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**PROOF OF EVIDENCE**  
**PROFESSOR KEVIN ANDERSON**

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ON BEHALF OF  
GWENT WILDLIFE TRUST

In the matter of:  
Public Local Inquiry into the M4 relief road around Newport: Climate  
Change Implications

FEBRUARY 2017

## Witness Introduction

1. Kevin Anderson is Professor of Energy and Climate Change in the School of Mechanical, Aerospace and Civil Engineering at the University of Manchester and is the Zennströmm professor of Climate Change Leadership at the University of Uppsala, Sweden. He is Deputy Director of the Tyndall Centre for Climate Change Research, the UK's leading academic climate change centre.
2. Professor Anderson is research active with recent publications in Science, Nature and Royal Society journals and he engages widely across all tiers of UK and Swedish government. Professor Anderson's research interests include: understanding the implications of rising emissions and the latest climate science for mitigation and adaptation policy; analysing opportunities for rapid decarbonisation of the UK's, Swedish and EU's energy system; and quantifying the role of international transport (aviation and shipping) in a low-carbon society. With his colleague Alice Bows, Professor Anderson's work on carbon budgets has been pivotal in revealing the widening gulf between political rhetoric on climate change and the reality of rapidly escalating emissions. His work makes clear that there is now little to no chance of maintaining the rise in global mean surface temperature at below 2°C, despite repeated high-level statements to the contrary. Moreover, his research demonstrates how avoiding even a 4°C rise demands a radical reframing of both the climate change agenda and the economic characterisation of contemporary society.
3. Professor Anderson has a decade of industrial experience, principally in the petrochemical industry. He was previously a Commissioner and Science Advisor on the Welsh Government's Climate Change Commission and is a Director of Greenstone Carbon Management - a London-based company providing emission-related advice to private and public sector organisations.

## The Tyndall Centre

4. The **Tyndall Centre for Climate Change Research** is an academic organisation based in the United Kingdom that brings together scientists, economists, engineers and social scientists to research options for mitigating emissions and adapting to climate change. The Centre integrates

its insights across local to global landscapes and in the context of the broader sustainable development goals.

### **Key Points**

- 5 A rise in global mean surface temperature of 2°C or more is now recognised by the international community as the threshold for dangerous climate change.
- 6 The most recent report from the Intergovernmental Panel on Climate Change (IPCC) was unprecedented in its emphasis on how an urgent and rapid transition away from fossil fuels is a prerequisite of avoiding such a 2°C rise.
- 7 The recent Paris Agreement tightened significantly the ambition of the international community to take action to limit global temperature rises associated with climate change to “well below 2°C” and to work towards limiting warming to 1.5°C.
- 8 The UK’s current domestic climate change policies are premised on a 63% chance of exceeding 2°C and do not meet any reasonable interpretation of the clear equity dimension of the Paris Agreement (equity of carbon reduction). Consequently, the UK’s position will need to be tightened considerably if it is to align with the explicit commitment enshrined within the Paris Agreement to take action to hold temperature rises to “well below 2°C” and to “pursue ... 1.5°C”, and to do so on the “basis of equity”.
- 9 **Research has shown that for any chance of meeting this 2°C goal, a developed country like Wales should be aiming to reduce CO<sub>2</sub> emissions by at least 10% per annum.**
- 10 **The impacts of induced demand associated with building a new road will almost certainly result in the scheme increasing overall CO<sub>2</sub> emissions.**
- 11 Investing over £1 billion in a scheme set to increase CO<sub>2</sub> emissions, at a time where unprecedented reductions in carbon are required, is highly misguided and will impose still further misery on those poorer communities living in more climate-vulnerable landscapes as well as on future generations – including those within Wales.

- 12 If the Welsh Government is to uphold its repeated Climate change commitments and act in step with the Paris Agreement and its obligations under the Well Being and Future Generation Act (2015) for a 'low carbon society' (that takes account of global well-being), the M4 relief road cannot be justified.