#### Report of Equitable Warmth Analysis

**Methodology**

Accessibility is determined at the LSOA (Lower Layer Super Output Area) level by calculating the number of Warm Banks reachable within a 30-minute walking distance from the Population Weighted Centroid of each LSOA. Simultaneously, various demographic indicators for vulnerable groups are assessed at the LSOA level. These currently include the percentage of lone parent families, the percentage of individuals with disabilities, the percentage of families with three or more children, and the percentage of Pakistani and Bangladeshi populations. Areas where both accessibility and the proportions of the aforementioned demographic indicators worse than average are classified as 'Warm Bank Deserts' (WBD), providing the foundation for further analysis.

**High-Level Results**

Nationally, 37.58% of the population cannot access any Warm Banks, with substantial regional variation. In England, only 32.28% of the population cannot access any Warm Banks, while in Wales, this rises to 55.05%. The figures are even higher in Scotland and Northern Ireland, where 68.82% and 79.39% of the populations, respectively, cannot access any Warm Banks. These disparities correlate with the spatial distribution characteristics of Warm Banks.

The proportion of WBD populations among different vulnerable groups also varies significantly. The highest proportion is WBD - Disability, where 27.1% of the population lives. Next, 21.41% and 19.55% of the population reside in WBD - Lone Parent Family and WBD - Three Children Family areas, respectively. In contrast, fewer people live in WBD - Pakistani and WBD - Bangladeshi areas, with only 7.33% and 5.33% of the population residing there. Notably, the distribution of these vulnerable groups varies across regions. For instance, in England, only 13.74% of people live in WBD - Three Children Family areas, while in Scotland, this figure rises to 73.59%, highlighting the significant spatial differences among various vulnerable groups.

To provide a comprehensive analysis, we calculate the total population of all five vulnerable groups living in WBDs and the ratio of this figure to the total population of the area. This ratio indicates the overall level of vulnerable group WBDs: the higher the ratio, the more people live in various vulnerable-group WBDs. In this regard, Northern Ireland and Scotland have a significant lead with ratios of 181.19% and 166.87%, respectively, compared to 67.86% in England and 106.16% in Wales. This pattern is consistent with the distribution of accessibility, emphasising that enhancing Warm Bank coverage is crucial for improving access for vulnerable groups.