1. Do the trustees accept the TCFD conclusion that pension funds are potentially exposed to financial risks through climate change?

Climate change is an issue of global significance; USS accepts the scientific consensus that man-made emissions of carbon dioxide and other greenhouse gases are contributing to changes in the atmosphere that will cause significant changes in global temperatures. While there are uncertainties around the specific impacts, the predicted changes (e.g. rising sea levels, flooding, droughts) pose a threat to environmental, social and political stability, and to the businesses and other assets in which USS invests.

As changes in the climate could have major effects on both the economy and the quality of life of our members, issues related to climate change are legitimate concerns of pension fund trustees. The policy response to a changing climate, including the Paris Agreement and the targets set for reducing emissions, also present both risks and opportunities to long term investors like USS.

USS's involvement in climate change as an investment issue started in 2001 when it published a discussion paper[1] on the risks to institutional investors associated with changes in the climate. This report analysed the risks and responses to climate change and its potential impact on institutional investors, identifying a set of ten action points to help institutional investors better manage the risks and opportunities associated with climate change. Following the publication of this report, USS has subsequently played an important role in the establishment and running of the Institutional Investors Group on Climate Change (IIGCC)[2]. The IIGCC provides investors with a collaborative platform to encourage public policies, investment practices, and corporate behaviour that address long-term risks and opportunities associated with climate change.

2. Which climate related financial risks are you most concerned about?

Climate change represents potentially significant risks for the assets in which we invest. These risks can be:

- **Physical** – a changing climate may directly impact the viability of some assets or business models (for example, flood risk for real estate, or drought / fire risk for timberland assets);
- **Regulatory** – where governments set in place polices to reduce emissions or encourage changes in technology in the shift to a lower carbon future. This could lead to, for example, the stranding of coal assets;
- **Reputational** – where members and beneficiaries express concerns regarding investments in certain sectors associated with fossil fuels. This may have implications for the scheme's license to operate.

The way in which our investee companies and assets manage climate change risks is therefore a key concern, in line with our responsibility to safeguard the fund for the long-term benefit of our members. As a result, we expect companies in which we invest to analyse climate change risks, both in terms of their carbon emissions and how they are adapting to a changing climate, and to develop mitigation plans. We also expect our investment managers to be addressing these risks where they are material.

[1] https://www.uss.co.uk/~/media/document-libraries/uss/investments/riactivities/uss-climate-change--a-risk-management-challenge-for-investors-2001.pdf?la=en

[2] Details of the activities of the IIGCC are to found at www.iigcc.org.

USS considers climate change issues over the short, medium, and long term:

- **Short term** – stock price movements resulting from increased regulation to address climate change, or weather related events (e.g. storm damage, flooding etc.);
- **Medium term** – regulation and other factors leading to changes in consumer behaviour and therefore purchasing decisions (an example of this would be the significant uptake in electric vehicles);
- **Long term** – adaptation risk, where changes to the climate mean that there are potential impacts to assets that USS owns. Examples would include increased flood risk to real estate assets as a result of severe weather events, or drought raising the fire risk associated with timberland investments. We / investee companies could incur significant costs to protect our interests (if indeed this is possible).

3. Has your pension scheme formally considered climate risk at board (or investment collect committee) level?

The USS Ltd Board has ultimate responsibility for addressing all issues relevant to the scheme, and this includes the oversight and management of climate change related risks and opportunities. The USS Ltd Board has supported the scheme's activities associated with addressing climate change risk and opportunities since 2001, when the scheme did its first work assessing the implications of the issue for institutional investors[3].

The Board formally reviews the RI team's activities annually, and the trustee directors sign off key focus areas / Responsible Investment (RI) strategy and policies, including the fund's on-going activities relating to climate change. In addition to this annual reporting cycle, the board receives other updates on ESG management, including regular updates on the climate change related activities that the scheme's executive are is involved in. Finally, in 2017 the USS board received training on climate change as part of its training on RI.

The trustee board delegates responsibility for day to day management of the scheme to the group executive. The investment committee, a committee of the board, takes the lead in oversight of the executive's management of climate change and other ESG related issues.

USS is dissimilar to the majority of pension funds in that it has an in-house asset manager, USS Investment Management, which manages the majority of the scheme's assets. USSIM provides investment advice and management activities for USS, and includes advice on climate change and other ESG / RI issues.

Unlike the vast majority of Assets Owners, USS demonstrates and resources its commitment to RI and addressing issues like climate change through the employment of in-house RI experts. USSIM has an RI team of six, and a separate Sustainability Manager for the scheme's property portfolio and other Private Market assets. Having this internal resource means that expertise on the investment implications of climate change is readily available to both trustees and the executive, and the RI team provides input to the trustee board on ESG issues, including climate change, as and when required.

[3] https://www.uss.co.uk/~/media/document-libraries/uss/investments/riactivities/uss-climate-change--a-risk-management-challenge-for-investors-2001.pdf?la=en

Day to day oversight and management of the scheme's climate strategy rests with the RI team. The team works with internal asset managers to ensure integration of climate change and other ESG risks into investment decision making across asset classes. The RI team leads much of the stewardship activity associated with encouraging both listed companies and other assets to manage better climate change related risks.

Whilst the USSIM CIO / CEO has ultimate responsibility for climate change related activities, the oversight of the RI function is via the Head of Equities, a member of USSIM's executive committee.

Details of the RI team's activities, including actions associated with climate change, can be found here: https://www.uss.co.uk/how-uss-invests/responsible-investment

4. If you have considered climate related risks, what actions have you taken in response to these risks? We are interested, for example, in the development of specific investment strategies on this issue, whether you have taken formal advice, any changes in your investment strategy made or planned, and the exercise of your ownership responsibilities on this issue (either directly, or through your investment managers).

- <u>Investing in low carbon alternatives</u>

Climate change, and the policy response to it, also provide investors with opportunities to invest in the transition to a low carbon future. Investing in such opportunities provides the scheme with some resilience against the impacts of a changing climate.

USS has in excess of £700m in committed financing to UK renewables. Investments include L1 Renewables (http://l1renewables.co.uk/) which is USS's wholly owned renewable lending platform established in 2014. L1 Renewables supports UK onshore wind projects and project finance loans to operational wind farms, and also supports waste and biomass energy production. L1 Renewables has a total investments of circa £520m. In 2017 USS acquired direct equity interests in a number of offshore wind farms from a sale by the UK government of the Green Investment Bank. The scheme has c. £360 million invested in timberland which acts as a carbon sink. These investments have been made by USS Investment Management based on the attractiveness of the risk adjusted returns consistent with our fiduciary duties.

- <u>Engaging with companies to encourage better management of climate risk</u>

USS is an active owner of the assets in which it invests, regularly meeting with corporate executives and boards of companies. The Scheme has been engaging on climate related issues since 2001, and will engage in collaboration with other investors where this is likely to be more effective in encouraging change.

We regularly discuss climate change at meetings with companies, as part of our ongoing engagement. Targets of such engagement include major companies in the oil and gas and mining sectors. This includes encouraging disclosure of carbon emissions and information on how companies/assets are managing climate risks. For example, we have in the past voted in favour of resolutions at fossil fuel companies (e.g., BP and Royal Dutch Shell) requiring those companies to provide detailed annual reporting on carbon and climate change from 2016, or their support for industry bodies which lobby against climate change action. We have also co-filed shareholder resolutions on climate related issues at mining companies (for example, Rio Tinto, Anglo American and Glencore).

- <u>'Carbon tilting' a carbon intensive factor portfolio</u>

USS has for a number of years undertaken carbon footprint of its public equity portfolio to identify where the scheme has specific climate change / carbon risk concentrations.

As a result of these carbon foot-printing exercises, USS has identified that its Low Volatility public equity portfolio has a much higher carbon footprint compared to its benchmark than the other public equity portfolios run by the scheme. We believe this is due to the relatively short horizon of the volatility factors we use in the process which do not capture the longer term risk which climate change poses to asset values: as a result, the model favours utilities as they fit its low volatility criteria.

We therefore decided to include a more explicit carbon factor in this portfolio in future re-balancing exercises. The USS Quant team, working with the RI team, analysed the implications of applying a low carbon tilt to the Low Volatility factor portfolio. This analysis suggested that, through a retrospective lens, this would not have materially impacted returns.

As a result, a carbon tilt which takes out the top 3% of carbon emitting companies from the investment universe has been applied to the fund. This brings the carbon footprint in line with the portfolios benchmark.

In contrast, in our actively managed research portfolios we do not apply such an exclusion policy. These portfolios are constructed using the insights of our research team. Our investment philosophy has a long term horizon, and the research team includes sustainability factors in their assessment of fair value and this would include climate change risk.

5. Are you planning to adopt the TCFD recommendations in your schemes reporting? If so, please indicate your planned timing.

We are expecting to include a brief outline of the scheme's response to the TCFD in our annual report this year, with detailed supporting information available on the USS website. USS's annual report is usually published between July and August.

6. How would you suggest the government and regulators implement the recommendations on climate risk reporting? Is a voluntary approach sufficient to ensure widespread adoption?

From an investment perspective, it should be recognised that pension funds like USS are international investors: we have significant assets outside the UK, and UK listed companies often also have significant operations outside the UK. Continued or increased UK support for global approaches to addressing climate change would therefore be welcomed. This is particularly true in the age of Brexit.

We support and expect voluntary disclosure of climate change and carbon related data in line with the requirements of the TCFD. As per the expectations under the UK Corporate Governance Code, companies should disclose TCFD data or explain to investors why they are not.

7. **Would guidance from government or regulators on climate risk reporting be helpful for pension funds?**

In responding to the requirements of the TCFD, USS and other asset owners are reliant on others to provide the data which will make up those reports. We find a number of challenges when collecting and reporting on climate risk to our board:

1. Companies and other assets in which we invest have to be publishing TCFD relevant data. Whilst data availability for public equities is improving across global markets, a high percent remains estimated; information outside public equities is very limited.
2. Fund managers (who do the majority of investment for pension funds) need to report TFCD data.
3. Significant proportions of many pension fund assets are invested in sovereign debt and for UK funds this usually mean's Gilts. For pension funds to assess their full climate change exposure as per the TCFD, carbon exposure associated with these allocations will need to be calculated. We will be reliant on governments to provide the relevant data.

Therefore guidance or encouragement for the production of such data would be beneficial to pension funds as end investors. In addition, guidance on appropriate climate change related scenario analyses, including the appropriate scenarios to use, would be valuable for all involved, and allow better compatibility between schemes if that is considered desirable.

8. **Have you discussed climate change with your actuarial advisors, having regard to the risk alert that the Institute and faculty of actuaries (IFoA) issued to its members last year?**

Our internal and independent investment advisors have been asked to advise on any implications of the IFoA Risk Alert not already included in their existing advice.

9. **Please share with us any other information you think may be relevant as we develop our understanding of the approach of UK pension funds are taking to climate change and, more generally, green finance.**

Many leading pension funds addressing this issue in the UK are members of the institutional investors group on climate change-IIGCC, a group which USS established in 2001. In addition, the UN supported Principles for Responsible Investment also works with pension funds and other investors in addressing climate change risks. We believe that pension funds should be encouraged to join such collaborations as it makes the best use of scarce resource, and increases the efficiency of stewardship and other climate change related activities for investee companies.

Green finance or thematic allocations may be very poor investments if they are acquired at the wrong price. For example, solar panel manufacturers have in the past been poor investments as a result of much faster growth in supply of panels than anticipated. From a UK defined benefit pension fund perspective, investments are made with financial returns as the primary objective, with other issues or consideration following on from that. With defined contribution pension funds, it is possible for individual members to choose how they allocate their funds: at USS a small proportion of members have has chosen to allocate to ethical funds which include climate change related divestment polices.