Investment Monitoring Reports (IMR)

- A valuable resource for Officers and the Committee to help them with their fiduciary duties

- The 5 key sections of the report are:
  - Asset Allocation
  - Fund Performance
  - Manager Ratings
  - Manager Performance
  - Market Background

- Our performance monitoring reports provide an overview of the Fund’s investment holdings as well as delivering meaningful analysis to assess whether a manager has delivered on their objectives.

- Commentary is provided to support Officers and Committee members in their understanding of developments in their holdings over the short and long term.

- Another key purpose of an IMR is to give an insight to as to the extent to which the returns achieved are consistent with each manager’s philosophy, investment approach and market conditions.

- The performance information is sourced from Northern Trust

**Asset Allocation**
Information on total Fund size and each manager holdings

**Fund Performance**
Breakdown of return across the portfolio by manager

**Manager Ratings**
Summary of our belief in each managers capabilities

**Manager Performance**
Insightful analysis on the each managers performance

**Market Background**
Information on general market conditions to provide valuable context
Executive Summary

- Total Fund return behind benchmark for quarter 4 2018
- Over the quarter the Fund contracted from £895m to just under £839m.
- In general the last quarter of Q4 was a testing time:
  - Equity markets fell c10%
  - Credit-spreads widened
  - Government yields declined
- Main detractors to relative performance were Henderson Small Cap and the two multi-asset growth funds.
- Key contributors to restrict relative underperformance the Fund’s cash holding and the two Capital Dynamics funds.

Key Actions

- At the November meeting the Committee reaffirmed their commitment to increase allocations to infrastructure and property over the long-term (subject to more information from LCIV funds)
- Agreed to invest around £40m into the Baillie Gifford multi asset fund over the shorter term whilst await infrastructure opportunities
- The Committee agreed to run off their private equity holdings with Capital Dynamics

Dashboard

Performance

<table>
<thead>
<tr>
<th>Last 3 months (%)</th>
<th>Last 12 months (%)</th>
<th>Last 3 years (% p.a.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund</td>
<td>Benchmark</td>
<td>Relative</td>
</tr>
<tr>
<td>-6.1</td>
<td>-4.6</td>
<td>-1.0</td>
</tr>
<tr>
<td>-1.6</td>
<td>-2.4</td>
<td>-1.8</td>
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<tr>
<td>-0.6</td>
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<td></td>
</tr>
<tr>
<td>7.1</td>
<td>8.2</td>
<td></td>
</tr>
</tbody>
</table>

Source: Northern Trust 31 December 2018 performance report

Manager Rating Changes

There were no changes to any manager ratings over the quarter.

High Level Asset Allocation

<table>
<thead>
<tr>
<th>“GrIP”</th>
<th>Current (actual)</th>
<th>Interim Target</th>
<th>Long Term Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth (Equity, DGF)</td>
<td>74.2%**</td>
<td>68.0%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Income (Property, Infrastructure)</td>
<td>4.7%</td>
<td>17.0%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Protection (Bonds)</td>
<td>21.1%*</td>
<td>15.0%</td>
<td>15.0%</td>
</tr>
</tbody>
</table>

*Includes 8.1% currently held in cash. **Whilst on the journey to its interim and long term targets, its has been agreed that the Fund will hold the excess assets in within the growth portfolio, most notably the Baillie Gifford diversified growth allocation, as a proxy for more income oriented funds.
Market Background

Equity markets fell heavily as US interest rates rose again and investors became more pessimistic about the outlook for global growth. Credit spreads widened in line with equity market falls while government bond yields declined.

World Markets
Global equity markets took a sharp turn lower at the start of Q4 as US government bond yields climbed to 3.2%. Declines resumed in December as tighter monetary policy and concerns over the sustainability of the pace of global growth came to the fore.

Regional Equities
Japan was the worst performing region as yen strength and slowing growth in Europe and China weighed heavily on exporters. North America also marginally underperformed global indices while Emerging markets were the best performing region. Returns to UK investors were less negative given renewed sterling weakness.

Sector Performance
Performance divergence across global sectors showed defensive stocks, such as utilities, performed strongly as markets fell while more growth orientated and cyclical sectors, such as technology and industrials, underperformed. Oil and gas was the worst performing sector as a result of declining oil prices.
• Over the last quarter of 2018 a number of strategic changes were implemented as the Fund journeys towards the agreed interim target:
  - Full divestment from Henderson’s UK Small Cap
  - Initial allocation to Henderson’s EM equity fund
  - Initial allocation to the LCIV MAC Fund (CQS)
• Interim Target:
  - Growth: 68%
  - Income: 17%
  - Protection: 15%
• Long-term Target:
  - Growth: 60%
  - Income: 25%
  - Protection: 15%

Key Actions
Over the next quarter the Fund expects to:
• Fully divest from the Henderson Total Return Bond fund
• Complete new investment in BlackRock’s over 15yr gilts passive fund
• Complete 2nd tranche allocations to Henderson EM and LCIV MAC funds
• Receive call for funds for Alinda III infrastructure fund

### Asset Allocation

<table>
<thead>
<tr>
<th>Manager</th>
<th>Valuation (£m)</th>
<th>Actual Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q3 2018</td>
<td>Q4 2018</td>
</tr>
<tr>
<td>LGIM Global Equity</td>
<td>315.7</td>
<td>280.1</td>
</tr>
<tr>
<td>LGIM UK Equity</td>
<td>117.4</td>
<td>105.4</td>
</tr>
<tr>
<td>Henderson UK Small Cap</td>
<td>32.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Capital Dynamics Private Equity</td>
<td>62.7</td>
<td>60.5</td>
</tr>
<tr>
<td>Baillie Gifford Multi Asset</td>
<td>78.7</td>
<td>114.4</td>
</tr>
<tr>
<td>Ruffer Multi Asset</td>
<td>49.8</td>
<td>47.1</td>
</tr>
<tr>
<td>Henderson Emerging Markets</td>
<td>0.0</td>
<td>14.5</td>
</tr>
<tr>
<td><strong>Total Growth</strong></td>
<td><strong>657.1</strong></td>
<td><strong>622.0</strong></td>
</tr>
<tr>
<td>Alinda Infrastructure</td>
<td>28.1</td>
<td>27.8</td>
</tr>
<tr>
<td>Capital Dynamics Infrastructure</td>
<td>10.9</td>
<td>11.7</td>
</tr>
<tr>
<td>Aviva Property</td>
<td>0.7</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total Income</strong></td>
<td><strong>39.7</strong></td>
<td><strong>39.7</strong></td>
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<tr>
<td>Henderson Total Return Bonds</td>
<td>92.2</td>
<td>91.6</td>
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<tr>
<td>CQS Multi Credit</td>
<td>0.0</td>
<td>17.8</td>
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<tr>
<td><strong>Total Protection</strong></td>
<td><strong>92.2</strong></td>
<td><strong>109.4</strong></td>
</tr>
<tr>
<td>Cash</td>
<td>106.0</td>
<td>67.5</td>
</tr>
<tr>
<td><strong>Total Scheme</strong></td>
<td><strong>895.0</strong></td>
<td><strong>838.7</strong></td>
</tr>
</tbody>
</table>
The performance figures are based on Northern Trust’s December ‘Investment Risk & Analytical Service’ report. We are in communication with Northern Trust in relation to elements of their reporting, specifically the method of calculating the total Fund benchmark figures shown.

The Fund benefited from its asset allocation over the quarter given its near 10% cash reserves. On the other hand, stock selection detracted from performance, particularly within its multi-asset holdings.

Total Fund return was behind benchmark/target for the last quarter of 2018 by 1.5% as investments combined to deliver an absolute return of –6.1%.

Emerging market equities (Henderson) proved more resilient over the quarter than their more developed counterparts.

Despite underperformance over the quarter from the Fund’s multi asset funds, they delivered on their objective of providing protection to the Fund versus equity markets.

Henderson UK Small Cap underperformed although this is now no longer a holding within the Fund.

### Fund Performance

<table>
<thead>
<tr>
<th>Fund</th>
<th>Last 3 months (%)</th>
<th>Last 12 months (%)</th>
<th>Last 3 years (% p.a.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fund</td>
<td>B’mark</td>
<td>Relative</td>
</tr>
<tr>
<td>Growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LGIM Global Equity</td>
<td>-11.3</td>
<td>-11.3</td>
<td>0.0</td>
</tr>
<tr>
<td>LGIM UK Equity</td>
<td>-10.2</td>
<td>-10.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Henderson UK Small Cap</td>
<td>-17.4</td>
<td>-12.4</td>
<td>-5.8</td>
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<tr>
<td>Capital Dynamics Private Equity</td>
<td>5.9</td>
<td>1.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Baillie Gifford Multi Asset</td>
<td>-4.4</td>
<td>1.0</td>
<td>-5.4</td>
</tr>
<tr>
<td>Ruffer Multi Asset</td>
<td>-5.4</td>
<td>1.0</td>
<td>-6.4</td>
</tr>
<tr>
<td>Henderson Emerging Markets</td>
<td>-2.8</td>
<td>-2.5</td>
<td>-0.4</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alinda Infrastructure</td>
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</tr>
<tr>
<td>Capital Dynamics Infrastructure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Henderson Total Return Bonds</td>
<td>-0.6</td>
<td>1.0</td>
<td>-1.6</td>
</tr>
<tr>
<td>CQS Multi Credit</td>
<td>-1.2</td>
<td>0.3</td>
<td>-1.5</td>
</tr>
<tr>
<td>Total</td>
<td>-6.1</td>
<td>-4.6</td>
<td>-1.6</td>
</tr>
</tbody>
</table>

Source: Northern Trust 31 December 2018 performance report
Manager ratings

<table>
<thead>
<tr>
<th>Manager</th>
<th>Mandate</th>
<th>Hymans Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGIM</td>
<td>Global Equity</td>
<td>Preferred</td>
</tr>
<tr>
<td>LGIM</td>
<td>UK Equity</td>
<td>Preferred</td>
</tr>
<tr>
<td>Capital Dynamics</td>
<td>Private Equity</td>
<td>Suitable</td>
</tr>
<tr>
<td>Baillie Gifford</td>
<td>Multi Asset (LCIV)</td>
<td>Preferred</td>
</tr>
<tr>
<td>Ruffer</td>
<td>Multi Asset (LCIV)</td>
<td>Preferred</td>
</tr>
<tr>
<td>Janus Henderson</td>
<td>Emerging Markets (LCIV)</td>
<td>Positive</td>
</tr>
<tr>
<td>CQS</td>
<td>Multi Credit (LCIV)</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Alinda</td>
<td>Infrastructure</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Capital Dynamics</td>
<td>Infrastructure</td>
<td>Not Rated</td>
</tr>
<tr>
<td>Aviva</td>
<td>Property</td>
<td>Suitable</td>
</tr>
<tr>
<td>Janus Henderson</td>
<td>Total Return Bonds</td>
<td>Positive</td>
</tr>
</tbody>
</table>

Hymans Rating System

- **Preferred**: One of our highest rated strategies within this asset class.
- **Positive**: We have a positive opinion on the strategy and believe it has a high possibility of reaching its objectives. But we believe there are superior strategies available.
- **Suitable**: We believe the strategy is suitable for pension scheme investors from a regulatory perspective, but we have no strong view on its forward-looking prospects.
- **Negative**: We have a negative outlook for the strategy relative to peers.
- **Not Rated**: Insufficient knowledge or due diligence to be able to form an opinion.

Responsible Rating System

- **Strong**: Strong evidence of good RI practices across all criteria and practices are consistently applied.
- **Good**: Reasonable evidence of good RI practices across all criteria and practices are consistently applied.
- **Adequate**: Some evidence of good RI practices but practices may not be evident across all criteria or applied inconsistently.
- **Weak**: Little to no evidence of good RI practices.
- **Not Rated**: Insufficient knowledge to be able to form an opinion.

LGIM business update

We held another meeting with LGIM during the quarter to get an update following the whistleblower allegations made against the firm. This meeting supported our initial view that there was insufficient evidence to place any of our research ratings ‘on watch’, although this remains an option should our view change or further allegations come to light. In our opinion LGIM has provided us sufficient comfort that its management has taken the allegations seriously and is working hard to ensure a culture of adherence to internal procedures to ensure that it manages client money within an acceptable risk framework. We anticipate the internal actions and interaction with the FCA will continue for up to six months, and will continue to monitor LGIM’s progress through this period.

We continue to rate Legal and General Investment Management’s market cap and fundamental index-tracking equity capability at ‘Preferred’.
Global equity markets suffered in the last quarter of 2018.

LGIM’s Global Equity mandate matched its benchmark over the quarter, delivering a negative absolute return of 11.3%.

After positive performance over quarter 2 and 3 2018, quarter 4 witnessed increased uncertainty and negative market sentiment.

Emerging market equities showed more resilience over the quarter but overall performance was heavily dominated by the US market given its weighting in the portfolio (64%).

One of the key detractors of performance was US IT stocks. Microsoft Corporation and Apple Inc are the two top holdings in the portfolio.

We continue to rate LGIM as “preferred”. Please refer to ‘Manager Ratings’ section for a further LGIM update.
The UK equity market was not immune to the overall slowdown in quarter 4.

UK Equity mandate delivered a negative absolute return of -10.2%.

The economic outlook within UK has been dominated in recent times by Brexit. Further recent political uncertainty and the increasing prospect of a ‘no deal’ scenario dampened investor sentiment and dragged UK stocks lower in Q4 2018.

Since 31 December 2018 we have seen a slight rebound in markets.

We continue to rate LGIM as “preferred”. Please refer to ‘Manager Ratings’ section for a further LGIM update.
The London Borough of Brent recently allocated funds to Janus Henderson’s Emerging Market Fund as part of wider strategic changes. The trade was implemented during November 2018. The fund’s objective is to outperform the MSCI emerging market index by 2.5% p.a. Over the period to 31 December 2018 the fund underperformed this target by 0.3% delivering an absolute performance of negative -2.8%. Annualised performance over the three years horizons is 11.7%. Performance widely varied across the regions invested in with the Brazilian market being one of the biggest positive contributors due to the positive outcome surrounding the recent election. We currently rate Janus Henderson’s capability as ‘positive’ which has remained unchanged over the quarter.
**Capital Dynamics Private Equity**

- Capital Dynamics invests Brent commitment across a number of different funds providing a well diversified portfolio by geography and style.
- Target: Deliver absolute return of 8.0% p.a.
- Assessing short and medium term performance of private markets can be a challenge. The comments below are based on numbers available to us.
- Over a 3 year timeframe annualised return has been 17.8% versus its 8% p.a. target.

**Fund performance vs benchmark/target**

![Chart showing Fund performance vs Benchmark and Relative performance over the last 3 years.]

- Fund: 17.8%
- Benchmark: 8.0%
- Relative: 9.1%

Last 3 years (% p.a.)
• Target: Base Rate + 3.5% p.a.

• Baillie Gifford’s multi-asset growth fund returned -4.4% (gross of fees) over the fourth quarter of 2018.

• Over the longer term annualised performance is closer in line with target (3.5% vs 3.9%).

• In nature, multi-asset mandates are more defensively positioned growth allocations (due to its cash and fixed income allocations). This positions it to perform well versus equity markets in times of volatility.

• In holding this allocation, the Fund partially protected itself from the Q4 equity market falls.

• Baillie Gifford remain confident in the defensive positioning with changes over the quarter including modest reductions to listed equities and increased commitment to assets geared to protect against volatility (e.g. emerging market bonds and commodities like Nickel).

• We remain confident in Baillie Gifford's capability to deliver performance within the Fund going forward which is reflected by our unchanged rating of “preferred”.
Ruffer Multi-Asset

- Target: Base Rate + 3.5% p.a.

- The fund returned -5.4% over the fourth quarter of 2018, underperforming the BOE Base Rate +3.5% p.a. (positive 0.9% per quarter).

- In holding this allocation, the Fund partially protected itself from the Q4 equity market falls through its diversification across asset classes.

- Similar to the Baillie Gifford DGF, Ruffer believe in the premise of late cycle market behaviour and have positioned the fund accordingly.

- However, there was limited protection within the Fund with protective strategies (holding in commodities, UK index-linked bonds and option protection) only marginally counterling the loss within equities.

- As a result, Ruffer has amended allocations to better withstand unexpected volatility in the future.

Fund performance vs benchmark/target

![Graph showing fund performance vs benchmark/target]

Historical Performance/Benchmark

![Graph showing historical performance benchmark]
Alinda Infrastructure

- The Fund is invested in two of Alinda’s infrastructure funds, Alinda II and Alinda III fund. Target: Absolute return of 8.0% p.a.
- Alinda focuses on the mid-market unregulated sector seeking assets with strong historical cashflow, long contracts and downside protection.
- Remaining commitments as at 30 September 2018 (latest available date):
  - II: $3,762,532 (c84% invested)
  - III: $11,038,959 (c61% invested)
- At present the Alinda III fund is just over 62% invested across 6 businesses. We understand Alinda will look to execute on further deals within the next quarter to increase investment to 75%.
- Assessing short and medium term performance of private markets can be a challenge. The comments below are based on numbers available to us.
- The fund returned 2.6% over the last quarter of 2018, comfortably exceeding target.
Capital Dynamics Infrastructure

- The Fund’s holdings are currently solely held within Capital Dynamics Clean Energy and Infrastructure Fund. Target: Absolute return of 8.0% p.a.

- No investments were made over the quarter meaning the fund remains around 83% invested.

- Note, infrastructure is a long term investment and short term volatility is to be expected as funds are gradually drawn down. Over the longer term however, we should expect more stable, predictable returns.

- The Capital Dynamics infrastructure fund returned 7.0% over the fourth quarter of 2018, significantly exceeding target by around 5.0%.
Janus Henderson’s Total Return Bond (TRB) fund underperformed against the benchmark over quarter 4 2018.

The fund delivered absolute performance of -0.6%, 1.6% below benchmark. This continued the trend of lagged performance versus the benchmark over the longer term with 3 year performance of 2.3% p.a. falling around 1.7% p.a. short of benchmark.

As part of the Fund’s strategic changes, the TRB is targeted for divestment in quarter 1 2019.

Historical Performance/Benchmark
CQS Multi Credit

- CQS forms part of the London CIV’s multi asset credit offering
- CQS represents a new allocation for the Fund and forms part of wider strategic changes.
- CQS’s objective is to return LIBOR + 4.5% p.a. over a rolling 4 year period
- Over the period the fund underperformed delivering a absolute return of negative 1.2% against a target of 0.3%
Appendix
GDP data confirmed US growth remained strong in Q3, though a little lower than Q2. Though still unspectacular, UK growth reached its fastest quarterly pace in almost 2 years while Eurozone growth slowed to 1.6% year-on-year. Japanese growth saw its sharpest quarterly contraction in several years and Chinese growth fell to 6.5% in Q3, its slowest quarterly pace in almost a decade.

Inflation Rates
Headline inflation fell in most regions but remains above core measures in the UK, Eurozone and Japan. Core and headline inflation are now broadly in line in the US.

Gilt yields
In-line with moves in global yields, both conventional and index-linked gilt yields fell over the quarter (chart 1), with index-linked yields falling more than equivalent conventional yields at medium maturities and by less at longer maturities.

Currency
As uncertainty surrounding a Brexit deal continued, sterling drifted lower over the quarter but has remained fairly steady in trade weighted terms. The main feature of currency markets over the quarter has been a strengthening yen.
There is never a dull moment in the LGPS. Recent months has seen a number of significant developments including:

- Updates on the E&W Benefit Structure changes
- The issuance of pooling guidance
- A Supreme Court ruling
- Updated factors
- The long awaited Fair Deal consultation

### E&W Benefit Structure: McClouds on the horizon
Following the Government’s statement on Thursday 30 January, in the aftermath of the recent McCloud judgement, there is now great uncertainty on the horizon about if, when and how benefits and member contributions will be changed in the LGPS. Changes which were to have taken effect from 1 April this year in England and Wales have now been put on hold, which in turn impacts the 2019 valuations; we are working with the LGA, SAB and other actuarial firms to manage this whole situation, and do get in touch regarding your own fund.

### Guidance missiles
The MHCLG has published its draft statutory guidance on asset pooling. The consultation is open for twelve weeks (closing on 28 March). It is an informal consultation, addressed to ‘interested parties only’. Noteworthy features include the guidance having statutory force and the need for the pool company to be regulated by the FCA. There are also a number of points relating to the relative roles of funds and pools. We anticipate this consultation, including how funds will be responding to it, forming an important part of funds’ first quarter meeting agendas.

### Supreme challenge
The Supreme Court has ruled that the Palestine Solidarity Campaign has the right to challenge the Court of Appeal’s May 2018 ruling. The ruling upheld the Government’s right to restrict LGPS funds from divesting contrary to UK foreign and defence policy. This is the latest twist in this ‘battle’, which is due to wording included in the September 2016 Guidance on preparing and maintaining an investment strategy statement (with the wording in question subsequently amended in July 2017 due to the ongoing legal challenge). We will keep you updated on this, as the outcome has some potentially interesting implications.

### A Fair Deal for the LGPS
The Government recently published its much anticipated further consultation on the assimilation of its new Fair Deal policy into the LGPS. Significant changes are proposed that will impact LGPS outsourcings. The consultation also incorporates changes aimed at simplifying the transfer of assets and liabilities where scheme employers are involved in mergers or takeovers. The deadline for responses is 4 April 2019. We are currently preparing our own response and will share it with you this month.

### Happy New Factors
MHCLG heralded the New Year by issuing updated actuarial factors to funds in England and Wales (along with transitional guidance) in response to the reduction in the Government’s SCAPE discount rate. GAD clearly had a busy Christmas, updating a suite of factors covering early retirement, non-Club transfers in, pension debits and credits and trivial commutation. Revised Club (CETV) factors are not yet available. Please contact your LGPS actuary or consultant should you wish to discuss the use of these new factors.
Appendix 3

Capital Dynamics (CD)

Private Equity Funds
- CD Generation VII – Asian Private Equity
- CD European Buyout 2005
- CD European Co-Investment Fund L.P.
- CD Generation VII – European Mid-Market Buyout
- CD European Private Equity 2003
- CD US Private Equity 2003
- CD US Private Equity 2006
- CD Generation VII – US Private Equity
- CD Global Secondaries III
- CD S.C.A. – European Mid-Market Buyout
- CD S.C.A. – US Mid-Market Buyout
- CD S.C.A. – Mid-Market Direct III

Infrastructure Funds
- CD S.C.A. – Clean Energy and Infrastructure
- CD US Solar Energy A (previously held - no residual value)