, but on completion sells the finished assets to Network Rail which then integrates the scheme with its infrastructure and operates the assets as part of the national network. This creates the money flows shown below.

Figure 9: The structure of third-party rail investments



Key: funding from customer charges in green; financing from investors in red; contractual payments in black; boundary of economic regulation shown by the dotted line.

Value: the structure has so far been used for schemes with values in the tens of millions or low hundreds of millions.

Funding structure: The annual payments that the train operator makes to Network Rail are written into its regulated track access agreement. In the case of the Chiltern Railways Evergreen 3 project, for example, the agreement specifies that the capital cost is to be depreciated over 30 years and

²⁹ ORR (2010), Investment framework consolidated policy and guidelines.

³⁰ DfT (2016), Shaw report: the future shape and financing of Network Rail.

that Chiltern Railways will cover a return in line with the regulated WACC. Operating and ongoing maintenance costs are covered through the standard national regulatory framework and ORR's periodic reviews of Network Rail's price controls.

Evaluation and learning points: Network Rail is a national monopoly, meaning that the scope for company-to-company, intra-industry benchmarking has not been present and the potential for delivery focused on regional and local customer concerns is attenuated. The motivation in rail is therefore different from that for direct procurement in water in that third-party delivery is intended to reduce construction costs and give the train operator – as the ultimate beneficiary of the investment – greater control over the design and delivery of infrastructure improvements. The quid pro quo is that the train operator takes construction cost risk and must initially put up the capital to pay its contractors.

The most interesting feature of the structure, for the purposes of this study, is the view that Network Rail is also the natural asset owner. Crucially, this stems from an assessment that long-term financing costs will be minimised if the built assets are incorporated into Network Rail's regulatory asset base and financed alongside the rest of the RCV (as opposed to an arrangement in which the train operator retains and finances the assets on its balance sheet).

In order for third-party schemes to proceed, it has therefore been necessary for the train operator and Network Rail to enter into asset purchase contracts. These agreements specify upfront the requirements that Network Rail has as regards certain aspects of design and build quality. They also contain details of the payment to be made by Network Rail to the train operators on handover. To support the asset transfer, the parties have also sought and obtained letters of comfort from ORR outlining ORR's agreement to back-to-back additions to Network Rail's RCV.

Our contacts with the relevant parties indicate a mixed record. Schemes focusing on off-network investments, like car parks and stations, have generally worked well, but more ambitious schemes, involving upgrades to track and signalling, have thrown up challenges around the planning process and the third-party's limited experience of delivering enhancements to the live railway.

There is frustration in some quarters that there have not been more of these schemes elsewhere in the country, but this is probably a function of the short-term franchises that many train operators work under (Chiltern Railways, referred to above, has been the most frequent user of the structure but is unique in having a 20-year franchise, rather than the usual 5-10 years).

3.2.7 Onshore electricity transmission competition

The preceding six case headings are for investments that have already taken place or are taking place. We can also highlight two further sets of ideas that have emerged in recent years in the regulated energy sector.

The first is Ofgem's proposal to build on the success of its offshore transmission competitions by extending competition to onshore transmission projects.

Background: As noted above, offshore transmission connections are very discrete, greenfield assets. Onshore transmission projects tend to bind much more into the existing network. Ofgem has nevertheless identified that there can be projects in which work does not necessarily have to be

carried out by one of the incumbent regional transmission networks. Instead, the construction, financing and operation of new assets could be put out to tender.

Ofgem is therefore planning to hold competitions of this sort for a few large transmission projects over the next few years. It has identified that the work will need to involve the construction of new and separable assets with a capital cost of more than £100m. The current intention is that the competitions, which will be run by Ofgem, will be for new project-specific licences, with stand-alone revenue controls.

For the pilot competitions, Ofgem envisages going to tender after the incumbent network has worked up a detailed design and obtained planning permission for a scheme. The incumbent will be paid for this pre-tender work and may also have to transfer some of its assets over to the new licensee. The incumbent will not, however, be prohibited from bidding for its project, which is causing Ofgem to think hard about the Chinese walls it will have to erect between the planning team and the bidding team.

Ofgem has so far published proposals on project identification criteria, pre-tender obligations and conflict mitigation arrangements.³¹ The next consultation will be on the market offering and the tender process. The first project, likely to be a scheme in Cumbria, could go out tender late this year or early in 2018.

Evaluation and learning points: Ofgem's work in this area is taking a model that has so far applied to the financing and operation of built assets and attempting to apply it to the delivery of brand new projects. This is arguably a better read across to Ofwat's direct procurement, with the notable exception that the onshore transmission competitions are for new licences, not contracts, and will be run by Ofgem, not companies.

At the time of writing, there is not a great deal of further detail to go on, but water companies may be interested to read the rules that Ofgem has said should apply in the event that an incumbent network wishes to bid for a project, which provide, among other things, for: management separation of a 'bidding unit', IT restrictions, employee transfer restrictions, physical space sharing restrictions and financial separation, all supported by licence conditions and a system of independent monitoring.

3.2.8 Tendering for a solution: Shetlands

In a separate initiative, Ofgem and SSE (through its subsidiary SHEPD) are working together on possible ways of ensuring security of supply on the island of Shetland. Ofgem has required SSE to go to competitive tender to identify and procure the least-cost solution to the island's needs.

Background: Shetland is unique because its network is not electrically connected to the grid that operates across Great Britain and the other island groups. The main power station on the island is nearing the end of its operational life and responsibility for ensuring that there is a secure and stable supply of electricity to customers falls to SSE, as the licensed network operator. SSE originally came forward with a plan to build a new power station, but this was rejected by Ofgem in 2013 on the

³¹ Ofgem (2016), Extending competition in electricity transmission – decision on criteria, pre-tender and conflict mitigation arrangements.

grounds of cost. Ofgem instead required the company to run a competitive process to tender for a new energy solution.

It is envisaged that the upcoming competition will encompass an open-ended range of technologies, including generation, storage facilities and demand-side services. Ofgem has appointed an independent auditor to oversee the competitive process. Following the selection of a preferred bidder or bidders, SSE will be required to put a revised plan to Ofgem for regulatory approval. Contracts will be placed only after Ofgem has consented to the scheme and made changes to SSE's licence (e.g. to provide the necessary funding).

At the time of writing, SSE has progressed through a pre-qualification stage but has not yet issued an invitation to tender. It is not, therefore, clear exactly what SSE is going to tender for, although an earlier consultation document indicated that there would be lots divided into reliable availability and energy, intermittent energy, reduction of energy consumption, and additional services.

Evaluation and learning points: although still at an embryonic stage, Ofgem's and SSE's ongoing work highlights that competitions for new infrastructure may be for a solution to a problem rather than a defined project. There are parallels here to Ofwat's thinking on sludge and water resources, but for the purposes of this study, this may also be one final developing template for the way that direct procurement could work for certain types of infrastructure.

3.3 Overview of key learning points

The experiences catalogued in this section span a range of industries, a range of circumstances and a range of structures. We would not wish to suggest that there is a direct read-across from any of the individual case studies to the issues, successes and possible failings that direct procurement will give rise to, but we can start to draw out the following points of interest.

First of all, we can highlight that:

- the idea that third parties can deliver infrastructure projects on or around existing networks is not new;
- there appears to have been considerable interest in such opportunities in the past;
- the third-party investor has not always been an institutional investor or fund, but has sometimes been an existing regulated company (e.g. in the case of the PPPs and the Gas to the West project);
- deal sizes have varied from the very small to very big; and
- the value for money assessment has often been positive, albeit with some exceptions.

This suggests that Ofwat and companies can expect to generate interest in the concept of direct procurement in a water industry setting so long as the lessons of previous exercises have been understood and assimilated and, of course, that there is a firm expectation that such investment represents value for customers.

Looking more closely then at the learning points we tried to draw out:

- Previous exercises have been rooted in a clear sense of the shortcomings with the status quo option and the extent to which value for money comes from the design, construction,

financing and/or the operation of new infrastructure by third parties. This has then driven the detailed design of the structures that we describe in the case studies. As Ofwat and companies develop the idea of direct procurement, it will be similarly important to focus on the problem at hand – e.g. if the key issue is high financing costs, the industry will need to concentrate on identifying better financing options and to avoid direct procurement embracing risks that could compromise that objective; on the other hand, where value to be perceived in other aspects such as design or operation that could argue for broader risk transfer; conversely, if it were agreed that the prize in relation to, say, construction costs is limited, care will need to be taken to ensure that direct procurement structures do not interfere with or diminish the value for money that companies are obtaining from existing supply chain arrangements.

- When they have had a choice, it is clear that regulators and government have looked to bring third-party projects within the scope of regulatory / licensing regimes rather than go down a purely contract-based route. Regulated structures appear, on the evidence set out above, to offer distinct advantages as regards the continuing regulatory oversight of key assets and the separation of a clearly identifiable set of cash flows. There is also a sense a priori that regulated structures are also likely to achieve lower costs of capital than unregulated, commercial structures.
- It is evident that there is not a one-size-fits-all set of rules on the design of price/revenue controls. In fact, looking across our case studies, it is hard to find many points of commonality. This is perhaps an area where the first point we make about knowing the objective is important – i.e. fixing price building blocks through competition makes sense if this is where the value for money is thought to lie; leaving them open to be determined through a regulatory process is possibly more sensible otherwise.
- Where the use of direct procurement has been sector wide, the regulator has taken the lead in defining the product and the approach to market. In the Ofgem case that follows from the nature of the assets. But it also enables a clear process for investors. A more disaggregated approach has in principle the potential for greater innovation and variety but also the practical risk of market indigestion as investors are confronted with different propositions, differently procured and with little if any read-across from one to the other. This will tend to increase transaction costs. There are lessons here, in particular, from early PFI experiences which led ultimately to greater central control and guidance.
- It is interesting that the Scottish Water PPPs are not as well regarded as the other case studies that we presented. This experience would seem to offer warnings about the risks, for certain types of project, of prices moving out of line with costs and a loss of operational flexibility over long contract periods. Similar issues have arisen in some, but not all, PFIs – e.g. in the hospital sector.
- In most other places, the question of if and how the incumbent should be allowed to bid for new projects has not arisen (for a variety of reasons). This will take Ofwat into new territory, albeit with some guidance likely to emerge in the coming months from the Ofgem arrangements for contestable onshore transmission projects.

4. SUITABILITY OF PROJECTS FOR DIRECT PROCUREMENT

Ofwat's Water 2020 documents identify several characteristics that will make projects eligible for direct procurement. Schemes should be: discrete; focused mainly on enhancement; and of high value. On this final point, Ofwat has identified a threshold of costs in excess of £100m in whole-life totex.

We now consider whether these are the right filters to apply.

4.1 Discrete

The requirement that new projects are “discrete” reflects the difficulties that may arise if work carried out by third parties becomes too entangled with other activity:

- construction – if the assets to be built by the third party under direct procurement are either part of a broader package of works or sit in close physical proximity to existing infrastructure, there is a risk that construction will either interfere with other construction or the operation of the existing service. This will make it necessary to define upfront legal/contractual liabilities, which may take time and cost or more generally serve to inject cost and risk into scheme;
- ownership – once a project is completed, if the third party is to have a long-term financing role, it will be necessary to give legal definition to the assets that the third party owns. This will be more burdensome if it is difficult to separate new and existing assets; and
- operation – if the third party is to have responsibility for operating the assets it has built, there will need to be a delineation between the costs of servicing new and existing assets. It should also be possible to identify the level of service that the appointed business obtains from the third party. Both of these things may become quite complicated, and costly, if the new works would naturally be integrated with existing infrastructure.

In specifying that only discrete schemes will be suitable for direct procurement, Ofwat is effectively suggesting that transaction costs of various sorts may be prohibitively expensive if an investment is physically mixed up with existing or other new infrastructure. Conversely, transaction costs are likely to be more manageable when investments are separable from existing assets or can be relatively easily ring fenced.

We think therefore that the discrete criterion is an essential filter to apply to the selection of schemes. It may be that, as noted above, the project need not be discrete in all its facets, simply enough to make it sufficiently discrete to permit a sufficient degree of third party participation to generate added value. We note that Ofgem uses the term “separable” in its work on competition for onshore transmission projects and see a good deal of read-across between the two concepts, despite the different wording.

4.2 Enhancement

The focus on enhancement projects follows to some extent from the need for schemes to be discrete, in that enhancement work is more likely to be separable from existing assets. However, it does give rise to boundary and classification issues of the type that Ofwat has sought to avoid in

recent times and could conceivably lead to an unnecessary narrowing of the scope of direct procurement.

While maintenance projects will often be entangled with existing infrastructure and so not 'discrete', that may not always be the case. From a policy perspective, a discrete, high-value capital maintenance project (e.g. involving the like-for-like replacement of a life-expired asset) does not look very different from a discrete, high-value enhancement project. Insofar as companies have some scope to determine whether a new project is or is not an "enhancement", it would be a concern if the push for direct procurement distorted decision making and caused companies to try and push projects one side of the line or the other, with associated cost implications.

We therefore wonder whether Ofwat needs to talk specifically of enhancement projects, or whether it is sufficient to couch eligibility for direct procurement by reference just to the discrete and high value criteria.

4.3 High value

The need for a project to be of a high value stems from two main considerations:

- first, there will be administrative and transaction costs in setting up new contracts. These costs need to be spread over a sufficiently large expenditure, and consequent cost savings, if there is to be a net benefit to customers; and
- second, there is likely to be less investor appetite for very small schemes as against contracts whose capital value more closely matches the size of infrastructure investments that investors encounter elsewhere and will typically be more interested in.

We note that Ofwat's £100m threshold has been presented to companies as a rule of thumb. The presumption is that schemes with a value in excess of £100m will be big enough to pay for their set-up costs and of sufficient value to attract investor interest. At the same time, Ofwat is not ruling out the possibility that, on deeper analysis, schemes that sit on either side of threshold might be either too complex (even if > £100m) or sufficiently straight-forward (even if < £100m) to make direct procurement a realistic option.

The conversations that we have had with investors as part of this project, the results of which are set out more comprehensively in appendix A, tend to confirm the difficulty of identifying or justifying a rigid cost threshold, although some equity investors have indicated that a deal size of £100m – and, by implication, an equity cheque in the low tens of millions – is likely to be at the lower end of (or below) the range that would be typically be of interest to most equity providers unless, perhaps, it were to be part of a well-structured pipeline of projects that overall justified the time, effort and expense involved.

We have, however, heard a number of people question whether it makes sense to define the threshold in terms of lifetime totex.

There are two main issues.

The first concerns the possibility that Ofwat's threshold will catch schemes with a heavy operating cost element. By way of a simple illustrative example, when read literally, Ofwat's Water 2020

documents seem to say that a scheme containing, say, £20m of capex and £80m of opex would be presumed to be suitable for direct procurement.

To show that this is not just a theoretical possibility, table 2 presents some real-world analysis from Anglian Water (as one of the sponsoring companies for this project) on this point. The table shows how two AMP6 schemes that could exceed a £100m totex value despite exhibiting relatively small upfront capital costs. (The table also shows that some thought needs go into the definition of totex, as regards time horizon and applicable discount rate.)

Table 2: Examples of schemes with whole-life totex > £100m

	Capital costs	Annual O&M costs	Whole-life totex, 40 years	Totex, 25 years	AMP6 totex	NPV of totex, 40 years	NPV of totex, 25 years
Hall water treatment works	50.8	0.7	125.6	91.4	53.1	84.5	72.9
Whitlingham water recycling centre	28.2	1.7	118.2	79.6	32.2	72.3	59.3

Source: information provided by Anglian Water.

Companies that we have spoken to in the course of this project have suggested two possibilities. Either:

- Ofwat has not recognised that its £100m totex threshold will push companies towards direct procurement for projects with a capital cost of (much) less than £100m; or
- Ofwat is signalling that it positively wants opex-intensive schemes to be financed and delivered via direct procurement.

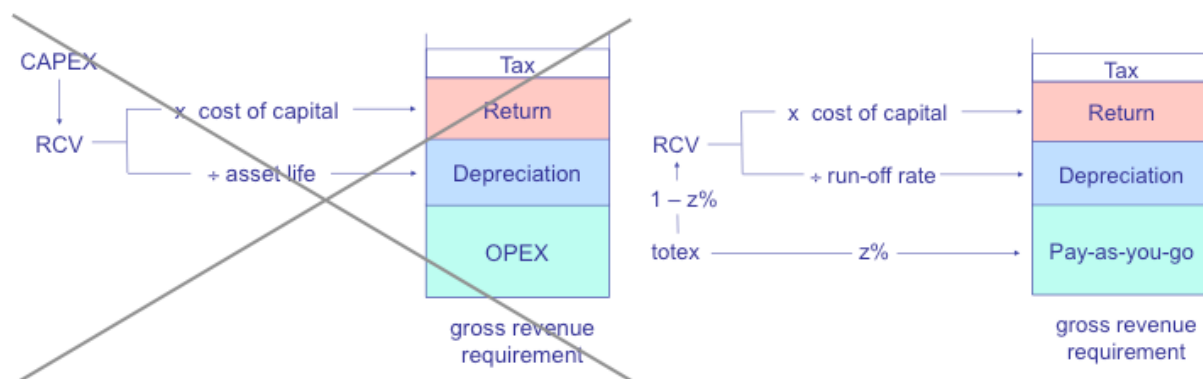
Both of these perspectives are bound up to some extent in the second point we make below about funding arrangements. But both in their own right also suggest cause for concern. In the former case, Ofwat might be targeting direct procurement at schemes that are fundamentally too small. In the latter case, our instincts are that it is going to be a challenge to persuade investors that are used to financing physical infrastructure investment that they should put their money into the financing of operating expenditure (or, for that matter, to persuade customers that there is a need for external financing, which they will ultimately have to pay for). This will likely translate into a smaller investor pool and obstacles to achieving value for money for customers, in comparison to schemes that have a larger investor capital requirement.

The second issue, which is related to the first, is that Ofwat's new totex-centred price control building block³² model provides for each and every item of expenditure to be paid for roughly 50% by 'pay-as-you-go' revenue in the year in which expenditure is incurred and 50% by RCV additions and subsequent depreciation charges. The expectation at least some companies have is that the

³² See section 5.4 in Ofwat (2013), Setting price controls for 2010-15 – final methodology and expectations for companies' business plans.

same funding arrangement would naturally have to apply to schemes that are taken through direct procurement in order to cement Ofwat's policy of making the industry indifferent to the accounting classification that different items of expenditure may be given.

Figure 10: Ofwat's revenue building block calculations



Taken at face value, this means that a scheme with a capital cost of £100m would give rise to a financing requirement of around £50m. This in turn would seem to be too small a value to address the issues around transaction costs and investor appetite identified above.

This is a matter that Ofwat could usefully help to clarify in its next PR19 document. The clear view that we have heard in our conversations for this study is that it is the size of the capital requirement that matters, not the size of a project – something that can be tested further in Ofwat's ongoing engagement with investors. This suggests two options:

- Ofwat could decide that, at the margin, for schemes that are subject to direct procurement, the upfront capital cost of a project should be financed in full by investors, with the funding from customers coming in instalments over the life of the built asset; or
- the view could be that Ofwat needs to stick with its totex cost recovery arrangements and that all new investment will continue to be funded via a mix of 'fast' money and 'slow' money. In this case, our recommendation would be that Ofwat probably needs to increase the £100m threshold to a figure of around £200m so that the financing requirement – i.e. circa £100m – is sized at an appropriate level (notwithstanding the broader point made earlier that £100m in capex terms is likely to be at the lower end of investor interest).

Putting these points together, our overarching view is that defining the threshold at which Ofwat will presume that companies use direct procurement by reference to totex is unnatural and confusing. Investors (and customers) associate financing requirements with investment in physical assets. It follows that the threshold for direct procurement is most naturally defined in these terms and whatever threshold Ofwat ultimately decides could more usefully be defined in terms of upfront investment and therefore upfront investor capital requirement.

5. CANDIDATE STRUCTURES FOR DIRECT PROCUREMENT

Having identified the kinds of projects that are likely to be eligible for direct procurement, and after reflecting on the case studies that we laid out in section 2, we now consider what form(s) of structure Ofwat and companies might seek to place around future direct procurement schemes.

We do this by setting out a series of ‘candidate options’. These are deliberately stylised structures the main purpose of which is to tease out the choices that Ofwat and companies will face – e.g. as regards the transfer of roles from the appointed company to a third party, and the legal framework governing the parties’ responsibilities. We acknowledge from the outset that there are likely to be other ways of combining elements of the models that follow into additional candidate options, many of which will sit somewhere between our stylised structures. We think nevertheless that the seven options that we identify help us to develop a meaningful set of observations and recommendations, whilst also keeping what could otherwise be a very long list of possible approaches manageable.

5.1 Overview

Our candidate options are set out in table 3. In each case, we have tried to think first about what it is that direct procurement might be able to achieve over and above the status quo option of the appointed business delivering a project through a conventional contracting approach. We have then sought to identify a structure that is focused on delivering benefits in these specific areas.

For instance:

- if the thinking is that the main value direct procurement will bring is likely to lie in both the financing and operation of new assets, the appropriate structure might involve a third party taking on responsibility for a defined project on a whole-life basis;
- if there is a view that third parties can also add value to choice of solution that is adopted in the face of an identified problem or challenge, the choice and design of scheme might also be opened up to third parties;
- if, in fact, operation is not a key area of focus, the structure could be one in which a third party sells or leases the assets its builds to the appointed business on completion of construction;
- conversely, if the motivation for direct procurement lies not so much on the construction side, but on securing long-term cheaper finance and lower ongoing operating costs for customers, a possible structure would be for the appointed business to offer a concession-style arrangement to a third party for a specific asset group post-construction; or
- if the feeling is that the benefit of direct procurement is likely to be located even more narrowly in simply obtaining cheaper long-term financing for assets that would otherwise be financed via the RCV, one could envisage a sale and lease back arrangement between a firm and a third party.

Table 3: Candidate options

If the value in direct procurement is thought to lie in ...	Third-party's responsibilities				Description
	D	B	F	O	
Financing, operation		✓	✓	✓	Tendering for an asset (cf onshore transmission model)
Design, financing, operation	✓	✓	✓	✓	Tendering for solutions (cf Shetlands case study)
Initial financing		✓	✓		Build, finance, transfer model (cf rail third-party investments)
Whole-life financing		✓	✓		Long-term construction and lease arrangement
Post-construction financing, operation			✓	✓	Long-term operating concession (cf offshore transmission model)
Post-construction financing			✓		Sale and leaseback arrangement

All of the candidate structures could be implemented via purely contractual means. Alternatively, one could envisage a framework in which the third party also operates under a licence awarded by Ofwat as regulator. This feels like an important dimension not captured in the above table, and so to tease out the issues in this area we:

- assume in the first instance that the six candidate options in table 3 are implemented via both a contract and a licence; then
- extend one of the options as a test case to see how it changes if direct procurement is to be structured solely via a contract. (We could, in theory, explore how each of the six candidate options changes with or without the presence of a licence, but this means an unwieldy doubling of the list of options. To capture the issues we therefore focus on a contract-only version of one of the more expansive candidate options in table 3, i.e. the BFO model.)

Table 3 (cont'd): Candidate options

If the value in direct procurement is thought to lie in ...	Third-party's responsibilities			Description
Financing, operation		✓	✓	PFI-style contract (cf Scottish Water and NI Water)

Additional description of these options is given in sections 5.2 to 5.8 below.

5.2 Build, finance, operate (BFO) structure

The first candidate structure would see the appointed business go out to tender for a scheme at a relatively late stage in its development. It could be, for example, that the competitive process begins when the appointed business has worked up a design for a scheme, obtained planning and other necessary permissions, and undertaken preliminary enabling works. (Note: Ofgem labels this structure a “late build” model.)

From the point of contract award, the chosen third party would be responsible for constructing the assets to a required specification, maintaining the assets in good working order and ensuring that the assets provide a service to the appointed business. The ideal scenario would be that the third party would take on these responsibilities on as close to whole-life basis as is possible, which in practical terms means that it would need to have a contract covering a reasonably long period of time (e.g. 30 years).

The payment structure, and, hence, the allocation of risk between the appointed business and the third party, could, in principle, range anywhere from full cost reimbursement to the payment of a fixed price per unit of service received. To fix ideas, we envisage a structure in which:

- contractual payments are conditional on the availability of the third-party's facilities, product or services;
- the capital cost that the third party can charge to the appointed business is either fixed or set via a ‘target cost’ mechanism to provide for a degree of pain-/gain-sharing between the parties;
- the third party bids a fixed cost of equity for a fixed period of time, while the cost of debt may either be fixed or potentially subject to some form of target cost and adjustment mechanism to mirror prevailing interest rates at the point when the third party issues its debt; and
- there is payment on an annual basis for pre-determined operating cost allowances, possibly split into fixed and variable components to cover off any uncertainty about the volumes that the third party might be required to handle, and possibly also with some degree of pain-/gain-sharing.

As a minimum, the capital cost (or target cost), cost of equity and baseline operating cost components in this set up would be fixed through the competitive process. In practical terms, the individual items need not be separately identified in bids. Rather, bidders could be asked simply to specify the stream of annual payments that they would ask of the appointed business, which would

then award its contract to the bid with the lowest net present value (subject to also passing other requirements around technical/financial standing and deliverability).

For the most part, these arrangements would fit back-to-back with the regulatory rules governing the revenues that the appointed business collects from its customers. The main areas that require further thought are the cost of equity and operating costs, insofar as Ofwat has historically set appointed businesses a new cost of capital and new opex allowances at five-year intervals whereas a BFO contract might conceivably specify the payments that the third party is entitled to receive over a longer period. (We explore this issue more fully in section 7.)

5.3 Design, build, finance, operate (DBFO) structure

The second candidate option extends the third party's role to include the choice and design of the solution to an identified problem – e.g. the need for smart meters or a particular volume of new raw water. The appointed business would therefore go out to tender much earlier than in the first of the candidate options and its ITT would be much more outcome- than input- or output-focused. (Note: Ofgem labels this the “early build” model.)

There again exists a spectrum of possible payment arrangements. As an initial strawman, the terms and risk allocation offered to bidders need not be materially different from the terms that we set out above in the context of the slightly less expansive BFO structure.

Payment would be conditional on the delivery of the assets, product or service that the appointed business ends up procuring.

5.4 Build, finance, transfer (BFT) structure

In a DBFT structure, the third-party takes on the construction of a new facility in much the same way as the two previous candidate options, but the appointed business is responsible for managing and operating the built asset. To support this division of roles, the third party would be in charge of the initial financing, after which it would be bought out by the appointed business, which then provides the long-term financing.

The appointed business would be able to choose how far it is asking the third party to build to a specification and how far bidders have freedom in the choice and design of a solution to an identified problem. In practical terms, however, a company may prefer to put some early boundaries around what it is buying, given that it will be taking over the assets. The financial side of the competition that the appointed business runs would be based around the payment that the third party requires at the point when it hands its scheme over. Bidders would need to factor in their forecast capital costs, plus the cost of their financing plus any additional risk premia. The winning bid would be the proposal that offers the outputs it requires at the lowest cost (subject, as above, to also meeting technical criteria).

This is probably the simplest of the candidate options as far as payment structure is concerned because there would be a one-off transfer price. Other than by exception, the price would be fixed via the competitive process and the third party would take the risk around its construction and financing costs.

5.5 Build, finance, lease structure

Another way of structuring a direct procurement transaction to allow for the incumbent water company to operate the assets after the end of the construction phase, but without stripping the third party of its financing role, is for the third party to lease the built assets to the appointed business. The third party would retain ownership of the assets, but it would not have responsibility for their day-to-day management or upkeep.

The third-party owner would receive an annual lease payment, sufficient to pay for its construction costs and financing costs over time. The amount of this annual lease payment would be the subject of competition between bidders.

5.6 Finance, operate (FO) concession structure

A concession arrangement switches the previous candidate option on its head. In this case, the appointed business carries out the construction of its own reservoir, interconnector or treatment works. At the point of completion, the firm would then hand over responsibility for managing the built asset to a third party. This need not amount to the transfer of ownership. Rather, the appointed business would likely lease its built asset to a third party for a fixed period of time and enter into a back-to-back contract for the use of that asset or a product or a service.

The appointed business would at this point also be able to be able to refinance its investment. It would do this by requiring the third party to make an upfront payment equal to the value of the initial capital cost (e.g. if the appointed business invested £100m, the terms of the contract that it enters into with the third party would require the third party to make a one-off payment at the start of the contract of £100m). The bids that the appointed business would be soliciting from the market would then be for a package combining the cost of (re-)financing the appointed business's investment, the gradual payback of that upfront investment cost and payment for operating the asset.

Apart from the variation that this model provides around the setting of the capital cost, the payment structure need again not be vastly different from the arrangements outlined for the first two candidate options. The cost of equity and fixed/variable opex amounts could be fixed via the competitive process. It may also be appropriate in this structure to lock in the cost of debt, given the greater certainty that there will be about the amount and timing of the financing requirement and the likelihood that the third party will want to lock in to a long-term fixed interest rate. This need not, however, preclude the inclusion of inflation indexation or opex pain-/gain-sharing arrangements.

5.7 Finance only, sale and leaseback structure

Our final candidate option narrows the scope of direct procurement even further by leaving responsibility for the management and operation of all built assets with the appointed business. This confines the job of the third party to one of providing long-term finance only.

In order to secure this financing, the appointed business and the third party would have to enter into an arrangement in which the third party pays a sum of money upfront to the appointed business and in return the appointed business undertakes to make an annual payment, spread over, say, 30 years.

To differentiate this deal from normal borrowing, the appointed business would also transfer ownership of a newly built asset to the third party and immediately lease it back.

Bidders would compete on the size of the annual payment they require in exchange for making a fixed sum of finance available. The annual payment could conceivably be inflation linked.

5.8 Contract-only structure

Our final ‘test case’ of the effects of making the third party a non-licensed entity is a variation on the first of our candidate options.

Much of the write-up in section 5.2 also applies here. The appointed business would once again be responsible for working up the design of a project, and would put out a (say) 30-year contract to build, maintain and operate the scheme. Bidders would compete around the revenues they require.

The only real difference is that the third party’s entitlements and the constraints on its actions and behaviours would be written solely into the contract between the appointed business and the third party. There would be no supporting licence setting out additional regulatory entitlements or conditions.

5.9 Summary

Table 4 overleaf tries to bring out the salient features of our seven candidate structures.

Table 4: Detailed overview of the candidate direct procurement structures

	Legal underpinning	Long-term ownership of assets	Design and planning risk	Construction cost risk	Cost of equity variation risk	Interest rate risk	Opex risk	Service availability / quality risk
0. Status quo	Appointment	Appointed business	Shared between appointed business and customers	Shared between appointed business (and contractors) and customers	Shared between appointed business and customers	Mostly with customers (especially from AMP7 onwards)	Shared between appointed business and customers	With appointed business
1. Build, finance, operate	Contract and licence	Third party	Shared between appointed business and customers	Either with third party or shared between third party (and contractors) and customers	With third party*^	Mostly with customers?	With third party*^	With third party*
2. Design, build, finance, operate	Contract and licence	Third party	With third party*	With third party (and contractors)*	With third party*^	Mostly with customers?	With third party*^	With third party*
3. Build, finance, transfer	Contract and licence	Appointed business	With appointed business	With third party (and contractors)*	Shared between third party, appointed business and customers	Mostly with customers?	Shared between appointed business and customers	With appointed business
4. Build, finance, lease	Contract and licence	Third party	With appointed business	Shared between appointed business (and contractors) and customers	With third party*^	Likely to be negligible	Shared between appointed business and customers	With appointed business
5. Operating concession	Contract and licence	Appointed business	With appointed business	Shared between appointed business (and contractors) and customers	With third party*^	Likely to be negligible	With third party*^	With third party*

6. Finance only, via sale and leaseback	Contract and licence	Third party	With appointed business	With appointed business (and its contractors)	With third party*^	Likely to be negligible	Shared between appointed business and customers	With appointed business
7. Build, finance, operate, without a project licence	Contract	Third party	With appointed business	With third party (and its contractors)	Shareable between licensee and customers	Mostly with customers	Shareable between licensee and customers	With licensee

Notes:

1) The * symbols denote the way in which risk under a purely contractual structure is initially allocated to the third party but can go back to the appointed business in the event that the third party fails. The ^ symbol is to allow for the possibility that there might be a period review, after which risk could be shared with customers.

2) Where the table identifies that risks are currently shared between the appointed business and its customers, or would continue to be shared between the appointed business and its customers, we are referring principally to a) Ofwat's totex sharing rule, which splits under- and over-spending against a target cost allowance on a roughly 50:50 basis and/or b) the effect of Ofwat's regular 5-year periodic reviews.

6. EVALUATION CRITERIA

Our evaluation of the strengths and weaknesses of the structures we have just described is laid out in section 7. Before proceeding to this assessment, we first lay out our evaluation criteria.

As an over-arching point of principle, the most appropriate structure for any scheme will be the structure that offers the best value for money for consumers. The assessment may be different for different schemes, depending on their characteristics. But we can identify upfront the following factors that will typically feed into the deal that customers get:

1. The candidate structure's ability to deliver projects at lower whole-life cost than the conventional regulatory model
2. The level of confidence in the continuity and quality of service to end customers
3. Impacts – either positive or negative – on the incumbent appointed business
4. Other spillover effects elsewhere across the industry (e.g. as regards competition)
5. Compatibility with existing legislation and, hence, the scope for deploying the candidate structure from PR19 onwards as opposed to some later date

We elaborate on each of these points below.

6.1 Lower whole-life cost

The financial cost of a scheme will be a function of its capital cost, its financing costs and its operating costs, including any one-off transaction costs and any ongoing administrative burden. It makes sense to consider each of these elements individually, giving us, in effect, four sub-criteria:

- 1a. Likelihood of achieving lower capital costs
- 1b. Likelihood of obtaining lower financing costs
- 1c. Likelihood of achieving lower operating costs
- 1d. Likely scale of any transaction or administrative costs

In each of these strands, the base case is the status quo option of a project that is delivered by the incumbent appointed business under the conventional regulatory framework. Key questions will be whether the candidate structures can deliver more market-reflective outcomes, where the market is currently least involved, and best enable allocation of risk to the parties best able to manage it.

Care needs to be taken when undertaking this evaluation for two reasons.

First, neither the base case nor the counterfactual are known quantities. For the base case, we will not have perfect foresight of the deal that Ofwat will be able to obtain for customers through a conventional regulatory determination, including, for example, the accuracy of its cost of capital estimates or the level of challenge in its totex allowances. In the case of the counterfactual, it may be difficult to predict how the market will respond to the opportunities that direct procurement offers and, hence, the extent to which competition will reveal a new 'efficiency frontier'. It may also

be difficult to estimate additional transaction and administrative costs, especially where these relate to unknown, uncertain changes to contracts in the future.

These difficulties are further compounded by not having specific schemes, with their specific characteristics, in front of us.

Second, the comparison between the status quo and the direct procurement options needs to be handled with greater care than it may first appear. For one thing, in some of the candidate options the allocation of risk between customers and the industry may differ from the status quo option. This will naturally have an implication for cost (but not necessarily for value for money). More fundamentally, it is not always obvious how to make a comparison between the cost of the marginal project in a conventional regulatory determination and the cost of a marginal project that is delivered by direct procurement. This is particularly the case when it comes to the cost of capital, as we outline in the box below.

Box 1

Ofwat has a standing policy of applying a single industry-wide rate of return to all of the water and sewerage companies' RCVs.

This single rate of return, by design, remunerates the risk that equity providers are taking across the whole of the appointed business. It also contains a weighted average of the cost of (currently more expensive) embedded debt and the cost of (currently cheaper) new debt, where the weights mirror the expected amounts of existing and new debt at the overall industry level.

As a default, a marginal investment project delivered by conventional means would be rewarded at the industry-wide rate of return. But if we ask what is the cost of the additional capital the company has to find in order to finance the investment, it is not at all obvious that the figure in question is the Ofwat rate of return. As a minimum, the cost of any additional debt financing will be the prevailing cost of debt (the cost of embedded debt will have no relevance). It could also be that equity providers see different risk, and hence would be satisfied, at the margin, with a different level of return from that which is provided for within the industry rate of return. This may be of particular relevance where the regulatory or contractual terms applying to the third party investment differ markedly (in relation, for example, to length for which returns and/or other cost elements are fixed).

If direct procurement is successful in isolating and revealing the cost of additional capital, it may well be that one ends up in a situation where investors are asking for a return that sits a distance away from the industry-wide rate of return. But this would not necessarily mean that the third party has markedly different financing costs than the incumbent. A like-for-like comparison would look at the third party's declared financing costs vs the incumbent's marginal cost of capital (which may be higher or lower than the industry WACC, depending on the factors set out above).

This would tend to suggest that Ofwat ought to disaggregate the overall sector WACC so as explicitly to identify, ahead of companies' consideration of direct procurement options, a separate marginal rate of return for marginal, large, discrete investment projects. We return to this thought in section 8.

6.2 Continuity and quality of service

From the customer's perspective, the impact that direct procurement has on prices is clearly of great importance, but it is not the only consideration. If direct procurement were to lead to an improvement in service quality, customers might be content to pay slightly more. Conversely, if lower prices were to be accompanied by a higher risk of service interruption or of deterioration in service quality, it could be that customers would end up worse off even if they are paying less.

A key issue here that we see here will be the fragmentation and extra interface that our candidate options introduce. In an ideal world, this extra interface can impose no disruption. But where this is not the case, all parties will need to understand the new risks that a separation of responsibilities between an appointed business and a third-party provider creates.

6.3 Impact on incumbent company

Evaluation criteria that focus only on the cost of an individual project could also miss knock-on effects that the candidate options have on the rest of the appointed business. This is one of the questions that companies and investors have flagged to us in the course of the project – i.e. does direct procurement make existing shareholders or lenders worse off, as regards the attractiveness or sustainability of the core business. We also need to consider the alternative possibility – i.e. that direct procurement could, in some circumstances, make existing investors better off.

In either case, the presumption might be that there will be a flow through of costs or benefits to customers in due course.

6.4 Other spillover benefits

There might also be spillovers more generally to behaviours elsewhere in the industry. Part of the rationale for direct procurement is that it will bring market disciplines to bear on projects and spur innovation. The benefits need not necessarily be confined to the scheme in question. If direct procurement is recognised as pushing forward the boundaries of good industry practice, there might be an expectation that other firms will capture some of the learning. Similarly, the injection of new players into the industry, or of competition between companies, could in certain circumstances create new pressures on firms.

6.5 Compatibility with existing legislation

Our final criterion looks at the implementability of the candidate options. This reflects the interest there is at the moment in the scope for bringing direct procurement into Ofwat's next periodic review, PR19.

However, we also think that it is important to look at the full range of possible direct procurement structures and not rule out options because they are not compatible with existing legislation. This means that our work can inform not just the next periodic review but also the long-term direction of travel ahead of PR24 and PR29 (or possibly even an industry push to change the legislation in time for implementation in AMP7).

7. EVALUATION

Our assessment of the candidate structures is as follows.

We first consider the structures that are underpinned by both a contract and a licence.

7.1 Ability to deliver projects at lower whole-life cost than the conventional regulatory model

The impact that direct procurement will have on customers' bills will likely vary according to the character of the individual project / assets in each individual transaction. It is possible, however, to make the following over-arching observations.

In relation to *financing costs*, Ofwat's hypothesis has been that putting the financing of investment out to competitive tender will lead to lower allowed rates of return. The conversations that we have had as part of this project suggest that it is possible for benefits for customers to emerge from two related effects:

- first, tendering is a way of addressing the information asymmetry that Ofwat faces at the time of a price review when it comes to estimate the cost of capital (albeit in relation to a relatively small proportion of companies' expenditure); and
- more than that, a competitive process may also force investors to think more deeply about their costs of capital and mean that investors get comfortable with returns that they might otherwise not have contemplated.

Another way of making the same point is to note that shareholders in a number of sectors have created considerable value in recent times by auctioning off equity stakes to the highest bidders. Direct procurement would ideally capture for these projects the same competitive forces but for the benefit of customers rather than owners.

It would seem to follow, therefore, that direct procurement would ideally provide for competition around financing over as long a time horizon as possible, so as to maximise the benefit for customers. This implies that structures which provide for financing costs to be put out to tender on a whole-life basis are likely to be superior to structures which focus only on the relatively short initial construction financing.

There are, however, some important qualifications to this overall line of argument.

- First of all, the financing benefit is likely to be confined to the cost of equity capital. We have encountered nothing in this study that makes us think that third parties can do better than incumbent appointed businesses when auctioning new debt. Indeed, the evidence is that regulated water companies at present enjoy something of a 'halo' compared to other issuers with the same underlying credit quality, meaning that third-party-issued debt might well come in at a premium to appointed business's debt.
- Second, as a more general point, the scale of any gains around financing costs cannot be looked at in isolation from any transfer of risk that direct procurement entails. This takes us back to one of the points that we made in Box 1. A lower cost of capital brought about by the transfer of risk away from investors and onto customers does not in itself equate to better

value for money. Unless direct procurement is the key to unlocking a better allocation of risk, it is only the portion of any reduction in allowed rates of return that is not derived from a change in risk that can be deemed a genuine benefit for customers.

- Third, direct procurements could initially be hampered by a novelty effect, with equity investors being unsure quite how to evaluate the deals they are being asked to sign up to. In section 8 we look at ways in which companies and regulator might seek to minimise this novelty effect through standardisation and other actions, but it is unlikely that the cost impact can be completely eliminated, at least in the short term.
- Fourth and finally, and building from the previous points, the scale of the financing benefit cannot be looked at in isolation from the scale and complexity of what is being asked of third parties as regards design, construction and operation. As a general rule, the more that third parties are expected to show innovation and creativity, and take risk around their ideas, the more they will want compensating reward and returns will shift up and start to erode the initial gains that competitive tendering can be expected to produce.

This is not to say, however, that the optimal candidate structure is one in which third parties take on a financing-only role.

- When it comes to *design*, there may be some schemes where costs can be reduced if companies were to compete around the technical solutions to particular problems (e.g. the question of how best to connect two currently separate networks). This is part of Ofwat's logic for its separate proposals for sludge and water resources, and it may be that there are some instances where the same principle has wider applicability within the new network plus businesses. Set against this, putting design (which may involve associated planning risk) out to tender adds complexity as regards the need for water industry expertise and managing multiple stakeholders in the planning and implementation of projects. These things could act as a deterrent to bidders with primarily a financial interest in water industry assets and/or have adverse consequences for financing costs.
- There is a perception within the sector that existing tendering and alliancing frameworks already achieve low costs, and that direct procurement is not likely to generate material *construction cost* savings. However, even from this strong starting position, it may be that the focus that comes from separating an atypical scheme and putting it into a stand-alone contract with a new stand-alone management team increases disciplines around planning, risk management and delivery. Set against this, it could also be that pulling one project out from a wider portfolio of projects results in a loss of economies of scale (e.g. as regards the dilution of the buyer's purchasing power with the contractor market and from managing delivery across a portfolio of projects).
- Current industry practice sees less in the way of *operating costs* being fixed through competitive tendering. Transferring responsibility for operation as part of a direct procurement could therefore expand the role of the market in revealing efficient costs. However, tendering for opex may not be appropriate when it makes operational sense for an

incumbent company to manage a completed scheme as part of a single integrated network of assets. And there may be other cases in which there are lost economies of scale when multiple firms take responsibility for the upkeep of multiple, similar assets. In such circumstances projects may be separable or discrete (in terms of Ofwat's criterion) but it may not in opex terms make economic sense to separate them.

These things imply that the scope for savings in the areas of design, construction and operation, and hence the case for designing a structure which brings market forces to bear in these three areas, will vary on a case-by-case basis. Transaction costs will also vary from project to project, albeit with a certain amount of fixed cost in any deal and a general upward drift in cost as more and more complexity is layered on to what could otherwise be a more straight-forward competition around financing costs.

As a result, we find it quite difficult to make any general observations about the comparative suitability of our candidate structures. Rather than deem one structure to be clearly superior to the others, we can highlight once again to the observation that we made in section 5 and elsewhere about needing to know first where the value for money for customers in a direct procurement is likely to come from, having regard to the specific characteristics of each individual scheme, and then designing the structure to capture the prize for consumers.

7.2 Confidence in quality and continuity of service

In the same way that separating an asset out might lead to more focus on the management of risk and the delivery of schemes during the construction phase of a project, it could also be that separation leads to higher standards of service quality during the operational phase. However, there is a danger that the creation of a separately owned asset could lead to a fragmentation of responsibility for service delivery and less accountability to customers. (NB: the rail industry is an often-cited example of how fragmentation can lead to lower service quality.)

This arguably makes structures in which responsibility for operation sits with a third party a more risky alternative to the status quo. However, when one looks at the candidate structures with a tick in the 'O' box, it is important to consider exactly which responsibilities would transfer to the third party and which will remain with the incumbent appointed business. The Tideway experience is instructive in this regard insofar as it has been decided that Tideway will be responsible for maintaining the structure of the tunnel while day-to-day operational responsibility for operating the asset will sit with Thames Water. It is perfectly possible, therefore, to envisage some aspects of operation could be placed with a third party in a long-term contract, while other functions remain with the appointed business.

We therefore lean again towards the conclusion that different structures may be appropriate for different schemes. In some cases, it will make sense for the third party to sell or lease a completed asset to the incumbent company to operate. In other cases, the physical character of the network might allow for structures in which the third party can be the operator without presenting any significant threat to the quality or continuity of services.

7.3 Impact on the incumbent company

The corollary of more focused management of individual projects is that the management of the appointed business can also be more focused on their core activities without the distraction of overseeing a large, potentially atypical project.

On the downside, we suggested in section 7.1 that the splitting of responsibilities for construction and operation could lead to the loss of economies of scale across a portfolio of similar activity. A division of responsibilities for design and day-to-day operation could also potentially be uncomfortable for the appointed business to accommodate, as the entity that has ultimate responsibility for delivering a service to end customers.

As far as financing costs are concerned, there is potential for the incumbent company to make money or lose money if it transfers responsibility for financing a noticeably high-risk scheme or a noticeably low risk scheme while the rest of its investment programme continues to attract the standard industry-wide WACC. Conversely, customers may win or lose in the short term. But there is likely to be a loss to all unless the sector WACC, when reset, reflects the new disposition of risk.

Investors have also highlighted to us the cost that there may be in lost RCV growth, although it is not entirely clear why RCV growth is always a good thing (or, for that matter, why direct procurement should not lead to appointed businesses bidding for other firms' projects and securing capital growth via a different means – see section 8).

All of these things make it difficult to determine that any one candidate structure unambiguously has more positives or more negatives than the other structures.

7.4 'Spillover' benefits

The spillover benefits that we referred to in section 6 are most likely to emerge if direct procurement brings new, long-term players into the sector, with different ideas or imperatives from established companies when it comes to the ways of addressing the challenges that there are within the sector. There may, for example, be advantages if third parties take over responsibility for shared investments, where there may be conflicting company interests and potential for a third party to make faster progress, or if direct procurement results in assets with a national, market-wide importance going into independent ownership and operation.

Accordingly, candidate structures in which the third party takes some form of enduring role look more promising than structures in which the third party exits the industry after construction or has only a residual financial interest in built assets. However, even here, the characteristics of specific schemes are likely to be important. From our perspective, it is easier to envisage how separate, stand-alone ownership of, say, interconnectors could have spillover benefits in the market for water trading than it is to see how the separate, stand-alone ownership of, say, treatment works would bring about change in mindsets and behaviours.

Aside from this effect, the learnings from competition could spill over into appointed companies' own construction programmes, especially if bidders are encouraged to show innovation in design and alliancing arrangements or incumbents themselves compete with one another and third parties for out of area business. More generally, the potential for investments to go down the direct

procurement route removes automatic RCV growth and so may reinforce companies' questioning of such investment. However, these benefits are of a general nature and do not look to be specific to any one of our candidate structures.

Inevitably, how far such spillover effects manifest themselves depends on the extent of direct procurement and how it evolves over time. They are speculative. They would not of themselves constitute a basis for determining that there is a preferred structure but may add qualitative colour to a course of action otherwise justified quantitatively.

7.5 Summary

The only conclusion that we feel comfortable drawing from this discussion to this point relates to the apparent sub-optimality of two of the candidate structures:

- the build, finance, transfer model; and
- a sale and leaseback arrangement.

In the former case, a requirement that the third party sells the assets it has built to the appointed business on completion of construction would extinguish the third-party financing and confines the benefits of competition to a very short period of time (i.e. the construction period only). For the types and size of scheme that are likely to be taken forward through a direct procurement, this creates a danger that the cost savings (if they can even be identified and measured) will be insufficient to pay for the higher transaction costs.

In the case of a sale and leaseback arrangement, an appointed business may be able to secure financing for a much longer period of time. However, the transfer of risk to the third party is likely so minimal as to make the financing in question primarily debt financing. In effect, a sale and leaseback arrangement ends up looking like little more than a different way for the appointed business to raise additional borrowing and it is unclear to us why a company would thereby reduce its financing costs below the costs it can achieve anyway in a new bond issue or debt placement.

This leaves the other four candidates structures as options that are likely to vary in suitability depending on the characteristics of individual schemes, with no real way of choosing between them without considering the nature of a project in greater detail. This is drawn out in the examples in Box 2.

Box 2

We can illustrate how some of our candidate structures could potentially apply to four stylised project types:

- a new interconnector;
- a new treatment works;
- a new reservoir; and
- a new smart metering programme.

1. Interconnector

Description of asset: a new pipeline which connects two hitherto separate networks and allows water be transferred from one company to another company.

Design: the technical design of a new pipeline need not in itself be particularly challenging. However, care will be needed when deciding the exact route that the pipeline will take and when negotiating with land owners and local authorities. The appointed business is likely possess longstanding relationships with local stakeholders which may be of value in persuading them of the case for the investment. The incumbent water company may also feel that there are reputational risks at this point which it ought to step up and manage. Third parties may not feel comfortable taking on a scheme before permission to build is obtained (i.e. before there is a bankable revenue stream).

Construction: the cost risk in building an interconnector scheme looks to be similar to any large project that a water company takes on. There might, in principle, be economies of scale and scope in leaving the scheme as part of a water company's portfolio of projects.

Operation: Day-to-day operating costs are likely to be very low. A pipeline would be discrete and, to a large extent, separable from the existing network. From a technical point of view, there is not an obvious barrier to putting the operation of the interconnector in the hands of a third party (given the need anyway to manage interfaces between companies).

Other comments: placing the ownership and operation of the interconnector into the hands of an independent third party, with an interest in maximising the use of the asset and in the role that interconnectors can play in the industry more generally, may also help to facilitate water trading and upstream competition.

Possible models: a new interconnector may be built, financed and operated by a third party. Alternatively or additionally, the optimal structure could involve two or more companies placing their own built assets in the hands of a third party via a concession arrangement.

Table B1: Possible structure for interconnector schemes

Value in direct procurement is likely to primarily in ...	Third-party's responsibilities				Description
	D	B	F	O	
Construction, ownership/financing, operation		✓	✓	✓	Build, finance, operate model

Ownership/financing, operation			✓	✓	Long-term operating concession
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2. Treatment works

Description of asset: either a new drinking water treatment works or sewage treatment works.

Design: the technical design of a new plant will have to satisfy DWI/EA and other regulations. There may be some opportunity to minimise costs (both capital and operating) through innovative design. Choice of location would fall most naturally to the appointed business.

Construction: the challenge and cost risk in building a treatment works looks to be similar to other projects that a water company takes on, albeit at a larger monetary value.

Operation: the new plant will likely be operated alongside several existing plants. In some cases, it may make sense for the appointed company to operate all plants as a portfolio, both from a technical point of view and for reasons of economies of scale. Putting responsibility for operation with the appointed business also smooths the path towards technical and quality upgrades over the life of the asset.

Other comments: the consequences of a performance failure can be severe, including from a financial point of view, and this risk is more easily absorbed and managed within a large company and a portfolio of assets. Customers may also wish to see that there is a single point of responsibility performance rather than a fragmentation of roles.

Possible model: the factors identified point in the direction of the incumbent company taking responsibility for the operation of the plant once built. The optimal structure could be a construction and long-term lease arrangement.

Table B2: Possible structure for treatment works schemes

Value in direct procurement is likely to primarily in ...	Third-party's responsibilities				Description
	D	B	F	O	
Financing		✓	✓		Construction and long-term lease arrangement

3. Reservoir

Description of asset: a new reservoir.

Design: as in the case of an interconnector, it may not be straight-forward to obtain consent for a new reservoir under the DCO process. This points in the direction of the incumbent company shepherding its scheme through the planning process and going out to tender with an approved design. Subsequent detailed design could be put to the market.

Construction: few water companies have experience of building a new reservoir. It is also not obvious that there are economies of scale or scope with the other work that a company will be

taking on. As an atypical kind of project, there may be benefits in relation to both cost and delivery in putting construction in the hands of a dedicated management team.

Operation: once built, the reservoir would be a discrete asset. Ongoing maintenance requirements will not be insignificant. There may be revenue opportunities for the owner/operator to exploit, with potential spillover benefits (e.g. in relation to water trading).

Other comments: it could be that the resource is used by multiple water companies, which would point anyway to a separation of responsibilities.

Possible model: build, finance, operate structure

Table B3: Possible structure for a new reservoir

Value in direct procurement is likely to primarily in ...	Third-party's responsibilities				Description
	D	B	F	O	
Financing		✓	✓	✓	Build, finance, operate model

4. Metering programme

Description of asset: a new metering programme through which the meters at certain customers' premises are replaced with new smart meters.

Design: for IT projects, companies often go out to tender for a solution to a defined problem and let the market decide on the most appropriate technical specification. This can create value around functionality and cost.

Construction: the third party is likely to buy meters from a separate manufacturer. 'Construction' is the job of installing the purchased meter in place of the customer's existing meter, and is unlike the other construction work that the water company will be taking on.

Operation: the technical day-to-day operation of a new metering system is likely to be bound together with the technical design of the meters. The appointed business will have a strong interest in smooth operation, given that metering provides the firm's revenue base.

Other comments: metering is already a contestable activity in the electricity and gas sectors.

Possible model: a design, build, finance, operate model.

Table B4: Possible structure for a smart metering programme

Value in direct procurement is likely to primarily in ...	Third-party's responsibilities				Description
	D	B	F	O	
Design, financing, operation	✓	✓	✓	✓	Design, build, finance, operate model

7.6 Licence vs contract

The assumption throughout the preceding analysis has been that direct procurement would be supported by the award of a licence to the new asset owner/operator. As we noted in section 2, this is not the basis of Ofwat's direct procurement proposals.

Our final candidate model was set up to draw out precisely the consequences of structuring a transaction solely via a contract with no underpinning project licence. It is to this assessment that we now turn.

Compatibility with the existing legislative framework

The first point to make is that it does not appear that existing legislation enables Ofwat to issue stand-alone project licences to support direct procurements. The Water Industry Act currently provides for three main kinds of licensed entity:

- the businesses that are appointed by government or Ofwat to be designated providers of water or sewerage services to customers in a specified geographical area of the country;
- suppliers of water and sewerage retail services to non-household customers; and
- infrastructure providers that take over a project from an appointed business on account of the threat that the size and complexity of the project pose to the appointee's ability to provide services for its customers.

A party that is contracted to design, build, finance and/or operate a new scheme via a direct procurement does not obviously fall into any of these categories. Licence-anchored direct procurement structures therefore appear to fall down against our final criterion of deliverability.

Counterparty risk

The absence of a project licence would have implications for financing and potentially for the value that might be extracted for customers from a direct procurement. Under a licensed structure, as applies to, say, Tideway and to the OFTOs, the licensee can, in effect, be given a direct lien on the customer base that they serve. Allowed revenues may be collected by the incumbent company (in these cases Thames Water and the National Grid system operator) for reasons of efficient administration, but they are effectively ring-fenced and, crucially, the third parties' entitlement to payment is not tied up with the solvency or creditworthiness of any other business. The incumbent company simply offers a transmission mechanism.

On first inspection, the position under a purely contractual arrangement is very different. The third party in this structure will directly rely on the appointed business – i.e. its customer – for its revenues and is effectively its conduit to end consumers. This means that investors are exposed to credit risk on the contracting company, since, in extremis, a contract would not survive the administration of the appointed business and/or the loss of its appointment. This has implications for the value that might be extracted for the consumer from direct procurement because the water company's own credit rating will effectively represent a ceiling on the rating that is attached to any debt raised by the third party. Equity investors too will be concerned about counterparty risk because any failure on the part of the appointed business will increase risks to equity returns.

However remote the risk of a default eventuality might look, it presents a source of risk which is not present in a licence-based model.

This looks to us like it could have a marked impact on the financing benefits that direct procurement might otherwise be capable of delivering, and is a matter that we think Ofwat's consultant, KPMG, could consider more fully with Ofwat as part of its planned programme of investor contacts.

Ofwat's powers

The disadvantages that are created by the absence of a licence in any case extend beyond financing costs. Without a project licence, Ofwat cannot directly regulate the actions and behaviours of the owner/operator of what will typically be a piece of essential infrastructure. In particular, Ofwat loses the toolkit that the Water Industry Act gives it in relation to:

- the imposition of conditions on the asset owner/operator;
- the modification of those conditions over time (subject to the company's right of appeal to the CMA);
- a legal route for enforcing compliance with Ofwat's conditions, leading ultimately to the possibility that an errant firm can be stripped of its licence;
- the right to impose financial penalties in response to non-compliance; and
- the framework of special administration for insolvent licensees.

As a general statement of principle, a purely contract-based framework puts investments outside of the normal regulatory regime and would appear to weaken Ofwat's ability to protect customers during events of performance failures and especially financial failure (where direct procurement might be seen as potentially frustrating Parliament's intention to place a higher level of insurance around the continuity of service from critical assets).

Scope for Ofwat to carry out price reviews / resets

One additional observation is that a licence opens up the possibility that Ofwat might conduct periodic reviews of the asset owner/operator's revenues. (By way of illustration, the competition in a direct procurement exercise that is underpinned by a licence could fix the return on equity or an allowance for ongoing operating costs for less than the full duration of the contract (e.g. an initial period of ten years), with an understanding that Ofwat will conduct reviews of certain of the parameters feeding into contractual payments at pre-determined intervals from that point onwards.) This is a flexibility that might be valued by either the third party or customers or both, given the uncertainties that there can be about costs over the life of an asset.

A licence also puts the regulator in the driving seat at the point where the initial contract between the appointed business and the third party ends and questions might otherwise arise about what happens to the assets (if they are not already life-expired).

Contracts can also be written to include break points and review mechanisms. But our understanding of the legal position is that Ofwat would not have the vires to insert itself in the commercial arrangements between two contracting parties, or to direct the parties to enter into a new contract, absent the underpinning of licences on both sides.

Summary

Table 5 summarises the differences between a licence-based approach and a purely contractual approach.

Table 5: Licence vs contract

Licence-anchored approach	Contract-only approach
Ofwat has a direct relationship with the asset owner	Ofwat would not be directly regulating the owner of a key piece of infrastructure
Ofwat can use the full Water Industry Act toolkit (licence, enforcement, financial penalties, etc.) to remedy poor performance on the part of the asset owner/manager	Ofwat must direct its regulatory actions at the appointed business, as the contractual partner to the infrastructure owner, whose own rights may themselves be constrained by the contractual structure
The Water Industry Act special administration regime applies	The infrastructure owner would sit outside the scope of the Water Industry Act special administration regime
The licence can be used to create an entitlement to be paid by customers	Customer funding would be channelled through the appointed business, and payment would depend on the appointed business's creditworthiness
Ofwat can conduct periodic reviews of payments due to the asset owner, subject to a right of appeal to the CMA	Ofwat cannot directly adjust the payment terms in the contract
Licences can be awarded for an indefinite period	Contracts have end dates

The differences that we draw out above are not incidental or peripheral to the assessment of the value for money that direct procurement can achieve. There might therefore be a shared desire to devise patches, either in the appointed business's licence or the contract between the parties or both, which plug some of the holes identified in the table and put the contract-only approach on as close a footing as possible to the licence-anchored approach.

Some initial thoughts on what the mitigating actions might be are given in Box 3 below.

Box 3

Counterparty risk

Ofwat could insert terms in the appointed business's licence requiring it to pay the amounts specified in its direct procurement contracts

Payment would become a licence obligation as well as a contractual obligation

However, the third party's investors would need to be convinced that Ofwat would enforce the obligation in the event of the appointed business's administration and transfer the

	condition over to the licence of any replacement appointee
Regulatory enforcement	
Ofwat could place a licence condition on the appointed business requiring it to insert and enforce terms in its direct procurement contract which replicate as far as possible a) standard industry licence conditions and b) the enforcement powers that Ofwat has under the Water Industry Act	<p>In the immediate face of performance failure, the third party would face the same sanctions that a licensed business would face</p> <p><i>However</i>, the ultimate sanctions that are available to Ofwat under the Water Industry Act – e.g. stripping the firm of its licence, special administration – might not be available to the appointed business. The third party would not have the rights of appeal that the Water Industry Act affords.</p>
Insolvency risk	
Ofwat could devise a licence condition that requires the appointed business to insert and enforce terms in its contract which provide for assets to transfer to the appointed business when specified financial ‘trigger events’ occur	<p>Subject to being able to pass detailed stress testing, the arrangement might prevent the third party going into a normal Insolvency Act administration.</p> <p><i>However</i>, the design of the trigger events and the calculation of the transfer price would require careful calibration if they are to be neither advantageous nor disadvantageous to the third party (with consequent impact on financing costs and risk transfer to customers).</p>
Price review powers	
Ofwat could insert a term into the appointed business’s licence requiring it to make payments to the third party only on terms determined by Ofwat. The direct procurement contract could be written to fit back-to-back with this arrangement.	<p>The arrangement would, to all intents and purposes, give Ofwat the ability to carry out periodic reviews of the third party’s revenues.</p> <p><i>However</i>, Ofwat’s Water Industry Act duties would be directed at the position of the appointed business only. The third party would not have a right of appeal to the CMA</p>

Our initial assessment of the above sorts of measures is that they help to improve the design of a contract-only option, for the benefit of customers, but that gaps to the licence-anchored structure remain. As a minimum it should be clear that structures which are underpinned by both a licence and a contract are ‘first best’ and structures which are built solely on a contractual relationship are ‘second best’. In our opinion, there is then a real question mark about whether a purely contractual

set-up, even if it contains patches designed to remedy as many of the deficiencies we have identified as possible, is likely to deliver better value for money than the status quo option of own-delivery by the appointed business – an area that we consider in more detail in the next section.

For the purposes of our comparative evaluation of structures, we have identified concerns that the contract-only structure falls short relative to the licence-based structure against:

- ability to deliver value for money for customers, particularly in the area of financing costs; and
- confidence in the quality and continuity of service.

This assessment is likely to affect how such structures are used, which we deal with in section 8.

8. CONCLUSIONS AND RECOMMENDATIONS

In the preceding sections of this report we have analysed, and drawn lessons from, experience of third-party involvement in the provision of infrastructure in other regulated sectors, set out potential models for such involvement in the water sector and evaluated those against a number of criteria focused on customer bills, continuity and quality of service, spillover effects and impact on incumbent companies. We have identified that there are a range of models which, subject to further testing and assessment against Ofwat's objectives, could meet the needs of the sector for PR19 as the first price control in which this new approach might be applied.

In this section of the report we draw together the various strands of analysis to conclude on the issues that have been raised in the study by investors, companies and experience elsewhere so as to identify:

- further work that will need to be done by companies and Ofwat, particularly the consultants Ofwat has recently engaged to undertake a detailed survey of investors; and
- directions in which that further work looks likely to lead.

8.1 Assessment of candidate structures

Our terms of reference asked us to identify possible models that could be used in future direct procurement exercises. The analysis in section 7 suggests that any of the following structures could, for certain asset types and in certain circumstances, provide for a suitable transfer of responsibilities from the appointed business to a third party.

Table 6: Possible direct procurement structures

If the value in direct procurement is thought to lie in ...	Third-party's responsibilities				Description
	D	B	F	O	
Financing, operation		✓	✓	✓	Tendering for an asset (cf onshore transmission model)
Design, financing, operation	✓	✓	✓	✓	Tendering for solutions (cf Shetlands case study)
Whole-life financing		✓	✓		Long-term construction and lease arrangement
Post-construction financing, operation			✓	✓	Long-term operating concession (cf offshore transmission model)

The key column in this table is the first column. We have emphasised on several occasions in the report that the most appropriate model for any individual transaction will depend on what it is that direct procurement is expected to offer customers over and above the status quo. Insofar as this is likely to differ from scheme to scheme, it is difficult to say that one structure is clearly superior to any other.

This point is further exemplified in Box 2 in section 7, where we illustrate how the optimal structure might vary depending on whether eligible schemes in AMP7 (and beyond) are mainly interconnector projects, treatment works, reservoirs or metering programmes – detail which will only become available following the finalisation of companies' plans.

We are more confident in saying that a structure which is underpinned by a project licence, as well as a contract, has advantages over a purely contract-based structure. A licence offers the following benefits, none of which are easy to replicate in full – or in some cases, at all – in a commercial contract:

- the third party can be shielded from counterparty risk (i.e. the risk that the appointed business might renege on its contractual obligations);
- Ofwat can direct the full extent of its Water Industry Act powers at the asset owner/operator;
- the asset owner/operator will remain within the scope of the special administration regime; and
- Ofwat can, if considered desirable, conduct periodic reviews of the third party's revenues, with the third party having the normal standing and rights that any other regulated company has in a periodic review.

We concluded in section 7 that these things are likely to lead to lower costs and greater confidence for customers in the quantity and continuity of service. Accordingly, we think there should be a strong preference for the licence-anchored models over contract-only models.

8.2 Assessing value for money for customers

That Ofwat cannot obviously award a project licence to the winning bidder in a direct procurement competition is a significant complication. In our assessment, it requires all parties to think much more carefully about what benefit there might be for customers in direct procurements in the short term (i.e. during AMP7) and whether there should be a change in the law to underpin direct procurements in the long term.

In this context, we offer the following thoughts.

Aligning Ofwat and companies

The assessment of the value likely to be derived from direct procurement is to take place at two distinct but interrelated levels prior to the commencement of the first transactions. The first level check will be carried out by Ofwat when it sets out the expectations that it has of companies regarding direct procurement in its PR19 documents. The second, more detailed level of evaluation will be for companies to develop when they assess the merits of individual proposals, and will be assessed by Ofwat part of its risk-based review. As the rest of this report makes clear, there are considerable inherent complexities involved in assessing and then implementing direct procurement transactions, bringing with them scope for different parties to take different views on the way ahead. It is likely therefore to ease the processes involved if there is a greater shared, upfront understanding between Ofwat and companies about the scope that there is for direct procurement to deliver value for money, the potential sources of cost savings, and what these may mean for the way(s) in which direct procurement is best organised and assessed.

This shared understanding can best be achieved by Ofwat laying out its over-arching assumptions upfront in its PR19 methodology documents.

Reading across from direct procurement elsewhere

Ofwat's early Water 2020 cost benefit analysis appears to have been derived largely from a read-across of the OFTO experience.³³ Such a read-across may create a presumption that there is value to be derived from direct procurement, but there are also certain aspects of the OFTO regime which are markedly different from the water sector. These differences include the underpinnings of a licence award and a regulator-led procurement exercise. The OFTO exercise was also concerned with infrastructure at the margins of the electricity network as opposed to water facilities that may in many cases be, even if 'discrete', more central to water and wastewater networks. Construction risk was absent, operating costs were not that significant and both the payment rules and performance regime were conducive to the raising of finance.

There are therefore potentially significant differences between how direct procurement may play out in the water sector and the prior Ofgem experience. In these circumstances, we think it advisable that Ofwat keep its value for money assessment under review, taking account of water sector specific circumstances, not least the proposal that direct procurements will initially be structured purely via a contract and without a supporting project licence. Ongoing work of this kind would allow Ofwat to take account of the research it has now commissioned from KPMG on investor attitudes which are likely to be key drivers of value, and more generally to foster the development of a shared picture with companies around the benefits and challenges that direct procurements will throw up.

While Ofwat may be reluctant to offer very detailed guidance about the cost-benefit analysis that companies are to work up for individual schemes for fear that this will stifle innovation, there are likely to be common issues across companies that it would be more efficient to discuss and deal with centrally. This would reduce the risk of wasted effort and duplication which, as our work for UKWIR on customer engagement showed, can significantly affect both motivation and perception. The extent of guidance offered by Ofwat could range, at one end of a spectrum, from presentation of its own analysis of the points we have addressed above, so providing context for company decisions, to prescription of particular risks, models and, even, asset types (more in line with a greater degree of Ofwat control discussed below) at the other extreme.

Benchmark rate of return

One specific area where we think detailed guidance from Ofwat will be helpful, if not essential, to all parties concerns the starting rate of return that a direct procurement is to beat if there is to be an overall financing benefit for customers.³⁴

³³ It is worth highlighting that the NAO in its 2012 report on the early OFTO deals was critical of Ofgem's cost benefit read across from more general PFI experience. See NAO (2012), Offshore electricity transmission: a new model for delivering infrastructure.

³⁴ We consider later in this section the possibility that value for money could also be further established via a process of competition between the incumbent and third parties.

As things stand, Ofwat calculates and publishes one cost of capital number for wholesale water and sewerage businesses. We have highlighted in this report that a direct procurement will not necessarily represent value for money for customers just because financing costs come in below the industry WACC. For one thing, there is a component within the industry rate of return to pay for the costs of expensive, embedded debt, without which the prevailing cost of capital would be significantly lower. But more generally, the industry WACC is the compensation that investors require for taking on a particular bundle of risks, which may differ from the risks that third parties take on in a direct procurement.

In these circumstances, companies could reasonably reach different views on the rate of return that direct procurement would need to beat in order for there to be a saving to customers. This could lead to wrong conclusions about when direct procurements should or should not proceed. The best way of avoiding such misidentification problems is for Ofwat explicitly to identify in PR19, and at subsequent reviews, a marginal rate of return that marginal, large investments will earn under the status quo option of own delivery under the conventional PR19 regulatory framework, having regard to:

- the prevailing/forecast value of the cost of debt (possibly linked to the prevailing value of the new cost of debt index); and
- a return on equity commensurate with the risks in a typical large project.

This identified rate of return will not necessarily be a like-for-like benchmark to the target financing costs in a direct procurement (e.g. if Ofwat agrees to bespoke price control arrangements with a bespoke allocation of risk). However, it will have a useful signalling effect and ought to aid the process of identifying direct procurement transactions which will genuinely deliver better value money for customers.

Recommendations

Our specific recommendations are as follows:

Recommendation 1: The sector should examine further whether Ofwat's existing powers might enable it to issue licences to the third parties in a direct procurement and, if not, explore with government the scope for making a minor change to the law to allow the regulator to issue project licences either prior to AMP7 or, if this is not feasible, as a policy priority thereafter.

Recommendation 2: Subject to the outcome of Recommendation 1, Ofwat should keep under review the customer benefits that there are likely to be in a direct procurement model that is not underpinned by the award of a new licence. This ongoing assessment should be informed by discussions with potential investors and other interested parties and consider in greater detail the scope for a contractual third party to secure lower financing costs than the appointed business (under a status quo option of own-delivery) as well as some of the other potential costs and issues identified in this report. The aim should be to provide the foundation for companies' own assessments of value in relation to individual projects.

Recommendation 3: Depending on the conclusions from the customer benefit work, we envisage that direct procurements could conceivably develop in two stages: a tentative first stage in PR19 when companies are asked to consider the merits of purely contract-based transactions (i.e. without

the benefit of a supporting licence) in a way that is targeted on those areas where direct procurement might be expected to yield sufficient value to overcome any drawbacks in the contract-based approach; and a later 'first best' stage if or when there has been an opportunity to modify the Water Industry Act to permit Ofwat to award stand-alone project licences to any third-party infrastructure owner. For the avoidance of doubt, there would only be a green light for projects to be taken forward via direct procurement – under either framework – when a prior impact assessment gives confidence that there is likely to be a net benefit to customers.

Recommendation 4: Ofwat needs to explicitly identify a marginal PR19 rate of return for a marginal large capital project under the status quo option of self-delivery, as distinct from the industry cost of capital (e.g. to strip out the cost of legacy embedded debt),, so that companies are clear about the benchmark financing costs that a direct procurement has to beat in order to represent value for money for consumers.

8.3 Ofwat's role in securing maximum benefits for customers

With companies taking primary responsibility for direct procurements, they will need to equip themselves for their role. This is likely to involve financial advice in addition to procurement and other expertise. Companies will need to take a balanced approach to the merits of different routes, weighing up the pros and cons.

However, the novel nature of direct procurement structures and the potential consequences of individual company decisions for the interaction of the sector generally with the market suggest that reliance on companies acting individually is unlikely to generate best value. In these circumstances, there is at least a question to be asked about how far a more pro-active Ofwat role may be necessary as part of a process of collaborative working across the sector.

There are three particular reasons for raising this point.

First, there is the sensitivity of the interface with the market, in particular that for finance. Individual deals cannot but avoid being emblematic of a new approach to water sector procurement. Failure or difficulties on one project may therefore redound to the disadvantage of others. Moreover, precedents set by one company may effectively constrain (or render more costly) what can be achieved by another. These potential negative externalities from individual companies testing the market in an unco-ordinated way are buttressed by the perceived advantages of a more co-ordinated approach. This has been apparent in the OFTOs experience but is also evident in the feedback we have had from investors on the benefits that there will be, in terms of investor appetite and lower financing costs, if the industry is able to create a pipeline of deals and a degree of standardisation across transactions.

Second, as we made clear above, it is in nobody's interests for direct procurement to be an exercise in putting pieces of essential infrastructure out of the reach of the regulator. Either Ofwat is going to need to licence the new asset/owner, or Ofwat is going to have to work with companies to work out how some of the holes that a contract-only structure creates can be patched. As we explain in section 8.5, there may also be a case for making regulatory commitments to the payment streams that are established via direct procurement.

Finally, there are issues relating to ongoing oversight. By the time of the PR19 risk-based review (or even later in the PR19 process) a direct procurement proposition may be at an early stage. There can be no guarantee that what looks to be good value then will continue to be so as it engages with market realities. It looks likely therefore that Ofwat will want to maintain engagement with the company to assure itself of the value for money of the eventual proposition. These features suggest a need for dialogue about Ofwat's role in bringing about sector-wide discipline in the approach to the market and for continuing oversight on value for money. Only Ofwat can fulfil these functions. This would in effect represent a degree of co-ownership of any direct procurement initiative between Ofwat and companies. It would be a step towards the branding of direct procurement exercises as an essential part of the regulated water industry.

We acknowledge that such a role needs to fit with the regulatory philosophy developed over recent years, which has emphasised company accountability for their business plans. We also acknowledge that the Ofwat role carries risks. If overly interventionist, it could undermine company ownership of direct procurement deals. If Ofwat is too rigid and prescriptive, it might end up second guessing the market and extinguishing innovation. However, so long as these dangers are recognised upfront Ofwat's involvement is likely to add value to companies' own efforts, building on its own experience with the value it was able to add to the Tideway transaction as well as Ofgem's rather different experience with the OFTO model.

Important steps for Ofwat would appear to be: to equip itself with the necessary procurement, market and legal expertise; to be prepared to 'sit at the table' at key points rather than opine from afar or after the event; to establish clear approval gateways; and to recognise that beyond a certain point the only test of value will be the market.

Recommendation 5: Companies will need to recognise that direct procurements involve a different, more complex range of skills than existing well developed procurement processes. They need to equip themselves in good time with the necessary skills, including financial and legal advice.

Recommendation 6: companies and Ofwat should consider how Ofwat can best work alongside companies so as to brand direct procurement projects in investors' eyes as core regulated infrastructure. This may entail, inter alia: standardising the risk allocation in direct procurements and developing a common template for contracts/licences in partnership with the industry; and co-ordinating a pipeline of deals to heighten and sustain investor interest.

Recommendation 7: Ofwat may also need to consider whether for PR19, especially in the absence of legislative cover for licence-anchored procurements, it focuses companies on a small number of 'pathfinder' projects that could be used to test concepts and learn lessons that will have application in an eventual wider programme.

8.4 Tenderer eligibility

When thinking about who the third party might be in any direct procurement, the eye tends to look towards new special purpose vehicles backed by brand new investor groupings. However, the experience in two of our case studies – the Scottish Water and NI Water PPPs, and the Gas to the West project – is that candidate partners may include other water companies. In effect, there could be a situation in which firms compete for each others' investments.

This raises some interesting issues.

First, there is the question of whether appointed businesses should be allowed to bid for direct procurement contracts (and finance new investment from within the regulatory ring-fence) or whether parent companies should be required to set up separate subsidiary entities. This is fundamentally a question about whether management and financial resources should be pooled or kept separate.

Then there is an even more tricky question about the position of the incumbent. If there is interest from other companies in direct procurement projects, it would seem unfair to say that the incumbent firm should not be allowed to table its own financial proposal. If nothing else, there is a logic in wanting to test bids from elsewhere in the country against the incumbent's best and final offer. Allowing incumbent companies to bid does, however, force attention on the slope of the playing field and whether incumbents have, or are perceived to have, any sort of advantage over outsiders.

Two other case studies offer pointers on the possible way forward:

- in Ofgem's ongoing work to open onshore transmission projects up to competition, the regulator is imposing Chinese walls to force apart the team that is working to develop the design of a project from the team that is going to bid for the project (see section 3.2.7 and the references to Ofgem documents contained therein); and
- in the Shetlands case study, we noted in section 2 that Ofgem has required SSE to appoint an independent auditor to oversee the procurement process.

These sorts of measures might also provide the foundations for a level playing field in a water industry context. But further work would need to be carried out to establish their practicability and efficacy, especially when viewed from the perspective of a prospective third-party bidder.

From our point of view, the ambition, for the purposes of securing the best possible value for money for customers, ought to be to maximise the bidding pool for any direct procurement contract. Accordingly, we would encourage Ofwat to think further about how to bring all existing companies into the market for new contracts/licences, as well as genuine new entrants.

Recommendation 8: All existing appointed/licensed businesses should be permitted to compete for direct procurement contracts / licences.

Recommendation 9: If the incumbent wishes to bid into the competitive process, it should be allowed to. However, a company that chooses to keep this option open should be required to set up a separate 'bidding unit' and hand the running of the procurement process over to an independent body.

8.5 Design of the PR19 process and price control framework

The nature of forward looking regulatory settlements is that there are significant elements of risk and uncertainty for companies to manage to achieve the outcomes to which they are committed. The business plans submitted by companies will contain proposals, projects and plans covering the whole range of a company's costs. Some of those plans will be near to finalisation. Others will be at a

much earlier stage, and accordingly more uncertain. It is for companies to manage those risks within the financial and performance envelopes that they are set for the following five years. The question for this study is whether direct procurement proposals raise different issues than traditional projects and what implications these might have for how companies and Ofwat need to organise their thinking within PR19 and beyond.

Direct procurement looks different

Direct procurement projects are likely to have a number of features which distinguish them from the normal run of projects.

First, they are likely to be at an earlier stage of development and/or take longer to bring to fruition within PR19 and AMP7. While companies could be asked to take an early view of potential candidates, it is unlikely that the price of a direct procurement project will have been established by the time of Ofwat's PR19 determination, not least if one takes the view that a company should not go out to tender until the last possible moment before a project is needed. Indeed, there may still be uncertainty in PR19 about whether a direct procurement route will be either feasible or represent value relative to the more traditional route.

For a traditional procurement, Ofwat's sign off in the price review would flow through into well-established company capex procurement processes. There will be no such tried and tested processes for a direct procurement. Whichever of the models we have identified is followed for any particular procurement there will need to be a different form of engagement with the market and significantly more work on the contractual interfaces that result. None of this is insurmountable but it is different and more complex.

Second, the price established in a direct procurement process will, by definition, be set outside of a company's control. This creates a fixed component within the regulated firm's cashflows, around which it may not be reasonable for shareholders to profit at the expense of customers or for customers to profit at the expense of shareholders. From both sides' perspectives, the optimal regulatory rule could simply involve a pound-for-pound matching of costs with revenue. However, this will not happen naturally and requires conscious regulatory intervention at future price reviews.

Finessing PR19 to accommodate direct procurement

So far as timing is concerned, it would be open to Ofwat to await the outcome of the direct procurement before adding the cost of the project to customers' bills. Ofwat's PR19 determination could provide for the projected development and transaction costs of the project and leave final determination of the costs relating to other aspects of the project until its completion. However, that would mean companies announcing a trajectory for bills that does not reflect the anticipated outcomes within AMP7, with a non-trivial adjustment at a later stage.

The alternative approach would be to incorporate within PR19 a best estimate of the price that is likely to come out of a direct procurement exercise. This would be subject to some form of truing up for the price actually incurred in the direct procurement or an Ofwat-approved cost of reverting to more traditional delivery. This would mean that the PR19 settlement more closely reflected the

outcomes to be anticipated. The risk of customer bills needing to be adjusted during the period would be reduced as minor differences could be carried over with appropriate return to PR24. Where in-period adjustment is preferred, Ofwat has already put in place a mechanism which could be used for this purpose as part of its recent round of licence modifications. It would need to be clear that its use in this context was intended to focus simply on the costs relating to direct procurement rather than providing an opportunity to sweep up claims from elsewhere in the business. Those would fall to be dealt with separately, as now.

Price control design

It is yet to be seen what models for direct procurement are likely to yield most value, what risk allocation they will provide for, and the extent of any long term contractual commitment from companies to third parties. However, the experience of Tideway and OFTOs suggests that it is at least possible that the 'sweet spot' for investors and customers may involve the fixing of certain streams of revenue for more than a period of five years.

This then raises the question of whether Ofwat should be pre-disposed to allow for longer fixed periods when it sets the revenues that the appointed business collects from its customers, to fit back-to-back with any longer-term commitment that the company is making to the third party.

The argument for such an approach is that direct procurement transactions will have been tested in the market and can be presumed to constitute good value for money. Once signed, an appointed business will also not be easily able to escape or alter its contractual commitments. To ensure that the appointed business does not end up being caught in no man's land if it offers longer term commitments under its direct procurement, in an effort to maximise value for money for customers, the regulator will need to consider making a similar long-term commitment in respect of the appointed business's price control framework.

(Note: There might then be a question about what stands in the way of generalising from that experience to incumbent water companies? Would it make sense for Ofwat to offer longer regulatory periods for new assets generally? This would mean that Ofwat would effectively be regulating irrespective of ownership but rather according to the underlying properties of the asset. There would be a regulatory level playing field between incumbents and third parties and the gains from longer periods might thereby be available to customers from a wider range of assets. This could enable Ofwat to set a somewhat lower cost of capital than it might otherwise to reflect the greater stability of the business.)

Other regulatory assurances for the appointed business

Finally, there are questions about the way in which direct procurement payments should impact Ofwat's total revenue allowance for the appointed business. For example, when setting revenue entitlements in PR14, Ofwat placed considerable reliance on 'totex' benchmarking, which compared the total costs of providing services to customers across different companies. Direct procurement costs will unavoidably alter companies' positions in such benchmarking exercises, hopefully favourably, but with a possibility in the longer term of less favourable impact (cf the Scottish Water and NI Water experiences).

Our instinctive reaction is that direct procurements costs should be a pass-through item or a ‘special factor’ from which the shareholders of an appointed business neither benefit nor suffer. The alternative, of rewarding or penalising companies for the cost impacts that direct procurements have on the total cost of service, look to us to run counter to the philosophy that direct procurement is about companies entering into service contracts on customers’ behalf (with prior regulatory encouragement/approval) and of harnessing the market.

Rather than have Ofwat’s views on this matter come out gradually, and perhaps with the benefit of hindsight, we think it would make sense for Ofwat to give upfront guidance to companies about the allowance it will make for historical direct procurement transactions at future price reviews. This will give companies and customers an understanding of the risks they are taking on and can inform company decisions about whether to proceed down a direct procurement route.

Summary

This leads to our final set of recommendations.

Recommendation 10: The price control arrangements for a direct procurement scheme need not be bundled into an appointed business’s standard wholesale price control(s). Instead, Ofwat should remain open to proposals for a bespoke price control with bespoke features (e.g. longer periodicity). Even where retained within the overall price control there would be merit in Ofwat commitment to the long-term cash flows involved, from which investors may take comfort.

Recommendation 11: Ofwat should be clear about the way it will treat the costs emerging from a direct procurement exercise at future periodic reviews, especially as regards the allowance that it will make for the fixity of such costs in any intra-industry benchmarking.

Recommendation 12: There needs to be recognition that direct procurement exercises for projects needed in AMP7 will not be completed by the time that Ofwat makes its PR19 determination. It may therefore be appropriate to include some placeholder measure of expected cost in companies’ price controls, which can be adjusted when the results of each direct procurement are known.

Appendix A: Investor Perspectives

Introduction

This section of our report highlights the main observations that were put to us in the discussions that we had with investors and financiers during the course of this study. In total, we met with a total of 11 organisations, covering debt and equity providers, and rating and advisory experts. Most of the individuals had some level of prior familiarity with the water sector, but we deliberately sought out contact with potential new entrant investors and organisations that had participated in some of the third-party investments documented in section 3 of this report, in addition to investors in the existing appointed businesses.

The intention in this exercise was not comprehensively to survey investors but rather to understand sufficiently the issues raised so as to inform the rest of this study and also, potentially, the more comprehensive work that Ofwat has now initiated on investor attitudes to direct procurement. In this appendix, we have been particularly concerned to ensure that we have identified the challenges raised, so as ensure that our recommendations cover the required ground.

Summary of investor views

We were able to discern both some differences of views and interests but also, more frequently, significant commonality on some of the key issues relating to the future structuring of direct procurement, in particular as it relates to: the threshold for bringing individual projects to market; value added relative to existing water company financing, particularly for a contract-only route; and the measures that could be taken to improve the chances of securing best possible value on financing.

The consensus view was there is likely to be investor interest in water sector direct procurement but the initiative needed to be organised so as to secure it.

Scale of projects

There was recognition that there are investors prepared to invest in smaller scale projects, but the clear view was that, in order to interest sufficient quality investors, projects of £100m (involving an equity cheque of £10-20m) were far too small, even if defined in capex rather than the totex terms that Ofwat had proposed. This was because of the upfront costs that investors incurred in understanding and investigating projects that they might, nevertheless, not win. The assessment was that, even at a significantly larger size than Ofwat's proposed £100m, there needed to be a pipeline of projects, with some degree of standardisation, if investor interest and competition were to be maximised. This was the lesson of Ofgem's OFTO exercise. Tideway had been a one-off but its scale was of a different order from anything likely to emerge under direct procurement.

Contracting with an appointed company

The currently envisaged structure, whereby direct procurement would be based on a contract with the appointed company, was likely significantly to constrain the value that could be obtained from competition around financing. This is because of the counterparty risk it entailed. This was a concern for both debt and equity providers interested in infrastructure investment. Debt providers were

concerned that they would effectively be lending to the appointed company, while equity providers saw themselves first in line for loss from appointed company contractual behaviours or long-stop failure issues. Perception of counterparty risk could depend on the scale of the procurement relative to the appointed business. Nevertheless, it was difficult to see how direct procurement would secure better financing terms than those available to incumbents. In particular, the appointed company's credit rating could effectively put a floor under direct procurement debt costs, with specific project risks adding to overall costs. There might be classes of investor more willing to accept counterparty risk, but that would impact on the cost of capital achieved.

There were a number of steps that could be taken to improve the prospects of a contract route. These revolved particularly around some form of regulatory commitment to the regular payments to be made from the appointed company to the direct procurement entity. Suggestions covered a spectrum from pass-through and earmarking of these flows in regulatory settlements through to a licence condition that forced the company to pass on the contractual payments. Such mechanisms could get investors more comfortable with a contract structure, but it was less clear that they would improve the fundamental pricing as opposed to bringing more investors to the table. The difficulty of securing value under a contract route underlined the need for the project pipeline and standardisation that would be required for any well-run process. Project selection also needed to focus on those where interfaces could be well-defined, as with Tideway. Complex network interactions that might flow through to revenues could be problematic for investors

A licence-based alternative

The clear view among potential investors was that a licence-based structure that created a direct relationship with regulated customer revenues (even if collected by the appointed company) would produce more advantageous financing costs – and, hence, lower bills for customers – when compared to a contract-only structure. Licences had underpinned the Tideway and OFTO exercises.

A licence also created more flexibility for the regulator. It could think in terms of regulatory reviews of any opex costs involved, though there were mixed views about how these would be received by investors. Some were prepared to rely on tried and tested sector regulatory processes and a track record of regulatory judgments; there could be advantage to investors as well as customers from regulatory review given uncertainties about how opex would move over the longer term. Others were more concerned about regulatory risk in the particular circumstances of single asset structures. The flexibility to make savings would be far more limited than for an appointed company with a portfolio of costs and savings opportunities. The likely high gearing would accentuate the risk. It might be that the terms of any review could be constrained in advance with clearer identification of (for example, benchmarking) methodologies. A licence-based structure also creates the scope for depreciating an asset over a longer period. Under a contractual structure the cost of the asset would need to be recovered over the term of the debt raised. This avoids refinancing risk but potentially pulls forward depreciation relative to the profile that might be assumed by an incumbent and has implications for today's water customers relative to future generations

Investors also saw a licence as dealing with more general regulatory issues. Some investors were surprised that Ofwat appeared willing to put essential water assets outside regulatory control. There was a particular concern about the impact of failure of a contracted entity on the appointed company and of the risk of contamination to the sector overall. A licence would mean that there was

a clear, well-established regime for dealing with failure. The risk of failure had also to be seen in the context of the leveraged project structures that direct procurement was likely to stimulate.

A pro-active role for Ofwat

Investors saw lessons from previous exercises for Ofwat's role. The transparency of the OFTO exercise had shown the advantages of a centrally run process, with a clear pipeline of projects and standardisation of deal terms. Similarly, the government had sought to rein in the early dispersion of PFI deals through greater standardisation and co-ordination. In many areas PFI deals had become 'cookie cutter' which had enabled smaller deals than otherwise to be concluded as financiers were able to spread their bid costs over a number of deals. Water projects were unlikely to be as capable of standardisation as, for example, schools but there would be scope for instance in relation to particular asset types, elements of risk transfer and documentation. This might set limits to what risks could be transferred under direct procurement if the best financing terms were to be secured. Nevertheless, the effort required to bring standardisation about would necessarily increase costs for early projects though reducing development and transaction costs over the programme overall and, with a project pipeline, creating a more competitive environment.

To achieve this Ofwat had to recognise that it had a role in 'enabling the growth of the market'. It would need to be actively involved with companies in developing their projects – 'sitting at the table' – developing on its experience with Tideway. This might argue for the development of pathway projects on which lessons could be learned and transferred to subsequent projects. There was in this role for Ofwat a risk of regulatory overreach, effectively intervening in how companies implement their business plans, although arguably this was simply a logical consequence of the original intervention in the business planning process to encourage direct procurement.

Prospects for creating value for customers

There would be investor interest in a well co-ordinated programme of direct procurement in the water sector. There might be, as there was in the government's PPP programme, value to be created from innovation and efficiency in non-financial aspects of the transaction, though this prospect would need to be assessed against current water sector performance and arrangements. Well-managed direct procurement could help better define a project and, through due diligence processes, force a focus on risk and its mitigation. It could also, as the OFTOs and Tideway had demonstrated, harness competition on financing. It could potentially create a market in which existing incumbents competed in each others' areas. These developments would exert downward pressure on financing costs. However, the existing RCV-backed structure produced low financing costs and therefore set a high hurdle for any direct procurement alternative. There is already competitive tension in the market for water company financing, for instance debt issuance. The right lessons needed to be learned from the Tideway and OFTO exercises. Tideway had been significantly de-risked and, as it turned out, well-timed, while the incentive terms around OFTO availability payments were very favourable to the raising of debt. Attention therefore needed to be paid to how risk was allocated as well as to the financing end-result. There needed also to be bidding criteria that focussed on quality as well as price. Rail franchising showed the disadvantages of a price-led race to the bottom.

Some investors (not all with a significant vested interest in the existing arrangements) also drew attention to the potential knock-on consequences of direct procurement for sector financing and sector economics. A small-scale direct procurement would have little impact, but it could eventually lead to a fragmentation of water financing. That could have benefits in terms of more investable propositions but, to the extent it undermined over time the scale of individual issuers, that could be detrimental. There were also risks of adding to any perception that Ofwat is less attached RCV financing. Small changes to financing terms on this account could quickly outweigh the benefits of regulatory innovation.

For the sector there might be a loss of network efficiencies. A direct procurement operator would have to focus on its own plant whereas it might be cheaper to optimise performance across a portfolio of assets. This would have to be set against any benefits that might come from focused management attention on construction and running of that asset.

There might also be consequences for companies – that from adverse selection where lower risk projects are undertaken under direct procurement, leaving companies with higher than average risks and from the higher than otherwise operational gearing implied by undertaking less capital expenditure. Both potentially increased risks on the company.

Quality regulation

Some investors highlighted the potential uncertainties arising from quality regulation, in particular that of the Environment Agency which had increased the level of fines for environmental incidents. While these could be managed across a wider company portfolio they could pose a significant risk for a leveraged single asset vehicle.

Appendix B: Key Takeaways from 18 January 2017 Workshop

23 attendees, including representatives from First Economics, Anglian Water, Severn Trent Water, Tideway, Ofwat and its consultant, other water companies, an energy network company, equity investors, a legal adviser, and government.

The notes that follow record perspectives that were offered during the workshop.

Candidate structures and sources of value for money

- There was broad agreement that the list of candidate structures (replicated in section 5 of this report) covered the ground, albeit with no real support for a sale and leaseback structure
- On financing, competitive tension could lead to 'a sharpening of the pencil' on equity returns but the cost of capital achieved needed to be set alongside the risks that were transferred and the risks of the financing structures, e.g. leverage.
- Size matters. The smaller the deals, the more need for standardisation, e.g. in relation to risk transfer, and a pipeline to ensure investor interest. This also reduces development costs across the sector. OFTOs had been a good model from this viewpoint and that of transparency.
- Looking back to government PFIs, the main gains had come from innovation in design and construction rather than financing (though the government procurement effort was likely to have been less refined than that of water companies under regulation).
- Construction could be a source of value because of the different incentives on a third party, but there could be some losses from (what is usually regarded as beneficial) portfolio management. There could also be efficiency losses from the scale and pipeline that larger companies bring to construction.
- Design as a source of value makes sense in principle but could be problematic in practice; some projects will be separable from the viewpoint of construction but not operation. So design needs to mesh with company systems and approaches. There is a need to avoid being too simplistic on separability. Some projects will be separable for some facets not for others. Size and separability should not be conflated – some larger projects may not be truly separable. There may be a sweet spot for size and separability; interconnectors could be an example.
- Design, construction and operation risks transferred to a third party will impact on financing costs. This could create 'noise' around financing such that it may be difficult to determine value for money overall.

Contract vs Licence

- A range of difficulties are created by using a purely contractual approach rather than licence-based route. There may be potential mitigations/solutions, but are they sufficient or conducive to securing value for money?
- Investors are usually investing on the back of revenue streams flowing from customers. A contract route puts those revenue streams at greater risk. This is a particular issue for debt which would be

taking risk on the counterparty water company. But it could also be an issue for equity. There is the potential for Ofwat to give comfort, but would it be enough?

- Could there be a market for exposure to counterparty risk rather than the direct relationship with customers which is the norm for utility style investment? Possibly, but it is not a market that infrastructure debt and equity really plays in and it would have implications for the cost of capital, which would be likely to be higher.
- There could also be problems with loss of regulatory control over a key asset. A licence permits regulatory intervention before a problem properly manifests itself. Under contract, step in would come afterwards. And it would only be the contracting parties that were directly involved. There could be early warnings written into the contract, but step in rights may be disputed. There might be Government angst over resilience of key assets. Defra would need to be reassured.
- The possibility of using the new appointments structure was raised but that approach was based on creating undertakers in defined areas. Direct procurement is supposed to be about the delivery and/or operation of a single asset where there is already an undertaker. Another licensing route would be to use the licence held by another water company. However, the direct procurement vehicle might not involve such a company.
- Primary legislation could solve the problem relatively easily but how easy would it be to obtain such legislation?

Assessing value for money

- While the ball looks to be in the companies' court as regards whether direct procurement offers value for money to customers, should Ofwat offer guidance?
- Perhaps use could be made of public sector comparator methodologies used for PFI.
- There would be difficulty in securing value for money at the £100m cut off and it would be challenging even above that.
- There may be no real certainty about value for money until the market was tested.
- Account needed to be taken of loss of any economies of scale and of any development or de-risking costs associated with obtaining the optimal project cost of capital.

Incumbent company participation

- This was permitted under Ofgem's OFTO and CATO processes – why exclude a potential player? The incumbent might be best placed on operations.
- However, incumbent participation raised issues of conflict of interest. In the absence of Ofwat running the exercise, it might be possible to use independent parties (e.g. accountancy firms) to run the procurement in line with some PFI experience. There would still need to be Chinese walls within the incumbent between the pre-qualification team and the bidding team.
- Could Ofgem make use of its expertise and run the procurements for Ofwat/companies? However, this would be a big expansion of its role.

Period of regulatory commitment

- In the OFTO case, the 20-year period appeared to be tied to the length of time for which wind farms were expected to run. But opex was very small as a proportion of total costs.
- Would Ofwat commitment to the revenue streams need to match the tenor of the debt raised? Not necessarily. Reliance could be placed on the regulator's duties.
- Maintenance contracts could be reviewed. That would benefit customers, but also, potentially, investors – if it reduced risk around costs over which they had limited control (e.g. energy)
- For the purposes of its periodic reviews Ofwat's benchmarking methodology ought to be able to cope with exclusion of direct procurement opex, as it had in the Tideway case

Respective roles of Ofwat and companies

- Ofwat's regulatory approach suggested companies should not look towards Ofwat but take ownership of their own procurement. However, this is a totally new area. So Ofwat involvement would be helpful. The investor emphasis on standardisation pointed in this direction. It would be useful for Ofwat and companies to work through issues together.
- There might be a case for identifying fewer, pathfinder projects which could be worked through in PR19, learning the lessons, perhaps as precursors to a more licence-based approach in the following price review.
- There is a potential tension between Ofwat being engaged and hand-holding. How that is resolved, given the perceived advantages to sector wide consistency, could be important to success.
- Consideration of Ofwat involvement would need to cover both PR19 and the subsequent delivery process. It would need to evolve over time with the potential for gateways at different points in the process for individual projects
- Any guidance issued by Ofwat in the coming months would need to be directed towards investors and construction companies as well as incumbent companies.