While Scientists for Labour understands the challenges that the leadership faces on fiscal responsibility and budget, our view is that the Labour government's revised Green Prosperity Plan represents a scaling back of ambition and an incomplete view of scientific reality.

The IPCC is clear that we are to avoid global warming above 1.5° C, or even 2°C, global carbon emissions must peak no later than 2025, and halving of emissions relative to 2019 in the 2030s, on the way to net zero by 2050 (Riahi et al, 2022). This is enshrined in the UK's legal carbon budgets, requiring we achieve 52% reduction in carbon emissions (relative to 1990) by 2028 and 57% by 2032 (Committee on Climate Change, 2015). This means that the first and second parliaments of a potential Labour government, over which the Green Prosperity Plan will be rolled out, will cover the most critical period for setting us on the path to net zero by 2050. Furthermore, achieving these emissions reductions will require changes across the whole of society, in all sectors (Riahi et al, 2022).

Estimates of required government investment to achieve these society-wide transformations vary, but generally lie closer to the original proposed GPP budget of £28billion per year. The IPPR's Environmental Justice Commission (2021) gives a headline figure of £30bn, while the Grantham Institute (2024) offers a slightly more modest estimate of £26bn, which they estimate will bring in twice that in private investment. This also comes at a time when the UK is falling behind in the global race for green investment, with public investment in low-carbon technologies being among the lowest in the G7 as of 2022 (IPPR, 2023).

Compared to their original commitment to invest £60 billion over 10 years in upgrading homes, the new plan pledges £13.2 billion over 5 years for insulation and energy efficiency - an increase from current spending but likely insufficient to meet targets. The Plan still represents a significant increase from current Conservative government spending of £4.7 billion over this parliament, which should be commended.

The retained focus on decarbonizing the power sector by 2030 is welcomed by Scientists for Labour, as this will be the most crucial step to achieve net zero. However, investments in storage and hydrogen are also necessary for energy security due to the intermittent nature of most renewable energy sources. The planned nuclear investments seem questionable on pure engineering grounds, given that the needed assets cannot be fully built and operational in time to contribute to the 2030 clean power target. In this case, the nuclear aspect of the Plan, while well-intentioned, could be seen as abandoning the UK's net zero targets which would be a major

blow for a Labour government's international climate credibility. This needs to be taken seriously by Labour's leadership.

However, the decision to scale back the insulation of homes across the country to only 5 million over the course of five years is a major step-down in ambition for the new Labour government. This is deeply concerning. Home energy use accounts for 14% of the UK's greenhouse gas emissions, and the Committee on Climate Change has said that "near complete" decarbonisation of home heating would be required to meet its UK emission targets, both through changing to cleaner fuels and reducing the amount of energy required through insulation (Committee on Climate Change, 2019). Furthermore, over 2 million households fell into fuel poverty in 2022 as energy prices surged. The number living in inefficient Band D or below homes also rose by 100,000 to 3.3 million. Reducing ambition on home upgrades will exacerbate energy poverty and leave the most vulnerable unable to heat their homes, especially as Britain continues to weather economic uncertainty. Prolonged inefficiencies across the country also threaten our national energy security, with the Parliamentary Office of Science and Technology defining high energy prices, fuel shortages, equipment failures, and the effects of climate change and net zero transition risks as key energy security risks.

Upgrading homes indeed provides major benefits in terms of lower bills, energy security, and health. But, as E3G (2024) have rightly noted, inconsistent policies have weakened the installer workforce and supply chains. Reaching Labour's target of 5 million upgraded homes by 2030 requires a long-term funding commitment and regulations to drive progress. With the updated budget constraints, this does not seem promising.

Another major concern on the Plan is the lack of investment in adapting to climate impacts. Scientists for Labour concurs with the Grantham Institute (2024) that the Plan will still boost the UK's action on cutting emissions, but it lacks any investments in tackling our vulnerability to climate change impacts. New data shows 92% of local authorities report climate hazards affecting vulnerable groups, with a £17.4 billion investment gap in adaptation, while the Committee on Climate Change (2023) estimates a further £10bn per year in funding is needed to fully tackle the UK's climate risks. Health consequences are being seen in 75% of areas. This absence of resilience spending is alarming given the mounting climate risks. Significant public investment is urgently needed to flood-proof homes, cool cities, and protect the most vulnerable.

Overall, the updated Green Prosperity Plan remains a strong and innovative part of the Labour government agenda. Nonetheless it lacks the scale and scope for emissions cuts, resilience, and crucially energy poverty reduction. With strengthened ambition on home upgrades, it can protect the most vulnerable from cold, damp and unaffordable energy bills. Scientists for Labour and its national membership hope to see a step-wise improvement of the Plan to tackle the biggest challenges facing Britain's climate and environment.

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