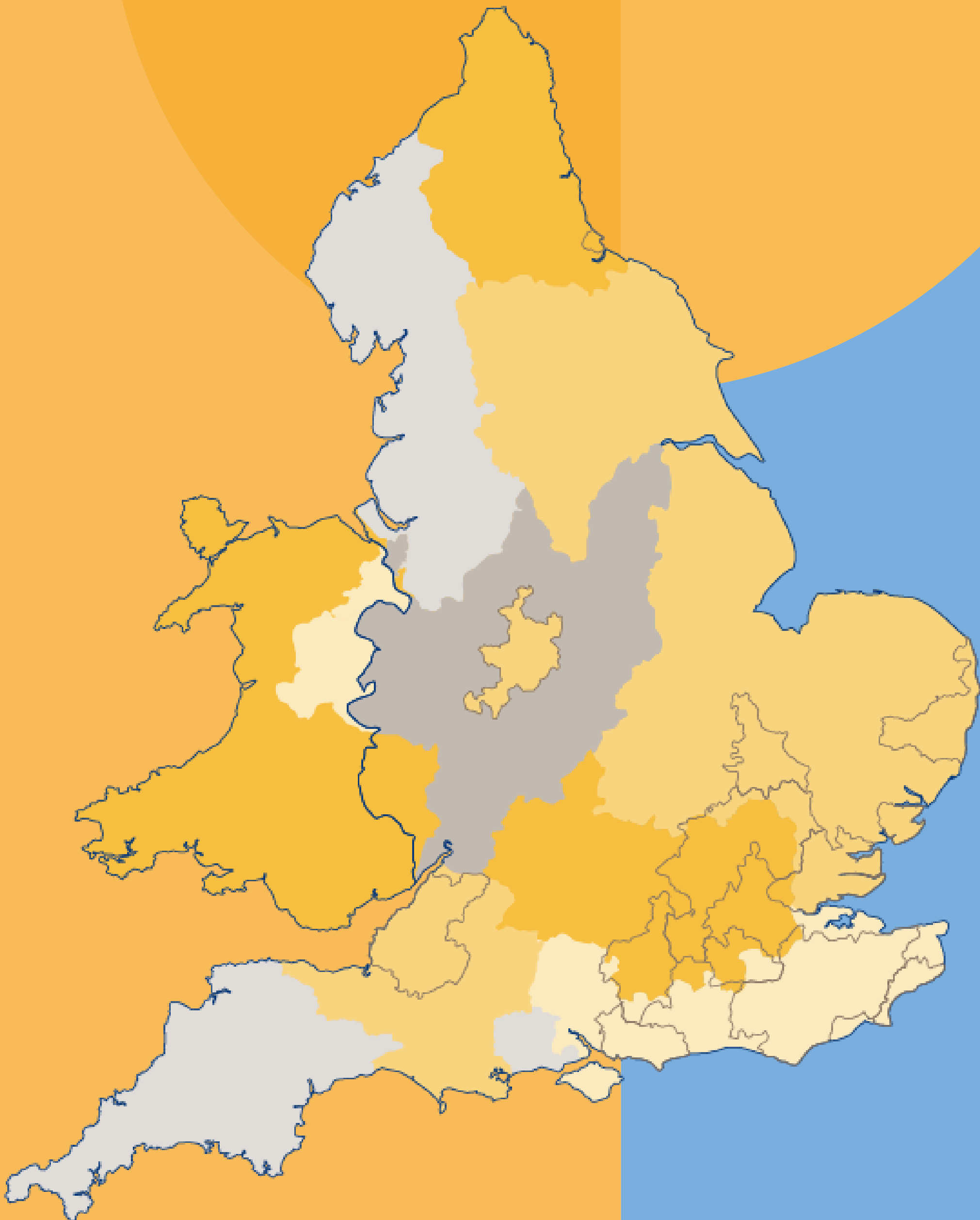
July 2019

Trust in water

# PR19 draft determinations

## Hafren Dyfrdwy draft determination



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# PR19 draft determinations: Hafren Dyfrdwy draft determination

# About this document

This document, together with the 'Notification of the draft determination of price controls for Hafren Dyfrdwy', sets out for consultation the details of the draft determination of price controls, service and incentive package for Hafren Dyfrdwy for 2020-25. All figures in this document are in 2017-18 prices except where otherwise stated.

The draft determination sets out:

- the outcomes for Hafren Dyfrdwy to deliver;
- the allowed revenue that Hafren Dyfrdwy can recover from its customers; and
- how we have determined allowed revenues based on our calculation of efficient costs and the allowed return on capital.

The draft determination covers six price controls for the 2019 price review (PR19):

- water resources;
- water network plus;
- wastewater network plus;
- bioresources;
- residential retail; and
- business retail.

This draft determination is in accordance with our PR19 methodology, our statutory duties and the Welsh Government's statement of strategic priorities and objectives for Ofwat. We have also had regard to the principles of best regulatory practice, including the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted.

All of the responses to the initial assessment of business plans, including all of the companies' revised business plans, provided by 1 April 2019 are taken into account in our decisions where relevant. Where appropriate, we explicitly set out our response to points and issues raised by respondents.

Our decisions also take into account the representations made on the fast track draft determinations where points and issues raised are relevant to the slow track and significant scrutiny draft determinations. We will deal with the other elements of the representations on the fast track draft determinations as part of the final determinations.

We have not necessarily been able to take full account of all late evidence, submitted after 1 April 2019 business plans, and we will consider this information for the final determination.

The appendices to this document provide more detail and form part of the draft price control determination:

- PR19 draft determinations: Hafren Dyfrdwy - Cost efficiency draft determination appendix
- PR19 draft determinations: Hafren Dyfrdwy - Outcomes performance commitment appendix
- PR19 draft determinations: Hafren Dyfrdwy - Accounting for past delivery appendix
- PR19 draft determinations: Hafren Dyfrdwy - Allowed revenue appendix

For all other documents related to the Hafren Dyfrdwy draft determination, please see the draft determinations webpage.

## How to respond

Written representations on the draft determinations should be provided to us by 10am on 30 August 2019. Representations can be made by all stakeholders. Representations can be sent either to our PR19 inbox (PR19@Ofwat.gov.uk) or by post to our Birmingham office address: Ofwat, Centre City Tower, 7 Hill Street, Birmingham, B5 4UA.

To ensure transparency, we expect companies to publish their representations in full. We also intend to publish all the written representations we receive on our website once our final determinations are made.

In view of this, if respondents consider that some of the information in their representations should not be disclosed (for example, because they consider it is commercially sensitive information) they should identify that information and explain why. We would expect strong, robust reasons that are specific to the information concerned. We will take such explanations into account, but we cannot give an assurance that information included in representations will not be disclosed.

Where companies are making representations, they should consider what further evidence may be necessary to submit with their representations as a result of this draft determination. Where companies consider that we have not appropriately considered any points previously raised by the company, companies should include this within their representations. Companies should provide a completed ‘All company representation pro forma’ alongside any representations.

We will publish Hafren Dyfrdwy’s final determination on 11 December 2019 after considering representations (from all stakeholders) on the draft determination and other relevant matters. If Hafren Dyfrdwy accepts the final determination, it will be accepting that it has adequate funding to properly carry out the regulated business, including meeting its statutory and regulatory obligations, and to deliver the outcomes within its final determination.

# Contents

# 1 Summary

Through PR19 we are enabling, incentivising and challenging water companies to address the key issues facing the sector of climate change, a growing population and ever increasing customer expectations about service. We expect companies to look well beyond the five year price review period to meet needs of future customers and protect and improve the natural environment.

Our PR19 methodology set out a framework for companies to address these challenges, with particular focus on improved service, affordability, increased resilience and greater innovation. Our draft determinations are based on our detailed review of the revised plans submitted to us on 1 April. We are intervening, where required, to protect customers.

The Welsh Government has set out strategic priorities and objectives[1] that we are required to act in accordance with in carrying out our relevant functions relating wholly or mainly to Wales. Our PR19 methodology takes full account of the specific circumstances in Wales, including the specific legal requirements in Wales. We have assessed Welsh companies' business plans against how they propose to deliver for Welsh customers and the environment during 2020-25 and over the long term.

## 1.1 What the draft determination will deliver

Our draft determination for Hafren Dyfrdwy will cut average bills by 2.4% in real terms in the 2020-25 period compared to the company's proposed 1.5% increase. Table 1.1 below sets out the difference in bill profile between the company's business plan submission in April 2019 and our draft determination. Average bills are lower than proposed by Hafren Dyfrdwy in its April 2019 plan, reflecting our view of efficient costs.

**Table 1.1: Bill profile for 2020-25 before inflation**

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Company plan (April resubmission) | £293 | £295 | £295 | £296 | £297 | £297 |
| Draft determination | £293 | £286 | £286 | £286 | £286 | £286 |

Our draft determination allows Hafren Dyfrdwy £15 million to invest in improvements to service, resilience and the environment. Key parts of this allowance are:

- £6.6 million to improve the environment by efficiently delivering its obligations as set out in its National Environment Programme (NEP) including work to

meet its requirements under the Eels Regulations and improving biodiversity; and
- £2.8 million to ensure reservoir resilience and safety in line with new regulations; and
- £0.8 million to install more than 5,000 new meters.

Further details on our cost allowances are set out in section 3.

Our draft determination package includes a full set of performance commitments, specifying the minimum level of service that Hafren Dyfrdwy must commit to deliver for customers and the environment. Each performance commitment also has a financial or reputational incentive to hold the company to account for delivery of these commitments.

The performance commitments require Hafren Dyfrdwy to deliver service improvements by reducing water supply interruptions and reducing internal sewer flooding. Hafren Dyfrdwy will deliver environmental benefits by reducing per capita consumption, pollution incidents and leakage. The company will also provide more support for vulnerable customers by 2024-25. Further details of performance commitments are set out in Table 1.2 below and in section 2.

**Table 1.2: Key commitments for Hafren Dyfrdwy**

| Area | Measure |
|---|---|
| Overall incentive package | Overall the likely range of returns from the outcome delivery incentive package in our draft determination equates to a return on regulatory equity range of - 2.07% (P10) to + 0.30% (P90). |
| Key common performance commitments | • 15% reduction in annual level of leakage by 2025 from the 2020 level1<br>• 4% reduction in per capita consumption by 2024-25<br>• 39% reduction in pollution incidents by 2024-25<br>• 23% reduction in internal sewer flooding incidents by 2024-25<br>• 74% reduction in water supply interruptions by 2024-25 |
| Bespoke performance commitments | • 11% increase in the percentage of struggling to pay customers supported through tailored schemes by 2024-25<br>• 17% reduction in sewer blockages on the company's network by 2024-25<br>• 230 lead pipes replaced, including both communication and supply pipes, consistent with Welsh Government priorities |

[1]Whilst the figures in the tables of the 'Hafren Dyfrdwy - Outcomes performance commitment appendix' which relate to this performance commitment reflect that it is measured on a three-year average to smooth annual variations due to weather, the overall performance commitment target is a reduction in average annual leakage of 15% (from 2019-20 baseline) by 2024-25.

Note: The calculations behind these numbers are outlined in the 'Hafren Dyfrdwy - Outcomes performance commitment appendix'

## 1.2 Allowed revenues

Our draft determination sets allowed revenue or average revenue for each of the price controls. Table 1.3 shows the allowed revenues in the draft determination across each price control. Further details on our calculation of allowed revenues are set out in section 4.

**Table 1.3: Allowed revenue, 2020-25 (£ million)**

| | Water resources | Network plus- - water | Network plus - wastewater | Bioreso urces | Wholesale total | Residential retail |
|---|---|---|---|---|---|---|
| Final allowed revenue s (£m) | 12.4 | 81.6 | 11.9 | 5.4 | 111.3 | 13.8 |

Note: retail revenue is the sum of the margin, retail costs, and adjustments. The bioresources and residential retail controls are average revenue controls. We have included forecast revenue (in real terms) for these controls to illustrate the total revenue across all controls.

As set out in the 'Cost of capital technical appendix', we are updating our assessment of the cost of capital for Hafren Dyfrdwy's draft determinations. The updated cost of capital is 3.19% (on a CPIH basis, 2.19% on a RPI basis) at the level of the appointee, a reduction of 0.21% from our early view set out in the PR19 methodology.

We consider that Hafren Dyfrdwy's draft determination is financeable, based on an efficient company, with the notional capital structure, and is sufficient to deliver its obligations, including to ensure a long term resilient service. Each company is responsible for ensuring its capital and financial structure allows it to maintain financial resilience over the short and the long term. We expect Hafren Dyfrdwy to take account of this requirement and of the reasonably foreseeable range of plausible outcomes of their final determination including evidence of further downward pressure on the cost of capital in very recent market data. We expect Hafren Dyfrdwy to provide appropriate Board assurance that it will remain financeable on a notional and actual basis and can maintain its long term financial resilience in its response to our draft determination. Further detail on our assessment of financeability is set out in section 5.

We have encouraged companies to take greater account of customers' interests – and to transparently demonstrate that they are doing so in the way they finance themselves, pay dividends to their shareholders, and determine performance related executive pay. Hafren Dyfrdwy has committed to meeting the expectations set out in our July 2018 position statement ‘Putting the sector in balance’. It has confirmed it will apply our gearing outperformance mechanism. The company is taking steps to demonstrate how its dividend and performance related executive pay policies in 2020-25 will align with customer interests. However we expect the company to continue to take steps in these areas to meet our expectations.

In its revised business plan Hafren Dyfrdwy proposed a reduction in its gearing level to 60% (from 67% as at 31 March 2018), which it has confirmed to us has now been achieved.

In the 'Putting the sector in balance' position statement, we also encouraged companies to adopt voluntary sharing mechanisms, particularly where, for example, companies outperform our cost of debt assumptions. Hafren Dyfrdwy has not proposed any voluntary sharing mechanisms.

## 1.3 Where we intervene

Our initial assessment of Hafren Dyfrdwy’s plan on 31 January 2019 identified a number of areas where material interventions were required to protect customers’ interests. Hafren Dyfrdwy was below our view of efficient costs, although its 1 April revised business plan has not adequately addressed all our concerns. In our draft determinations, we intervene in Hafren Dyfrdwy’s plan in the following areas:

- We adjust outcome delivery incentives for some of the performance commitments, including leakage, sewer collapses, supply interruptions, pollution incidents, and internal sewer flooding.
- We change the ‘lead pipes replaced’ performance commitment definition, target and outcome delivery incentive rate to maximise customer benefit and better reflect efficient costs of delivery.
- We remove the proposed source resilience performance commitment and encourage the company to propose an alternative resilience performance commitment.
- We adjust household retail revenue by -1.18% (-£0.180 million) as a result of its service incentive mechanism performance from 2015-16 to 2018-19.

Hafren Dyfrdwy’s September 2018 business plan was assessed as requiring significant scrutiny at the initial assessment of plans. We said we would decide at the final determination whether to apply a reduced cost sharing rate, or cap bespoke outcome delivery incentives, to reflect whether the company had engaged positively to address our concerns with the plan over the remainder of the price review process.

In ‘Significant scrutiny companies - Application of lower cost sharing rates and outcome delivery incentive cap’ we set out our current view on how the company has responded to the initial assessment of plans. We consider that, subject to the company continuing to address our concerns through a timely, high quality response to our draft determination, we are not likely to apply a reduced cost sharing rate for Hafren Dyfrdwy. For the purpose of the draft determination we have not applied a reduced cost sharing rate for Hafren Dyfrdwy.

We set out further detail of our interventions in this document and in the Hafren Dyfrdwy actions and interventions documents.

# 2 Outcomes

The outcomes framework is a key component in driving companies to focus on delivering the objectives that matter to today's customers, future customers and the environment in the 2020-25 period and beyond. Outcomes define the service package that companies should deliver for their customers and their incentives to do this.

There are two key elements of the outcomes framework: performance commitments and outcome delivery incentives. Performance commitments specify the services that customers should receive and set out in detail the levels of performance that the companies commit to achieve within the five year period from April 2020 to March 2025. Outcome delivery incentives specify the financial or reputational consequences for companies of outperformance or underperformance against each of these commitments. (They are referred to as 'out' where there is a payment to the company for better than committed performance, 'under' where there is a payment to customers where there is worse than committed performance, or 'out-and-under' incentives, depending on their design). Most outcome delivery incentives will be settled at the end of each year to bring incentives closer to the time of delivery of the service ('in-period' incentives) and some will be settled once at the end of the five year period ('end-of period' incentives). The outcomes framework gives companies the freedom to innovate and explore to find the most cost-effective way of delivering what matters to their customers.

The outcomes framework sits in the broader context of the company's statutory and licence requirements for service delivery. Independently of the outcomes framework, each company also has to ensure that it complies with its legal obligations, or risk enforcement action. If a company's performance falls below the level set for a performance commitment (irrespective of the existence of any deadband or collar), we will consider whether this is indicative of wider compliance issues to the detriment of consumers and whether enforcement action, with the potential for remedial and fining measures, is warranted.

Please see the 'Delivering outcomes for customers policy appendix' for further details on our policy decisions on cross-cutting issues such as common performance commitments and outcome delivery incentive rates.

## 2.1 Customer engagement

In our PR19 methodology we set out our expectations that companies should demonstrate ambition and innovation in their approach to engaging customers as they develop their business plans. This includes direct engagement with customers to develop a package of performance commitments and outcome delivery incentives.

We expect customer challenge groups to provide independent challenge to companies and independent assurance to us on: the quality of a company's customer engagement; and the degree to which this is reflected in its business plan.

We continue our assessment of customer engagement evidence following each company's submission of its response to our initial assessment of its plan in April 2019. We find variability in both the quality of engagement undertaken by companies and the extent to which customers' views are reflected in company proposals.

Our initial assessment of Hafren Dyfrdwy's business plan highlighted concerns about some elements of the company's customer engagement evidence in areas such as the range of techniques used, ongoing engagement with customers, and engagement with future bill payers. The company makes efforts to engage with a wide range of customers. However, there is insufficient evidence of engagement with vulnerable customers (aside from those struggling to pay) or that their interests helped to shape the business plan.

In response to our initial assessment of its plan, the company submitted additional evidence of customer support on: the affordability and acceptability of the business plan and engagement on longer term bill profiles. Recent research has been conducted through quantitative and qualitative research conducted with 500 customers, through either face-to-face or telephone interviews, with deliberative workshops for qualitative research on outcome delivery incentives. Whilst the research process was of acceptable quality, the findings have not been as clear, with low levels of plan acceptability (51% for North Wales, and 73% for Mid-Wales) and only 22%-39% (for North and Mid-Wales respectively) of 'just about managing' customers who find the plan affordable.

Hafren Dyfrdwy's customer challenge group concludes that it is 'content that the approach undertaken by Hafren Dyfrdwy - in new areas of research; using quantitative, qualitative and deliberative techniques; in a variety of locations; and engaging a good cross section of customers bilingually – was both appropriate and robust *given the time allowed*'. It considers that specific and discrete research on the outcome delivery incentive regime proposed for 2020-25 was 'robust and carried out in accordance with best practice *given the time available*' but raises concerns about 'the lack of support for either the reward or penalty aspect of the outcome delivery incentive mechanism' based on the recent quantitative research, whilst acknowledging that 'at individual performance commitment level there appears to be a small majority of customers that may support rewards and penalties when applied to certain performance commitments'.

## 2.2 Performance commitments and outcome delivery incentives

Hafren Dyfrdwy's performance commitments and outcome delivery incentives for the 2020-25 period are listed in Table 2.2 and Table 2.3. The detail of these performance commitments and outcome delivery incentives are set out in the 'Hafren Dyfrdwy - Outcomes performance commitment appendix'. The performance commitments and outcome delivery incentives include the revisions accepted by the company in response to our 31 January 2019 initial assessment of business plans and any additional interventions we are making in the draft determination.

The material interventions we are making in the draft determination are set out in Table 2.1 below. 'Hafren Dyfrdwy – Delivering outcomes for customers actions and interventions' sets out in detail our interventions in the company's performance commitments and outcome delivery incentives following our 31 January 2019 initial assessment of plans.

### Table 2.1: Summary of key interventions on outcomes

| Intervention description |
|---|
| Accepting the company's leakage reduction proposals of 15% on an annual average basis, which will take it to a performance better than industry upper quartile for rural companies by 2024-25.<br><br>Increasing the underperformance rate in relation to leakage to the level implied by the company's own customer research. |
| Accepting the company's performance commitment target of a 4% reduction in per capita consumption, which implies achieving a target of 135 l/h/d, by 2024-25<br><br>Accepting the company's proposed outcome delivery incentive rates in relation to per capita consumption. |
| Accepting the company's commitment to meet our industry upper quartile level in water supply interruptions resulting in a 74% improvement by 2024-25. We are setting an industry wide glide path for all years before 2024-25.<br><br>Increasing the underperformance rate in relation to water supply interruptions to industry average since the company has not provided sufficient evidence of its ability to deliver in this area. |
| Accepting the company's performance commitment target proposal to improve its pollution incidents level by 39% through to 2024-25, which we consider to be stretching. The company is currently the worst performer in the industry.<br><br>Increasing the underperformance rate for pollution incidents as it is not well evidenced and is below the industry average. |

| Intervention description |
|---|
| Accepting the company's proposed performance commitment target for internal sewer flooding of a 23% improvement by 2024-25, which would allow the company, which is currently a lower quartile performer, to reach our forecast industry upper quartile levels.<br><br>Increasing the relatively low underperformance and outperformance rates in relation to internal sewer flooding to reflect the results of the company's own customer research and the average ratio of underperformance to outperformance suggested in the companies' business plans. |
| Setting the sewer collapses service level at the best 3 years of historical performance, instead of accepting the service level proposed by the company, which is worse than its historical performance.<br><br>Increasing the underperformance rate in relation to sewer collapses to ensure it is within our reasonable range. |
| Adopting our standard level for the deadband for the Compliance Risk Index (CRI), instead of accepting the deadband proposed by the company, which is worse than our standard level, and it represents the highest level compared to all other companies. |
| Changing the lead pipes replaced performance commitment's definition, target and outcome delivery incentive rate to maximise customer benefit and better reflect efficient costs of delivery. This aligns it to Welsh Water's similar performance commitment. Lead reduction is a priority for the Welsh Government. |
| Removing the source resilience performance commitment because it does not appropriately protect customers from resilience risks or incentivise improvements to resilience levels. We encourage the company to propose another, more appropriate, performance commitment. |
| Accepting the company's proposal for the hectares managed for biodiversity performance commitment to enhance biodiversity. The company responded to our initial assessment of plans' actions and provided sufficient evidence in all areas. |

### Table 2.2: Summary of performance commitments: common performance commitments

| Name of common performance commitment | Type of outcome delivery incentive | Price controls outcome delivery incentives will apply to |
|---|---|---|
| Water quality compliance (CRI) [PR19HDD_A1] | Financial - Under; In-period | Water resources; Water network plus |
| Water supply interruptions [PR19HDD_B1] | Financial - Under; In-period | Water resources; Water network plus |
| Leakage [PR19HDD_B2] | Financial - Under; In-period | Water network plus |
| Per capita consumption [PR19HDD_B3] | Financial - Under; In-period | Water resources; Water network plus |
| Mains repairs [PR19HDD_B5] | Financial - Under; In-period | Water network plus |
| Unplanned outage [PR19HDD_B6] | Financial - Under; In-period | Water resources; Water network plus |
| Risk of severe restrictions in a drought [PR19HDD_B4] | Reputational | N/A |
| Priority services for customers in vulnerable circumstances [PR19HDD_H1] | Reputational | N/A |
| Internal sewer flooding [PR19HDD_E1] | Financial - Out & under; In-period | Wastewater network plus |
| Pollution incidents [PR19HDD_E2] | Financial - Under; In-period | Wastewater network plus |
| Risk of sewer flooding in a storm [PR19HDD_E4] | Reputational | N/A |
| Sewer collapses [PR19HDD_E5] | Financial - Under; In-period | Wastewater network plus |
| Treatment works compliance [PR19HDD_C4] | Financial - Under; In-period | Water network plus; Wastewater network plus |
| C-Mex: Customer measure of experience [PR19HDD_G1] | Financial - Out & under; In-period | Residential retail |
| D-Mex: Developer services measure of experience [PR19HDD_G2] | Financial - Out & under; In-period | Business retail |

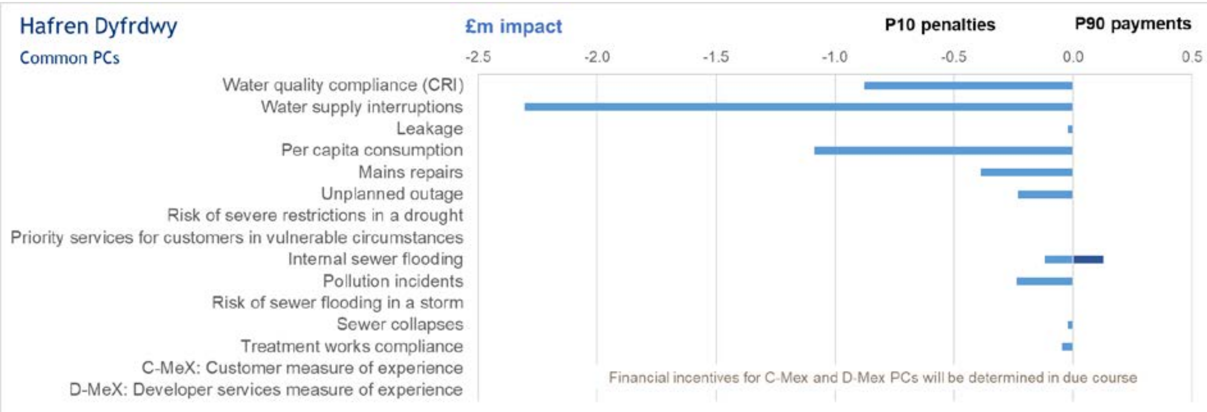
**Table 2.3: Summary of performance commitments: bespoke performance commitments**

| Name of bespoke performance commitment | Type of outcome delivery incentive | Price controls outcome delivery incentives will apply to |
|---|---|---|
| Number of complaints about drinking water quality [PR19HDD_A2] | Financial - Out & under; In-period | Water resources; Water network plus |
| Number of lead pipes replaced [PR19HDD_A3] | Financial - Out & under; In-period | Water network plus |
| Properties at risk of receiving low pressure [PR19HDD_B7] | Financial - Under; In-period | Water network plus |
| Length of river water quality improved [PR19HDD_C1] | Financial - Out & under; End of period | Wastewater network plus |
| Hectares managed for biodiversity [PR19HDD_C2] | Financial - Out & under; In-period | Water resources; Wastewater network plus |
| Satisfactory sludge disposal [PR19HDD_C3] | Financial - Under; In-period | Bioresources |
| Inspiring our customers to use water wisely [PR19HDD_D1] | Reputational | N/A |
| Sewer blockages [PR19HDD_E3] | Financial - Out & under; In-period | Wastewater network plus |
| Reduction in the number of void supply points [PR19HDD_F1] | Financial - Out & under; In-period | Residential retail |
| Non household customer experience [PR19HDD_G3] | Financial - Out & under; In-period | Business retail |
| Welsh language services [PR19HDD_G4] | Reputational | N/A |
| Help to pay when you need it [PR19HDD_H2] | Reputational | N/A |
| Effectiveness of the affordability support [PR19HDD_H3] | Reputational | N/A |
| Priority services during an incident [PR19HDD_H4] | Reputational | N/A |
| WINEP Delivery [PR19HDD_NEP01] | Reputational | N/A |

Figure 2.1 and Figure 2.2 below provide an indication of the financial value of each of Hafren Dyfrdwy's outcome delivery incentives (taking into account the impact of our draft determination interventions) showing how much the company would have to return to customers if it underperformed to the P10 level and how much the company would gain if it over performed to the P90 level. The figures cover common and bespoke commitments respectively.

Table 2.4 below provides an indication of the financial value of the overall package at the upper and lower extreme levels of performance (expressed as a percentage point impacts on RoRE (return on regulated equity)) and the overall impact of our draft determination interventions. The estimates are based on the company's own view of the plausible bounds of performance. The P90 is the performance threshold at which there is only a 10% chance of outturn performance being better. The P10 is the performance threshold at which there is only a 10% chance of outturn performance being worse.

### Figure 2.1: Projected P10 penalties and P90 payments for common performance commitments over 2020-25 (£ million)




### Figure 2.2: Projected P10 penalties and P90 payments for bespoke performance commitments over 2020-25 (£ million)

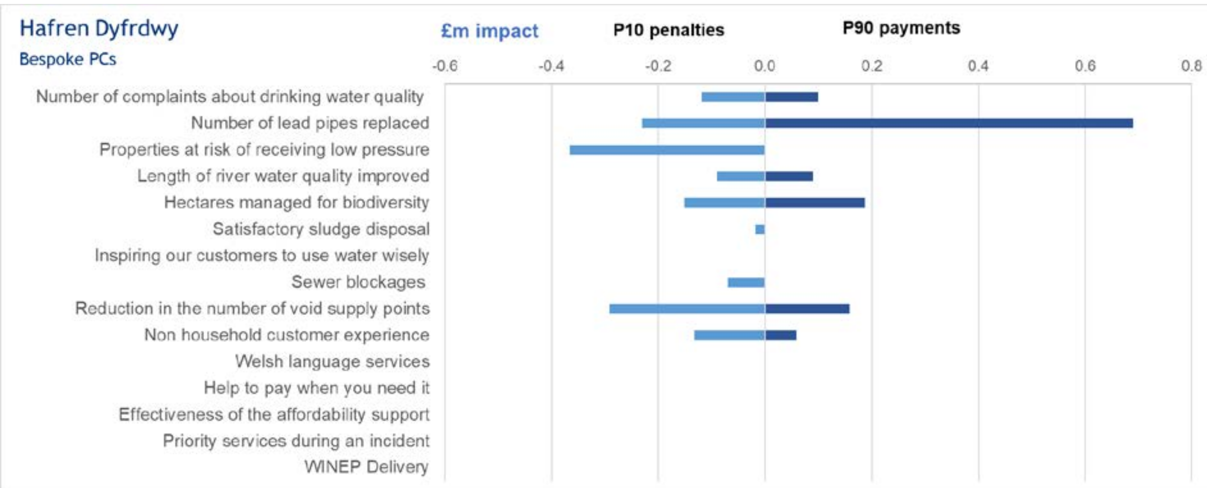


**Table 2.4: Impact of draft determination interventions on RoRE range**

| | April 2019 business plan | | Draft determination | |
|---|---|---|---|---|
| | % of 5 year regulatory equity | | % of 5 year regulatory equity | |
| | P10 | P90 | P10 | P90 |
| Hafren Dyfrdwy | -2.04 | +0.48 | -2.07 | +0.30 |

In the PR19 methodology we said that we expect companies to propose approaches to protect customers in case their outcome delivery incentive payments turn out to be much higher than expected. We asked companies in our initial assessment of business plans 'PR19 initial assessment of plans: Delivering outcomes for customers policy appendix' to put in place additional protections for customers where we considered protections were not adequate.

We are applying caps and collars to financially material and/or highly uncertain performance commitments and allowing caps and collars on other performance commitments where company proposals are supported by high quality customer engagement.

The company has accepted our standard sharing mechanism, where 50% of outperformance payments that exceed 3% of return on regulatory equity (RoRE) in any year are shared with customers through bill reductions in the following year. We accept this proposal. We set out further detail of the mechanism in 'Delivering outcomes for customers policy appendix'.

In our PR19 methodology, we decided to replace the current Service Incentive Mechanism (SIM) with two new mechanisms to incentivise companies to provide a great experience for residential customers (our customer measure of experience, or C-MeX) and developer services customers (our developer services measure of experience, or D-MeX). C-MeX and D-MeX will be operational from April 2020. We set out further details on C-MeX and D-MeX in the 'Delivering outcomes for customers policy appendix'. We will publish our decisions on C-Mex and D-Mex incentive designs for 2020-25 as part of the final determinations in December.

We will finalise the company's performance commitments and outcome delivery incentives in the light of representations on this draft determination, so that these can be reflected as appropriate in the company's final determination to be published in December.

## 2.3 Linking outcomes to resilience

During the initial assessment of plans, we were concerned that companies' plans lacked a clear line of sight between the risks to resilience identified, the proposed mitigations presented in the plan to tackle these risks, and how these mitigation plans were reflected as service improvements in the form of stretching performance commitments. In this context, we are intervening to ensure Hafren Dyfrdwy's resilience challenges are reflected in its outcomes and performance commitments, particularly in relation to sewer collapses, treatment works compliance, unplanned outage, mains repairs and to its bespoke resilience metric ('Source resilience').

Our initial assessment of plans also noted that Hafren Dyfrdwy provided insufficient evidence of its assessment and prioritisation of risks and how these link to its planned mitigations, which have limited consideration of redundancy or response and recovery options. The company lacked an assessment of the level of development of its systems in relation to resilience and of other evidence to demonstrate the benefit that specific investments have in mitigating quantified levels of risk (and/or in increasing system resilience) and supporting stable or improved commitment targets. We expect companies to address this and other issues associated with the way they integrate resilience across their business in the action plans that will be submitted by 22 August 2019 and in their responses to the draft determinations in relation to specific investment proposals. We will take into account the quality of companies' response in our final determinations.

## 2.4 Deliverability

To maintain trust and confidence, it is important that companies not only have a great business plan but also that customers have confidence that the business plan will be delivered. In our initial assessment of the company's past performance Hafren Dyfrdwy did not provide us with sufficient evidence of the deliverability of its costs and outcomes proposals in particular on pollution incidents and water supply interruptions, in its business plan. We required the company to provide further evidence of deliverability and an action plan for continuous improvement in this area. We have considered the additional evidence provided by Hafren Dyfrdwy to identify whether we need to include additional measures in its draft determinations to incentivise the delivery of its business plan, in particular whether to strengthen the outcome delivery incentives package. A more detailed assessment of the company's additional evidence of deliverability is included in 'Hafren Dyfrdwy - Accounting for past delivery actions and interventions', and our methodology for conducting this assessment is in the 'Accounting for past delivery technical appendix'.

We focus our analysis of outcomes on the pollution incidents and water supply interruptions, performance commitments, where we had the greatest concerns. The company provides further evidence to support its deliverability and an action plan for continuous improvement.

For the pollution incidents and water supply interruptions performance commitments, the company provides further evidence to support its deliverability, and an action plan for continuous improvement. The company's action plan for continuous improvement is generic, not specific to individual performance commitments. The company provides sufficient evidence in relation to some elements of the action plan for continuous improvement but there is insufficient evidence in other areas.

For the pollution incidents and water supply interruptions performance commitments, the company provides further evidence to support its deliverability, and an action plan for continuous improvement at a general, but not at performance commitment specific level.

For the pollution incidents performance commitment, the company provides insufficient evidence to support the deliverability of the stretch in its 2020-25 business plan. We are already intervening in our outcomes assessment to protect customers by increasing Hafren Dyfrdwy's outcome delivery incentive underperformance rate to provide sufficient incentives to mitigate the risks around delivery of 2020-25 stretch. For information on how we are intervening on these rates, please see the 'Delivering outcomes for customers policy appendix'. We do not consider that any further intervention is required as a result of our deliverability assessment.

Hafren Dyfrdwy's small size compared to other water and sewerage companies means that it can be adversely affected by a small number of incidents having a large impact on the normalised measure. For this reason we do not propose further intervention on underperformance rates. Instead, to provide additional protection for customers, we will require the company to report additional information in its Annual Performance Report during 2020-25. This will create an increased level of transparency around relevant incidents, and hence a stronger incentive for the company to achieve the level of stretch in the 2020-25 business plan. It will also encourage the company to follow best practice in identifying lessons learnt following major incidents.

We will require the company to include the following information on each major incident in its Annual Performance Report for 2020-25, subject to an appropriate level of governance and assurance:

- details on what the incident was;
- the impact of the incident (including number of customers affected and length of time they were affected for);
- the analysis the company has conducted to identify the cause of the incident;
- how the company responded to the incident and its assessment of how effective this was;
- the lessons the company learnt from the incident; and

- the measures put in place following the incident to prevent future incidents.

For the water supply interruptions performance commitment, the company provides insufficient evidence to support the deliverability of the stretch in the 2020-25 business plan. We are therefore intervening to protect customers by increasing Hafren Dyfrdwy's outcome delivery incentive underperformance rate to the industry average rate (on a normalised basis) because we consider that a stronger incentive is required for the company to achieve the level of stretch in the 2020-25 business plan.

For costs performance, the company provides further evidence to support the deliverability of the stretch in the 2020-25 business plan, and an action plan for continuous improvement. The company provides sufficient evidence in relation to some elements of the action plan for continuous improvement but there is insufficient evidence in other areas. The company provides insufficient evidence to support the deliverability of the stretch in the 2020-25 business plan. However, the company's track record of underspending in 2015-20 and the intervention we are making to increase base cost allowance relative to its business plan due to it being efficient on base totex alleviate some of our concerns on deliverability. We are therefore not intervening in this area for the draft determination as we consider that customers are protected as there is sufficient evidence the company's costs are deliverable.

# 3 Cost allowances

We set out in our PR19 methodology that we expect company business plans to show a step change in efficiency. In its April business plan, Hafren Dyfrdwy's costs are efficient for both wholesale and residential retail. In business retail, we challenge its proposed costs for small customers (consuming less than 5Ml per annum) to be equal to its efficient costs per customer in residential retail.

Our approach to setting total expenditure (totex) allowances is detailed in our publication 'Securing cost efficiency technical appendix'. In addition to challenging companies to be more efficient we have also, where appropriate, set safeguards to protect customers if specific investments are not delivered as planned.

In the 'Hafren Dyfrdwy – Cost efficiency draft determination appendix' we provide more detailed information on our cost challenge for enhancement expenditure, our allowance for cost adjustment claims and transitional expenditure and how we will deal with the uncertainty in the NEP.

## 3.1 Wholesale total expenditure

Table 3.1 shows the totex allowances by year and by wholesale price control for the period 2020-25. We have phased our allowed totex over 2020-25 using the company business plan totex profile.

**Table 3.1: Totex[1] (excluding pension deficit recovery) by year for wholesale controls, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total | Company view - total |
|---|---|---|---|---|---|---|---|
| Water Resources | 6.1 | 5.9 | 4.6 | 4.4 | 4.6 | 25.5 | 25.2 |
| Water network plus | 22.0 | 21.9 | 22.5 | 22.1 | 22.2 | 110.7 | 110.6 |
| Wastewater network plus | 3.9 | 4.3 | 4.5 | 5.6 | 4.0 | 22.3 | 21.9 |
| Bioresources | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 | 5.4 | 3.6 |
| **Total** | **33.1** | **33.1** | **32.6** | **33.1** | **31.9** | **163.8** | **161.3** |

1 Totex includes all costs except pension deficit recovery costs. This includes third party costs, operating lease adjustments, allowances related to the development of strategic regional water resource solutions and costs that are assumed to be recovered through grants and contributions.

Table 3.2 sets out the build-up of our totex allowance from base and enhancement costs. Base expenditure refers to routine, year on year costs, which companies incur in the normal running of their business. Enhancement expenditure refers to investment for the purpose of enhancing the capacity or quality of service beyond base level.

For draft determinations, we have changed the scope of costs included under base expenditure compared to the initial assessment of plans. Our base costs for wholesale water now include costs associated with the connection of new developments (ie new developments and new connection costs) and costs for addressing low pressure. Our base costs for wholesale wastewater now include new connections and growth, growth at sewage treatment works and costs to reduce flooding to properties that were previously assessed as enhancement expenditure.

**Table 3.2: Totex by wholesale price control and type of cost, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| | Our cost allowance | | | | | Company view |
|---|---|---|---|---|---|---|
| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total | Total |
| Base expenditure | 11.5 | 97.8 | 20.0 | 5.4 | 134.7 | 124.7 |
| Enhancement expenditure | 6.9 | 5.1 | 2.6 | 0.0 | 14.7 | 20.6 |
| Third party costs | 7.3 | 8.7 | 0.0 | 0.0 | 16.0 | 16.0 |
| **Total – excluding pension deficit recovery** | **25.7** | **111.7** | **22.7** | **5.4** | **165.4** | **161.3** |
| Pensions deficit recovery costs | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| **Total** | **25.7** | **112.7** | **22.7** | **5.4** | **166.4** | **161.3** |

1 We display base costs under the new definition. Company business plan base costs exclude enhancement opex.
2 We are displaying pension deficit recovery costs separately as they are not included in the calculation for PAYG (see section 4).
3 Table 3.2 does not include operating lease adjustments, allowances related to the development of strategic regional water resource solutions. Any ex-ante cost sharing adjustments and costs that are assumed to be recovered through grants and contributions are also excluded. This is to allow a simpler comparison with base and enhancement costs. Table 3.6 sets out a reconciliation of inclusions and exclusions in totex for cost sharing and for the financial model.
4 The company view of pension deficit recovery costs is the full cost, not just the cost the company expects to include within price controls.

## 3.2 Base expenditure

Table 3.3 shows our challenge to company proposed base expenditure. We distinguish between ‘modelled base costs’ and ‘unmodelled base costs’. We challenge modelled base costs based on comparative assessment (using econometric models). Our efficiency challenge is based on cost performance within the sector as well as evidence from the wider economy.

Unmodelled base costs include business rates; abstraction charges; costs to meet the Traffic Management Act and costs to meet the wastewater Industrial Emissions

Directive where applicable. Our assessment of these costs sits outside of our econometric models and we explain our approach in 'Securing cost efficiency technical appendix'.

**Table 3.3: Base totex expenditure, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| Price Control | Company business plan - base cost | Modelled base costs efficiency adjustment | Unmodelled base costs adjustment | Base cost allowance |
|---|---|---|---|---|
| Water Resources | 10.2 | 1.2 | 0.0 | 11.5 |
| Water Network plus | 91.7 | 5.8 | 0.3 | 97.8 |
| Wastewater Network plus | 19.2 | 1.0 | -0.1 | 20.0 |
| Bioresources | 3.6 | 1.9 | -0.1 | 5.4 |
| Total | **124.7** | **9.9** | **0.1** | **134.7** |

Note: Base costs include operating and maintenance costs as well as new development, new connections and addressing low pressure costs in water, and new connections and growth, growth at sewage treatment works, costs to reduce flooding to properties and transfer to private sewers and pumping stations in wastewater. Company business plan base costs exclude enhancement opex.

## 3.3 Enhancement expenditure

Table 3.4 summarises our allowances for enhancement expenditure.

Our draft determination allows Hafren Dyfrdwy £15 million to invest in improvements to service, resilience and the environment. Key parts of this allowance are:

- £6.6 million to improve the environment by efficiently delivering its obligations as set out in its NEP including work to meet its requirements under the Eels Regulations and improving biodiversity; and
- £2.8 million to ensure reservoir resilience and safety in line with new regulations; and
- £0.8 million to install more than 5,000 new meters.

The most material area of enhancement cost challenge for Hafren Dyfrdwy is resilience and the two freeform enhancement investments 'reservoir safety' and 'environment act and well-being of future generations'. Freeform enhancement investments relate to specific enhancements which the company does not consider fits the description of any of the standard enhancement lines.

Regarding resilience, we allow the amount relating to the reservoir safety cost adjustment claim. The remaining amount is not accepted given the lack of evidence to justify the investment. It appears that the expenditure has been incorrectly included in the supply resilience cost adjustment claim that was withdrawn by Hafren Dyfrdwy in the April 2019 revised submission.

Regarding the freeform enhancement investment 'environment act and well-being of future generations', the company did not respond to our request of further evidence to support the investments proposed under the Well-Being Act. We only allow the expenditure related to environment and biodiversity and a proportion of the expenditure that Hafren Dyfrdwy links to the Well-being Act, which together represents approximately 50% of the amount requested by the company. Regarding the request for additional funding for 'Reservoir Act (reservoir safety)', we do not increase the allowance as we consider our allowance is reasonable and the company is getting more than it requested in the water resources price control overall.

Our document 'Hafren Dyfrdwy - Cost efficiency draft determination appendix' sets out in more detail the cost allowances by investment area for each price control, and we give full details in our published models.

**Table 3.4: Enhancement totex expenditure, 2020-25 (£ million, 2017-18 CPIH deflated prices)**

| Service | Company requested totex | Scope and efficiency adjustment | Our allowance |
|---|---|---|---|
| Water Resources | 5.5 | 1.4 | 6.9 |
| Water Network plus | 12.4 | -7.3 | 5.1 |
| Wastewater Network plus | 2.7 | -0.1 | 2.6 |
| Bioresources | 0.0 | 0.0 | 0.0 |
| Total | **20.6** | **-5.9** | **14.7** |

## 3.4 Cost sharing

When a company overruns its totex allowance, the additional cost incurred above our allowance will be shared between its investors and customers. When a company spends less than its totex allowance, it will share the benefits with customers.

For the draft determinations we calculate each company's cost sharing rates based on the ratio of the company's view of costs in its September 2018 business plan relative to our view of efficient costs. For the final determinations we propose to calculate the company's view based on a 50% weight on the company's final cost proposals in its representation to the draft determination and 50% weight on the September 2018 business plan. We explain our approach to calculating cost sharing rates in the 'Securing cost efficiency technical appendix'.

Hafren Dyfrdwy's September 2018 business plan was assessed as requiring significant scrutiny at the initial assessment of plans. In our PR19 methodology we set out that for companies whose plans are assessed to need significant scrutiny, we will set a reduced cost sharing rate of 75% for underperformance and 25% for outperformance. When we published our view of costs at the initial assessment of plans we said we would decide at the final determination whether to apply a reduced cost sharing rate, or calculate the rates based on our approach for slow track companies, to reflect whether the company had engaged positively to address our concerns with the plan over the remainder of the price review process. We consider that, subject to the company continuing to address our concerns through a timely, high quality response to our draft determination, we are not likely to apply a reduced cost sharing rate for Hafren Dyfrdwy. For the draft determination we have not applied a reduced cost sharing rate for Hafren Dyfrdwy.

**Table 3.5: Totex cost sharing for cost performance for 2020-25, %**

| | Water resources | Network plus - water | Network plus - wastewater |
|---|---|---|---|
| Cost sharing rate – outperformance | 52.0% | 52.0% | 54.0% |
| Cost sharing rate – underperformance | 50.0% | 50.0% | 50.0% |

Table 3.6 sets out the costs that are subject to cost sharing. We apply cost sharing to net totex. Net totex excludes grants and contributions, costs of operating leases, strategic regional water resources development costs, third party costs and pension deficit recovery cost.

We adjust allowed costs to reflect a change in the accounting treatment of leases, which causes some assets formerly recognised as operating leases to be recognised on the company's balance sheet. In doing so, we have followed the approach set out in IN 18/09 Guidance for reporting operating leases in PR19 business plans. Hafren Dyfrdwy did not propose any adjustment.

**Table 3.6: Totex subject to cost sharing rates – 2020-25, £ million[1]**

| | Water resources | Network plus – water | Network plus – wastewater | Company view |
|---|---|---|---|---|
| Gross totex (excluding third party costs) | 18.4 | 102.9 | 22.7 | 141.7 |
| Grant and contributions | 0.0 | -2.3 | -0.3 | -4.3 |
| Operating leases adjustment | 0.0 | 0.0 | 0.0 | 0.0 |
| **Net totex (subject to cost sharing)** | **18.4** | **100.6** | **22.3** | **137.4** |
| Strategic regional water resource solutions[2] | 0.0 | 0.0 | 0.0 | 0.0 |
| Third party costs | 7.3 | 8.7 | 0.0 | 16.0 |
| Ex-ante cost sharing adjustment | -0.2 | -1.0 | -0.4 | 0.0 |
| **Net totex (for financial model)** | **25.5** | **108.4** | **21.9** | **153.4** |

[1] Table 3.6 does not include pension deficit repair expenditure, as this is not included in cost sharing.
[2] The standard totex cost sharing does not apply to strategic regional water resource solution expenditure, see 'Strategic regional water resources solution appendix' for more details.

## 3.5 Transition expenditure

Hafren Dyfrdwy does not request any expenditure under the transition programme.

## 3.6 Residential retail

We determine the residential retail control from the expenditure set out in Table 3.7, using an econometric modelling approach to set our allowance. The residential retail draft determination does not include any of our allowed pension deficit recovery costs. The residential retail draft determination does not include any of our allowed pension deficit recovery costs. These costs have been wholly allocated to wholesale controls.

**Table 3.7: Expenditure, residential retail, 2020-25 (£ million, nominal)**

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|---|---|---|---|---|---|---|
| Residential retail | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 | 14.3 |
| Company view | 2.9 | 2.9 | 2.7 | 2.5 | 2.5 | 13.5 |

Note: The residential retail control is an average revenue control. Allowed cost and the associated allowed revenue is based on a forecast of the number of customers. There will be an end-of-period true up based on the actual number of connected households.

## 3.7 Business retail

We determine the business retail control from the information provided by tariff bands.

Our analysis at the initial assessment of plans stage identified that Hafren Dyfrdwy has high costs per customers and asked Hafren Dyfrdwy to reconsider the efficiency of its business retail costs. As the company failed to provide any additional information in its April business plan, we have set an efficiency challenge for Hafren Dyfrdwy's costs in the PR19 period.

Since Hafren Dyfrdwy's cost in the residential retail segment are considered to be efficient and as the company's customer base in the business retail segment is almost entirely made up of businesses with low water use (<5Ml per annum), we deem that the residential retail efficiency challenge provides a reasonable proxy.

Therefore, for customer segments consuming less than 5Ml per annum of water and wastewater services, the allowed cost per customers for each year has been set equivalent to Hafren Dyfrdwy's efficient costs in residential retail for the period of 2020-25.

For all other tariff categories i.e. customers consuming >5Ml per annum of water and wastewater services, Hafren Dyfrdwy's requested costs are considered appropriate, and we have allowed these costs in full[2]. These costs and related margins are set out in section 4.

**Table 3.8: Average retail cost per customer, business retail, 2020-25 (£, nominal[3])**

| | | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Water, unmeasured and <5Ml/a | Company view | 47.0 | 47.7 | 47.4 | 48.4 | 49.0 |
| | Ofwat allowance | 30.9 | 30.8 | 28.5 | 25.8 | 26.1 |
| Wastewater, unmeasured and <5Ml/a | Company view | 42.7 | 42.8 | 41.6 | 42.1 | 42.0 |
| | Ofwat allowance | 30.9 | 30.8 | 28.5 | 25.8 | 26.1 |

## 3.8 Direct procurement for customers

We set out in our PR19 methodology that we expect company business plans to consider direct procurement for customers where this is likely to deliver the greatest value for customers. Direct procurement for customers promotes innovation and resilience by allowing new participants to bring fresh ideas and approaches to the delivery of key projects. Companies were to consider direct procurement customers for discrete, large-scale enhancement projects expected to cost over £100 million, based on whole-life totex.

There is sufficient evidence that there are no schemes suitable to be delivered by way of a direct procurement for customers' process within Hafren Dyfrdwy's proposed plan. We expect Hafren Dyfrdwy to consider direct procurement for customers on future schemes to ensure delivery is via the most efficient route to ensure that customers receive the best value.

[2] We note that the cost per customer for 5-50Ml wastewater customers reported by Hafren Dyfrdwy is higher than its reported costs for >50Ml/a wastewater customers. This is peculiar and the company will be queried for further clarification at final determination stage. Hence, the cost per customer allowance for 5-50ML wastewater customer is provisional and will be finalised at final determination stage.

[3] Nominal prices use Ofwat's forecast of CPIH. This may vary from the company business plan forecast

# 4 Calculation of allowed revenue

This section sets out the calculation of allowed revenue for each of the price controls, based on our assessment of efficient costs. We set out in section 4.1 the components of allowed revenue for each of the price controls. We then set out information relevant to the calculation of the components of that allowed revenue in sections 4.2 and 4.4.

## 4.1 Allowed revenue

We calculate revenue separately for each of the wholesale controls and for the residential retail control. We set out the calculation of five year revenues for each of these controls in this section.

### Wholesale controls

For the wholesale controls (that is water resources, water network plus, wastewater network plus and bioresources), allowed revenue is calculated based on the following elements, not all elements are applicable to all wholesale controls as set out in Table 4.1.

- Pay as you go (PAYG) – this reflects the allocation of our efficient totex baseline to costs that are recovered from revenue in 2020-25. The proportion of totex not recovered from PAYG is added to the regulatory capital value (RCV) which is recovered over a longer period of time.
- Allowed return on capital – this is calculated based on our assessment of the cost of capital multiplied by the average RCV for each year.
- RCV run-off – this reflects the amount of RCV that is amortised from the RCV in the period of the price control.
- PR14 reconciliations – this reflects the application of out/underperformance payments from PR14 through revenue adjustments in 2020-25.
- Grants and contributions – this represents revenue that we expect to be received from developers in respect of work undertaken by companies to service new developments. It will include income from connection charges and infrastructure charges. This does not necessarily agree to the total grants and contributions deducted from totex, as only the income relating to the price control is included here.
- Non-price control income – income from charges excluded from the price controls. For example, this includes bulk supplies, standpipes, unmeasured cattle troughs, and other services. We deduct the forecast income from these charges

from the allowed revenue, because costs relating to these charges are included in the calculation of allowed revenue.

- Revenue re-profiling – this reflects the change in revenue in 2017-18 prices as a result of adjustments made to annual revenues to smooth the final bill profile consistent with customer preferences. The financial model calculates revenue adjustments on a net present value (NPV) neutral basis.

We set out the calculation of the allowed revenue for Hafren Dyfrdwy wholesale controls in Table 4.1. We summarise the total of the build-up of allowed revenue as five year totals, however our financial model calculates the allowed revenue on an annual basis for the purposes of our draft determination. We state the allowed revenue for each price control on an annual basis in section 6.

We explain how we calculate PAYG, RCV run-off and the allowed return on cost of capital in section 4.2, the revenue adjustments for PR14 reconciliations in section 4.3, and other elements of allowed revenue in section 4.4.

**Table 4.1: Calculation of allowed revenue (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total | Company view - total |
|---|---|---|---|---|---|---|
| Pay as you go | 17.0 | 76.7 | 10.4 | 5.4 | 109.5 | 107.5 |
| RCV run-off | 17.1 | 8.6 | 0.9 | 0.0 | 26.6 | 27.1 |
| Return on capital | 6.9 | 3.7 | 0.8 | 0.0 | 11.5 | 12.5 |
| Revenue adjustments for PR14 reconciliations | 0.0 | 0.9 | 0.4 | 0.0 | 1.2 | 2.1 |
| Tax | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grants and contributions (price control) | 0.0 | 2.1 | 0.2 | 0.0 | 2.3 | 2.9 |
| Deduct non-price control income | -28.6 | -10.4 | -0.7 | 0.0 | -39.7 | -35.6 |
| Revenue re-profiling | 0.0 | 0.0 | 0.0 | 0.0 | -0.1 | 0.0 |
| Final allowed revenues | 12.4 | 81.6 | 11.9 | 5.4 | 111.3 | 116.4 |

We set out the calculation of allowed revenue for each wholesale control on an annual basis in the ‘Hafren Dyfrdwy - Allowed revenue appendix’ in Tables 1.1 to Table 1.4.

## Residential retail control

For the residential retail control, allowed revenue is calculated as:

- Retail cost to serve – this reflects our efficient view of costs per customer for the retail business.
- Net margin on wholesale and retail activities – this is calculated based on the wholesale revenue applicable to residential retail customers, plus the retail cost to serve, with a net margin applied. Net margins are calculated excluding any adjustments to residential retail (see Table 4.2 below) – the full calculation is set out in our financial models.
- Our methodology set out an early view of the retail margin that applies for the retail price controls. This was used by Hafren Dyfrdwy in its business plan and is unchanged in our draft determination.

Allowed revenue for the residential retail control is set on a nominal basis and therefore we present the make-up of the allowed revenue in nominal prices in Table 4.2.

### Table 4.2: Retail margins (nominal price base)

| | 2020-25 | Company view 2020-25 |
|---|---|---|
| Total wholesale revenue - nominal (£ million) | 120.0 | 127.4 |
| Proportion of wholesale revenue allocated to residential (%) | 65.30% | 65.17% |
| Residential retail costs (£ million) | 14.3 | 13.5 |
| Total retail costs (£ million) | 92.7 | 94.5 |
| Residential retail net margin (%) | 1.00% | 1.00% |
| Residential retail net margin (£ million) | 0.9 | 1.0 |
| Residential retail adjustments (£ million) | -0.1 | -0.2 |
| Residential retail revenue (£ million) | 15.2 | 14.1 |

Note: retail revenue is the sum of the net margin, retail costs, and adjustments. Company view may not sum as this may include other adjustments.
Note: the proportion of wholesale revenue allocated to residential customers is provided by the company in the business plan tables. This is provided for each wholesale control separately, so although we have used the same proportions for each control as the company, our interventions on costs in each control mean that the combined proportion is slightly different.

We set out the calculation of residential retail revenue on an annual basis in the ‘Hafren Dyfrdwy - Allowed revenue appendix’ in Table 1.5.

## Business retail control

The business retail control allows an average revenue for each customer type. For Welsh companies, we use a 'net margin' approach for customers using less than 50Ml of water per year and all wastewater customers (customer group 1) and a gross margin approach for customers using at least 50Ml of water per year (customer group 2).

For each customer type in customer group 1, the allowed revenue is based on:

- the allowed retail cost to serve – this is the allowed average retail cost per customer multiplied by the number of customers; and
- a net margin, calculated as a percentage on the allowed retail cost to serve and the wholesale charge for that customer group.

The allowed average retail cost per customer and the net margin for each customer type is set out in Table 4.3.

**Table 4.3: Business customer group 1, allowed average retail cost components and allowed net margins (£, nominal prices)**

| Customer type | Units | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Water: unmeasured and 0-5 Ml/a | Average Retail Costs | 30.88 | 30.76 | 28.47 | 25.75 | 26.07 |
| | Net margin (%) | 1.15% | 1.15% | 1.15% | 1.15% | 1.15% |
| Water: 5-50 Ml/a | Average Retail Costs | 163.66 | 167.34 | 168.38 | 173.48 | 176.53 |
| | Net margin (%) | 0.61% | 0.61% | 0.61% | 0.61% | 0.61% |
| Waste Water: Unmeasured and 0-5 Ml/a | Average Retail Costs | 30.88 | 30.76 | 28.47 | 25.75 | 26.07 |
| | Net margin (%) | 1.13% | 1.13% | 1.13% | 1.13% | 1.13% |
| Waste Water: 5-50 Ml/a | Average Retail Costs | 173.40 | 177.57 | 181.37 | 187.63 | 191.44 |
| | Net margin (%) | 0.68% | 0.68% | 0.68% | 0.69% | 0.69% |
| Waste Water: 50+ Ml/a | Average Retail Costs | 56.29 | 57.40 | 58.07 | 59.49 | 60.30 |
| | Net margin (%) | 0.77% | 0.78% | 0.78% | 0.78% | 0.78% |

For each customer type in customer group 2, the allowed revenue is based on an allowed gross margin. Rather than setting a retail cost per customer and a net margin, this approach simply sets a gross margin as a percentage of the wholesale charge for the customer group (with this gross margin expected to cover retail costs to serve too). We first took this approach at PR16 as a simplification for the largest customers, allowing companies to set several different tariffs for customers that fall into these consumption bands while meeting the overall gross margin cap. The gross margin is set out in Table 4.4.

In our PR19 Methodology we said we would retain the supplementary cap for customer group 2 that we introduced at PR16. The purpose of this cap was to avoid undue price disturbance at the opening of the business retail market and it prevented the average retail revenue in each tariff band increasing by more than 1% of customers' overall bill each year. We now propose not to retain the supplementary cap, because retaining it would maintain a regulatory burden, yet:

- for medium and high usage customers we have seen signs of effective competition developing in the market and these customers have high awareness of market opening and relatively high levels of engagement in the market; and
- any potential benefit of the supplementary cap in terms of price stability is much reduced.

This is consistent with our review of the Retail Exit Code where we decided to relax regulatory protections for medium and higher usage customers and also remove the supplementary cap.

**Table 4.4: Business customer group 2 and allowed gross margins (%)**

| Customer type | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|
| Water, ≥50Ml/a | 3.30% | 3.30% | 3.30% | 3.30% | 3.30% |

## 4.2 Cost recovery now and in the long term for the wholesale controls

Our totex cost allowances are sufficient to meet an efficient company's operating and capital expenditure. Companies recover this expenditure either in period from current customers using PAYG or add it to the RCV and recover from future generations of customers using the RCV run-off rates. Consistent with our methodology, we assess how each company's choice of PAYG and RCV run-off rates reflect the levels of proposed expenditure, bill profiles, affordability and customer views relevant to the short and the long term.

To determine the allowed revenue, the PAYG rate is applied to the totex allowance for each wholesale control for each year of the price control. The proportion of the totex allowance that is not recovered in PAYG is added to the RCV and recovered from customers in future periods.

In this section we set out our approach to calculating the PAYG rates, the RCV to which the cost of capital is applied and the RCV run-off rates.

## PAYG

We calculate total PAYG totex for each year of each wholesale price control based on the totex allowance for each year multiplied by the relevant PAYG rate for that year. To this we add allowed pension deficit recovery costs to derive total PAYG revenue.

We summarise in Table 4.5 the average PAYG rates across 2020-25 for each wholesale control, and the calculation of total PAYG revenue. The PAYG rates shown in the table are a weighted average across the five years 2020-25, the annual PAYG revenue and PAYG rates for each wholesale control are shown in the 'Hafren Dyfrdwy - Allowed revenue appendix', Tables 2.1 to 2.4.

To PAYG totex we add the allowed costs for pension deficit recovery set out in Table 3.2 to derive total amount to be recovered in 2020-25 for each price control.

### Table 4.5: PAYG allowances for each wholesale control (5 year)

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total | Company view - Total |
|---|---|---|---|---|---|---|
| Totex allowance (£m) | 25.5 | 108.4 | 21.9 | 5.4 | 161.2 | 157.9 |
| PAYG (%) | 66.7% | 69.9% | 47.4% | 100.0% | 67.3% | |
| Pay as you go totex (£m) | 17.0 | 75.7 | 10.4 | 5.4 | 108.5 | 106.1 |
| Pension deficit recovery cost (£m) | 0.0 | 1.0 | - | - | 1.0 | 1.4 |
| Total pay as you go (£m) | 17.0 | 76.7 | 10.4 | 5.4 | 109.5 | 107.5 |
| Company plan PAYG rate (%) | 65.4% | 69.1% | 54.7% | 100.0% | | 67.2% |

Hafren Dyfrdwy's approach to PAYG rates is to recover in each year an amount equivalent to operating costs plus infrastructure renewal costs. We accept the approach taken by the company and have applied a technical intervention to amend the PAYG rates proposed in the business plan to reflect our view of the mix of operating and capital expenditure following our totex interventions compared with the business plan. Our view of efficient totex is higher than the company's plan and contains a higher proportion of capital expenditure than the company proposed however, as a result of other interventions, allowed revenue is lower overall. We set out how we apply the technical intervention in 'Aligning risk and return technical appendix'.

Hafren Dyfrdwy's business plan includes an adjustment to PAYG rates to move allowed revenue from wastewater to water controls to assist affordability and balance bills across water and wastewater bills taking account of commitments made at the time of the border variation (NAV). We are applying a further technical intervention to amend this adjustment to maintain the wastewater bill as proposed in the revised business plan.

## Opening RCV adjustments

As part of the business plan Hafren Dyfrdwy proposed allocations of the RCV for both Water Resources and Bioresources price controls based on Ofwat guidance. We are allocating the company's RCV between the existing wholesale controls and these new controls in accordance with the proportions proposed by Hafren Dyfrdwy. Hafren Dyfrdwy has no bioresources assets as all sludge is exported to neighbouring companies for treatment and disposal. As such it has a zero bioresources RCV.

We make reconciliation adjustments ('midnight adjustments') related to the company's performance against incentive mechanisms from previous price reviews and for land sales in order to determine the opening RCV for the period of the PR19 controls. We also adjust the RCV upwards to reflect a change in the accounting treatment of leases, which causes some assets formerly recognised as operating leases to be recognised on the company's Balance sheet. In doing so, we have followed the approach set out in IN 18/09 Guidance for reporting operating leases in PR19 business plans. Hafren Dyfrdwy did not propose any adjustment.

**Table 4.6: Opening RCV, 1 April 2020 (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources |
|---|---|---|---|---|
| RCV – 31 March 2020 | 73.4 | | 1.8 | |
| % of RCV allocated by control | 80.26% | 19.74% | 100.00% | 0.0% |
| RCV – 31 March 2020 | 58.9 | 14.5 | 1.8 | - |
| Midnight adjustments to RCV | -3.2 | -0.8 | -1.3 | - |
| Midnight adjustments relating to operating leases | - | - | - | - |
| Opening RCV – 1 April 2020 (before fast-track reward) | 55.7 | 13.7 | 0.5 | 0.0 |

## Return on capital

Companies are allowed a return on the RCV, equal to the Weighted Average Cost of Capital (WACC).

Our PR19 methodology set out an ‘early view’ cost of capital for all wholesale controls. Hafren Dyfrdwy’s business plan incorporates the early view cost of capital for the wholesale price controls of 3.30% - CPIH deflated (2.30% - RPI deflated). We have updated our view of the cost of capital for the wholesale price controls to 3.08% – CPIH deflated (2.08% – RPI deflated). We set out the basis for the updated view in the ‘Cost of capital technical appendix’. We have used our updated cost of capital in this draft determination.

The PR19 methodology confirmed we will transition to CPIH as the primary inflation rate from 2020. At 1 April 2020, we will index 50% of RCV to RPI; the rest, including totex that is added to the RCV, will be indexed to CPIH. Table 4.7 and Table 4.8 set out the opening and closing balance for each component of RCV.

The PR19 methodology confirmed our protection of the value of the RCV as at 31 March 2020 across each of the wholesale price controls. Totex that is added to the RCV from 1 April 2020 is stated as ‘post 2020 investment’.

In determining the ‘return on capital’ revenue building block, we apply the relevant deflated cost of capital to the average RCV for the year for each component (RPI inflated, CPIH inflated and post 2020 investment). This results in a return on capital for each wholesale control over the period 2015-20 as set out in Table 4.9.

**Table 4.7: Opening RCV by wholesale control for each component of RCV, 1 April 2020 (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| RPI inflated RCV | 27.8 | 6.8 | 0.2 | - | 34.9 |
| CPIH inflated RCV | 27.8 | 6.8 | 0.2 | - | 34.9 |
| Other Adjustments | - | - | - | - | - |
| Total RCV | 55.7 | 13.7 | 0.5 | - | 69.9 |

### Table 4.8: Closing RCV by wholesale control for each component of RCV, 31 March 2025 (£ million)

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| RPI inflated RCV | 21.1 | 5.2 | 0.2 | - | 26.5 |
| CPIH inflated RCV | 20.1 | 4.9 | 0.2 | - | 25.3 |
| RCV Additions | 7.0 | 28.0 | 10.7 | - | 45.7 |
| Other Adjustments | - | - | - | - | - |
| Total RCV | 48.2 | 38.1 | 11.1 | - | 97.4 |

### Table 4.9: Return on capital by wholesale control for each component of RCV, 2020-25 (£ million)

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| RPI inflated RCV | 2.5 | 0.6 | 0.0 | - | 3.2 |
| CPIH inflated RCV | 3.7 | 0.9 | 0.0 | - | 4.6 |
| Post 2020 investment | 0.7 | 2.2 | 0.8 | - | 3.7 |
| Other Adjustments | - | - | - | - | - |
| Total return on capital | 6.9 | 3.7 | 0.8 | - | 11.5 |
| Company view – total return on capital | 7.6 | 4.1 | 0.7 | - | 12.5 |

Note: Total return on capital is calculated by multiplying the annual average RCV for each element of RCV (RPI inflated, CPIH inflated and post 2020 investment) by the wholesale WACC for each control. The return on capital for each year of the price control for each wholesale control are shown in the 'Hafren Dyfrdwy - Allowed revenue appendix' in Tables 3.1 to 3.16 and 4.1 to 4.4.

## RCV run-off

RCV run-off is the proportion of the RCV which is recovered in the 2020-25 period. Companies are able to propose different run-off rates for RPI inflated and CPIH inflated RCV and also, for the water resources and bioresources controls, for post 1

April 2020 investment. Table 4.10 sets out the resultant RCV run-off revenue for each component of RCV for each wholesale control.

**Table 4.10: RCV run-off on the RCV (5 year) (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total |
|---|---|---|---|---|---|
| CPIH inflated RCV | 7.7 | 1.9 | 0.0 | 0.0 | **9.7** |
| RPI inflated RCV | 7.9 | 1.9 | 0.0 | 0.0 | **9.9** |
| Post 2020 investment | 1.5 | 4.7 | 0.9 | 0.0 | **7.0** |
| Total RCV run-off | 17.1 | 8.6 | 0.9 | 0.0 | 26.6 |
| Company view – total RCV run-off | 17.4 | 8.7 | 1.0 | 0.0 | 27.1 |

Note: Total RCV run-off is calculated by multiplying the opening RCV by the relevant RCV run-off rate for each element of RCV (RPI inflated, CPIH inflated and post 2020 investment) by the RCV run-off rate for each control (50% of run-off is applied to post 2020 investment in the year of additions).

Hafren Dyfrdwy's RCV run-off rates are initially based on the depreciation rate for each wholesale control. This looks at historical rates for assets that were transferred to the company at the time of the border variation due to the mismatch between the value of the assets and the RCV transferred at that time. The company applies a reduction to RCV run-off rates to maintain affordability and the commitments made regarding bills at the time of the border variation.

In response to the action from the initial assessment of plans, Hafren Dyfrdwy provided further evidence in relation to its amended RCV run-off rates. RCV run-off rates for the wastewater network plus control increase from the original submission by approximately 1.9% on average. The company does not provide sufficient evidence to support this increase, therefore we are intervening to reduce RCV run-off rates for the wastewater network plus control to align to the original business plan submission, reducing RCV run-off revenue by £0.1m.

We accept Hafren Dyfrdwy's RCV run-off rates for the other wholesale controls for the draft determination. However, the interventions to allowed totex changes the post-2020 investment added to RCV and therefore the total RCV run-off. Table 4.11 sets out the average RCV run-off rates across 2020-25 for each wholesale control proposed in the company's business plan and for our draft determination.

**Table 4.11: RCV run-off rates for each wholesale control (5 year)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources |
|---|---|---|---|---|
| Original company plan (%) | 6.30% | 6.30% | 4.30% | N/A |
| Draft determination (%) | 6.30% | 6.30% | 3.22% | N/A |

Note: RCV run-off (%) reflects the average of the rates applied to the CPIH and RPI inflated RCV components across the 5 years 2020-25.

The annual rates for each wholesale control are set out in the 'Hafren Dyfrdwy - Allowed revenue appendix' in Table 5.1 to Table 5.4.

## 4.3 PR14 reconciliations

In PR14, we set mechanisms to incentivise companies to do the right thing for their customers. These financial incentives cover cost efficiency, outcomes performance, revenue forecasting (wholesale and retail), customer service (the service incentive mechanism), water trading and land sales. It is important to reconcile the financial impacts of these mechanisms in PR19 to ensure that customers only pay for the service the company delivers.

We are also applying adjustments to reflect performance in the final year of the 2010-2015 period, which could not be fully taken into account in PR14. These adjustments apply to the RCV (the 'midnight adjustment') and revenue for the 2020-25 period. These adjustments are made in line with the 'PR14 reconciliation rulebook.'

We are publishing models for each of these reconciliations, and for the overall RCV and revenue adjustments on our website. 'Hafren Dyfrdwy - Accounting for past delivery actions and interventions' provides a detailed explanation of all policy interventions we are making in the models. Table 4.12 summarises our interventions. Table 4.13 sets out the resulting adjustments to revenue and the RCV. The 'Hafren Dyfrdwy - Accounting for past delivery appendix' sets out how these adjustments are allocated across controls and how the RCV adjustment feeds into the midnight adjustments to RCV set out in Table 4.6.

We are publishing the results of the reconciliation of the service incentive mechanism for all companies alongside the draft determinations for slow track and significant scrutiny companies in the 'Accounting for past delivery technical appendix'.

For outcome delivery incentives, the information we have used to reflect performance in 2019-20 is based on the company's latest expectations. Final figures for 2019-20 will not be able to be taken into account in PR19. We set out in the 'PR14 reconciliation rulebook' that we planned to complete the reconciliation for 2019-20 outcome delivery incentives at PR24 for 2025-30 so that we use final information.

However, most outcome delivery incentives for the 2020-25 period are in period and will have been reconciled before this date. In light of this we consider it would be more appropriate to complete this reconciliation in the autumn of 2020 and apply any change to bills for 2021-22 as part of the new in-period process. We will designate all of the financial PR14 performance commitments as being in-period for this purpose. Any adjustment between the 2019-20 forecast and actual figures should be modest and we would not expect a significant impact on bills. If, contrary to expectations the bill impact were to be more significant, we would expect companies to take measures to smooth the impact for their customers. The new PR19 mechanism to share benefits with customers from unexpected high outcome delivery incentive payments in a year will not apply to PR14 outcome delivery incentives. Instead the PR14 protection that caps the impact across the five years 2015-20 will apply.

The above applies equally to the company's 2015-20 in period outcome delivery incentives and we have used forecast information for 2018-19 and 2019-20 to reconcile these outcome delivery incentives. For the avoidance of doubt, no application is required in 2019 for in period determinations.

**Table 4.12: Reconciliation of PR14 incentives, interventions (2017-18 prices, unless otherwise stated)**

| Incentive | Intervention(s) |
|---|---|
| Outcome delivery incentives | **S-B1 and W-C1 (customers rating our services as good value for money)**<br>We are intervening to remove the forecast in-period 2018-19 and 2019-20 outperformance payments for performance commitments W-C1 and S-B1 (£700 in both years for W-C1 (water) and £500 in both years for S-B1 (wastewater)). This is because the forecast performance levels in 2018-19 and 2019-20 are equal to the outperformance payment deadband and therefore do not qualify for outperformance payments.<br>**A1 (discoloured water contacts)**<br>We are intervening to reduce the 2018-19 forecast outperformance payment of £240,200 by £237,798. The revised 2018-19 forecast outperformance payment is £2,402.<br>We are intervening to reduce the 2019-20 forecast outperformance payment of £315,300 by £312,147. The revised 2019-20 forecast outperformance payment is £3,153.<br>We are making these interventions to correct a company error in which the outperformance incentive rate was multiplied by a factor of 100.<br>Overall, our intervention decreases the total net performance payment for water from £0.411 million to - £0.229 million. |

| Incentive | Intervention(s) |
|---|---|
| Residential retail revenue | We are intervening to include an updated weighted average modification factor for allowed retail service revenue per unmeasured water customer in 2018-19 and 2019-20.<br>We are intervening to include an updated weighted average modification factor for allowed retail service revenue per measured water customer in 2018-19 and 2019-20.<br>We are doing this because the PR14 modification factors were different for Severn Trent Water and Dee Valley Water unmeasured and measured water customers and it is appropriate to use a weighted average for the merged company.<br>We are intervening to round the company's modification factor figures to 2 decimal places to ensure consistency with the 'PR14 reconciliation rulebook'.<br>Overall, our minor interventions increase the total residential retail revenue payment at the end of the 2015-20 period from - £0.045 million to - £0.046 million. |
| Wholesale revenue forecasting incentive mechanism | No interventions required. |
| Totex | No interventions required. |
| Land sales | No interventions required. |
| Service incentive mechanism | We are intervening to set Hafren Dyfrdwy's service incentive mechanism adjustment to - 1.18% of household retail revenue to reflect its performance from 2015-16 to 2018-19. This equates to - £0.180 million in total revenue over the period. This decreases revenue relative to the company's estimate of the mechanism's impact.<br>The service inventive mechanism for non-household customers will be reconciled for the final determination. See 'Accounting for past delivery technical appendix' for further details. |
| PR09 blind year adjustments | No interventions required. |

**Table 4.13: Reconciliation of PR14 incentives, 2020-25 (£ million, 2017-18 prices)**

| Incentive | RCV adjustments | | Revenue adjustments | |
|---|---|---|---|---|
| | **Company view** | **Ofwat view** | **Company view** | **Ofwat view** |
| Outcome delivery incentives | 0.0 | 0.0 | 0.9 | 0.3 |
| Residential retail revenue | N/A | N/A | 0.0 | 0.0 |
| Wholesale revenue forecasting incentive mechanism | N/A | N/A | 1.8 | 1.8 |
| Totex | -3.9 | -3.8 | -0.9 | -0.9 |
| Land sales | -0.1 | -0.1 | N/A | N/A |
| Service incentive mechanism | N/A | N/A | -0.1 | 0.0 |
| PR09 blind year adjustments | -1.5 | -1.5 | 0.0 | 0.0 |
| Water trading | N/A | N/A | 0.0 | 0.0 |
| Total | -5.5 | -5.4 | 1.7 | 1.1 |
| Total post profiling | N/A | N/A | 0.2 | 1.2 |

Note: The table indicates that our draft determination financial modelling includes an adjustment for the service incentive mechanism of £0.0 million. The adjustment should be - £0.2 million as confirmed in Table 4.12 above. We will correct this inconsistency for the final determination.
Note: Total post profiling is the total revenue over the period, taking account of the time value of money and the company's choices of how it wishes to apply revenue adjustments either in the first year or spread over a number of years.

These reconciliations are based on data from the 1 April company submissions. We will update these reconciliations to reflect the July data submissions for the final determinations.

## 4.4 Other allowed revenue

Other components of allowed revenue are:

- Corporation tax allowance – this is estimated from projected corporation tax rates, profit forecasts and assumed levels of tax relief contained in our financial model for the draft determination.
- Grants and contributions – this represents revenue that we expect to be received from developers in respect of work undertaken by companies to

service new developments. It will include income from connection charges and infrastructure charges.

- Non-price control income – this forecast income is deducted from the total allowed revenues, as this revenue is not recovered from the charges covered by the price control – but is expected to cover some of the costs included in the calculation of the price control.

**Table 4.14: Calculation of other allowed revenue (£ million)**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total | Company view |
|---|---|---|---|---|---|---|
| Tax | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Grants and contributions (price control) | 0.0 | 2.1 | 0.2 | 0.0 | 2.3 | 2.9 |
| Deduct other income (non-price control) | -28.6 | -10.4 | -0.7 | 0.0 | -39.7 | -35.6 |

## Taxation

We calculate a tax allowance reflecting the corporation tax that the company expects to pay in 2020-25. We calculate the tax allowance using our financial model based on the projected taxable profits of the appointed business and the current UK corporation tax rates and associated reliefs and allowances.

Hafren Dyfrdwy provided information in data tables relevant to the calculation of the expected tax charge. The information has been updated as part of the resubmission of various data tables to take account of the recent changes to capital allowances. We have accepted the information provided by the company and applied this to the draft determination.

Our interventions in other areas may impact on forecast levels of capital expenditure and in the area of new connections our assumed recovery rates may differ from what Hafren Dyfrdwy assumes in the business plan. The resulting impact on allowances used for the calculation of taxation has not been reflected. Where these changes result in significantly different inputs for capital allowances or tax deductions, we expect Hafren Dyfrdwy to identify this as part of its representations on the draft determination.

Hafren Dyfrdwy expects to generate tax losses over the period 2020-25, which will be surrendered to the group, with payment received at full value. Our PR19 methodology allows us to capture the full value of the tax losses surrendered and deduct them from the tax allowance. This ensures that customers do not lose out as a result of losses being transferred out of the company that could otherwise be offset against tax liabilities in the future.

We are intervening to adjust the revenue requirement (post financeability) in the draft determination for the company to reflect the payment received from the group for tax losses surrendered. The value of the adjustment is set out in the override log of the published financial model for Hafren Dyfrdwy. This will ensure customers benefit from the tax losses in the period they are generated. This is reflected in 'non price control income' (section 4.14).

**Table 4.15: Calculation of other allowed revenue (£ million) - Tax**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total | Company view - total |
|---|---|---|---|---|---|---|
| Tax | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

## Grants and contributions (price control)

Companies receive grants and contributions from developers towards the costs of 'new developments', expenditure to reinforce the network, and 'new connections', expenditure to connect a property, for example the meter and connection pipe. We calculate the grants and contributions receivable by applying a recovery rate to our view of new developments and new connections expenditure. This ensures that developers pay a fair share towards costs to connect new properties. We use this calculation of grants and contributions receivable from developers to ensure that the amounts billed to water and wastewater customers correctly reflect only that share of any new development spend which should be borne by them.

The recovery rates are calculated as follows;

- For water new developments we use the rate implied by the Hafren Dyfrdwy business plan which is 35.8%; and
- For water new connections and wastewater new developments we use a rate of 100% based on our understanding of historical practice in the industry and is broadly supported by company business plans.

**Table 4.16: Calculation of other allowed revenue (£ million) – Grants and contributions**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total | Company view - total |
|---|---|---|---|---|---|---|
| Grants and contributions | 0.0 | 2.1 | 0.2 | 0.0 | 2.3 | 2.9 |

Table 4.16 shows our assumed amounts of grants and contributions. Our view of new developments and new connections expenditure is lower than Hafren Dyfrdwy's forecast. The reasons behind the differences in our view of 'Base expenditure' are set out above in the 'Cost allowances' section. This gives a lower view of grants and contributions than the company forecast.

For diversions activities, where companies move their assets to make way for new infrastructure, we use the company view of the associated income and assume that this represents 100% of the costs. In modelling our draft determinations we assume that all diversions income is inside the price control. For the final determinations we consider that we should make a distinction between diversions that are inside or outside the scope of section 185 of the Water Industry Act 1991. Works that are outside the scope of section 185 are, for example, works under the New Roads and Street Works Act 1991 or those associated with High Speed 2. We are yet to have sufficient data to be able to distinguish section 185 diversions from non-section 185 diversions. For the final determination we will assume diversions expenditure is inside the price control unless it relates to non-section 185 diversions. Where companies forecast diversions works outside of section 185 then they should provide details of the income relating to this, on an annual basis, in the data request that accompanies the draft determination. This should be returned with the representations to the draft determination.

## Non-price control income

Non-price control income is income from the excluded charges defined in licence condition B. For example, it includes bulk supplies, standpipes, unmeasured cattle troughs, and other services. This is deducted from the total allowed revenues, as this revenue is not recovered from the charges covered by the price control – but is expected to cover some of the costs included in the calculation of the price control.

For Hafren Dyfrdwy, our assessment of non-price control income takes account of our intervention to reflect the payment received from the group for tax losses surrendered described in section 4.12.

We have reviewed the company forecast of ‘non-price control income’ and use this in the draft determination.

**Table 4.17: Calculation of other allowed revenue (£ million) – Non-price control income**

| | Water resources | Water network plus | Wastewater network plus | Bioresources | Total | Company view - total |
|---|---|---|---|---|---|---|
| Non-price control income | -28.6 | -10.4 | -0.7 | 0.0 | -39.7 | -35.6 |

Note: negative numbers represent a deduction from the allowed revenue.

## Uncertainty mechanisms

The PR19 methodology makes limited provision for companies to propose bespoke uncertainty mechanisms. Hafren Dyfrdwy has not proposed any uncertainty mechanisms in its business plan.

# 5 Assurance, returns and financeability

This section sets out the accountability the company's Board has demonstrated for delivering its plan, the accuracy and consistency of the information within the plan and company proposals for aligning the interests of company management and investors with its customers. We summarise Hafren Dyfrdwy's response to our actions on securing confidence and assurance, including Hafren Dyfrdwy's proposals in response to our 'Putting the sector in balance: position statement'. We comment on the possible range of returns for the notional financial structure. We comment also on the financeability of the draft determination and any adjustments that we have made to the bill profile.

## 5.1 Assurance

The PR19 methodology set out that stakeholders should have confidence in the information presented in business plans. We set expectations that:

- the data and information presented in the plan must be subject to good assurance processes to ensure it is consistent and accurate; and
- a company's full Board should own, be accountable for and provide assurance of the business plan.

In the initial assessment of plans, we identified five actions in relation to Hafren Dyfrdwy's data tables and financial model. Hafren Dyfrdwy has satisfactorily responded to four of these actions as set out in its response to our actions on securing confidence and assurance. For the remaining advised action, we are intervening to populate the draft determination financial model using the company's business plan table figures for fixed asset costs and depreciation for wholesale water network plus.

We also had a concern with one of Hafren Dyfrdwy's forward-looking Board assurance statements and included an action for the Board to provide a restated assurance statement covering the area of monitoring delivery of its outcomes.

Hafren Dyfrdwy has since provided a compliant Board assurance statement on this topic.

## 5.2 Putting the sector in balance

In July 2018 we published our 'Putting the sector in balance: position statement'. The position statement set out the steps we expect companies to take to demonstrate they strike the right balance between the interests of customers and their investors. In summary, we expect that:

- company dividend policies for their actual financial structures and performance related executive pay policies show appropriate alignment between returns to owners and executives and what is delivered for customers[4];
- companies with high levels of gearing will share financing gains from high gearing with customers; and
- companies provide assurance and supporting evidence to demonstrate their long term financial resilience and management of financial risks for the actual financial structure.

We also encouraged companies to adopt voluntary sharing mechanisms, particularly where, for example, companies outperform our cost of debt assumptions.

Our assessment of Hafren Dyfrdwy's proposals is in Table 5.1.

### Table 5.1: Our assessment of Hafren Dyfrdwy's proposals to balance the interests of customers

| Issue | Our assessment |
|---|---|
| Gearing outperformance benefit sharing | In its revised business plan Hafren Dyfrdwy proposed a reduction in its gearing level to 60% (from 67% as at 31 March 2018), The company will be making an additional equity injection to deliver that outcome. The company has included our default mechanism in its business plan. |
| Voluntary sharing mechanisms | Hafren Dyfrdwy has not proposed any voluntary sharing mechanisms, and does not propose company contributions to its social tariff or a hardship fund over 2020-25. |
| Dividend policy for 2020-25 | Hafren Dyfrdwy confirms that it is committed to the expectations on dividend policy as set out in our 'Putting the sector in balance: position statement'. In doing so it has indicated a base dividend yield consistent with 4.5% for 2020-25. It has confirmed that when considering the dividend, the Board will have regard to its performance across its obligations and outcome delivery incentives.<br>The company confirms its commitment to publish its dividend policy in its annual performance report, including how the policy takes account of obligations and commitments to customers, and explanations of any changes to the policy and the judgements the Board has made in making that change. It will also explain each year how any dividends declared or paid have been determined.<br>However, insufficient detail has been provided on which obligations or commitments to customers will be considered, the level of performance delivery used for the assessment and how it will affect dividend payments. We expect the company to be transparent in this area, to demonstrate that in paying or declaring dividends it has taken account of the factors we set |

[4] We explain more fully our expectations in the 'Aligning risk and return technical appendix' that accompanies this draft determination.

| Issue | Our assessment |
|---|---|
| | out in our position statement. We expect the company to respond to this issue in its response to our draft determination. |
| Performance related executive pay policy for 2020-25 | Hafren Dyfrdwy has confirmed its commitment to aligning to the expectations of our 'Putting the sector in balance: position statement'. The company states that as part of the Severn Trent Group of companies it is part of a unified remuneration structure, in which the executive performance related pay consists of:<br>• Annual bonus based on 51% customer & environment (8% colleague safety, 8% complaints, 15% customer outcome delivery incentives, 10% asset health and 10% environment and social outcomes delivery incentives ) and 49% profit before interest and tax.<br>• The remuneration committee approve the awards before any payment is made, and has the discretion not to award a payment should it believe there is a reason to do so.<br><br>The company has told us it proposes not to apply a long term incentive plan in its policy for 2020-25, as it states that the design of the scheme is more suited to FSTE 100 companies rather than small companies like Hafren Dyfrdwy. We expect the company to demonstrate how the policy it adopts and the application of the policy ensures the incentives placed on executives are consistent with incentivising delivery for customers in both the short and the long term.<br><br>Hafren Dyfrdwy states it will continue to publish full details of targets, achievement against them and performance narrative in the directors' remuneration report. It sets out it is committed to engage with shareholders regarding any proposed changes to the design or performance metrics.<br><br>We understand that the policy will apply at the group level, taking account of Hafren Dyfrdwy's position within the group. The company has confirmed that Hafren Dyfrdwy customers would only contribute to any bonus payments if performance targets for Hafren Dyfrdwy are met and has confirmed that the remuneration committee has full discretion not to award a payment. We expect the company to demonstrate how the policy and its implementation maintains alignment with the service delivered to the customers of Hafren Dyfrdwy.<br><br>We understand that there remain some details to be finalised, for example details of the underlying metrics that the company is proposing to use in the annual bonus and how they will deliver stretching performance and the weightings of the underlying metrics in the annual and long term bonus schemes. However, overall, the steps the company is taking demonstrates the company's commitment to move in the direction of the expectations set out in 'Putting the sector in balance'. We expect Hafren Dyfrdwy to provide an update on this in response to its draft determination.<br><br>We expect the company and its remuneration committee to ensure executives have stretching targets linked to performance delivery for customers and that any further updates to the policy for 2020-25 are transparently reported to stakeholders in its annual performance report. |

| Issue | Our assessment |
|---|---|
| | |
| Financial resilience of the company's actual financial structure | In its revised business plan Hafren Dyfrdwy proposed a reduction in its gearing level to 60% (from 67% as at 31 March 2018). It expects gearing to remain around 60% during 2020 to 2025. The company considers that it can achieve its targeted ratings of BBB+/Baa1 on its actual structure. It is part of a corporate group that includes Severn Trent Water.<br><br>The company's updated Board assurance statement set out that the Board is satisfied that the risk mitigation and management plans the company has in place are appropriate to protect its customers, and meet its statutory and licence obligations, now and in the future.<br><br>Hafren Dyfrdwy has provided details of its financial stress testing and risk management approaches and committed to demonstrating that its assessment of financial resilience extends beyond 2025 in its next Long-term Viability Statement. However, the assessment of financial resilience does not take account of our interventions in Hafren Dyfrdwy's business plan, which includes, for example, our updated view of the cost of capital, and our assessment of outcome delivery incentives.<br>Each company is responsible for ensuring its capital and financial structure allows it to maintain financial resilience over the short and the long term and so we expect Hafren Dyfrdwy to take account of these issues in its commentary on its long term financial resilience in response to our draft determination, taking account of the reasonably foreseeable range of plausible outcomes of the final determination including evidence of further downward pressure on the cost of capital in very recent market data as we discuss in the 'Cost of capital technical appendix'.<br>In its future reporting, we expect Hafren Dyfrdwy to apply suitably robust stress tests in its long term viability statements in 2020-25. |

## 5.3 Return on regulatory equity

The PR19 methodology sets out that we expect companies to demonstrate a clear understanding of risk to the delivery of their business plans and to explain and demonstrate how they manage and mitigate risk. We expect companies to use Return on Regulatory Equity (RoRE) analysis to assess the impact of upside and downside risk on the basis of their notional capital structures based on a prescribed suite of scenarios using P10/P90 confidence limit values[5].

[5] P90 is the performance threshold at which there is only a 10% chance of outturn performance being better. P10 is the performance threshold at which there is only a 10% chance of outturn performance being worse.

RoRE is calculated as the return on equity for the equity portion of the RCV based on our notional gearing assumption. A company's base RoRE is aligned with our allowed real post-tax cost of equity, but can differ between companies because the blended real cost of equity will vary according to the proportion of the RCV (and notional regulatory equity) that is indexed to RPI or CPIH[6]. The proportion of RCV (and notional regulatory equity) that is linked to RPI or CPIH will vary between companies according to factors that include the size of the investment programme, the proportion of totex that is capitalised and RCV run-off rates.

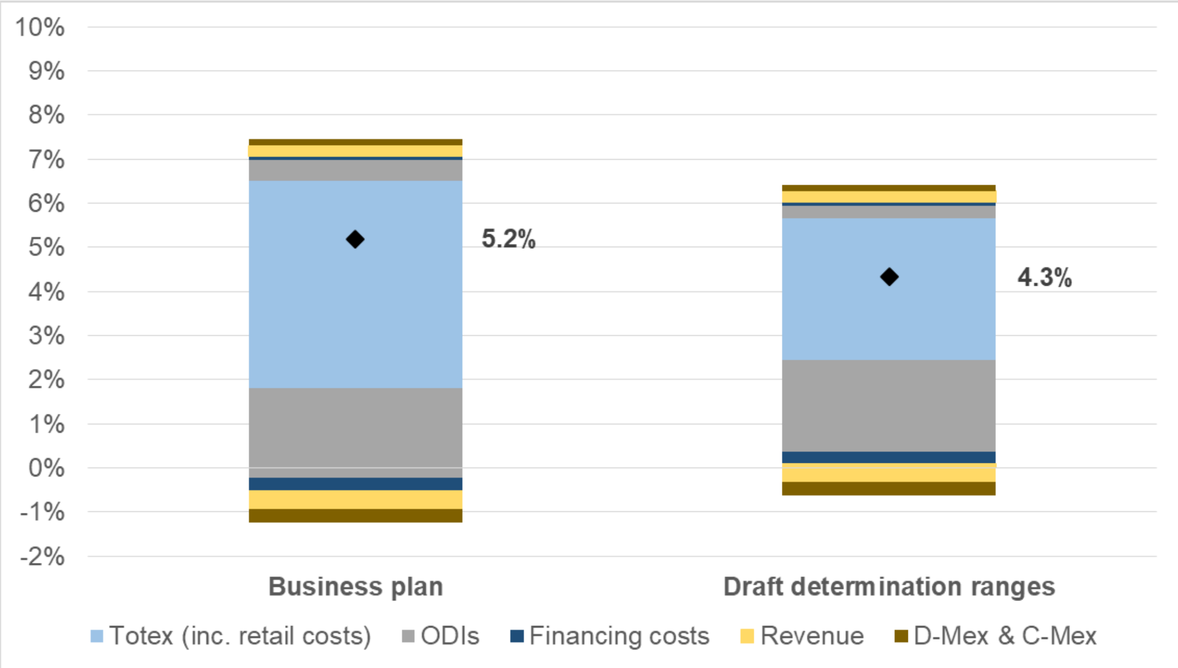
Table 5.2 sets out the annual average RoRE ranges in Hafren Dyfrdwy's updated PR19 business plan submission, and the values in our draft determination. The base RoRE in our draft determination reflects our updated cost of equity. The RoRE ranges reflect our interventions outlined below, and other interventions we are making as part of our draft determination.

### Table 5.2: Hafren Dyfrdwy RoRE ranges

| | Updated Business plan (Apr 19) | | Draft determination ranges reflecting our interventions | |
|---|---|---|---|---|
| Base RoRE | 5.2% | | 4.3% | |
| **Risk ranges** | **Lower bound** | **Upper bound** | **Lower bound** | **Upper bound** |
| Totex | -2.93% | 0.91% | -1.45% | 0.92% |
| Outcome delivery incentives | -2.04% | 0.48% | -2.07% | 0.30% |
| Financing costs | -0.28% | 0.09% | -0.28% | 0.09% |
| Retail costs | -0.45% | 0.40% | -0.45% | 0.40% |
| D-Mex & C-Mex | -0.30% | 0.15% | -0.31% | 0.15% |
| Revenues (includes retail) | -0.42% | 0.24% | -0.42% | 0.24% |
| Total | **-6.42%** | **2.27%** | **-4.98%** | **2.10%** |

[6] RPI is the retail price index; CPIH is the consumer price index including owner-occupiers' housing costs; both are published by the Office for National Statistics.

**Figure 5.1: RoRE ranges**




The draft determination risk ranges shown in Table 5.2 and Figure 5.1 reflect two interventions we are making with respect to values in Hafren Dyfrdwy's updated business plan:

- We are intervening to reduce the quantum of Hafren Dyfrdwy's downside Totex risk by £5 million (on a pre-sharing factor basis). Whilst Hafren Dyfrdwy refers to challenging efficiency assumptions for the wholesale price controls in its plan, the base cost allowance totals we have determined (set out in section 3.2) are higher than the company's view.

- We are intervening to align the RoRE risk ranges for outcome delivery incentives shown in Table 5.2, Figure 5.1, and in the PR19 financial model with the RoRE risk range values for outcome delivery incentives set out in section 2 (outcomes). The revised values reflect our interventions on outcome delivery incentives under the outcomes framework which seek to take account of covariance of performance on individual outcome delivery incentives in the presentation of the overall outcome delivery incentive range.

In all other areas we have retained Hafren Dyfrdwy's proposed RoRE range. There is a significantly negative skew overall, driven primarily by outcome delivery incentives. Our view is that an efficient company should be able to achieve the base equity return on the notional structure. We expect Hafren Dyfrdwy to consider necessary revisions to its overall RoRE range in response to the draft determination.

## 5.4 Financeability

We interpret our financing duty as a duty to secure that an efficient company can finance the proper carrying out of its functions, in particular by securing reasonable returns on its capital. In coming to our determinations we assess whether allowed revenues, relative to efficient costs, are sufficient for a company to finance its investment on reasonable terms and to deliver activities in the long term, while protecting the interests of current and future customers.

Our PR19 methodology requires companies to provide Board assurance that the business plan is financeable on both the notional and their actual capital structures. Our PR19 methodology requires companies to provide evidence to support these statements, including evidence supporting the target credit rating and that this is supported by the financial ratios that underpin the plan. Hafren Dyfrdwy's Board has provided assurance that, based on the assumptions in its business plan, both notional and actual capital structures remain financeable in the long-term, and that key financial ratios are at a level that retain sufficient headroom to maintain an investment grade credit rating ensuring that resilience and customers' interests are maintained in the short and long-term.

We expect companies to provide further Board assurance in their response to the draft determinations that business plans remain financeable on the basis of the notional and actual company structures.

We consider that companies and their shareholders should bear the risk of their capital structure and financing choices, not customers. Therefore, we have focused on whether our draft determination is financeable based on the notional capital structure that underpins our cost of capital using our own financial model.

Our financeability assessment uses a suite of financial metrics based on those used in the financial markets and by the credit rating agencies. Based on the financial ratios from the financial model alongside evidence in the business plan, we consider that Hafren Dyfrdwy's draft determination is financeable for the notional structure.

The results for key financial ratios are set out below. Following our intervention, key financial ratios for the notional company structure in our draft determination are broadly in line with the level of the ratios set out by Hafren Dyfrdwy in its business plan. We discuss this further in the 'Aligning risk and return technical appendix'.

While we assess our determination to be financeable overall on the basis of the notional financial structure, we note that certain key financial ratios for the wastewater network plus and bioresources controls are very weak and the controls are not be financeable on a standalone basis. This is consistent with the position for Hafren Dyfrdwy throughout the border variation process which is that it is acceptable for controls to have weak financial ratios, provided the appointee is financeable.

### Table 5.3: Financial ratios – notional structure before reconciliation adjustments (5 year average)

| | Business plan | Draft determinations |
|---|---|---|
| Gearing | 63.20% | 64.28% |
| Interest cover | 4.64 | 4.57 |
| Adjusted cash interest cover ratio (ACICR) | 1.71 | 1.74 |
| Funds from operations (FFO)/net debt | 12.20% | 11.99% |
| Dividend cover | -2.15 | -2.65 |
| Retained cash flow (RCF)/net debt | 10.89% | 10.32% |
| Return on capital employed (RoCE) | 0.58% | 0.15% |

The basis of the calculation of the ratios is set out in the PR19 methodology

**Net debt** represents borrowings less cash and excludes any pension deficit liabilities.

**FFO** is cash flow from operational activities and excludes movements in working capital.

**Cash interest** excludes the indexation of index-linked debt.

Hafren Dyfrdwy submitted financial ratios in the business plan tables for the notional company after taking account of reconciliation adjustments. We set out in the table the ratios excluding these adjustments consistent with our assessment of notional financeability. We have agreed the recalculation of the ratios with the company.

As set out in section 4 we have amended PAYG rates to reflect our view of efficient totex and therefore the mix of operating and capital expenditure. The adjusted cash interest cover ratio is affected by Hafren Dyfrdwy's accounting policy of capitalising part of its infrastructure renewal expenditure and the allocation of this to PAYG revenue as this is treated as fast money within the calculation of the ratio. We discuss the impact of fast money on financial ratios in the 'Aligning risk and return technical appendix'.

We accept Hafren Dyfrdwy's RCV run-off rates for each wholesale control for the draft determination except wastewater network plus which has increased from the original submitted business plan. The company has provided insufficient evidence to support the increase and we are intervening to reduce RCV run-off rates for the wastewater network plus control to align to the original business plan submission.

**Table 5.4: PAYG rates, RCV run-off and RCV growth**

| | PAYG | RCV run-off | RCV growth |
|---|---|---|---|
| Company plan | 67.2% | 6.19% | 38.08% |
| Draft determinations | 67.3% | 6.10% | 39.43% |

Hafren Dyfrdwy is responsible for the financeability and long term financial resilience of its actual structure. The company has proposed to reduce its gearing level to 60% before March 2020. We comment further on the financial resilience of the company's actual structure in Table 5.1.

We expect companies to provide further Board assurance that they will remain financeable on a notional and actual basis, and that they can maintain the financial resilience of their actual structure, taking account of the reasonably foreseeable range of plausible outcomes of their final determination including evidence of further downward pressure on the cost of capital in very recent market data as we discuss in the 'Cost of capital technical appendix'.

# 6 Affordability and bill profile

## 6.1 Bill profile

Hafren Dyfrdwy undertakes additional customer research in spring 2019 to establish the acceptability of its 2020-25 bill. The company carries out 400 surveys in total across both of its regions and obtains weighted acceptability of 73% for its real terms bill and 56% for the nominal bill. The company's research clearly shows what bills will be over time and links them to the service levels it proposes to adopt. Hafren Dyfrdwy's customer challenge group supports the company's results, stating 'the customer challenge group are satisfied with the company's process and practice when undertaking this research in both Mid and North Wales and there is no outstanding action from the customer challenge group on this item.'

We note Hafren Dyfrdwy tests nominal bills and bill profiles (albeit with a low sample) and its research gives customers clear information. However, given its relatively low scores for its acceptability exercises we consider that in the round it provides insufficient evidence on the acceptability of its bills. We note our interventions to Hafren Dyfrdwy results in a lower bill, with 2.4% reduction in draft determination, and so we do not require further evidence of acceptability from Hafren Dyfrdwy.

Hafren Dyfrdwy provides its real bill profile for 2020-25 to customers as part of its acceptability testing, so it receives the same level of support as the overall bill impact. In addition, the company undertakes some additional deliberative qualitative research into alternative bill profiles over the whole 2020-30 period. Customers are given two choices that show divergent views of the bill, one with higher charges from 2020-25 and lower charges in the 2025-30 period and one with stable prices throughout. As a result of the research, the company states it has support from customers for its plan to secure stable bills over the period by pushing back income.

The average bill profile put forward by Hafren Dyfrdwy provides a bill that increases in the 2020-25 period, with a total increase of 1.5%. Our amended profile changes this to a reduction of 2.4%. The table below sets out the difference in bills between the company's submission and our amended draft determination figures. We adjust the bill profile such that the bill reduces in 2020-21 and then remains flat, rather than increasing over the period.

**Table 6.1: Bills in real terms**

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Company plan | £293 | £295 | £295 | £296 | £297 | £297 |
| Bill profile – before re-profiling | £293 | £282 | £285 | £286 | £285 | £292 |
| Draft determinations | £293 | £286 | £286 | £286 | £286 | £286 |

In its business plan, the company sets out its intention to reduce bills in the 2025-30 period.

**Table 6.2: Long term bills**

| | 2020-25 | 2025-30 |
|---|---|---|
| Company view of plan | £296 | £281 |

Note: we have estimated the 2025-30 bill based on information in the business plan.

## 6.2 Help for customers who are struggling to pay

Our draft determination for Hafren Dyfrdwy will deliver a real terms reduction to the average bill between 2020 and 2025.

In addition, Hafren Dyfrdwy commits to:

- increase its social tariff cross subsidy to £3.50 for water and wastewater customers and £1.75 for water only customers, as supported by its research;
- trial new payment methods and introduce them if they are beneficial to customers; and
- roll out a new payment matching scheme.

Hafren Dyfrdwy has three bespoke performance commitments on affordability and vulnerability, which will require it to:

- Ensure a high proportion of customers who sometimes or always struggle to pay their bill are helped by its affordability schemes;

- Track and increase the number of customers who continue to pay their bills after they complete affordability schemes; and
- Ensure that customers get the support they require in a service outage.

Companies will be reporting their performance against the Priority Services Register (PSR) common performance commitment and their bespoke affordability and vulnerability performance commitments to us and their customers on an annual basis during the price control period. In addition, companies put forward in their business plans further measures for addressing affordability and vulnerability issues. We expect companies to report periodically to their customers on their progress in addressing affordability and vulnerability concerns. We will also be considering how we will scrutinise and report on companies' progress in this important area, including working with other stakeholders in the water sector and beyond.

## 6.3 Total revenue allowances and k factors

Table 6.3 summarises the allowed revenue for each control. This is expressed in a 2017-18 CPIH price base so that this can be compared with the rest of this document.

**Table 6.3: Allowed revenue by year (£ million, 2017-18 prices)**

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | Total |
|---|---|---|---|---|---|---|
| Water resources | 2.8 | 2.5 | 2.4 | 2.3 | 2.4 | **12.4** |
| Water network plus | 16.0 | 15.9 | 16.3 | 16.7 | 16.7 | **81.6** |
| Wastewater network plus | 2.2 | 2.4 | 2.4 | 2.4 | 2.5 | **11.9** |
| Bioresources | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | **5.4** |
| Residential retail | 2.9 | 2.8 | 2.8 | 2.7 | 2.7 | **13.8** |
| **Total** | **25.0** | **24.7** | **24.9** | **25.2** | **25.3** | **125.1** |

The water resources, water network plus and wastewater network plus controls are in the form of a percentage limit (inflation plus or minus a number that we determine for each year of the control (the 'K' factor)) on the change in allowed revenue (R) from the previous charging year (t-1). This is based broadly on the formula:

$$R_t = R_{t-1} \times \left[1 + \frac{CPIH_t + K_t}{100}\right]$$

Table 6.4 sets out the K factors in each year for each of these three controls. For the first year, we have set a 'base' revenue which will be used as the starting revenue for calculating 2020-21 allowed revenues.

**Table 6.4: Base revenue and K factors by charging year (2017-18 prices)**

| | Base (£ million) | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 |
|---|---|---|---|---|---|---|
| Water resources | 2.8 | 0.00% | -10.82% | -4.17% | -3.54% | 1.52% |
| Water network plus | 16.0 | 0.00% | -1.03% | 2.71% | 2.74% | -0.40% |
| Wastewater network plus | 2.2 | 0.00% | 5.88% | 0.44% | 0.67% | 5.77% |

In addition to these controls, we have set a modified average revenue control for bioresources. We recognise that a proportion of bioresources costs are fixed, so we allow for this in setting the average revenue control. The revenue control ensures that where sludge production varies the incremental change in revenues that arises is aligned to incremental costs. The 'modified average revenue' control includes a revenue adjustment factor, which applies if there are differences between the forecast and measured quantities of sludge.

The split between bioresources fixed and variable costs proposed by Hafren Dyfrdwy appears proportionate given the small scale of the company's bioresources operations and as such we have not intervened. Therefore, we apply the revenue share of the bioresources allowance to remunerate variable costs implied by the company's business plan submission to our view of the total bioresources revenue allowance as set out in Table 6.5 below.

The modified average revenue in each year is calculated by a formula that we set out in the 'Notification of the PR19 draft determination of Price Controls for Hafren Dyfrdwy', which includes some components set now in this determination and some components which relate to out-turn performance (such as the actual volume of sludge in future years).

### Table 6.5: Bioresources control

| | 2020-21 | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2020-25 |
|---|---|---|---|---|---|---|
| Unadjusted revenue (£ million) | 1.049 | 1.060 | 1.070 | 1.081 | 1.091 | 5.351 |
| Forecast volume of sludge (TDS) | 665 | 672 | 679 | 685 | 692 | 3,394 |
| Variable revenue (£/TDS) | N/A | N/A | N/A | N/A | N/A | 1,147.152 |

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