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Report on the actuarial valuation as at 31 March 2022

Clwyd Pension Fund

A business of Marsh McLennan

Contents

Section 1
Introduction

This report is addressed to the Administering Authority of the Clwyd Pension Fund (“the Administering Authority”) and is provided to meet the requirements of Regulation 62 of the Local Government Pension Scheme Regulations 2013 (as amended) (“the Regulations”). It describes the factors considered by the Administering Authority when carrying out the actuarial valuation as at 31 March 2022 and the decisions reached as a result.

The purpose of the actuarial valuation is for the Administering Authority to determine:

1. The expected cost of providing the benefits built up by members at the valuation date (the “liabilities”), and compare this against the funds held by the Fund (the “assets”).

2. The contributions needed to cover the cost of the benefits that active members will build up in the future and other costs incurred in running the Fund (the ‘Primary Contribution Rate’).

3. An appropriate plan for achieving a 100% solvency funding level if the Fund has more/less assets than liabilities. This plan will cover the amounts which will need to be paid (the ‘Secondary Contribution Rate’) and the timeframe over which they will be paid (‘the Recovery Period’).

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Date	30 March 2023	

This report uses various technical terms. These are explained in more detail in the explanatory boxes which appear throughout this report, and in the Glossary in Appendix I. This report should be read in conjunction with the Funding Strategy Statement (“FSS”) and the Investment Strategy Statement (“ISS”).

This report has been prepared in accordance with Technical Actuarial Standards TAS 100: Principles for Technical Actuarial Work and TAS 300: Pensions, which are issued by the Financial Reporting Council. The calculations referred to in the report use methods and assumptions appropriate for reviewing the financial position of the Fund and determining a contribution rate for the future. Mercer does not accept liability to any third party in respect of this report; nor do we accept liability to the Administering Authority if the information provided in this report is used for any purpose other than that stated. The report may be disclosed to members and others who have a statutory right to see it. It may also be disclosed to any participating employer and, if the Administering Authority and Mercer consent, it may be disclosed to other third parties.

Section 2

Funding Strategy – Key Elements

Fundamental to the valuation results is the funding strategy adopted by the Fund. This funding strategy is set out in a specific document (the Funding Strategy Statement or FSS for short) which is one of the Administering Authority's key governance documents for the Fund. In essence, the FSS sets out an overview of the approach to be used for the actuarial valuation. Amongst other things it outlines the assumptions, both economic and demographic, to be used in calculating the value of the liabilities built up, the contributions required to correct any funding shortfall or surplus, and the contribution rate required to fund the benefits for future service. It also sets out the strategy for making good any funding shortfall, in particular how any shortfall is expected to be financed in terms of the balance between future contributions and future investment returns, and, where there is a shortfall or surplus, the period over which any shortfall is expected to be recovered, or a surplus run off.

> The FSS is the Administering Authority's key governance document in relation to the actuarial valuation. It sets out the funding policies adopted, the actuarial assumptions used, and the timescales over which deficits will be paid off. Employers are consulted about the FSS as part of the actuarial valuation process.

The principal elements of the funding strategy adopted for this actuarial valuation are as follows:

- **The McCloud Judgment** (see Appendix D for details) – we have carried out a stand-alone estimate of the cost of the McCloud Judgment, and the results of this at whole Fund level are shown in Section 3 of this report. The past service liabilities at the valuation date include an estimated allowance for the proposed McCloud remedy. As the remedy end date is 31 March 2022, the Primary Contribution Rate effective from 1 April 2023 does not include an allowance for McCloud.
- **Assumed rate of future long term average CPI inflation** – 3.1% p.a., based on the yields available on fixed and index-linked gilts of appropriate duration less an adjustment of 0.8% p.a. (reflecting an average RPI/CPI structural gap and an inflation risk premium).
- **Real investment returns over and above CPI for past service** – 1.5% p.a., based on the anticipated real returns achievable on the Fund's expected long term investment strategy with a suitable margin for prudence.
- **Real investment returns over and above CPI for future service** – 2.00% p.a., based on the anticipated real returns achievable on future invested contributions.
- **Future pay growth** – 4% p.a. over the 3 years to 31 March 2026 and then 1.25% p.a. over and above CPI in the longer term. A small number of employers did not opt to include the short term pay assumption and hence assumed that pay growth was 1.25% p.a. over and above CPI throughout.
- **Baseline life expectancy** based on a scheme-specific mortality study.
- **Future mortality improvements** based on the CMI 2021 model with a long term improvement trend of 1.75% p.a.

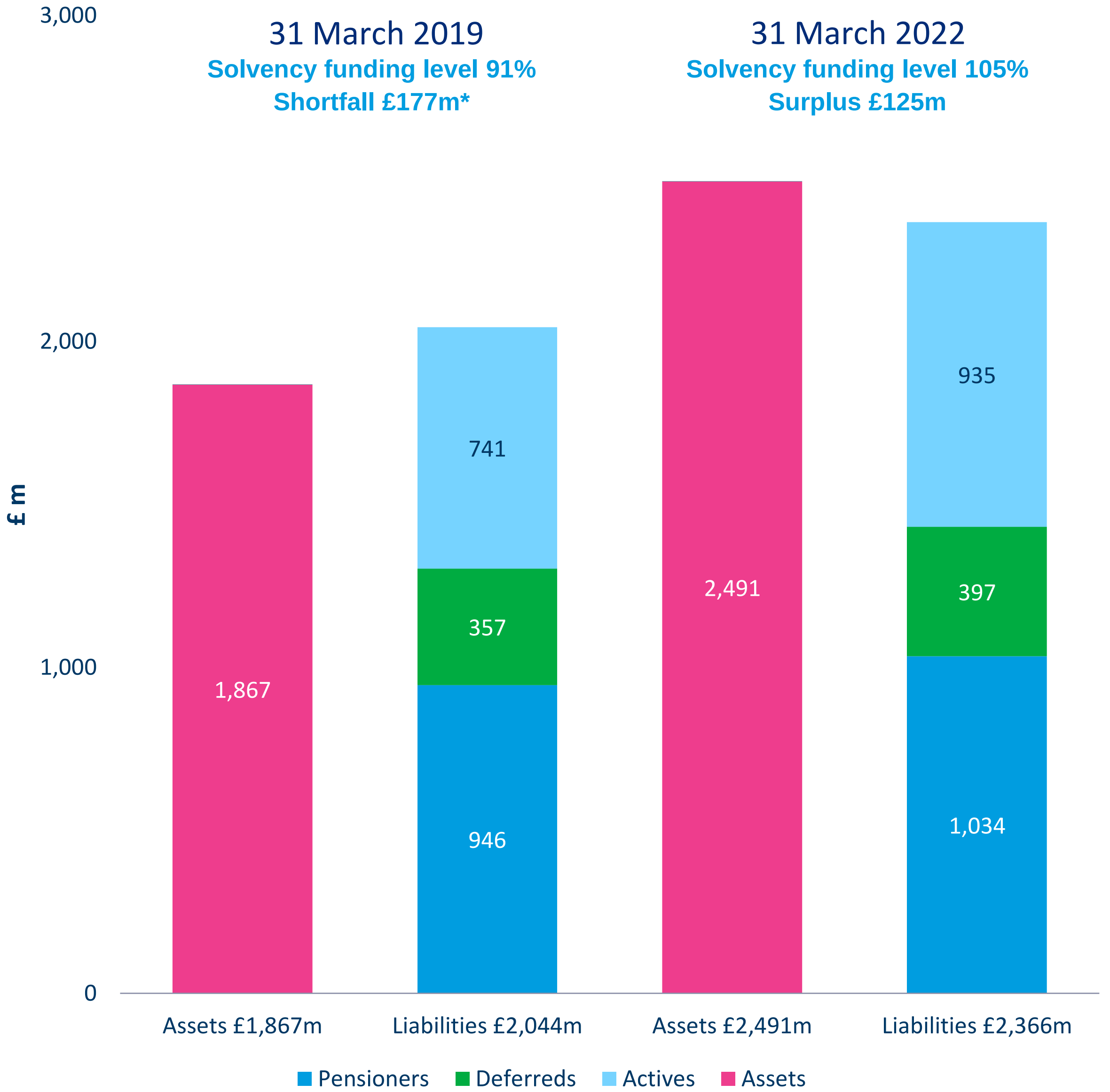
- **Allowance for known observed CPI inflation** between 1 September 2021 and 31 March 2022 to refine the estimate of the 2023 pension increase order and liability cash flows.
- At this actuarial valuation the **average recovery period** adopted is 12 years. For employers in surplus or deficit, the period used depends on the individual employer circumstances. The FSS sets out the circumstances in which this period might vary from one employer to another.

Section 3

Key results of the funding assessment

Solvency funding position

The table below compares the assets and liabilities of the Fund as at 31 March 2022. Figures are also shown for the last valuation as at 31 March 2019 for comparison.



**2019 position excludes the estimated impact of the proposed McCloud remedy. Allowing for this would have increased the 2019 deficit to £186m.*

The LGPS Regulations require the contributions to be set so as to secure the Fund's solvency and long term cost efficiency. In this context solvency means being able to meet the liabilities as and when they arise, with long term cost efficiency meaning that contribution levels should not be set so as to give rise to additional costs at a later date. In practice, contribution levels have been set so as to target a solvency funding level of 100%, based on the funding parameters outlined in Section 2 above.

The liability value as at 31 March 2022 shown in the chart above is known as the Fund's **"solvency funding target"**. The solvency funding target is calculated using assumptions that the Administering Authority has determined are appropriate having consulted with the Actuary, and are also set out in the FSS.

The chart shows that as **at 31 March 2022 there was a surplus of £125m** against the Fund's solvency funding target. An alternative way of expressing the position is that **the Fund's assets were sufficient to cover 105% of its liabilities** – this percentage is known as the solvency funding level of the Fund.

At the previous valuation at 31 March 2019 the shortfall was £177m, equivalent to a solvency funding level of 91%. The key reasons for the changes between the two valuations are considered in Section 4.

Further details of the way in which the solvency funding target has been calculated are set out in Appendix A.

Primary Contribution Rate

The valuation looks at the normal employer contribution rate required to cover the cost of the benefits (including death benefits and expenses) that will be built up over the year after the valuation date (the "Primary Contribution Rate"). A summary of the assumptions used is provided in Appendix A.

The table below gives a breakdown of the Primary Contribution Rate as at 31 March 2022 and also shows the corresponding rate as at 31 March 2019 for comparison. In calculating the average Primary Contribution Rate we have not made any allowance for future members to opt for the 50:50 scheme. Active members pay contributions to the Fund as a condition of membership in line with the rates required under the governing Regulations (see Appendix D).

The "Primary rate" of the employers' contribution is the contribution rate required to meet the cost of the future accrual of benefits including ancillary, death in service and ill health benefits together with administration costs.

Primary Contribution Rate	% of Pensionable Pay	
	31 March 2019	**31 March 2022**
Normal Contribution rate for retirement and death benefits	22.7	24.3
Allowance for administrative expenses	0.8	0.8
Total normal contribution rate	23.5	25.1
Average member contribution rate	6.2	6.3
Primary contribution rate*	17.3**	18.8

**In line with CIPFA guidance, the Primary Contribution Rate is the weighted average of the individual employer Primary Contribution Rates as derived based on their individual circumstances (e.g. whether or not they are closed to new entrants).*

***2019 rate excludes an average contribution of 0.5% paid by employers to cover the accruing costs of McCloud up to the remedy end date of 31 March 2022.*

Correcting the imbalance: Secondary Contribution Rate

The funding objective as set out in the FSS is to achieve and maintain a solvency funding level of 100% of liabilities (the solvency funding target). In line with the FSS, where a shortfall exists at the effective date of the valuation a deficit recovery plan will be put in place which requires additional contributions to correct the shortfall. Equally, where there is a surplus it is usually appropriate to offset this against contributions for future service, in which case contribution reductions will be put in place to allow for this.

The FSS sets out the process for determining the recovery plan in respect of each employer. At this actuarial valuation the average recovery period adopted is 12 years.

For employers in surplus and deficit, the period used depends on the individual employer circumstances. The total initial recovery payment (the "Secondary rate" for 2023/24) is an offset approximately £6m per annum in £ terms (which allows for the contribution plans which have been set for individual employers under the provisions of the FSS, including allowance for some employers to phase in any increases or make a prepayment of their deficit contributions - see Appendix G for full details of the total secondary rates for each year of over the period of the contribution certificate).

> The "Secondary rate" of an individual employer's contribution is an adjustment to the Primary Contribution Rate to reflect any past service deficit or surplus, to arrive at the rate the employers are required to pay.

The McCloud Judgment

As described in Section 2 of this report, we have carried out a stand-alone estimate of the cost of the McCloud Judgment. We estimate that the cost is an increase in past service liabilities at the valuation date of c£26 million. This represents c1.1% of total past service liabilities and is included in the 2022 liability figure above. Provision for these estimated McCloud costs has been included within the Secondary Contribution Rate shown above and in the corresponding Secondary Contribution Rate for each individual employer.

> The “McCloud Judgment” refers to a legal challenge in relation to historic benefit changes for all public sector schemes being age discriminatory. The Government published a consultation in July 2020 including a proposed remedy for the LGPS. This is likely to result in increased costs for some employers. We are expecting remedial regulations to take effect from October 2023, with a retrospective effect back to April 2014 in England and Wales and a remedy end date of 31 March 2022.

Section 4

Experience since last valuation

Summary of key inter-valuation experience

The last actuarial valuation was carried out with an effective date of 31 March 2019.

The average Pensionable Salary increase for the Fund members who were in service for the whole of the inter-valuation period was 3.8% per annum.

Pensions in payment (in excess of Guaranteed Minimum Pensions (GMPs)) were increased as guaranteed under the Fund as follows:

1. April 2020 1.7%
2. April 2021 0.5%
3. April 2022 3.1%

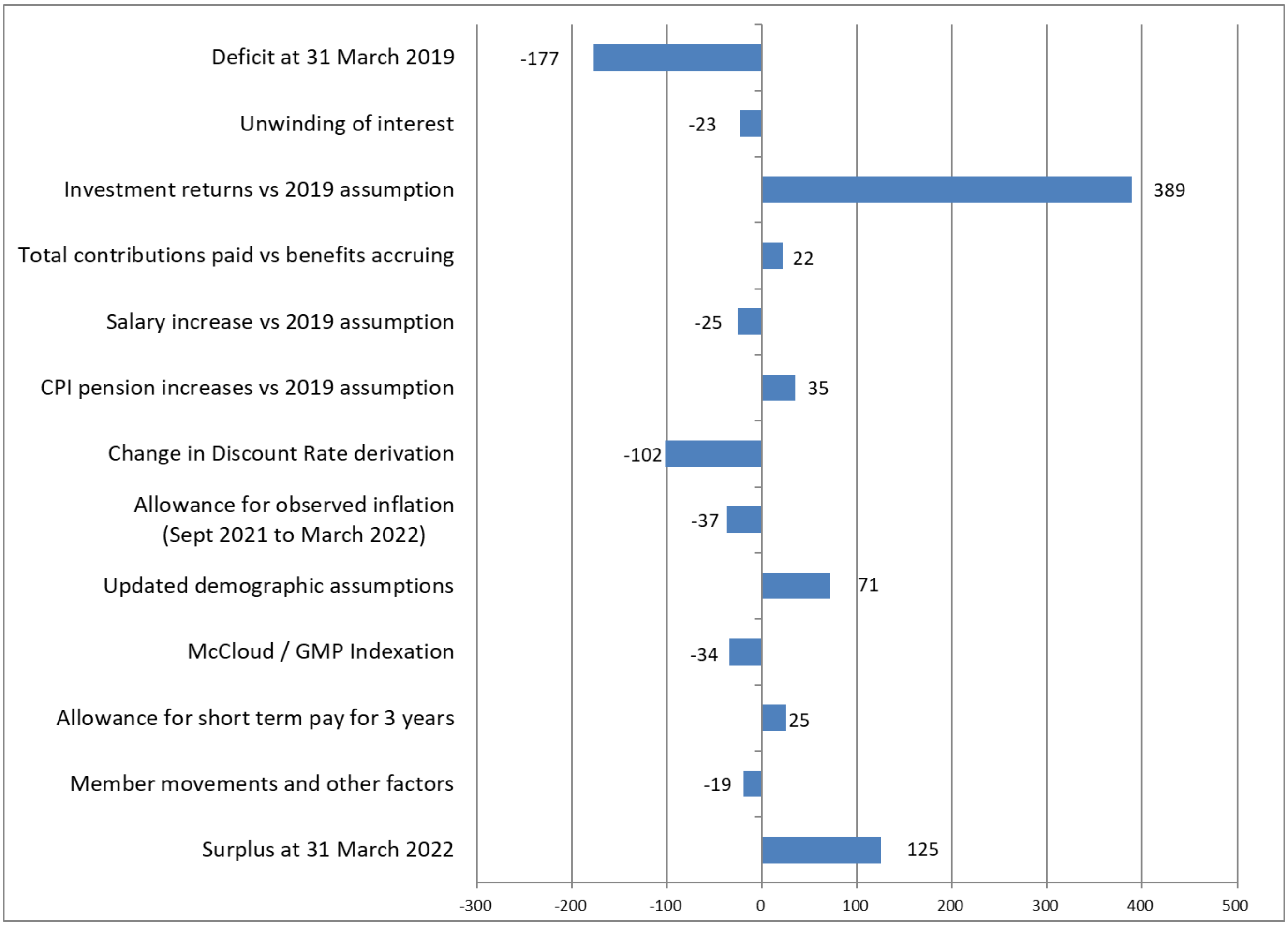
The outcomes from the valuation are determined both by the assumptions adopted for the future, and the Fund's historic experience relative to assumptions made in the past. In this section we consider the effect of the Fund's experience over the last three years.

Over the inter-valuation period, benefit inflation has averaged 1.8% p.a. Over the three years to 31 March 2022 the gross investment return on the Fund's assets has averaged 10.2% p.a., meaning that the average real return over CPI inflation has been about 8.3% p.a.

In addition to the published pension increase orders, we have made allowance for known observed CPI inflation over the period 1 September 2021 to 31 March 2022 as this will be reflected in the April 2023 pension increase order.

Reasons for the change in funding position since the last actuarial valuation

The shortfall at the last valuation date, was £177m compared with a surplus of £125m at this valuation. The chart below sets out the main reasons for the change in the shortfall between 31 March 2019 and 31 March 2022 (figures shown in £m).

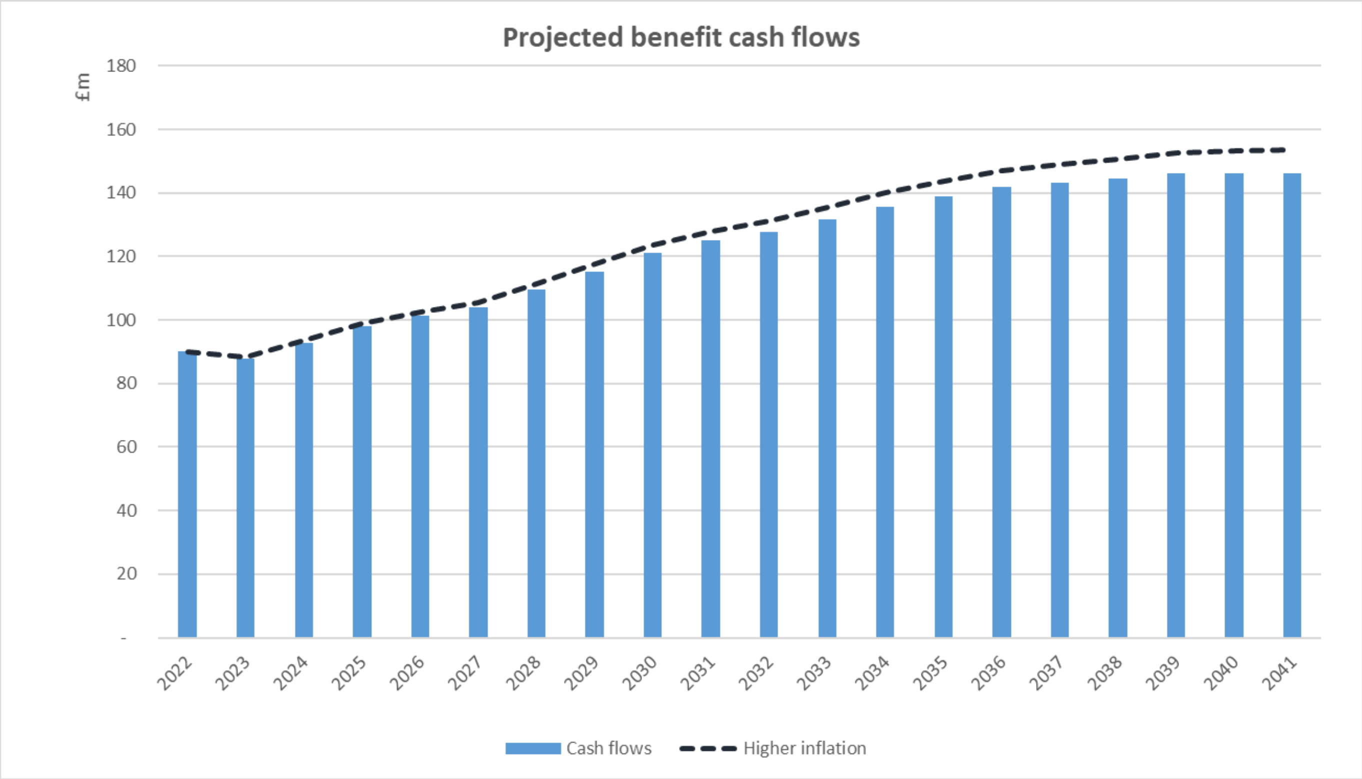


Section 5
Cash flows, risks and alternative funding positions

Benefit cash flows

The projected benefit cash flows which result from applying the assumptions as set out in Section 2 are shown in the chart below. The additional trendline sets out how those total projected benefit cash flows would change if we were to assume inflation of 0.25% p.a. higher than the assumption of 3.1% p.a. used for the actuarial valuation. Over the 20 years following the valuation date, the extra benefit payments which would result from the extra 0.25% p.a. inflation assumption are projected to be £68m.

> The actuarial valuation process is principally concerned with projecting all the expected benefit cash flows into the future, and then converting them into present day values by discounting them to allow for assumed future investment returns. The chart shows those projected cash flows, and also illustrates how sensitive they are to the future inflation assumption.



Projected funding position at next actuarial valuation

As part of this valuation, the Administering Authority has set an average recovery plan of approximately 12 years. The next actuarial valuation will take place with an effective date of 31 March 2025. If experience up to that date were to be in line with the assumptions made for this current actuarial valuation and contributions are paid at the agreed rates or amounts, there would be a surplus at 31 March 2025 of £106m, equivalent to a funding level of 104%.

Material risks faced by the Fund

The Fund is subject to some potentially material risks that are, to an extent, outside the Administering Authority's control, but could affect the funding level and ultimately the employer contribution requirements. Any material worsening of the funding level will mean more contributions are needed (either at an increased rate or at the same rate over a longer period) to be able to provide the benefits built up in the Fund – unless experience acts in other ways to improve the funding level. The Fund has a risk management framework in place which mitigates a number of key risks and has been taken into account when setting the appropriate risk adjusted discount rate assumption.

> Funding a defined benefit pension scheme such as the LGPS which is open to new members is by its nature uncertain, and involves some level of risk. The principal funding risks are investment (e.g. whether the Fund earns the desired level of long term real returns) and demographic (e.g. whether longevity of members is longer or shorter than anticipated). In practice, the key is whether such risks can be managed and mitigated.

Examples of such risks, and how the Administering Authority manages them, are:

- If an Employer becomes unable to pay contributions or to make good deficits in the future, the Fund's assets will be lower than expected and the funding level will be worse than expected. The Administering Authority regularly monitors the financial strength of the employers so that actions can be taken to mitigate (but not fully remove) the risk.
- If future investment returns on assets are lower than assumed in the valuation, the Fund's assets will be lower, and the funding level worse, than expected. The Administering Authority has a process in place to monitor investment performance quarterly, and it reviews the Fund's investment strategy alongside each actuarial valuation. As part of the risk management framework there is a level of hedging in place which provides greater certainty with respect to future returns versus inflation and therefore stability of outcomes.
- As part of its overall risk management framework the Fund has also put in place a strategy of "equity protection", which offers some protection to the Fund's asset values in the event of an equity market fall (further details can be found in the Fund's ISS on the Fund's website).
- If CPI inflation is greater than assumed over a prolonged period this means that the benefit payments and therefore Fund liabilities will be greater than expected leading to potentially higher employer contributions at future valuations. As part of its risk management framework the Fund invests in assets (Liability Driven Investment) which have direct correlation to RPI inflation along with other assets which have some indirect correlation to inflation. Therefore the impact will be mitigated based on the overall hedging position and the Administering Authority keeps this under review on an ongoing basis (see the ISS for further details).
- If improvements in life expectancy are greater than assumed, the cost of benefits will increase because members are living longer than expected. This will mean the funding level will be worse than expected. The Administering Authority regularly reviews the Fund's experience and ensures

that the assumptions it makes about members' life expectancy take the most recent information available into account.

- If members make decisions about their options which increase the Fund's liabilities, the funding level will be worse than expected. An example would be if members commute less pension for cash than is being assumed. The Administering Authority reviews the Fund's experience at each valuation to ensure that their treatment of member options remains appropriate.

Post valuation date experience and contribution sustainability

The valuation results and employer contributions shown in this report are assessed as at 31 March 2022. We have seen substantial financial market volatility as a combination of the continued impact of the COVID19 pandemic on life expectancy, the Russia Ukraine conflict, the September 2022 "mini-budget" and spikes in short/medium term inflation. This potentially has far-reaching consequences in terms of funding and risk which will need to be kept under review.

Our view is that it is important to take stock of the situation as opposed to make immediate decisions in what is an unprecedented set of events. In particular, we have considered these factors when deciding on the final assumptions to adopt and also highlighted to employers the potential risks around contribution sustainability. The position will be kept under review by the Administering Authority who will monitor the development of the situation and keep all stakeholders informed of any potential implications so that the outcome can be managed effectively.

Sensitivity of funding position to changes in key assumptions

The value placed on the Fund's liabilities is critically dependent on the assumptions used to carry out the calculations. If future experience differs from the assumptions the Administering Authority has used after consulting with the employers, then the projected future funding level will be different from the level described above.

To illustrate how sensitive the funding level is to experience being different from assumed, the table below shows how the valuation results at 31 March 2022 would have differed given small changes in the key assumptions.

Assumption change	Reduction in surplus at 31 March 2022 (£m)	Resultant surplus (deficit) at 31 March 2022 (£m)
Original solvency funding position	0	125
Real investment return (e.g. return above inflation) 0.25% per annum lower than assumed	101	24
Pensionable Salary growth 0.25% per annum higher than assumed	15	110
Long term improvement rate in life expectancy increased by 0.25% per annum	17	108
Assets fall by 25%	623	(498)

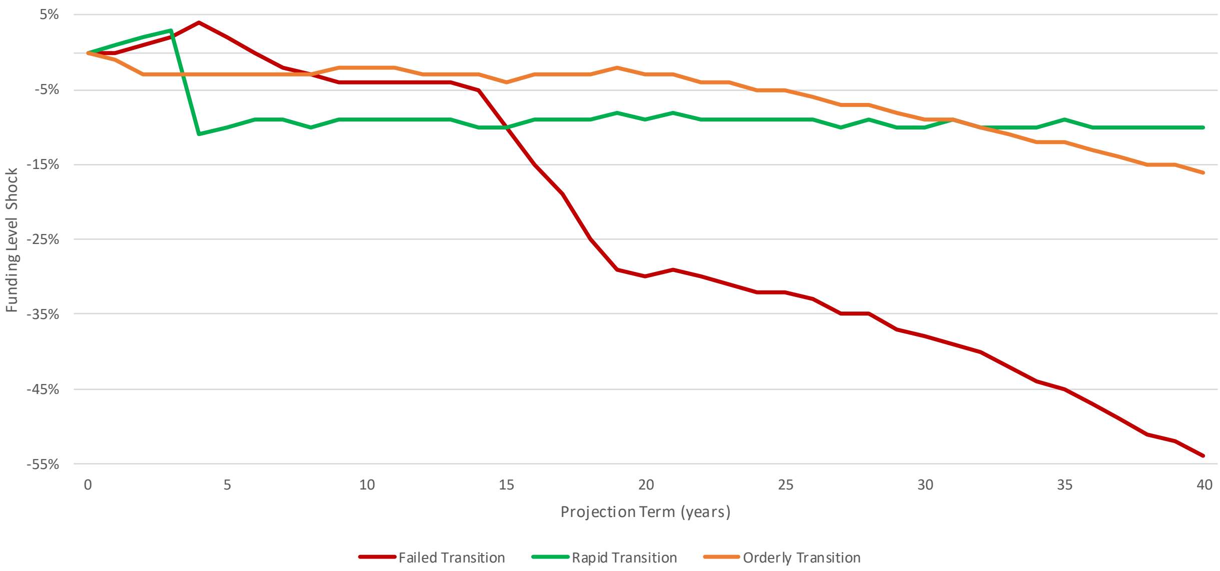
The figures above consider each impact in isolation.   In practice the Fund's risk management framework will mitigate the financial risks to varying degrees.

Climate change

Climate change has the potential to be a material financial risk to the Fund – whether that be the costs of moving to a low carbon economy, the cost of physical damages caused as a result of climate change or even as a result of litigation/regulation to address past practices. Climate change is expected to affect most if not all of the risks highlighted above, however, the extent of and interaction between these impacts are uncertain. As part of the valuation the Administering Authority has considered the relative impact on funding over time of the following climate change scenarios and a summary of the output is set out below (the key assumptions underpinning these scenarios is included in Appendix A).

The scenarios shown are not meant to be predictors of the impact of climate change but are meant to show the impacts associated with the transition risks (short term) and physical risks (long term) of three different scenarios. Further detail on the analysis has been provided to the Administering Authority in our separate advice report and the information provided here is a summary of that report. The potential risks associated with climate change have been considered when setting the assumptions in this report. The three scenarios considered are as follows:

- **Rapid transition** - Policy and technology developments come together to deliver the rapid reduction in emissions to limit heating to below 1.5°. There are material transition costs associated with this that reduce returns.
- **Orderly transition** - Emission reductions begin immediately with support from technological development. Policy is designed to support transition while controlling transition costs.
- **Failed transition** - Transition is limited and not co-ordinated. Emissions continue to rise. Transition risks are very small but significant physical risks come in to play.



Mercer supports limiting warming to 1.5 degrees Celsius but recognises that given the current warming trajectory, based on existing policies and actions, this pathway may represent a short term shock to investment portfolios. Investors should position their portfolios in line with their objectives whilst also understanding the potential impact of transition risks and physical damages.

Minimum risk funding position

In assessing the value of the Fund's liabilities (the solvency funding target), allowance has been made for investment returns as described in Appendix A, taking into account the investment strategy adopted by the Fund, as set out in the Fund's ISS.

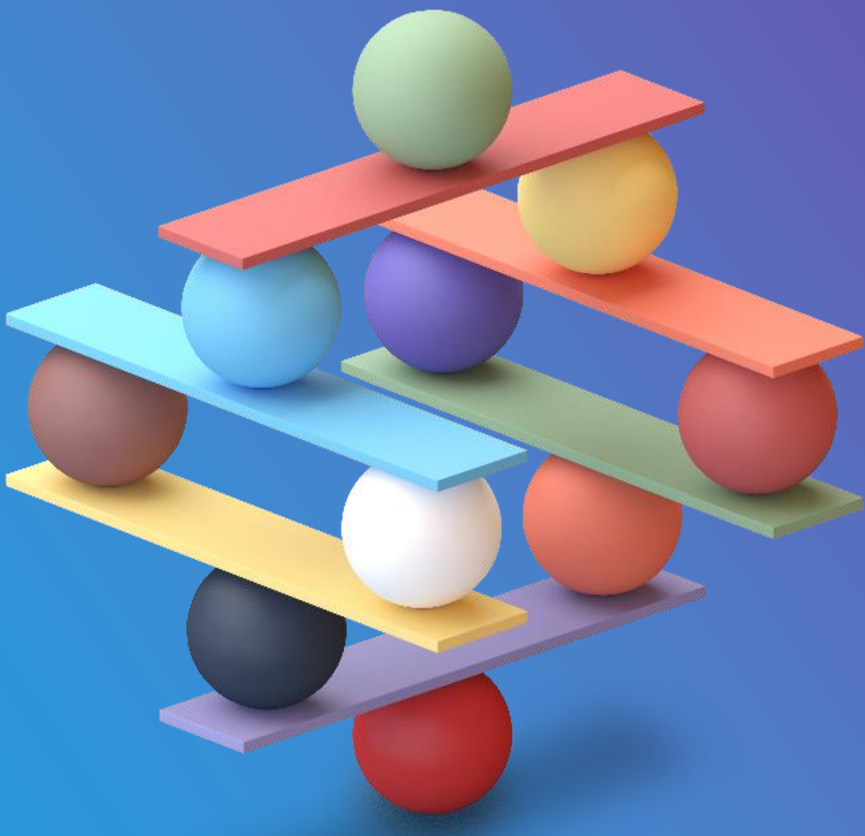
It is not possible to construct a portfolio of investments which produces a stream of income exactly matching the expected liability outgo. However, it is possible to construct a portfolio which attempts to closely match the liabilities and provide a high level of certainty in future investment returns relative to CPI inflation. This represents a "minimum risk" investment position. Such a portfolio would consist mainly of a mixture of long term index-linked and fixed interest gilts. Investment of the Fund's assets in line with the minimum risk portfolio would minimise fluctuations in the Fund's minimum risk funding level between successive actuarial valuations but would result in much higher employer contributions (all other things equal).

If, at the valuation date, the Fund had been invested in this portfolio, then in carrying out the valuation it would not be appropriate to make any allowance for out-performance of the Fund investments nor allow for an inflation risk premium as inflation risk would be fully hedged. In this event the value of the Fund liabilities would have increased substantially, to £4,594m, and the funding level would have reduced correspondingly to 54%. If the actuarial assumptions are borne out in practice and contributions are paid in line with the Rates and Adjustment Certificate for all employers, the projected funding level on this basis at the next actuarial valuation would be slightly higher at 55%.

The value of the liabilities on the ongoing solvency funding target assumptions was £2,366m, which is £2,228m less than the value on the minimum risk basis. The funding plan is therefore making a prudent allowance for future investment returns of £2,228m over and above those available from the notional minimum risk investment portfolio to support the funding of member benefits along with contributions payable. This is an indication of the expected return built into the funding strategy for the Fund as a whole.

Managing investment risk and other risks (e.g. employer covenant) is a key objective for the Administering Authority. The policies to manage these risks are set out in the Funding Strategy and Investment Strategy Statements.

Appendices



Appendix A
Assumptions

How the benefits are valued

In order to calculate the liabilities, there is a need to make assumptions about various factors that affect the cost of the benefits provided by the Fund – for example, how long members will live, or the future level of inflation. The table below explains the key assumptions being made in the valuation.

Assumption	Why it is important and how it impacts on the liabilities
Discount rate	The majority of benefits in a pension fund are paid many years in the future. In the period before the benefits are paid, the Administering Authority invests the funds held by the Fund with the aim of achieving a return on those funds. When calculating how much money is needed now to make these benefit payments, it is appropriate to make allowance for the investment return that is expected to be earned on these funds. This is known as "discounting". The higher the investment return achieved, the less money needs to be set aside now to pay for benefits. The calculation reflects this by placing a lower value on the liabilities if the "discount rate" is higher.
Inflation	Pensions in payment, deferment and CARE pension pots for active members increase in line with Consumer Price Inflation (CPI). Salary growth is also normally linked to price inflation in the long term. A higher inflation assumption will, all other things being equal, lead to a higher value being placed on the liabilities.
Pensionable Salary growth	Benefits earned prior to 1 April 2014 for active members are based on their salaries immediately before retirement and their CARE benefits are based on salary each year, so it is necessary to make an assumption about future Pensionable Salary growth. The higher this assumption, the higher the value placed on the liabilities for active members. Equally, pay growth will impact on the potential liabilities in relation to the McCloud Judgment as the assumption affects the value of the final salary underpin.
Life expectancy	Pensions are paid while the member (and potentially their spouse or partner) is alive. The longer people live, the greater is the cost of providing a pension. Allowing for longer life expectancy therefore increases the liabilities.

The liabilities of the Fund are calculated by projecting forward all of the future benefit cash flows and discounting them back to the effective date of the valuation, using these assumptions. For example, the liability for a single pensioner is calculated by estimating the amount of each pension payment they will receive in the future, multiplying by the probability that the member will still be alive by the date of each payment, and then discounting each payment back to the effective date of the valuation using the appropriate discount rate, and then summing up all of these discounted amounts. The liabilities for the whole Fund are calculated by summing the liabilities for each of the individual members.

Financial assumptions used to calculate the solvency funding target

The table below summarises the key financial assumptions used in the calculation of the solvency funding target at whole Fund level and those used for the 31 March 2019 actuarial valuation. Full yield curves were used in calculating the liabilities. Approximate single equivalent rates have been shown below for information purposes.

Financial assumptions	31 March 2019	31 March 2022
Discount rate	4.15% p.a.	4.60% p.a.
Price inflation (CPI)	2.40% p.a.	3.10% p.a.
Salary increases (short term)	2% p.a. for 4 years	4% p.a. for 3 years
Salary increases (long term)	3.65% p.a.	4.35% p.a.
Pension increases in payment	2.4% p.a.	3.10% p.a.

** Employers selected either no short term pay increases or 2% p.a. for the four year period to 31 March 2023.*

** Employers selected either no short term pay increases or 4% p.a. for the three year period to 31 March 2026.*

The key financial assumption is the expected long term investment return above CPI inflation as this is usually the principal factor which determines the long term cost to employers via their contributions. In determining this we consider first the long term real returns (i.e. returns above CPI) which the Fund's investment strategy can be expected to deliver based on market outlook at the valuation date taking into account the projected cash flow position of the Fund. This analysis then helps us recommend and agree with the Administering Authority on a suitably prudent assumption for the valuation discount rate based on the investment strategy, the risk management framework in place, and reasonably allowing for the likely changes in investment strategy as the Fund matures.

> Our analysis of expected future real investment returns uses a Monte Carlo simulation (stochastic) model, based on 4,000 simulations. Within the overall analysis we specify and calibrate a range of economic and asset class models. Our analysis uses an asset correlation matrix to help generate each stochastic simulation. The model includes estimates for long term expected returns and inflation along with volatilities each asset class and inflation.

In order to consider the level of prudence we look at the likelihood of the expected real return from the Fund's assets exceeding the assumption made. We measure this by considering the percentile expected return from the analysis. A return assumption higher than the 50th percentile return from the analysis can be deemed to be prudent and retain margins to provide some protection against increases in contributions at future valuations.

At this actuarial valuation the real discount rate which we have used is 1.5% p.a., which is the 68th percentile return from our analysis. At the previous valuation the real discount rate used was 1.75% p.a., which at the time was the 65th percentile. This discount rate considers the implications of the risk management framework (including hedging and protection levels) which is in place for the Fund and therefore the level of prudence required.

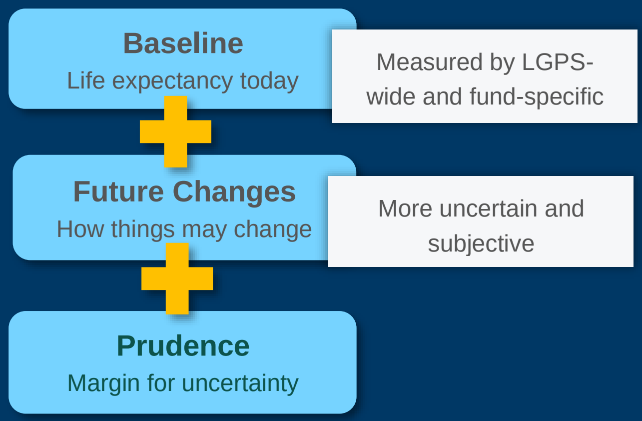
Demographic assumptions used

Post-retirement Mortality

Mortality (or life expectancy) tables are typically made up of three elements: a baseline table (equivalent to the expected current mortality), an allowance for future improvements, and a margin for prudence. Very few pension funds are large enough for them to be able to determine a bespoke set of baseline assumptions based purely on the fund's own membership experience. Typically, the life expectancy assumptions are set by benchmarking a fund's membership profile and mortality experience against larger external datasets.

There are two separate decisions on mortality assumptions:

- The baseline table for the current rates of mortality; and
- The allowance for future improvements.



For this actuarial valuation, we have benchmarked the Fund's membership profile and experience against the "S tables" published by the CMI. We have applied weightings and age ratings as appropriate to adjust the standard tables so as to arrive at assumptions which are appropriate for the Fund. This has been based on our detailed study using Longevitas which considers a range of lifestyle factors to derive the weightings. Full details are set out in our separate report.

As for the 2019 valuation, we have generally used the S3PA tables ("middle" tables for females), other than for female dependants where the S3DA tables have been used and for members retiring in ill health, where the S3IA tables have been used.

The weightings and age ratings applied to the above are set out in the table below.

Current Status	Retirement Type	2019 weighting / age rating	2022 weighting / age rating
Annuitant	Normal Health	100% males, 92% females	114% males, 105% females
	Dependant	132% males, 92% females	136% males, 119% females
	Ill Health	122% males, 132% females	143% males, 170% females
	Future Dependant	128% males, 111% females	136% males, 119% females
Active	Normal Health	106% males, 93% females	117% males, 105% females
	Ill Health	122% males, 142% females	256% males, 342% females
Deferred	All	128% males, 110% females	125% males, 111% females
Active/ deferred	Future Dependant	135% males, 118% females	134% males, 121% females

A weighting applied to an actuarial table has the effect of increasing or reducing the chance of survival at each age, which increases or reduces the corresponding life expectancy. Similarly, an age rating applied to an actuarial table has the effect of assuming that beneficiaries have a life expectancy equal to those older (or younger) than their actual age.

Future improvements are assumed to follow the CMI 2021 model with a 1.75% p.a. long term improvements trend (Smoothing Parameter (Sk) of 7.5, with all other parameters core, i.e. zero initial improvements parameter and no allowance for 2020 or 2021 data).

At the 2019 actuarial valuation the CMI 2018 model with 1.75% p.a. long term trend was used.

The mortality assumptions used for the 31 March 2022 valuation result in the following life expectancies.

	Years
Life expectancy for a male aged 65 now	21.5
Life expectancy at 65 for a male aged 45 now	23.3
Life expectancy for a female aged 65 now	23.9
Life expectancy at 65 for a female aged 45 now	26.0

Pre-retirement Mortality

The following mortality tables (together with any appropriate weightings and age ratings) have been adopted for mortality rates in the period up to retirement.

	31 March 2019	31 March 2022
Base Table	DxL08 tables with adjustments of 80% (male) 50% (female) to reflect the Fund's membership profile	DxL08 tables with adjustments of 80% (male) 70% (female) to reflect the Fund's membership profile
Allowance for Future Improvements	CMI_2015 [1.5%]	CMI_2021 [1.75%]

Commutation

Members have the option to commute part of their pension at retirement in return for a lump sum at a rate of £12 cash for each £1 per annum of pension given up. Following an analysis of the take-up rates, it has been assumed that, on average, retiring members will take 75% of the maximum tax-free cash available at retirement. This is slightly less than the assumption at the 2019 actuarial valuation, which was equivalent to members taking about 80% of the maximum tax-free cash available.

Retirement lump sums are less costly for the Fund to provide than the alternative pension, as members receive only £12 of each £1 p.a. of pension given up. If members take the cash sum option at a higher rate than has been assumed then this will normally lead to an improvement in the funding level.

Early retirement

For those members who are entitled to receive their accrued benefits (or part of those benefits) prior to age 65, a proportion of the active membership is assumed to retire in normal health, as set out below:

If members take early retirement to a greater extent than has been assumed then this will typically lead to a worsening of the funding level. This is because many members are able to take substantial parts of their benefits from age 60 without them being reduced for early payment.

	% retiring per annum	% retiring per annum
Age	**Males**	**Females**
60	10	20
61	8	15
62	8	15
63	8	15
64	8	15
65	100	100

Otherwise, all other benefits are assumed to be payable from age 65 and the appropriate early retirement factors are applied to the relevant tranche of benefits in line with the Government Actuary's Department (GAD) guidance.

These are the same assumptions as the 2019 valuation.

Ill health retirement

A small proportion of the active membership has been assumed to retire owing to ill health. As an example of the rates assumed, the following is an extract from the decrement table used:

The level of ill health retirement benefit provided for a member falls into one of three "tiers", depending on whether and when the member might be expected to resume gainful employment. Tier 1, for example, is on the basis that the member is unlikely to be able to do so before Normal Pension Age. Full details are set out in the LGPS Regulations and associated guidance.

	% retiring per annum	% retiring per annum
Age	Males	Females
35	0.02	0.02
45	0.07	0.05
55	0.29	0.22

These are the same assumptions as the 2019 valuation.

The proportion of ill health early retirements falling into each tier category, split by males and females, has been assumed to be as set out below (which is the same assumption as used in the 2019 valuation):

	Tier 1	Tier 2	Tier 3
Males	75%	12.5%	12.5%
Females	75%	12.5%	12.5%

These assumptions are also used to derive the premium included in the captive ill health insurance arrangement for certain employers. Further details of this arrangement are set out in the FSS and the employers in the arrangement are covered on the schedule in Appendix H.

Withdrawal

This assumption relates to those members who leave the Fund with an entitlement to a deferred pension or transfer value. It has been assumed that active members will leave the Fund at the following sample rates:

	% leaving per annum	% leaving per annum
Age	Males	Females
25	20.25	22.38
35	5.09	6.27
45	2.54	3.89

In relation to pre 2014 benefits, deferred benefits tend to be less costly for the Fund to provide than if the member had remained in the Fund until retirement. If the number of members leaving the Fund is greater than expected then this will typically lead to a slight improvement in the funding level.

These are the same assumptions as the 2019 valuation.

Partners' and Dependants' Proportions

It has been assumed that the proportions of members below will on death give rise to a dependant's pension (spouse's and partner's), and that spouses/partners of female (male) members are three years older (younger), on average than the member.

	% spouse/partner	**% spouse/partner**
Age	**Males**	**Females**
25	43	51
35	69	68
45	72	68
55	74	68
65	76	62

If more members than assumed have partners then this will lead to an increase in the number of dependants pensions coming into payment over and above that expected. This would lead to a worsening of the funding level.

The assumption has been changed since the last valuation. The 2019 assumption is set out in our 2019 valuation report.

Assumptions used to calculate the Primary Contribution Rate

The cost of future accrual (the Primary Contribution Rate) has been calculated using the same actuarial assumptions as used to calculate the solvency funding target and recovery plan as set out above except that the financial assumptions adopted are as described below.

The financial assumptions for assessing the future service contribution rate should take account of the fact that contributions will be invested in market conditions applying at future dates, which are unknown at the effective date of the valuation, and which are not directly linked to market conditions at the valuation date.

The financial assumptions in relation to future service (i.e. the Primary Contribution Rate) are not specifically linked to investment conditions as at the valuation date itself, and are based on an overall assumed real return (i.e. return in excess of CPI) of 2.00% per annum. This represents a reduction of 0.25% per annum compared to the 2019 valuation, which increases the estimated cost of providing LGPS benefits. With a long term average assumption for price inflation of 3.10% per annum, this gives rise to an overall discount rate of 5.10% p.a. (the corresponding discount rate at the 2019 actuarial valuation was 4.65% p.a.).

Nevertheless, it is instructive to consider the assumption against the long term real returns (i.e. returns above CPI) which the Fund's investment strategy can be expected to deliver based on the current market outlook. At this actuarial valuation the real discount rate used was 2.00% p.a., which is the 59th percentile return from our analysis. At the previous valuation the real discount rate used was 2.25% p.a., which at the time was at the 55th percentile.

Climate change modelling

The ongoing funding level includes implicit allowance for climate change to the extent that this is expected and priced into markets. We have illustrated how other climate change scenarios could impact on the projection of funding level in section 5.

Modelling Assumptions – cumulative return impacts

	Failed Transition	Rapid Transition	Orderly Transition
Asset Class	30/06/2022		
	40 Years	40 Years	40 Years
MSCI World Equity	-38.10%	-7.00%	-10.30%
Emerging Markets Equity	-45.70%	-6.30%	-8.20%
MSCI ACWI ESG Equity	-40.30%	-2.30%	-8.70%
MSCI Paris Aligned Equity	-39.80%	1.40%	-8.10%
Multi asset credit	-1.50%	-5.40%	-1.40%
Absolute Return Fixed Income	-1.00%	-3.10%	-1.30%
Global Investment Grade Credit	-2.10%	-2.40%	-1.30%
UK Sovereign Bonds	-0.80%	1.00%	0.30%
Global Senior Private Debt	-4.40%	-2.60%	-2.90%
Global Private Debt	-2.80%	-8.40%	-3.70%
Cash	-5.70%	2.00%	-0.90%
Listed Infrastructure	-21.00%	-22.30%	-26.50%
UK Real Estate	-38.90%	0.90%	-4.50%
Private Equity	-48.90%	-1.60%	-11.10%
ESG Private Equity	-51.60%	0.60%	-10.30%
Sustainable Infrastructure	-35.80%	0.70%	-4.70%
Hedge Fund	-5.70%	2.00%	-0.90%

Appendix B

Summary Membership Data

The membership data is summarised in the table, with figures at the previous valuation shown for comparison.

Data in relation to members of the Fund were supplied by the Fund's administrator on behalf of the Administering Authority. The accuracy of the data provided has been relied on. While reasonableness checks on the data have been carried out, they do not guarantee the completeness or the accuracy of the data. Consequently, Mercer does not accept any liability in respect of its advice where it has relied on data that is incomplete or inaccurate.

	31 March 2019	31 March 2022
Active members		
Number	16,911	16,996
Total Pensionable Salaries (£000s p.a.)	253,011	295,838
Average Pensionable Salary (£ p.a.)	14,961	17,406
Average age (pension weighted)	50.6	51.1
Deferred pensioners (including undecideds)		
Number	18,342	17,361
Total deferred pensions revalued to valuation date (£000s p.a.)	22,274	22,414
Average deferred pension (£ p.a.)	1,214	1,291
Average age (pension weighted)	48.4	49.0
Pensioners (including dependants)		
Number	13,201	14,590
Total pensions payable (£000s p.a.)	61,472	68,476
Average pension (£ p.a.)	4,657	4,693
Average age (pension weighted)	71.2	71.8

Appendix C

Assets

The market value of the Fund's assets was £2,490,795,000 on the valuation date.

The Administering Authority's investment strategy is to proportion the Fund's assets by asset class as shown in the table below. The actual distribution of assets will vary over time due to changes in financial markets. The table also shows the distribution of assets at the valuation date.

	Investment strategy	Actual market value of assets at 31 March 2022	
		£000s	
Global Equity	10.0%	266,515	10.7%
Emerging Market Equity	10.0%	224,172	9.0%
Best Ideas Portfolio	11.0%	276,478	11.1%
Hedge funds	7.0%	159,411	6.4%
Multi Asset Credit	12.0%	249,080	10.0%
Property	4.0%	149,448	6.0%
Cash & Risk Management Framework	23.0%	635,153	25.5%
Private Equity	8.0%	196,773	7.9%
Local / Impact	4.0%	67,251	2.7%
Private Credit	3.0%	52,307	2.1%
Infrastructure	8.0%	119,558	4.8%
Timber / Agriculture	0.0%	12,454	0.5%
Cash	0.0%	82,195	3.3%
Total	**100%**	**2,490,795**	**100%**

The Administering Authority also holds additional voluntary contributions (AVCs) which are separately invested. These assets have been excluded from the market value shown as they exactly match the value of the benefits they cover.

The details of the assets at the valuation date and the financial transactions during the inter-valuation period have been obtained from the audited accounts for the Fund.

Appendix D
Benefit Summary

The benefits valued within our calculations are those in force at the effective date of the valuation. Full details of these can be found in the Local Government Pension Scheme Regulations 2013 (as amended). The principal details are as follows:

Scheme Regulations

The Local Government Pension Scheme Regulations 2013 (http://www.legislation.gov.uk/uksi/2013/2356/contents/made)

The Local Government Pension Scheme (Transitional Provisions, Savings and Amendment) Regulations 2014 (http://www.legislation.gov.uk/uksi/2014/525/contents/made)

GMP Equalisation/Indexation

UK and European law requires pension schemes to provide equal benefits to men and women in respect of service after 17 May 1990 (the date of the "Barber" Judgment) and this includes providing equal benefits accrued from that date to reflect the differences in GMPs. Following the Lloyds Bank case in 2018, Treasury issued a consultation on the equalising and indexation of GMPs in all the public service pension schemes, including the LGPS and this was concluded on 23 March 2021 (23.03.2021_Response_to_GMP_consultation_final__002_.pdf (publishing.service.gov.uk).

The outcome is that all members whose State Pension Age is after 5 April 2016 will receive full CPI indexation on the GMP elements of their benefits resulting in their total pension increasing in line with CPI inflation which will address the equalisation issues identified in the view of the Government.

Directions made by the Treasury under Section 59A of the Social Security Pensions Act 1975 (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/761639/Treasury_Direction_under_section_59A_Social_Security_Pensions_Act_1975.pdf).

This has been fully allowed for in this valuation when assessing the liabilities. When compared to the 2019 valuation outcomes, we have made allowance for the directions being extended to require the LGPS to now be responsible for increases to GMPs for members reaching State Pension Age after 5 April 2021.

Consideration is being given to whether any adjustment needs to be made in relation to a small number of exceptional cases (as set out in the consultation response) along with historic transfer payments made to members leaving the Fund and all parties are awaiting further guidance from the Government. No explicit allowance has been made in this valuation for these potential liabilities and this will be considered once the guidance and data is available. We would not expect it to be material in the context of the total Fund liabilities but this can only be considered once the full details are available.

Compensatory Added Years (CAY)

The Fund is also responsible for paying and, where appropriate, recharging to employers the benefits arising from the award of compensatory added years (CAY) of service on premature retirement. Unless these CAY benefits have been converted into "funded" benefits, they are normally recharged to the relevant employer (together with associated pension increases), and so are excluded from the valuation.

Additional Voluntary Contributions (AVCs)

The benefits that will emerge from money purchase AVCs paid by members, and SCAVCs paid by employers, and the corresponding invested assets in respect of these AVCs and SCAVCs, have been excluded from the valuation.

The McCloud Judgment

The McCloud Judgment in the LGPS refers to the legal decisions (initially by the Employment Appeal Tribunal and then ratified by the Court of Appeal) in the Sargeant/McCloud cases for the Fire and Judiciary pension arrangements. The Court ruled that transitional protections afforded to older members when these schemes were amended constituted unlawful age discrimination. Remedial action, in the form of benefit changes for these schemes, is therefore required as announced by the Government.

Although the above cases did not relate directly to the LGPS, the LGPS also put in place protections for older members as part of the reforms which came into effect from 2014. For the LGPS these took the form of an underpin, where older members would get the better of the benefits payable under the new and old schemes.

The Government published a consultation in July 2020 including a proposed remedy for the LGPS. This is likely to result in increased costs for some employers. We are expecting remedial regulations to take effect from October 2023, with a retrospective effect back to April 2014 in England and Wales and a remedy end date of 31 March 2022.

Following discussions with the Administering Authority, in order to consider a reasonable provision for the potential costs in employer contributions we have assumed that the eventual remedy will be that the underpin which applies to older members will also be extended to apply to younger members who joined the Fund before 1 April 2012 (the cut-off date for the protections to apply). More specifically we have agreed with the Administering Authority to:

- Estimate the underpin benefits for active members for service after 31 March 2014 (when the new scheme took effect) up to 31 March 2022.
- Compare this to the actual post 31 March 2014 benefits accrued up to 31 March 2022.
- Calculate the cost for each member as the value of the underpin benefits less the value of the actual benefits (ignoring members where the value of the actual benefits is higher).
- Sum these costs across all active members to give the impact of the underpin for each employer.

We have calculated this cost across all benefits (including deferred benefits for active members who are assumed to leave the scheme before retirement in the future).

At this stage, as the data was not readily available for the valuation we have not calculated any costs for members who had already left service or retired as at 31 March 2022. Given the nature of the underpin we expect any costs for this group of members to be immaterial at whole Fund level. We also believe the approach applied to active members and the assumptions underlying the actuarial valuation contain prudent margins which are sufficient to cover the vast majority of such costs for the affected employers.

As the regulations have not yet been laid we cannot be certain that the allowance made is reflective of the final underpin agreed. However, we are content that the approach above represents a reasonable allowance for the expected remedy. The position will be reassessed at the 2025 valuation (or earlier contribution review for some employers) when we expect all relevant data to be available and the final remedy will be known.

Appendix E

Analysis of membership experience

The analysis below compares the actual experience over the 3 year period with the assumptions used for the 2022 valuation.

	Actual	Expected	%
Ill Health Retirements	83	114	73
Withdrawals	4,208	3,476	121
Pensioner Deaths	1,163	1,164	100

Note that actual withdrawals can include members moving to another LGPS Fund, bulk transfers and also transfers under the special transfer club terms.

Appendix F

Valuation Dashboard as agreed by Scheme Advisory Board

2022 Past service funding position - local funding basis	
Funding level (assets/liabilities)	105%
Funding level (change since last valuation)	+14%
Asset value used at the valuation (£m)	2,491
Value of liabilities (£m)	2,366
Surplus / (deficit) (£m)	125
Discount rate – past service	4.60% p.a.
Discount rate – future service	5.10% p.a.
Assumed pension increases (CPI)	3.10% p.a.
Method of derivation of discount rate, plus any changes since previous valuation	See Appendix A
Assumed life expectancies at age 65	
Average life expectancy for current pensioners - men currently age 65	21.5
Average life expectancy for current pensioners - women currently age 65	23.9
Average life expectancy for future pensioners - men currently age 45	23.3
Average life expectancy for future pensioners - women currently age 45	26.0

The basis for the purposes of the LGPS Scheme Advisory Board funding position (the "SAB basis") is a set of assumptions determined by the SAB. Its purposes are to set out the funding position on a standardised approach so that comparisons can be made with other LGPS Funds, and to assist with the "Section 13 review" as carried out by the Government Actuary's Department. We are happy to supply further details of the SAB basis as requested.

Past service funding position - SAB basis (for comparison purposes only)		
Market value of assets	2,491	
Value of liabilities	2,139	
Funding level on SAB basis (assets/liabilities)	116%	
Funding level on SAB basis (change since last valuation)	+13%	
Contribution rates payable	2022 Valuation	2019 Valuation
Primary contribution rate	18.8%	17.3%
Secondary contributions:		
Secondary contributions 1st year of rates and adjustment certificate (£m)	-4.5	15.9
Secondary contributions 2nd year of rates and adjustment certificate (£m)	-12.7	15.3
Secondary contributions 3rd year of rates and adjustment certificate (£m)	-12.9	15.7
Giving total expected contributions:		
Total expected contributions - 1st year of rates and adjustment certificate (£m figure based on assumed payroll)	55.7	61.7
Total expected contributions - 2nd year of rates and adjustment certificate (£m figure based on assumed payroll)	49.9	62.0
Total expected contributions - 3rd year of rates and adjustment certificate (£m figure based on assumed payroll)	52.2	63.3
Assumed payroll (cash amounts in each year)		
Total assumed payroll - 1st year of rates and adjustment certificate (£m)	320	264
Total assumed payroll - 2nd year of rates and adjustment certificate (£m)	333	269
Total assumed payroll - 3rd year of rates and adjustment certificate (£m)	346	274
3-year average total employer contribution rate	15.8%	23.2%
Average employee contribution rate (% of pay)	6.3%	6.2%
Employee contributions (£m based on assumed 1st year payroll)	20.2	16.4

Deficit recovery and surplus spreading plan:	**2022 Valuation**	**2019 Valuation**
Latest deficit recovery period end date	2033	2034
Earliest surplus spreading period end date	2026	2023
The time horizon end date (where this methodology is used by the fund's actuarial advisor)	n/a	n/a
The funding plan's likelihood of success (where this methodology is used by the fund's actuarial advisor)	n/a	n/a
Percentage of liabilities relating to employers with deficit recovery periods of longer than 20 years	0%	0%
Additional information		
Percentage of total liabilities that are in respect of Tier 3 employers	8%	
Included climate change analysis/comments in the 2022 valuation report	Yes	
Value of McCloud liability in the 2022 valuation report (on local funding basis)	£26.4m	

Appendix G

Rates and Adjustments Certificate issued in accordance with Regulation 62

Name of fund	Clwyd Pension Fund

Primary Contribution Rate

I hereby certify that, in my opinion, the primary rate of the employers' contribution for the whole Fund for each of the three years beginning 1 April 2023 is 18.8% of pensionable pay. The primary rate of contribution for each employer for the three year period beginning 1 April 2023 is set out in the attached schedule.

Secondary Contribution Rate

I hereby certify that, in my opinion, the secondary rate of the employer's contribution for the whole Fund for each of the three years beginning 1 April 2023 is the following:

2023/24 A surplus offset of £6.4 million less 0.6% of pensionable pay

2024/25 A surplus offset of £13.0 million less 0.1% of pensionable pay

2025/26 A surplus offset of £13.2 million less 0.1% of pensionable pay

The secondary rate of contribution for each employer for each of the three years beginning 1 April 2023 is set out in the attached schedule. The above secondary rates, and the secondary rates for each employer, where appropriate include a provision for the costs of the McCloud Judgment, as set out in the notes to Appendix H.

Contribution amounts payable

The total contribution payable for each employer is the total of the primary and secondary rates as detailed in the attached schedule. Contributions will be paid monthly in arrears with each payment normally being due by the 19th of the following month (or the 22nd if paid electronically or at intervals agreed with the Administering Authority) unless otherwise noted in the schedule.

Further adjustments

A further individual adjustment shall be applied in respect of each non-ill health early retirement occurring in the period of three years covered by this certificate. This further individual adjustment will be calculated in accordance with methods agreed from time to time between the Fund's Actuary and the Administering Authority.

The contributions set out in the attached schedule represent the minimum contribution which may be paid by each employer in total over the three years covered by the certificate. Additional contributions or a different pattern of contributions may be paid if requested by the employer concerned at the sole discretion of the Administering Authority as agreed with the Actuary. The total contributions payable by each employer will be subject to a minimum of £nil.

The individual employer contributions may be varied as agreed by the Actuary and Administering Authority to reflect any changes in contribution requirements as a result of the McCloud Judgment remedy as set out in this report and/or any benefit costs being insured with a third party or parties including where the third party or parties participate in the Fund.

In cases where an element of an existing Scheme employer's surplus or deficit is transferred to a new employer on its inception, the Scheme employer's secondary contributions, as shown on the schedule to this Certificate in Appendix H, may be reallocated between the Scheme employer and the new employer to reflect this, on the advice of the Actuary and as agreed with the Administering Authority so that the total payments remain the same overall.

The Administering Authority and employer with advice from the Fund’s Actuary can agree that contributions payable under this certificate can be sourced under an alternative financing arrangement which provides the Fund with equivalent cash contributions.

Regulation 62(8)

In accordance with Regulation 62(8) of the regulations, we have calculated the contributions that should be paid into the fund over the period 1 April 2023 to 31 March 2026 in order to maintain the solvency of the Fund.

The assumptions underpinning the calculation of the contribution rates included in this certificate are set out in the FSS and summarised in Appendix A of the Fund Actuary’s report on the 31 March 2022 Actuarial Valuation. These assumptions determine our estimate of the number of members (and associated pensions and liabilities) who will become entitled to a pension under the provisions on the LGPS.

No allowance for non-ill health early retirements has been made in determining the results of the valuation, on the basis that the costs arising will be met by additional contributions. Allowance for ill health retirements has been included in each employer’s contribution rate, on the basis of the method and assumptions set out in the report.

Signature:		
Name:	Paul Middleman	Michelle Doman
Qualification:	Fellow of the Institute and Faculty of Actuaries	Fellow of the Institute and Faculty of Actuaries
Date of signing:	30 March 2023	

Appendix H

Schedule to the Rates and Adjustments Certificate dated 30 March 2023

Employer Number	Employer	Notes	Primary rate 2023/24 to 2025/26	Secondary rates			Total Contribution rates		
				2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
Councils									
100	Flintshire County Council		19.0%	1.7%	0.1% less £4,500,000	0.1% less £4,529,100	20.7%	19.1% less £4,500,000	19.1% less £4,529,100
101	Denbighshire County Council		18.8%	(£1,723,300)	(£1,798,300)	(£1,876,500)	18.8% less £1,723,300	18.8% less £1,798,300	18.8% less £1,876,500
102	Wrexham County Borough Council		19.0%	(£2,100,000)	(£4,000,000)	(£4,000,000)	19.0% less £2,100,000	19.0% less £4,000,000	19.0% less £4,000,000

Employer Number	Employer	Notes	Primary rate 2023/24 to 2025/26	Secondary rates			Total Contribution rates		
				2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
Other Scheme Employers									
61	Coleg Cambria	9	18.1%	-1.6% plus £244,040 to 31 July then 0% less £94,670 from 1 August	(£148,200)	(£154,600)	16.5% plus £244,040 to 31 July then 18.1% less £94,670 from 1 August	18.1% less £148,200	18.1% less £154,600
49	Glyndwr University	9	17.2%	-0.1% plus £118,200 to 31 July then 0% less £405,330 from 1 August	(£634,400)	(£662,000)	17.1% plus £118,200 to 31 July then 17.2% less £405,330 from 1 August	17.2% less £634,400	17.2% less £662,000
103	North Wales Fire Authority		18.3%	(£503,000)	(£524,900)	(£547,700)	18.3% less £503,000	18.3% less £524,900	18.3% less £547,700
19	North Wales Tribunal		22.2%	(£10,900)	(£11,400)	(£11,900)	22.2% less £10,900	22.2% less £11,400	22.2% less £11,900

Employer Number	Employer	Notes	Primary rate 2023/24 to 2025/26	Secondary rates			Total Contribution rates		
				2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
Town and Community Councils									
72	Acton Community Council	2	25.8%	£560	£0	£0	25.8% plus £560	25.8%	25.8%
29	Argoed Community Council		22.7%	(£1,900)	(£2,000)	(£2,100)	22.7% less £1,900	22.7% less £2,000	22.7% less £2,100
68	Bagillt Community Council		20.2%	£300	£300	£300	20.2% plus £300	20.2% plus £300	20.2% plus £300
89	Broughton & Bretton Community Council		23.8%	£100	£100	£100	23.8% plus £100	23.8% plus £100	23.8% plus £100
27	Buckley Town Council		28.0%	(£15,300)	(£16,000)	(£16,700)	28.0% less £15,300	28.0% less £16,000	28.0% less £16,700
38	Caia Park Community Council		24.8%	(£41,500)	(£43,300)	(£45,200)	24.8% less £41,500	24.8% less £43,300	24.8% less £45,200
66	Cefn Mawr Community Council		14.8%	£200	£200	£200	14.8% plus £200	14.8% plus £200	14.8% plus £200
11	Coedpoeth Community Council		20.3%	(£11,900)	(£12,400)	(£13,000)	20.3% less £11,900	20.3% less £12,400	20.3% less £13,000

Employer Number	Employer	Notes	Primary rate 2023/24 to 2025/26	Secondary rates			Total Contribution rates		
				2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
17	Connah's Quay Town Council		17.3%	(£30,300)	(£31,600)	(£33,000)	17.3% less £30,300	17.3% less £31,600	17.3% less £33,000
73	Denbigh Town Council		22.9%	£0	£0	£0	22.9%	22.9%	22.9%
87	Flint Town Council		18.9%	£100	£100	£100	18.9% plus £100	18.9% plus £100	18.9% plus £100
86	Gresford Community Council		24.2%	(£100)	(£100)	(£100)	24.2% less £100	24.2% less £100	24.2% less £100
69	Gwernymynydd Community Council		33.1%	£0	£0	£0	33.1%	33.1%	33.1%
18	Hawarden Community Council		23.1%	(£26,200)	(£27,300)	(£28,500)	23.1% less £26,200	23.1% less £27,300	23.1% less £28,500
84	Holywell Town Council		22.2%	(£6,600)	(£6,900)	(£7,200)	22.2% less £6,600	22.2% less £6,900	22.2% less £7,200
71	Hope Community Council		19.4%	£400	£400	£400	19.4% plus £400	19.4% plus £400	19.4% plus £400
70	Marchwiel Community Council		26.1%	(£100)	(£100)	(£100)	26.1% less £100	26.1% less £100	26.1% less £100

Employer Number	Employer	Notes	Primary rate 2023/24 to 2025/26	Secondary rates			Total Contribution rates		
				2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
36	Mold Town Council		19.6%	(£13,700)	(£14,300)	(£14,900)	19.6% less £13,700	19.6% less £14,300	19.6% less £14,900
83	Northop Town Council		23.2%	(£200)	(£200)	(£200)	23.2% less £200	23.2% less £200	23.2% less £200
35	Offa Community Council		24.4%	(£7,600)	(£7,900)	(£8,300)	24.4% less £7,600	24.4% less £7,900	24.4% less £8,300
67	Penyffordd Community Council		19.1%	(£100)	(£100)	(£100)	19.1% less £100	19.1% less £100	19.1% less £100
33	Prestatyn Town Council		23.8%	(£15,900)	(£16,600)	(£17,300)	23.8% less £15,900	23.8% less £16,600	23.8% less £17,300
22	Rhos Community Council		15.8%	(£8,800)	(£9,200)	(£9,600)	15.8% less £8,800	15.8% less £9,200	15.8% less £9,600
58	Rhyl Town Council		21.2%	£20,500	£0	£0	21.2% plus £20,500	21.2%	21.2%
74	Ruthin Town Council		18.7%	£300	£300	£300	18.7% plus £300	18.7% plus £300	18.7% plus £300
26	Shotton Town Council		10.5%	(£4,900)	(£5,100)	(£5,300)	10.5% less £4,900	10.5% less £5,100	10.5% less £5,300

Employer Number	Employer	Notes	Primary rate 2023/24 to 2025/26	Secondary rates			Total Contribution rates		
				2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
Other Employers									
94	Aramark B		25.9%	(£5,500)	(£5,700)	(£6,000)	25.9% less £5,500	25.9% less £5,700	25.9% less £6,000
80	Aramark Ltd		21.0%	(£10,500)	(£11,000)	(£11,400)	21.0% less £10,500	21.0% less £11,000	21.0% less £11,400
79	Aura Leisure & Libraries		20.3%	(£166,600)	(£173,800)	(£181,400)	20.3% less £166,600	20.3% less £173,800	20.3% less £181,400
8	Careers Wales		19.2%	(£315,200)	(£328,900)	(£343,200)	19.2% less £315,200	19.2% less £328,900	19.2% less £343,200
77	Cartref Ni Limited		18.3%	(£1,600)	(£1,700)	(£1,700)	18.3% less £1,600	18.3% less £1,700	18.3% less £1,700
13	Cartref y Dyffryn Ceiriog		26.4%	(£156,200)	(£163,000)	(£170,100)	26.4% less £156,200	26.4% less £163,000	26.4% less £170,100
82	Churchills Ltd		22.6%	(£1,500)	(£1,600)	(£1,600)	22.6% less £1,500	22.6% less £1,600	22.6% less £1,600
62	Denbigh Youth Group		26.9%	(£2,600)	(£2,700)	(£2,800)	26.9% less £2,600	26.9% less £2,700	26.9% less £2,800

Employer Number	Employer	Notes	Primary rate 2023/24 to 2025/26	Secondary rates			Total Contribution rates		
				2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
85	Denbighshire Leisure		14.3%	(£121,500)	(£126,800)	(£132,300)	14.3% less £121,500	14.3% less £126,800	14.3% less £132,300
93	Dolce		22.5%	(£200)	(£200)	(£200)	22.5% less £200	22.5% less £200	22.5% less £200
65	Freedom Leisure		20.3%	(£103,600)	(£108,100)	(£112,800)	20.3% less £103,600	20.3% less £108,100	20.3% less £112,800
76	Holywell Leisure		18.3%	(£7,600)	(£7,900)	(£8,300)	18.3% less £7,600	18.3% less £7,900	18.3% less £8,300
81	Home Farm Trust Ltd		22.4%	(£49,700)	(£51,900)	(£54,100)	22.4% less £49,700	22.4% less £51,900	22.4% less £54,100
78	Newydd Catering & Cleaning		23.1%	(£186,400)	(£194,500)	(£203,000)	23.1% less £186,400	23.1% less £194,500	23.1% less £203,000
91	Theatr Clwyd Music Trust		21.2%	(£1,400)	(£1,500)	(£1,500)	21.2% less £1,400	21.2% less £1,500	21.2% less £1,500
90	Theatr Clwyd Trust		19.1%	(£18,400)	(£19,200)	(£20,000)	19.1% less £18,400	19.1% less £19,200	19.1% less £20,000

Employer Number	Employer	Notes	Primary rate 2023/24 to 2025/26	Secondary rates			Total Contribution rates		
				2023/24	2024/25	2025/26	2023/24	2024/25	2025/26
75	Wrexham Glyndwr Student' Union	9	14.7%	-3.2% plus £330 to 31 July then 0% plus £330 from 1 August	£500	£500	11.5% plus £330 to 31 July then 14.7% plus £330 from 1 August	14.7% plus £500	14.7% plus £500

Important notes to the Certificate:

1. The percentages shown are percentages of pensionable pay and apply in respect of all members, including those who are members under the 50:50 option under the LGPS.

2. The employer has chosen to pay their required secondary rate over three years as one payment. Cash payments in respect of the total £ lump sums are payable by 30 April 2023. The amounts shown each year have been reduced to reflect the early payment.

3. The employer has chosen to pay each year's required secondary rate as one payment each year. These annual cash payments in respect of the total £ lump sums are payable by 30 April of the year in which they are due. The amounts shown each year have been reduced to reflect the early payment.

4. With the agreement of the Administering Authority employers may opt to pay any element of their employer contributions in advance instead of monthly amounts, with either all three years being paid in April 2023 or payment being made earlier than due in the year in question. The cash amounts payable will be reduced in return for this early payment as follows:

   - Payments made annually in advance will be reduced by 2.22% (i.e. the above amounts will be multiplied by 0.9778)
   - 2024/25 payments made in April 2023 will be reduced by 6.52% (i.e. the above amounts will be multiplied by 0.9348)
   - 2025/26 payments made in April 2023 will be reduced by 10.63% (i.e. the above amounts will be multiplied by 0.8937)

At the absolute discretion of the Administering Authority employers may be able to prepay at different dates and the discount factors applied will be adjusted accordingly in line with the approach above.

5. Where an employer initially opts to prepay contributions and this subsequently does not happen then the employer will be required to pay the undiscounted contribution amounts (rather than those certified), which would be payable monthly or at and interval otherwise agreed with the Administering Authority.

6. Where the secondary rate is a £ deduction to the primary rate due to an employer being in surplus, the total annual contributions payable by each employer will be subject to a minimum of £nil i.e. no monies can be refunded to an employer whilst they participate in the Fund.

7. The above secondary contributions include provision for the estimated effect of the McCloud Judgment based on the proposed remedy. Whilst it is possible that the Fund may require additional contributions from employers at that point in time if the McCloud remedy is substantially different from that currently anticipated, based on the Administering Authority's current knowledge and understanding of the likely outcome it believes that requiring such additional contributions is an unlikely outcome. In the event that additional contributions are required, this certificate will then be updated to reflect these changes. Any contribution changes will take effect from a date to be determined by the Administering Authority.

8. The Fund has an internal captive insurance arrangement in place in order to pool the risks associated with ill health retirement costs. The captive has been designed for employers that could be materially affected by the ill health retirement of one or more of their members. Those employers (both existing and new) that will be included in the captive are set out in the FSS. New employers entering the Fund will normally also be included. For those employers in the ill health captive arrangement, allowance for ill health retirements has been included in each employer's contribution rate, on the basis of the method and assumptions set out in the report. Details of the arrangement are set out in the FSS.

9. The Fund and employer have to delay the implementation of the primary rate assessed as part of the 2022 valuation until 1 August 2023 on the basis that the required rates will continue to 31 July 2026. The primary rate previously certified for 2022/23 will therefore continue until 31 August 2023 (as shown above).

10. At the sole discretion of the Administering Authority an employer may choose to overpay/underpay the minimum contributions on this schedule in one year and underpay/overpay in the following years on the basis that the overall aggregate contributions are at least equal to the minimum aggregate contributions on this schedule. These contributions may be adjusted for interest in line with approaches set out in this report and/or the Regulations. Employers will be required to agree this approach with their auditors as appropriate.

Appendix I

Glossary

Actuarial Valuation: an investigation by an actuary into the ability of the Fund to meet its liabilities. For the LGPS the Fund Actuary will assess the funding level of each participating employer and agree contribution rates with the administering authority to fund the cost of new benefits and make good any existing deficits as set out in the separate FSS.

Barber Judgment: The ruling made in respect of the Barber case by the European Court of Justice in 1990, which addressed inequality between men and women with regard to pension benefits and the age which the come into payment (due to women typically being able to receive their pension at age 60, compared to age 65 for men). As a result of the ruling, trustees of pension schemes have to pay equal benefits to comparable men and women in relation to service from 17 May 1990.

Best Estimate Assumption: an assumption where the outcome has a 50/50 chance of being achieved.

Bonds: loans made to an issuer (often a government or a company) which undertakes to repay the loan at an agreed later date. The term refers generically to corporate bonds or government bonds (gilts). See also 'index linked gilts' and 'gilts' below.

Career Average Revalued Earnings Scheme (CARE): with effect from 1 April 2014, benefits accrued by members in the LGPS take the form of CARE benefits. Every year members will accrue a pension benefit equivalent to 1/49th of their pensionable pay in that year. Each annual pension accrued receives inflationary increases (in line with the annual change in the Consumer Prices Index) over the period to retirement.

CMI: The 'Continuous Mortality Investigation' carries out research in relation to mortality and morbidity experience which can then be used by actuaries to assess the funding required by pension funds and other bodies.

CPI: acronym standing for "Consumer Prices Index". CPI is a measure of inflation with a basket of goods that is assessed on an annual basis. The reference basket of goods and services differs from those of RPI. These goods are expected to provide lower, less volatile inflation increases. Pension increases in the LGPS are linked to the annual change in CPI.

Deficit: the extent to which the value of the Fund's past service liabilities exceeds the value of the Fund's assets.

Discount Rate: the rate of interest used to convert a cash amount e.g. future benefit payments occurring in the future to a present value.

Employer Covenant: the degree to which an employer participating in an occupational pension scheme is willing and able to meet the funding requirements of the scheme.

Employer's Future Service Contribution Rate: the contribution rate payable by an employer, expressed as a % of pensionable pay, as being sufficient to meet the cost of new benefits being accrued by active members in the future. The cost will be net of employee contributions and will include an allowance for the expected level of administrative expenses. It is normally the same as an employer's Primary Contribution Rate under the Regulations.

Employer's Primary Contribution Rate: the contribution rate required to meet the cost of the future accrual of benefits including ancillary, death in service and ill health benefits together with administration costs. It is expressed as a percentage of pensionable pay, ignoring any past service surplus or deficit, but allowing for any employer-specific circumstances, such as its membership profile, the funding strategy adopted for that employer, the actuarial method used and/or the employer's covenant. The Primary Contribution Rate for the whole Fund is the weighted average (by payroll) of the individual employers' Primary Contribution Rates.

Employer's Secondary Contribution Rate: an adjustment to the Primary Rate to reflect any past service deficit or surplus, to arrive at the rate each employer is required to pay. The Secondary Rate may be expressed as a percentage adjustment to the Primary Rate, and/or a cash adjustment in each of the three years beginning 1 April in the year following that in which the valuation date falls. The Secondary Rate is specified in the Rates and Adjustments Certificate. For any employer, the rate they are actually required to pay is the sum of the Primary and Secondary Rates. Secondary Rates for the whole fund in each of the three years shall also be disclosed. These will be calculated as the weighted average based on the whole fund payroll in respect of percentage rates and as a total amount in respect of cash adjustments.

Equities: shares in a company which are bought and sold on a stock exchange.

Funding Strategy Statement (FSS): this is a key governance document that outlines how the administering authority will manage employer's contributions to the Fund.

Gilts: loans made to the UK Government, which the Government undertakes to repay at an agreed later date. The "coupon" (i.e. the interest paid as part of the loan agreement) and the final settlement amount will be a fixed amount and agreed at the outset of the loan.

Government Actuary's Department (GAD): the GAD is responsible for providing actuarial advice to public sector clients. GAD is a non-ministerial department of HM Treasury.

Guaranteed Minimum Pension (GMP): this is part of a member's pension which was earned between 6 April 1978 and 5 April 1997 and which replaces part of that member's State Scheme benefits in respect of that period.

Hedging: a strategy that aims to reduce funding volatility and provide higher certainty of returns. This is achieved by investing in assets (usually bonds or gilts) that capture levels of real yield based on agreed levels so the assets mimic the change in liabilities.

Ill Health Captive: this is a notional fund designed to protect certain employers against excessive ill health costs in return for an agreed insurance premium. It works like insurance in that a fixed premium is paid by employers who are part of the captive and then the captive arrangement will meet ill health funding costs that may arise in future, in respect of the employer's members, providing the policy criteria is met.

Index Linked Gilts: loans made to the UK Government, which the Government undertakes to repay at an agreed later date. The coupon (i.e. the interest paid as part of the loan agreement) and the final settlement amount are adjusted in line with the movements in RPI inflation in order to retain their 'real' value over time and protect against the potential effects of inflation.

Investment Strategy: the long term distribution of assets among various asset classes that takes into account the Funds objectives and attitude to risk.

Investment Strategy Statement (ISS): a statement describing the high-level principles governing the investment decision-making (including the long-term strategic allocation) and management of the Fund and the policy that has been developed to ensure their implementation.

Liability Driven Investments (LDI): A way of investing which gives multiple exposure to gilts, meaning that the Fund can hedge part of its assets against changes in liabilities in order to provide protection against changes in interest rate and / or market RPI inflation expectations.

Lloyds Bank Case (2018): On 26 October 2018, the High Court handed down an important judgment on equalisation of GMPs (in the Lloyds Banking Group Pensions Trustees Limited v Lloyds Bank plc and others). The judgment rules that trustees of pension schemes have a legal duty to equalise the GMP benefits provided by the scheme, to remove the inequality in relation to GMPs between men and women.

McCloud Judgment: This refers to the linked legal cases of Sargeant and McCloud, and which found that the transitional protections (which were afforded to older members when the public service pension schemes were reformed in 2014/15) constituted unlawful age discrimination.

Past Service Liabilities: this is the present value of the benefits accrued by members up to the valuation date. It is assessed based on a set of assumptions agreed between the Administering Authority and the Actuary.

Percentile: a method of ranking a series of outcomes. For example, a 10th percentile outcome means that only 10% of results would be expected to be as good as or better than the 10th percentile and 90% of results would be expected to be worse.

Prepayment: the payment by employers of contributions to the Fund earlier than that certified by the Actuary. The amount paid will be reduced compared to the certified amount to reflect the early payment.

Present Value: the value of projected benefit payments, discounted back to the valuation date.

Primary rate of the employers' contribution: see definition of Employer's Primary Contribution Rate.

Prudent Assumption: an assumption where the outcome has a greater than 50/50 chance of being achieved i.e. the outcome is more likely to be overstated than understated. Legislation and guidance requires the assumptions adopted for an actuarial valuation overall to be prudent.

Real Return or Real Discount Rate: a rate of return or discount rate net of CPI inflation.

Recovery Plan: if the funding level of an employer is above or below 100% at the valuation date (i.e. the assets of the employer are more or less than the liabilities), a recovery plan may be needed to return the funding level back to 100% over a fixed period, i.e. to recover the deficit or run off any surplus ("the recovery period", as defined in the FSS). The recovery plan will set out the Secondary contributions payable by an employer over the recovery period. Secondary contributions can be positive or negative (i.e. an off-set to future accrual costs) but there are restrictions over which negative Secondary contributions will be applied, as set out in the Fund's policy.

SAB Funding Basis or SAB Basis: a set of actuarial assumptions determined by the LGPS Scheme Advisory Board (SAB). Its purposes are to set out the funding position on a standardised approach so that comparisons can be made with other LGPS Funds, and to assist with the "Section 13 review" as carried out by the Government Actuary's Department. As an example, the real discount rate over and above CPI used in the SAB Basis as at 31 March 2019 was 2.4% p.a., so it can be substantially different from the actuarial assumptions used to calculated the Fund's solvency funding position and contribution outcomes for employers.

Solvency/Funding Level: the ratio of the value of the Fund's assets and the value of the Fund's liabilities expressed as a percentage.

Solvency Funding Target: an assessment of the present value of benefits to be paid in the future. The desired funding target is to achieve a solvency level of a 100% i.e. assets equal to the past service liabilities assessed on the ongoing concern basis.

50/50 Scheme: in the LGPS, active members are given the option of accruing a lower benefit in the 50/50 Scheme, in return for paying a lower level of contribution.

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