

# The benefits of climate action for the UK

Dr Neil Jennings, Partnership Development Manager,  
Grantham Institute, Imperial College London

# The Grantham Institute

Vision: a sustainable, resilient, zero-carbon society

## WHAT WE DO



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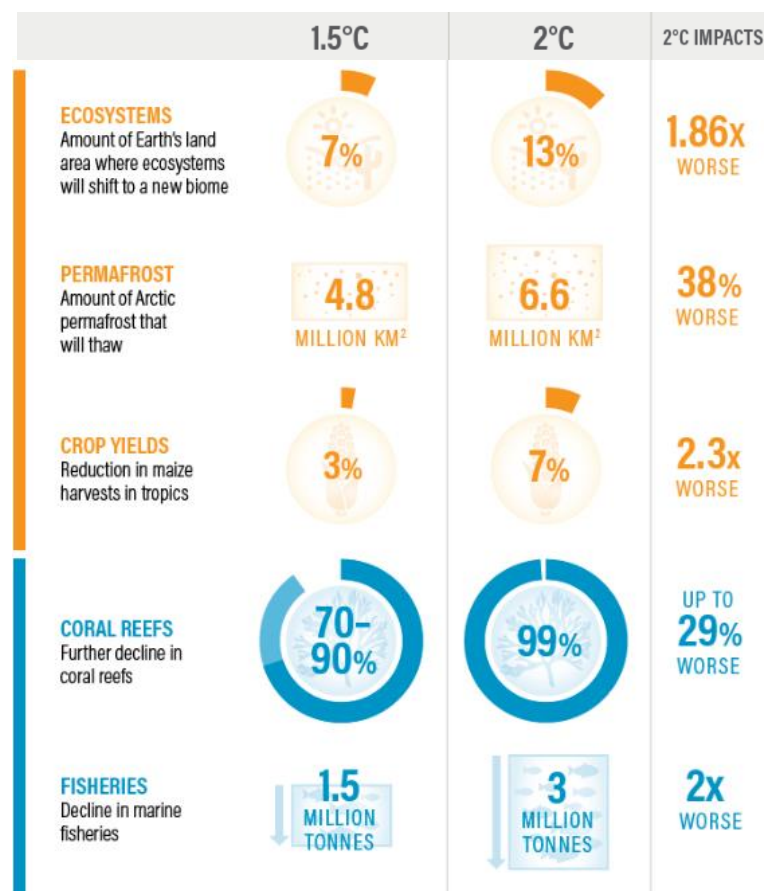
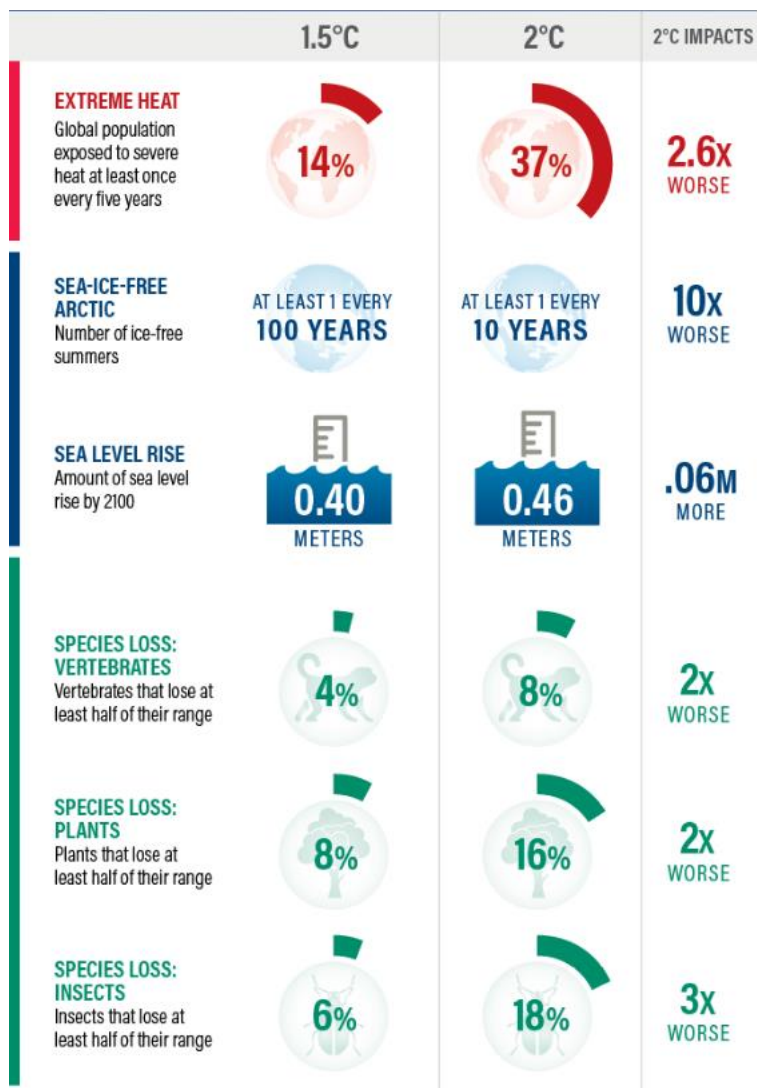
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# Structure

- Avoiding 1.5°C or 2°C rise in global temperatures
- UK public concern with climate change
- The benefits of climate action for the UK
  - Health, economy, security and inequality
- Q&A

# 1.5°C versus 2.0°C



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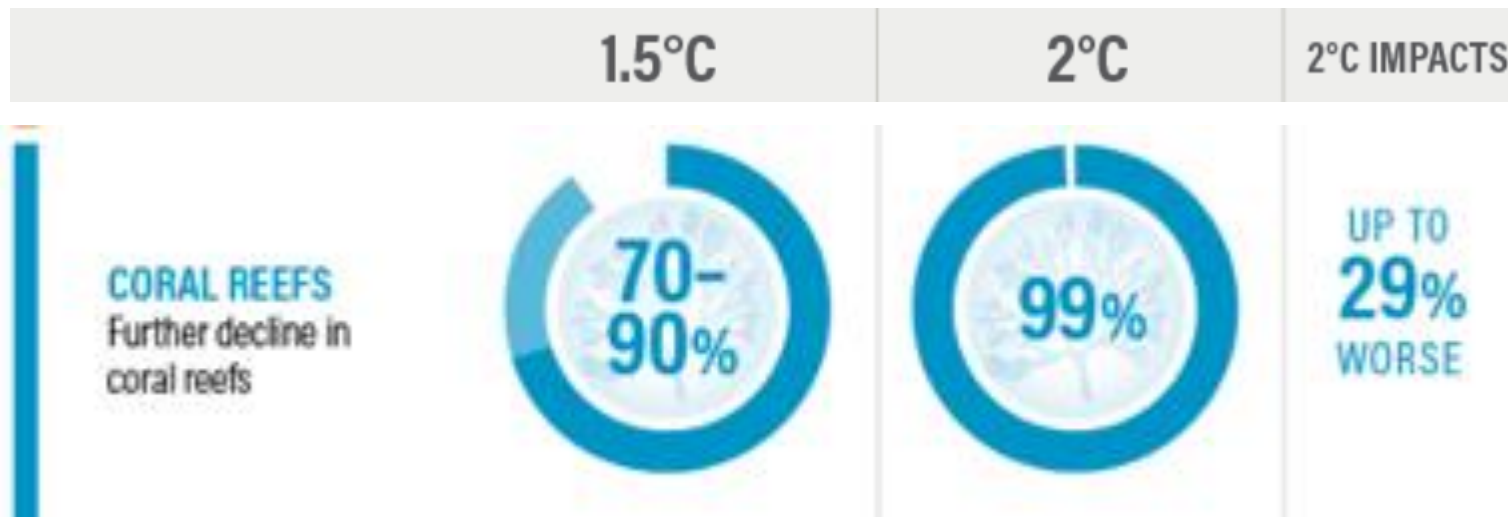
**HALF A DEGREE OF WARMING  
MAKES A BIG DIFFERENCE:**

EXPLAINING IPCC'S 1.5°C SPECIAL REPORT

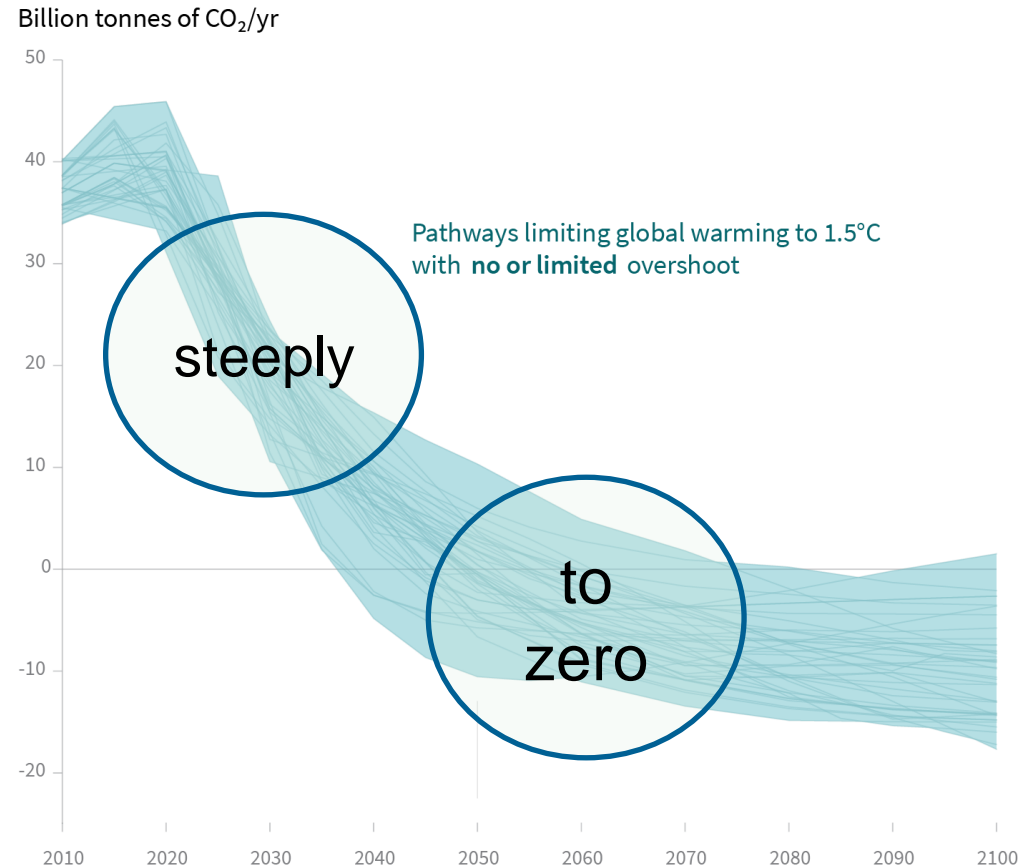
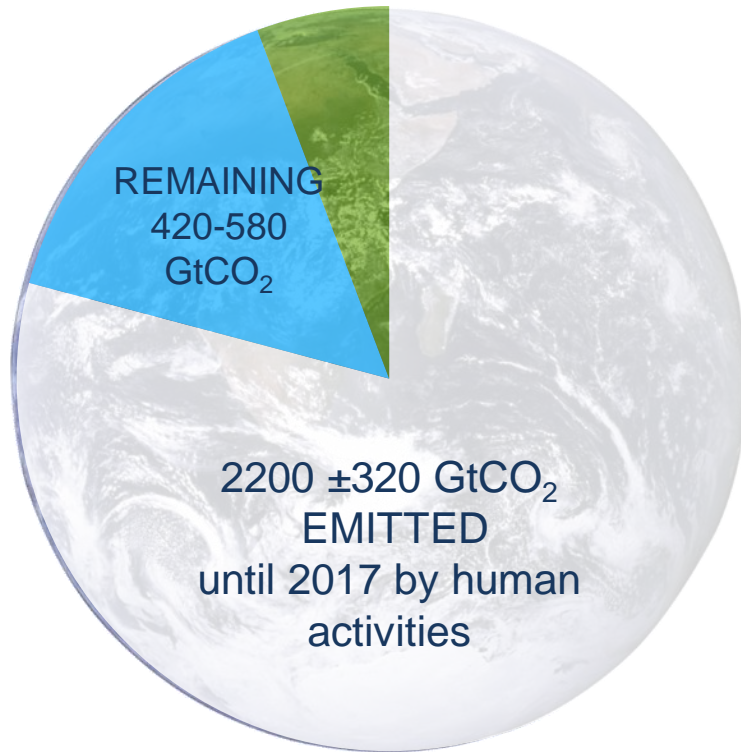




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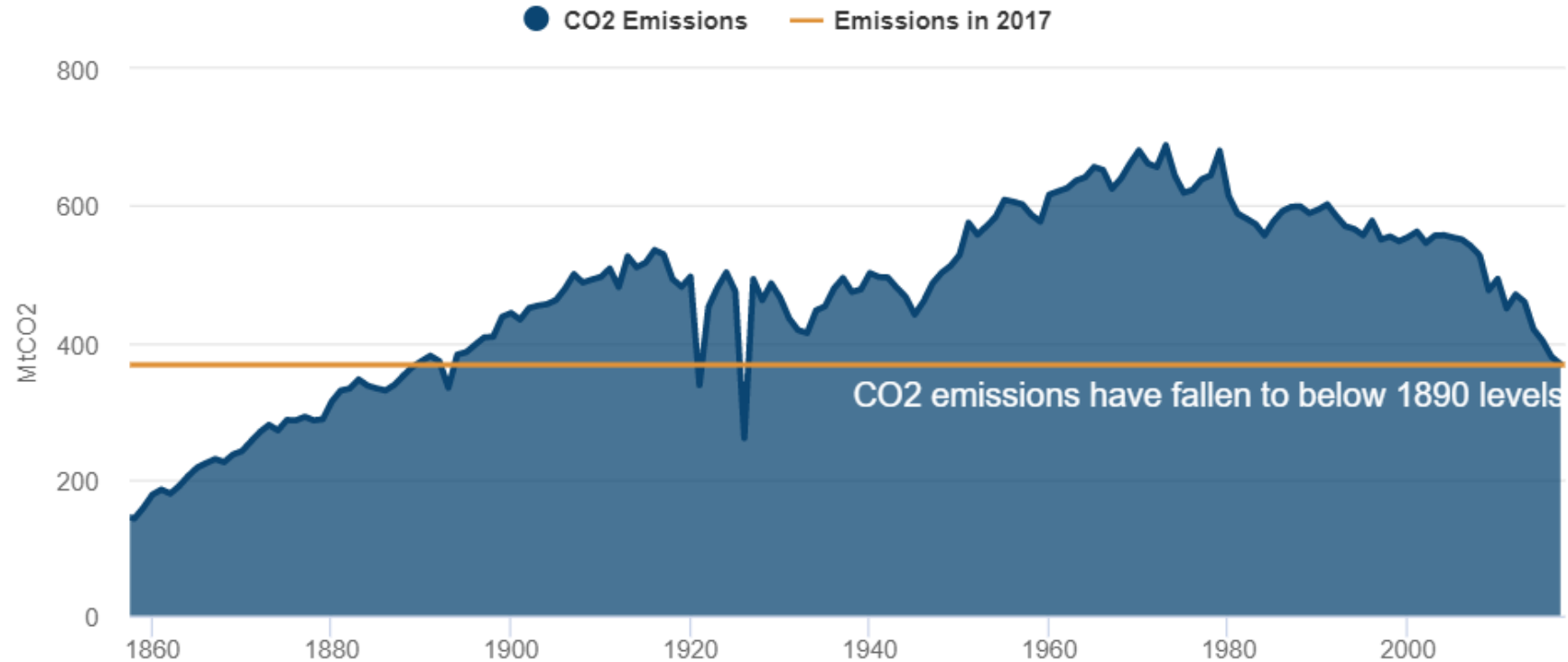


# Rapid decarbonisation to avoid 1.5°C



Source: IPCC Special Report on Global Warming of 1.5°C

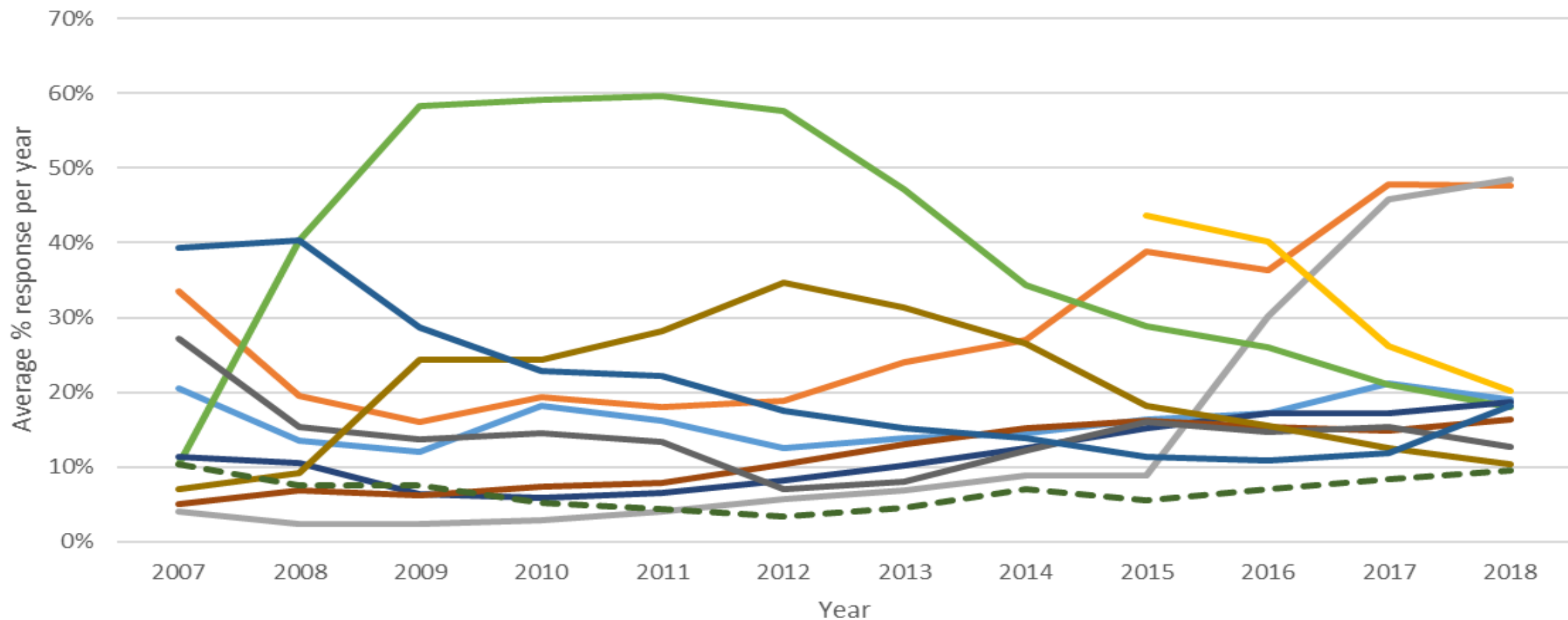
# UK carbon emissions since 1858



CB

Source: Housefather, Carbon Brief

# Issues of concern raised by the UK public via Ipsos MORI poll 2007-2018



NHS/Hospitals/Healthcare

Education/schools

Poverty/inequality

Crime/Law and Order

Common Market/Brexit/EU

Economy

Defence/foreign affairs/terrorism

Pollution/environment

Immigration/immigrants

Housing

Unemployment



# Vision

- Need for a positive vision of the future
- The multiple benefits of climate action can resonate with other priorities – clean air, warm homes, reduced NHS costs, reduced inequality, economic growth, etc

Co-benefits video here: <https://www.youtube.com/watch?v=7qR-ZgJ5oww>

# Co-benefits of climate action

- Health and the NHS
- The economy and unemployment
- Immigration and security
- Inequality and housing

# Health impacts of air pollution

- 40,000 deaths/year in UK from particulate matter (PM) and nitrous oxides (NOx) – Royal College of Physicians
  - 70% of these deaths in London due to transport (World Health Organisation)
- Ella Kissi-Debrah – 9 year old girl died of unlawfully high levels of air pollution
  - lived 25m from the South Circular Road

# Health impacts of air pollution



**Brain:** Stroke, Dementia, Parkinson's Disease

**Eye:** Conjunctivitis, Dry Eye Disease, Blepharitis, Cataracts



**Heart:** Ischemic Heart Disease, Hypertension, Congestive Heart Failure, Arrhythmias

**Lung:** Chronic Obstructive Pulmonary Disease Asthma, Lung Cancer, Chronic Laryngitis, Acute and Chronic Bronchitis



**Liver:** Hepatic Steatosis, Hepatocellular carcinoma

**Blood:** Leukemia, Intravascular Coagulation, Anemia, Sickle Cell Pain Crises



**Fat:** Metabolic Syndrome, Obesity

**Pancreas:** Type I and II Diabetes



**Gastrointestinal:** Gastric Cancer, Colorectal Cancer, Inflammatory Bowel Disease, Crohn's Disease, Appendicitis



**Urogenital:** Bladder Cancer, Kidney Cancer, Prostate Hyperplasia



**Joints:** Rheumatic Diseases

**Bone:** Osteoporosis, Fractures



**Nose:** Allergic Rhinitis

**Skin:** Atopic Skin Disease, Skin Aging, Urticaria, Dermographism, Seborrhea, Acne

Schraufnagel, Dean E. et al. (2019) *Air Pollution and Noncommunicable Diseases*. CHEST.

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# Solutions to air pollution



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# Health and housing

- Circa 10,000 excess winter deaths/year due to cold homes
- Poor housing costs the NHS £2.5bn/year (Age UK)
- 27m lost working days/year and £1.8bn/yr cost to economy (Healthy Homes Barometer)
- Physical and mental illness

# Solutions to poor housing

- Energy efficiency
- ‘Boilers on Prescription’
  - e.g. Seasonal Health Intervention Network (SHINE) of the Greater London Authority
  - tackling the cause of illness, not just the symptoms
  - e.g. from Sunderland of 60% reduction in GP appointments, 30% reduction in A&E attendance



# Health and food



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# Health and green space

## TREE FUNCTIONS



## INTERACTING WITH



Source: Bozovic  
et al. 2017

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# The economy and unemployment

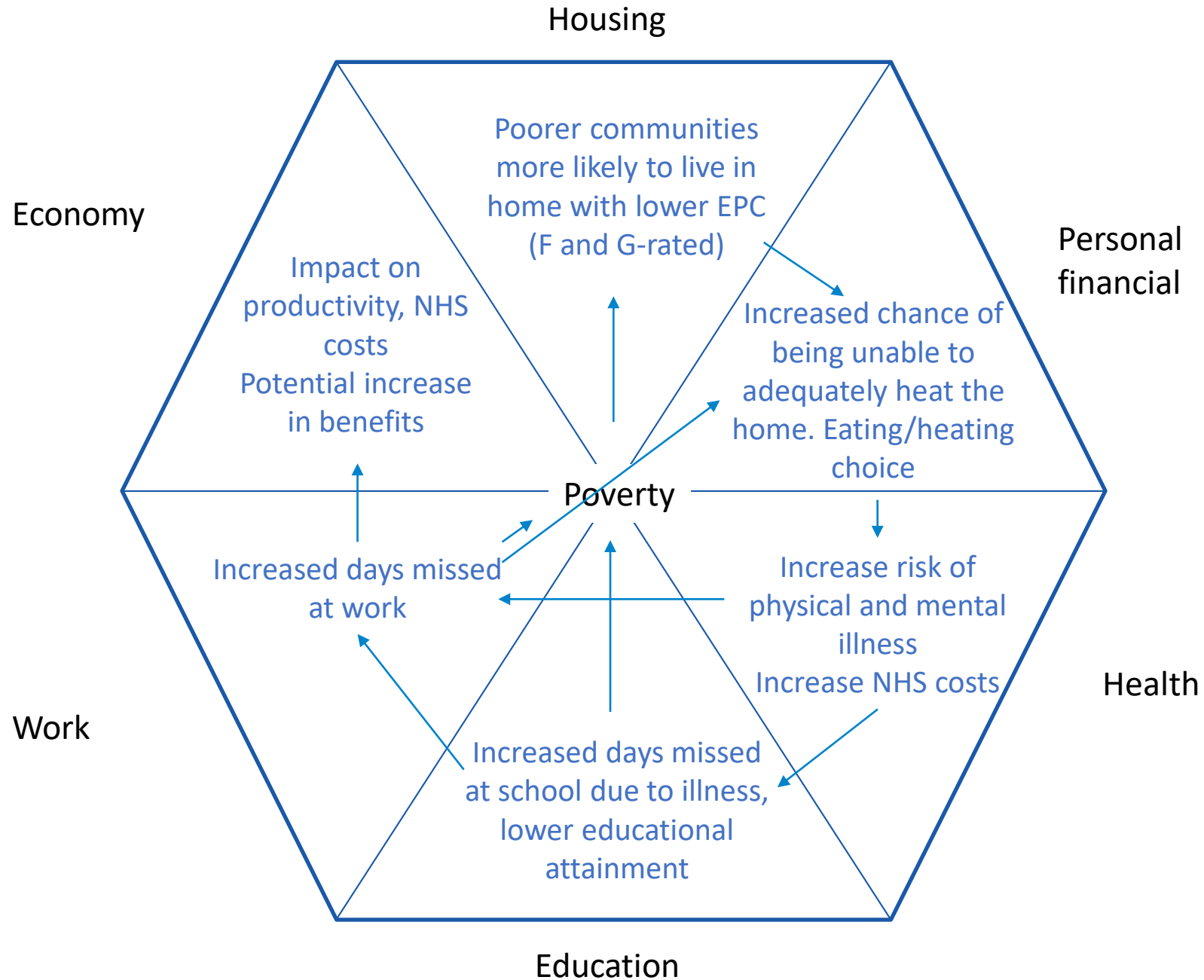
- Last 10 years
  - UK GDP = 1.5-3.1%
  - UK Green sector = 5%
- Between 1992 and 2014: UK emissions per person fell 33% while economy grew by 130%
- Need for a Just Transition

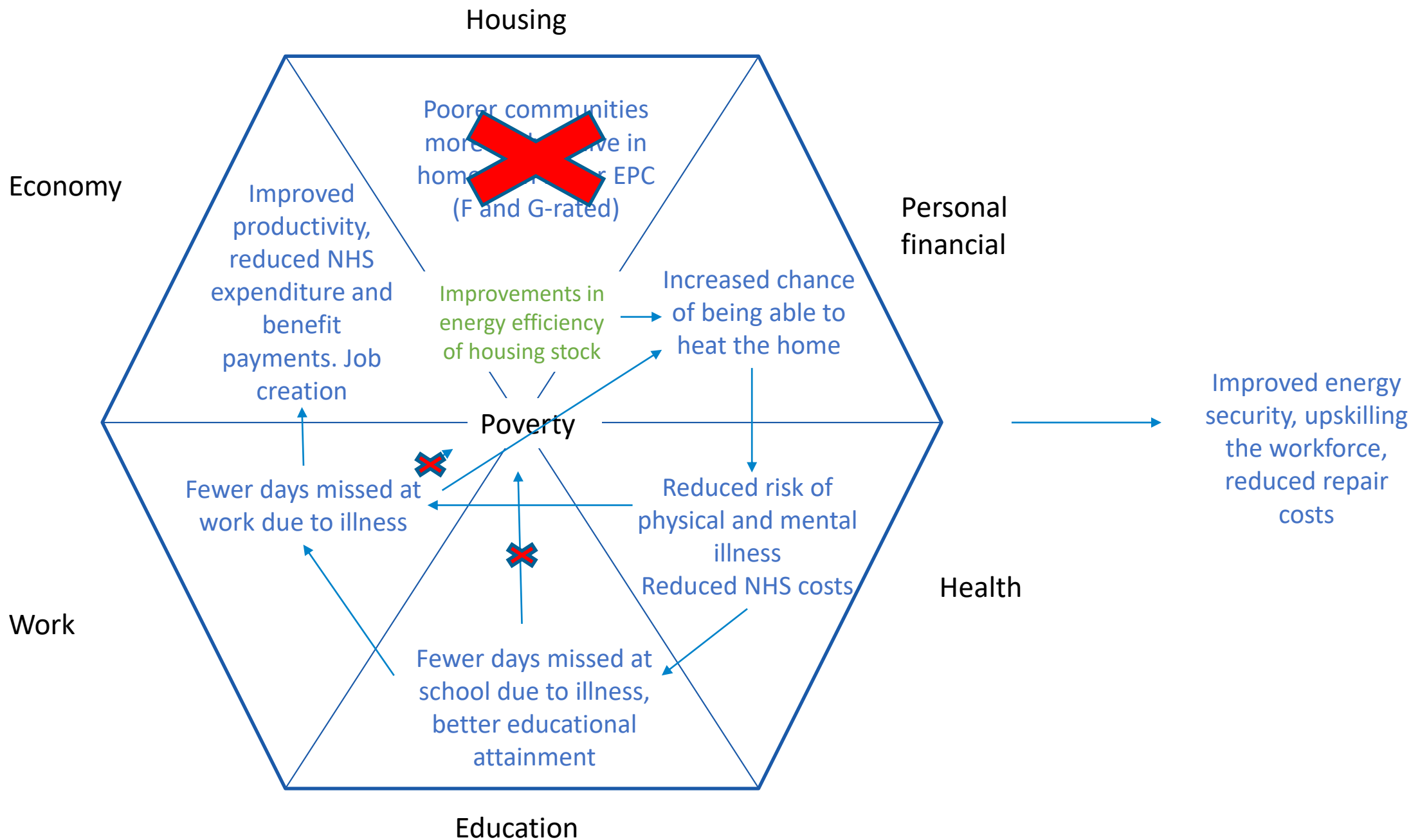
Just transitions video here: <https://www.youtube.com/watch?v=ULrLK4p7QkU>

# Immigration and security

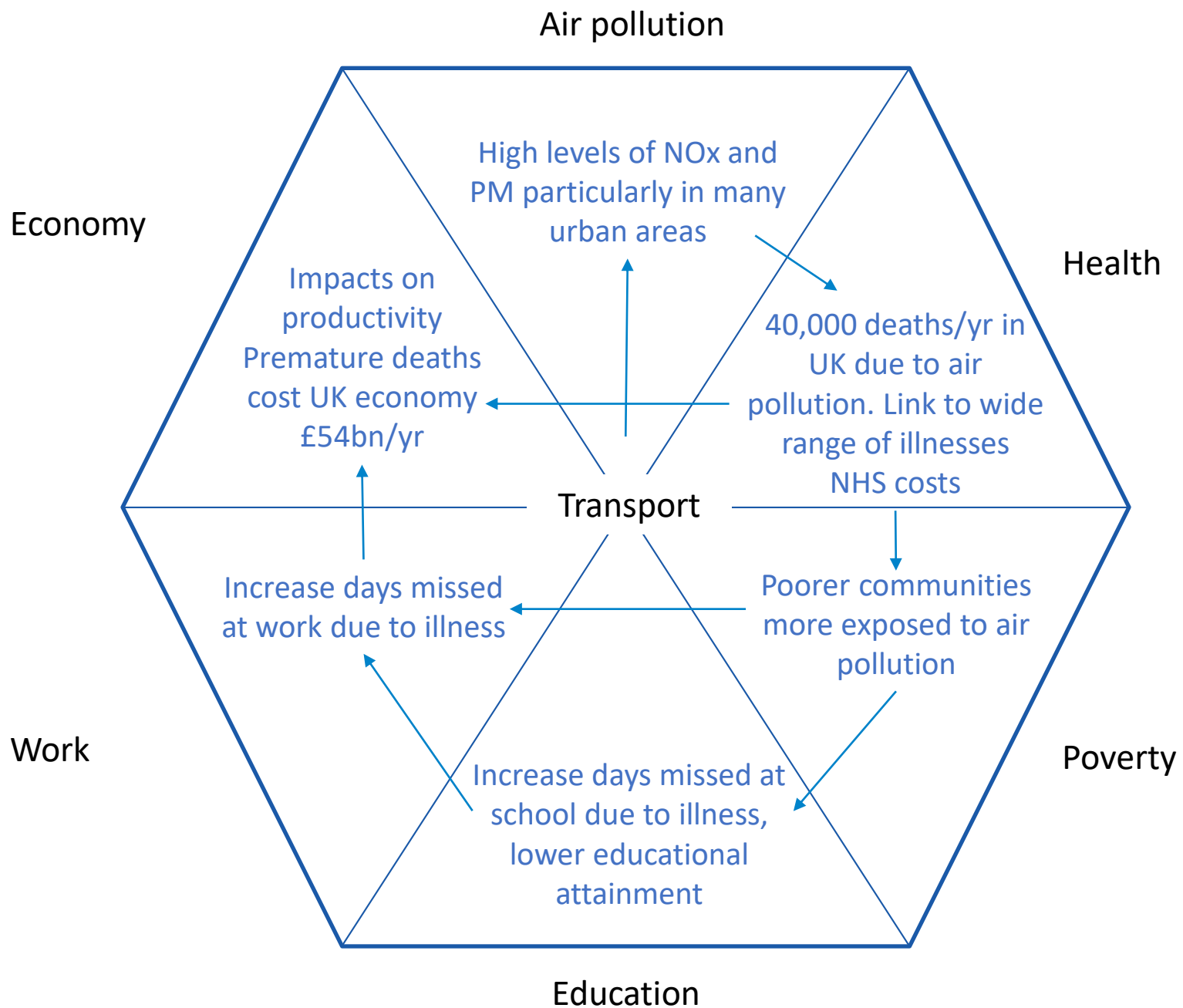
- Climate change as a 'threat multiplier' for conflict
- Energy security

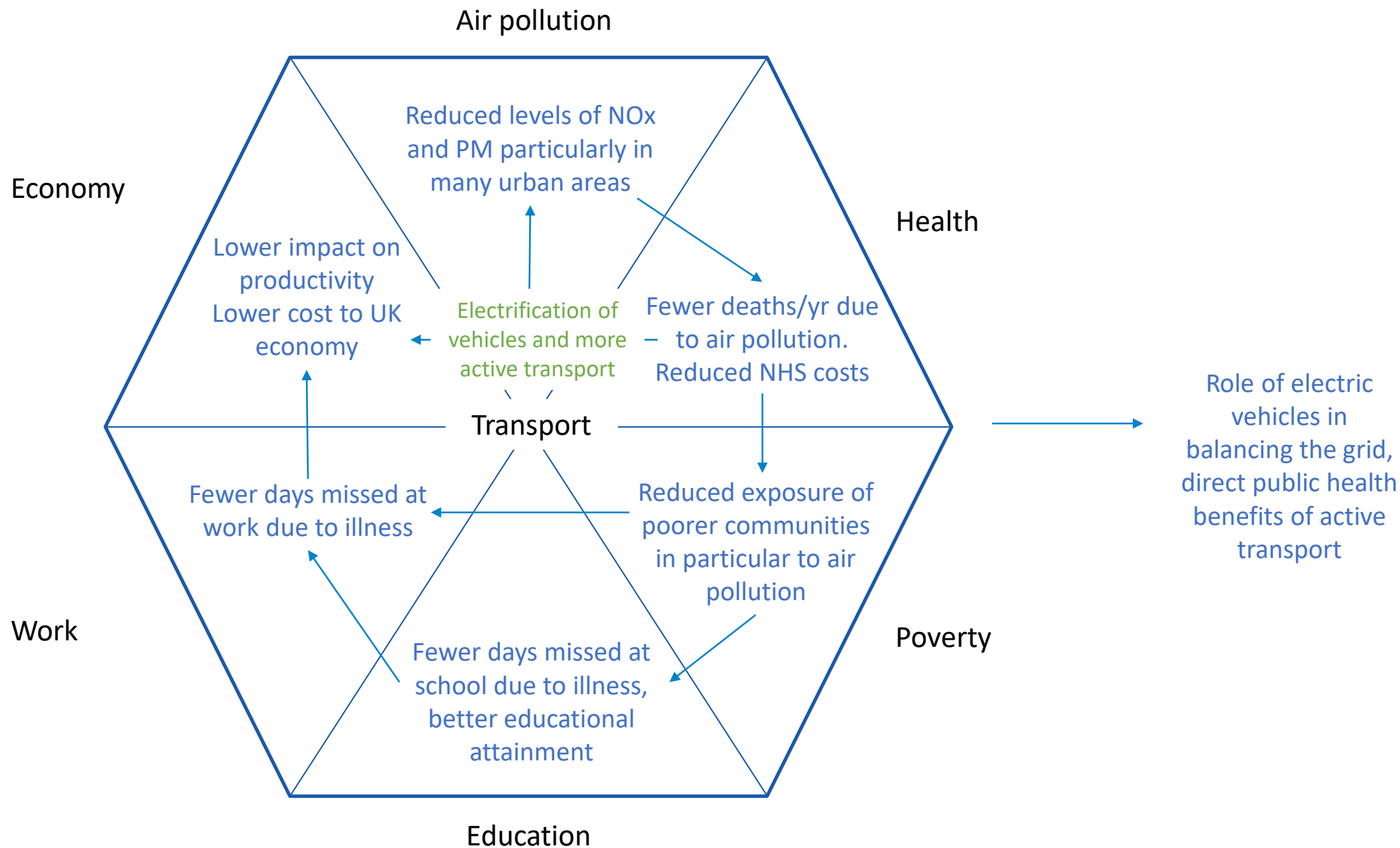












# Conclusions

- Significant evidence of co-benefits of climate action
- Relevant to policy-makers, decision-makers and those communicating climate change
- Taking co-benefits into account may facilitate deeper, faster cuts in carbon emissions
- Cities and local authorities offer greatest opportunity for incorporating co-benefits into decisions
- Need for a Just Transition

# Thanks! Q&A

neil.jennings@imperial.ac.uk

 @NeilRJennings  @Grantham\_IC

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