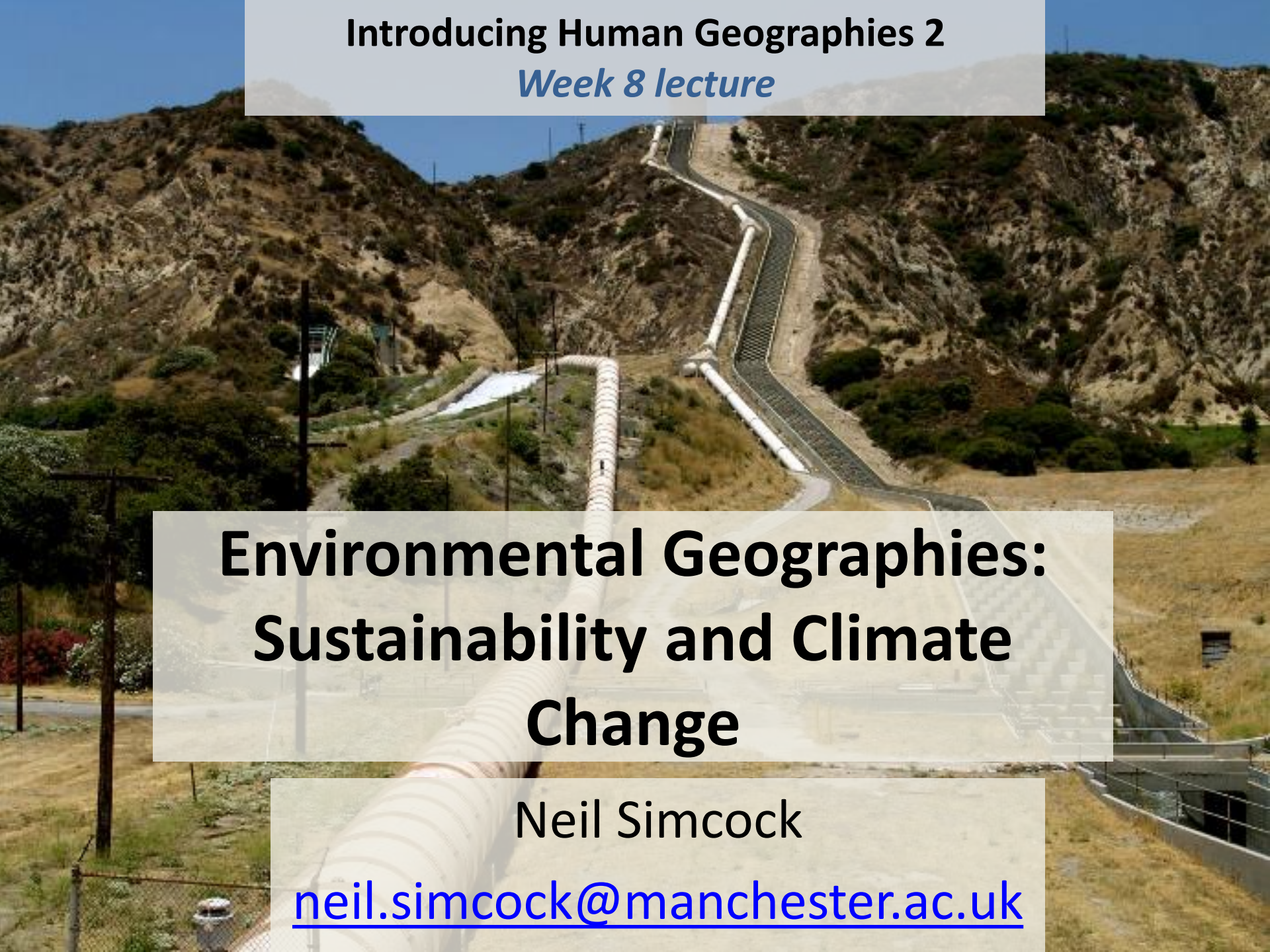
Introducing Human Geographies 2

Week 8 lecture



Environmental Geographies: Sustainability and Climate Change

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Lecture outline

1. Environmental geographies
2. Climate change – framing solutions
3. Climate inequalities and environmental justice
4. Summary

Environmental geographies

The study of human relationships with the biological and physical system that we call the ‘environment’

US climate change outlook worsens after further research

National Climate Assessment report says sea level rising twice as fast as 25 years ago

Higher sea levels caused by melting polar ice has already led to increased flooding along America's east coast

Smog Monday: Paris air pollution levels to hit dangerous high

Biodiversity loss raises risk of 'extinction cascades'

As human geographers studying environmental and sustainability issues, there are many questions we can ask. For example (*not* an exhaustive list)*:*

- Through what processes and mechanisms are environmental harms produced?
- How can we avoid, mitigate or minimise perceived environmental harms?
- What are the consequences for human well-being and social justice?
- How are our responses to the above questions shaped by how we interpret or ‘frame’ environmental issues?

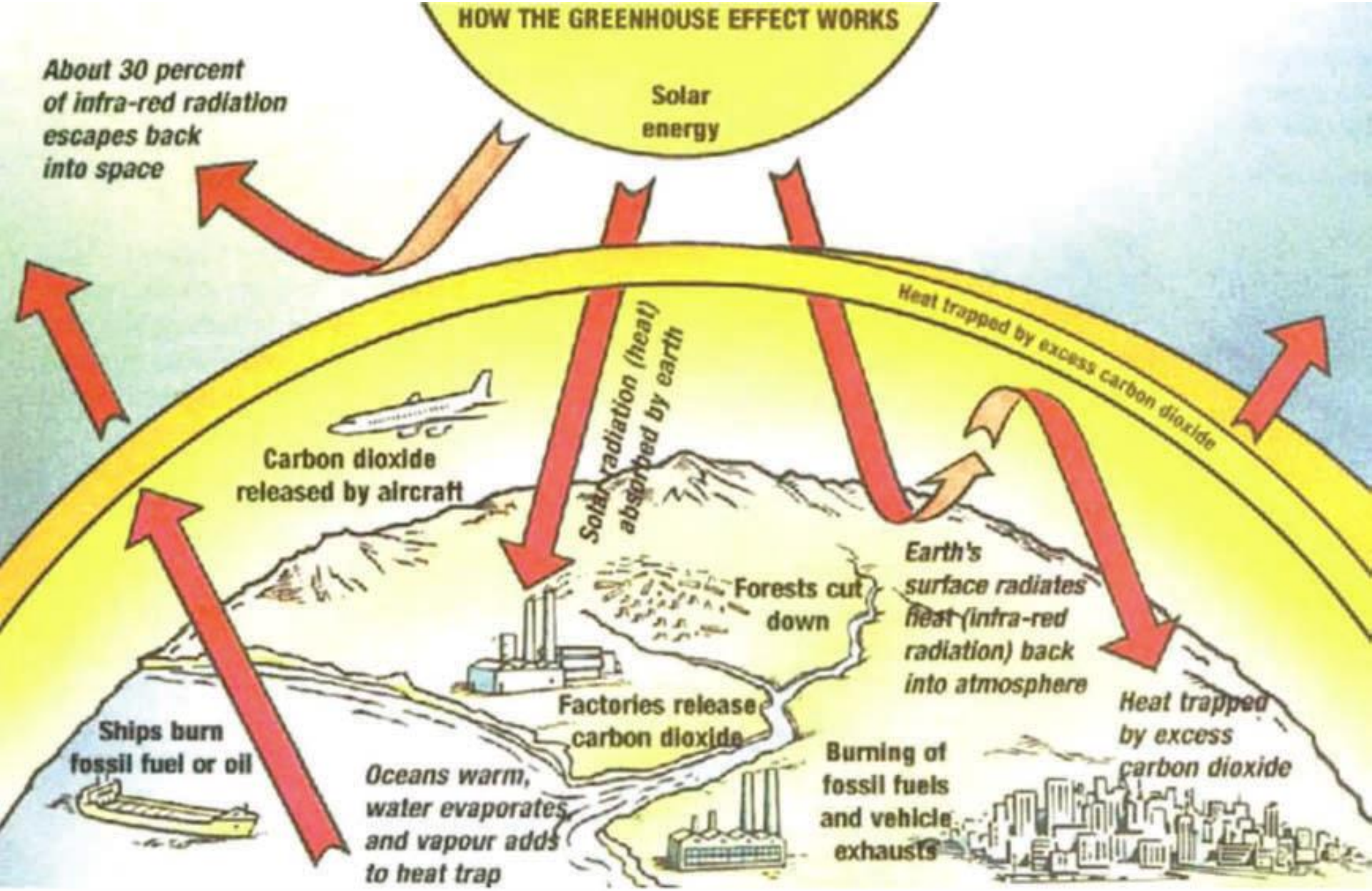
Starting points: frames and framing (1)

- Our knowledge of the world is always partial
- We make sense of the world through interpreting, labelling and giving meaning to phenomenon, issues and events.
- There is not just one way of interpreting the world, but multiple ones
- A ‘frame’ is a particular interpretation or way of thinking about an issue/phenomenon
- How we interpret issues affects how we *respond* to them

Starting points: frames and framing (2)

- This **doesn't** mean that environmental problems are only 'imaginary'
- Also **doesn't** mean that all interpretations are equally valid. Some ideas may be more persuasive, accurate, effective, fair etc…
- Frames are wrapped up with culture, ideology and power

Climate change


HOW THE GREENHOUSE EFFECT WORKS
Solar energy
About 30 percent of infra-red radiation escapes back into space
Heat trapped by excess carbon dioxide
Solar radiation (heat) absorbed by earth
Carbon dioxide released by aircraft
Forests cut down
Earth's surface radiates heat (infra-red radiation) back into atmosphere
Factories release carbon dioxide
Heat trapped by excess carbon dioxide
Ships burn fossil fuel or oil
Oceans warm, water evaporates, and vapour adds to heat trap
Burning of fossil fuels and vehicle exhausts

Climate change: framing solutions

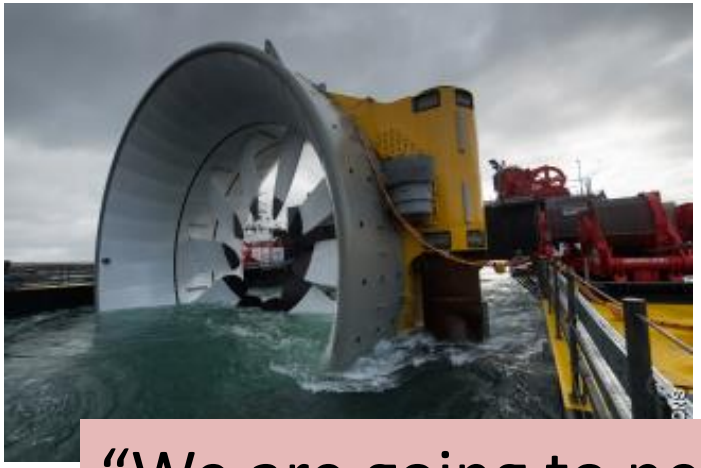
Activity

What can societies do to address climate change?

2 minutes, work with the person sitting next to you

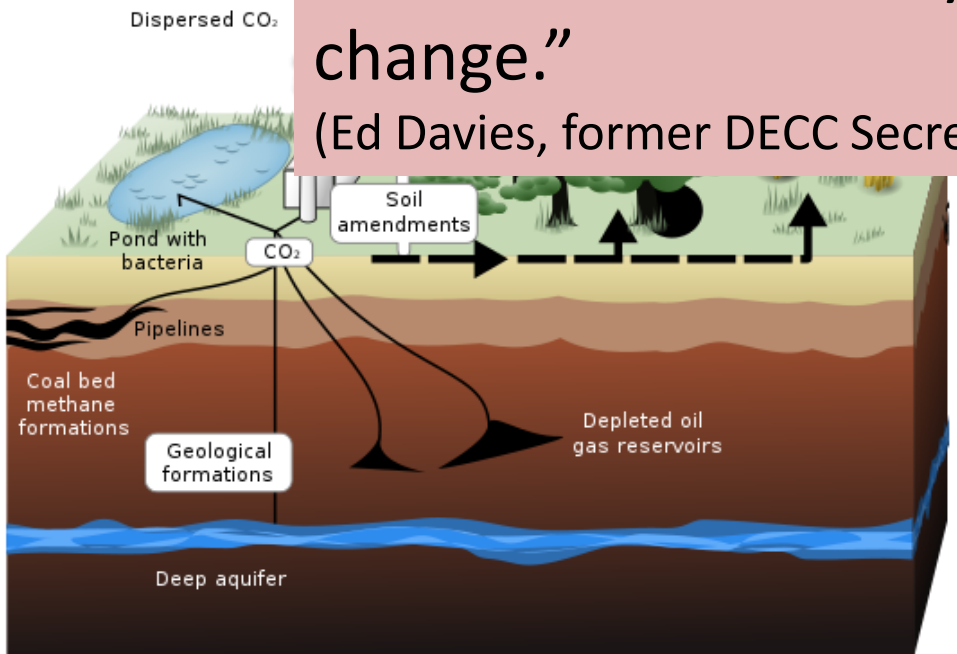
Solution framing 1: Technocentrism

Decarbonising energy supply



"We are going to need vast amounts of low-carbon electricity to tackle climate change."

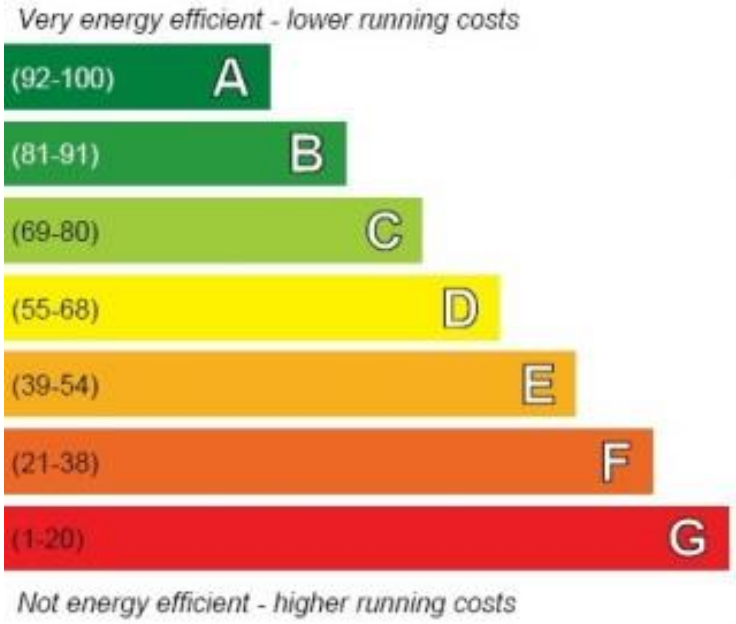
(Ed Davies, former DECC Secretary, 2013)



Reducing demand through energy efficiency

"energy efficiency is the key to ensuring a safe, reliable, affordable and sustainable energy system for the future"

(International Energy Agency)



New transport technologies

International and national policies:

- Financial incentives for low-carbon technologies - feed-in-tariffs, ROCs, the Renewable Heat Incentive
- Carbon taxes and emissions trading schemes
- Information to persuade individuals to make the right ‘choices’ and take-up low-carbon innovations

‘Green growth’ agenda and discourse

“By focusing on Clean Growth, we can cut the cost of energy, drive economic prosperity, create high value jobs and improve our quality of life.” *Claire Perry, Climate Change and Industry Minister*

“Every action that the government takes to cut emissions must be done while ensuring our economy remains competitive.”

https://www.gov.uk/government/news/government-reaffirms-commitment-to-lead-the-world-in-cost-effective-clean-growth

Business

The Government finally switches on to a clean growth strategy

share

4

Government has outlined how it plans to tackle climate change while driving economic growth
CREDIT: AFP/GETTY IMAGES

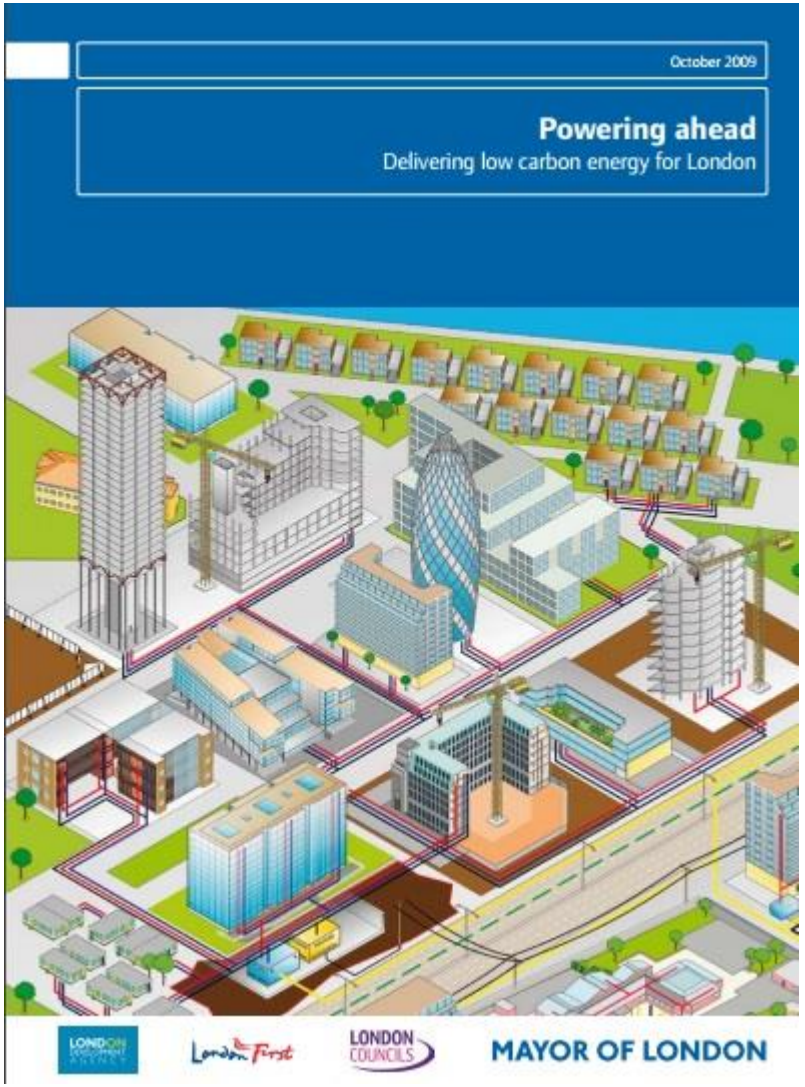
The Telegraph, 12 October 2017

Efforts to position *cities* as a critical site and scale for responding to climate change

City scale policies

- **Pro-market** policies: Removing barriers, creating positive regulatory context, financial incentives, public-private partnerships

- Fitting within dominant urban agendas: competitiveness, resilience, urban growth (Hodson and Marvin, 2010)



Summary of solution framing 1

- Climate change framed as a *technological* problem requiring *technological* solutions
- A ‘growth’ opportunity, to be pursued through ‘market-led’ policies and governance arrangements

Technocentrism

The management of economic growth through technology so as to permit the further use of the environment by human beings

As human geographers, we can ask questions that fit *within* this particular framing:

- E.g. community, political and market acceptance – what influences whether and how fast new technologies are taken up and installed?

But we can also question the **viability of the framing itself**

Critiques of the 'technocentism' framing

- Despite an increase in renewable energy and energy efficiency, CO2 emissions are still rising
- Improvements in energy efficiency and decarbonising energy supply are outpaced by growing energy demand and consumption
- Renewable energy is not *replacing* fossil fuel plants – it is only meeting part of the growing energy demand

De Decker K (2009) How (not) to resolve the energy crisis. *Low Tech Magazine*: http://www.lowtechmagazine.com/2009/11/renewable-energy-is-not-enough.html

"The problem with energy efficiency … is that it establishes and reproduces ways of life that are not sustainable in the long run … transforming present ways of life is key to mitigating climate change and decreasing our dependence on fossil fuels."

(De Decker, 2017)

- De Decker K (2017) Bedazzled by Energy Efficiency. *Low Tech Magazine*: http://www.lowtechmagazine.com/2018/01/bedazzled-by-energy-efficiency.html
- Shove (2017) What is wrong with energy efficiency. *Building Research & Information,* DOI: 10.1080/09613218.2017.1361746
- Fawcett and Rosenow (2017) What is right with energy efficiency? A response to Elizabeth Shove. *Building Research & Information, https://bricommunity.net/?utm_content=bufferd26a6&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer*

The ‘post-political’

- **The post-political** – a particular framing of what climate change is and how it should be addressed becomes dominant, with no room for dissenting voices.
- ***Has this happened with the framing of climate change as a technological issue?***

‘[The post-political condition is] structured around the perceived inevitability of capitalism and a market economy as the basic organizational structure of the social and economic order, for which there is no alternative’ *(Swyngedouw, 2010: 215)*

Solution framing 2: ‘de-growth’

- De-growth framing suggests **over-consumption**, *driven by the imperative for economic growth*, is at the heart of environmental problems including climate change
- The *solution* is therefore framed as a need to **reduce consumption** (in many richer economies, at least) through the abolition of economic growth

- Degrowth also critiques the idea of economic growth as 'progress' – looks for alternative metrics of well-being
- A critique of ***capitalism*** as an economic system

"capitalism is … 'addicted to growth' ... It acknowledges no environmental constraints or concept of environmental well-being (Benton 1989). Accumulation … is needed for capitalism to survive."
(Sayer, 2009, p.350)

Limits of degrowth?

- Unclear how an economy can function without growth
- Ignores the poor and vulnerable people and places that benefit from economic growth?
- Authoritarian – requires defining what consumption is and isn't 'needed'

Technocentrism	De-growth (eco-centrism)
Nature as a resource	Intrinsic value of nature
Human control over nature	Humans as subject to nature
Strong/absolute faith in technology	Carefully targeted technological solutions
Environmental problems as an external side-effect of industrial capitalism	Environmental problems as inherent to industrialised capitalism
Environmental problems solved using science and technology	Environmental problems solved through a reduction in consumption and industrial output
‘Weak’ sustainability?	‘Strong’ sustainability?

De-growth readings

- Swyngedouw E (2010) Apocalypse forever? Post-political populism and the spectre of climate change. *Theory, Culture & Society*, 27, 213-232
- Sayer A (2009) Geography and global warming: can capitalism be greened? *Area*, 41, 350-53
- Mastini R (2017) Degrowth: the case for a new economic paradigm. *Open Democracy,* 8 June 2017*:* https://www.opendemocracy.net/riccardo-mastini/degrowth-case-for-constructing-new-economic-paradigm

Conclusions to part 1

- ‘Climate change’ can be framed and understood in multiple ways, with consequences for how the issue is acted upon
- The dominant framing sees climate change as a technological issue
- Alternative framings argue that much more radical cultural and political-economic changes are necessary
- Environmental problems are not given, but must be actively interpreted.
- How and by whom environmental issues are constructed as ‘problems’ is critical – determines the scope of action and whose interests are served

- Who makes the claims that there is (or is not) an environmental problem?
- Who makes up the audience that is listening (or not listening) to these claims?
- How are these claims made and contested, using facts, rhetoric and metaphor?

Take a 10 minute break

Part 2: Climate inequalities and environmental justice

- What are the consequences of environmental harm for human well-being and justice?

Now the Pentagon tells Bush: climate change will destroy us

- **Secret report warns of rioting and nuclear war**
- **Britain will be 'Siberian' in less than 20 years**
- **Threat to the world is greater than terrorism**

Prince Charles: 100 months to save the world

The Prince of Wales is to issue a stark warning that nations have "less than 100 months to act" to save the planet from irreversible damage due to climate change.

PEAK ENERGY, CLIMATE CHANGE, AND THE COLLAPSE OF GLOBAL CIVILIZATION

The impacts of climate change are likely to be highly unequal, both socially and spatially

What factors do you think make a place or country likely to be more negatively impacted by climate change?

2 minutes work with the person sitting next to you

Inequalities in climate change impacts caused by social and spatial differences in:

1. Exposure
2. Sensitivity
3. Adaptive capacity

} Social vulnerability

Enhanced exposure + increased social vulnerability = **Climate Disadvantage**

What factors affect climate disadvantage?

Exposure	Sensitivity	Adaptive capacity
Variability in weather patterns	Type of economy and livelihood	Financial resources (national, regional, individual)
Neighbourhood characteristics (e.g. green space)	Age	Institutional resources (e.g. insurance)
Housing characteristics	Health status	Infrastructure
		Social networks
		Knowledge and information
		Access to services
		Tenure status

Source: Lindley et al 2011

International patterns of inequality

In general poorer countries likely to be negatively affected to a greater degree

- Enhanced exposure – in places more likely to be hit by e.g. droughts or floods
- Increased sensitivity – agriculture forms a greater proportion of economies
- Reduced adaptive capacity – e.g. reduced financial and institutional resources

But there are still many differences *between* Global South countries

Unequal vulnerability: Bangladesh case study

- https://www.youtube.com/watch?v=I9yJ7K_3n50

Explaining Bangladesh's heightened vulnerability:

- **Increased exposure** – low-lying, many people live in coastal regions, affected by changing weather patterns
- **Increased sensitivity** – predominantly agricultural economy
- **Reduced adaptive capacity** – limited financial resources

Soloman Islands

https://theconversation.com/sea-level-rise-has-claimed-five-whole-islands-in-the-pacific-first-scientific-evidence-58511

Climate inequalities within borders

Differences in vulnerability *within* countries as well – both geographically and between social groups

Climate change 'impacts women more than men'

By Mary Halton
BBC News, science reporter

8 March 2018

Share

http://www.bbc.co.uk/news/science-environment-43294221

Climate change and gender inequality

Globally, women are more likely than men to be disadvantaged by climate change

- **Increased exposure –** e.g. gendered roles as caregivers exposes them to climate hazards (e.g. drought)
- **Increased sensitivity –** e.g. in the aftermath of extreme events, emergency shelters can be inadequately equipped to support women
- **Reduced adaptive capacity –** e.g. women more likely to experience poverty

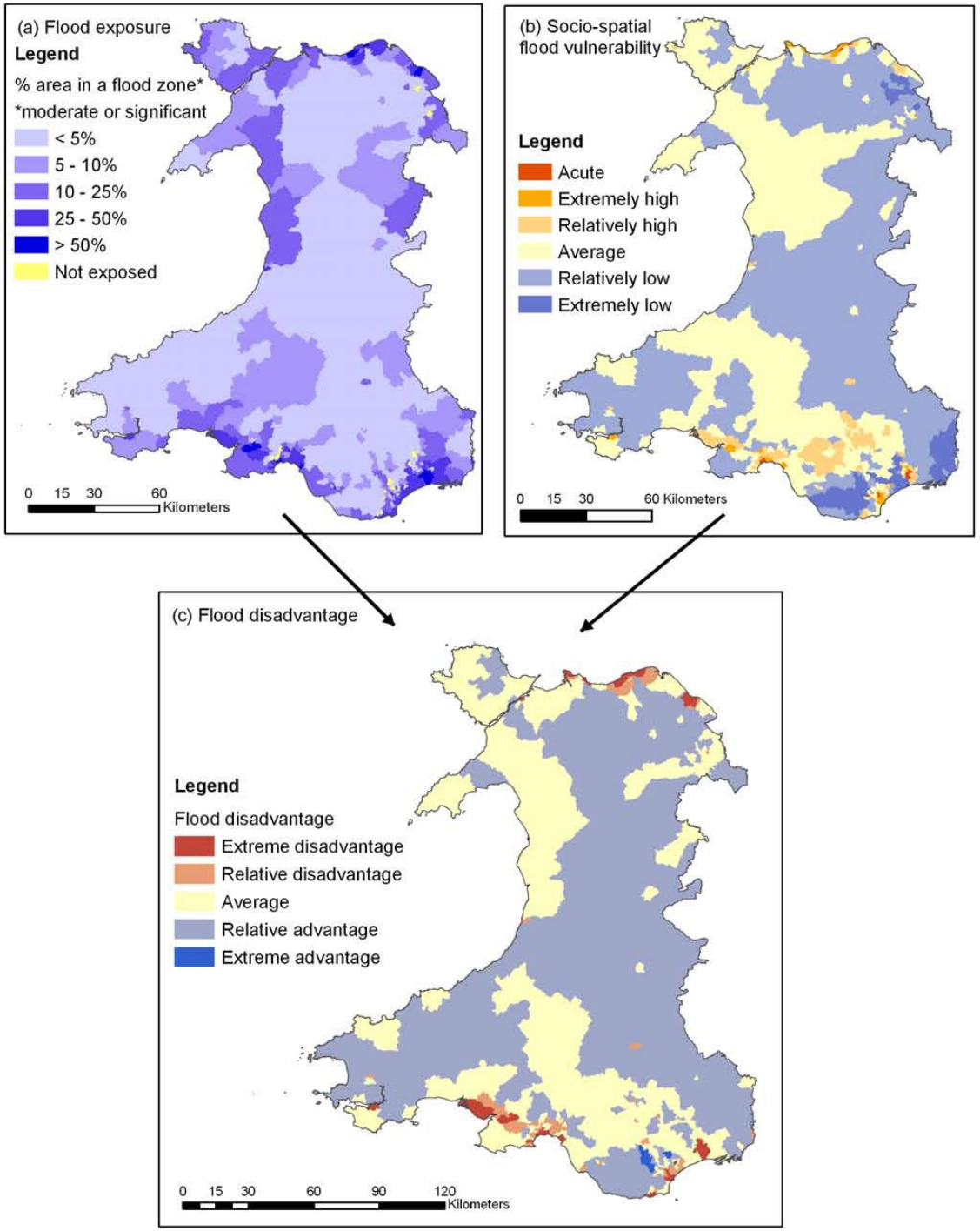
However: the extent of such inequalities will differ depending on (i) socio-spatial context (ii) the climate change 'impact' in question

Inequalities in exposure and vulnerability to flooding

UK example:

- Deep *spatial* inequalities found in both exposure and vulnerability to flooding
  - Coastal areas have the greatest number of 'extremely vulnerable' neighbourhoods
- Importantly, exposure and vulnerability often overlap (but imperfectly so)
  - Vulnerable neighbourhoods over-represented in areas of higher flooding exposure

Combination of heightened exposure and increased vulnerability = flood disadvantage



Source: Lindley et al 2011

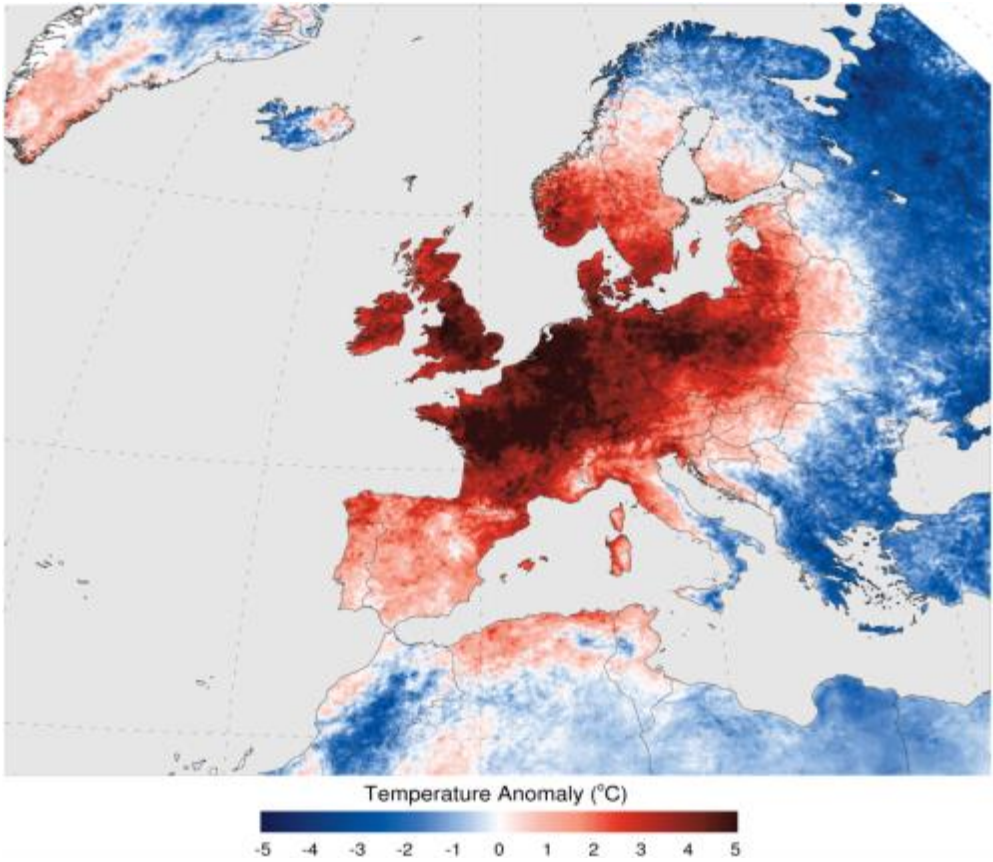
In terms of **social groups**, in the UK those on low-incomes more flood disadvantaged:

- **Greater exposure** – greater exposure to *coastal* flooding (but not river flooding)
- **Reduced adaptive capacity** - less likely to afford repairs or have flood insurance

In the US, **race** is also a significant factor (especially in southern states)

Heatwave inequality: a complex picture

- **Older people** consistently shown to be at greater risk of death from heatwaves
- But existence and nature of **gender** and **racial** inequalities differs between locations



Climate disadvantage: key points

- Impacts to climate change are highly unequal both spatially and socially – but in multiple, complex ways
- Socio-spatial patterns of disadvantage can differ between contexts
- Disadvantage is not a static characteristic of people or places – it is socially *produced* and so can change over time

Resources on climate inequality

- Lindley et al (2011) Climate change, justice and vulnerability. York: Joseph Rowntree Foundation. Available at: https://www.jrf.org.uk/report/climate-change-justice-and-vulnerability
- Sayers et al (2017) Present and future flood vulnerability, risk and disadvantage: A UK assessment. York: Joseph Rowntree Foundation
- Walker G (2012) Environmental Justice: Concepts, Evidence and Politics. London: Routledge
- Climate Just website: http://www.climatejust.org.uk

From inequality to injustice

- Can these inequalities be considered a *moral* problem – an issue of *injustice*?
  - The disconnect between those who are most responsible for 'causing' climate change and those who most suffer its consequences
  - The lack of choice of those who are most likely to suffer the greatest impacts of climate change – their vulnerability *imposed*
  - *Human rights*: climate change will violate human rights to rights to life, health, and subsistence

Climate change and procedural justice

Procedural justice concerns the justice of decision making procedures:

- Who has the power and voice in decisions?
- How do decision making procedures favour some groups over others?

- Smaller or less economically powerful countries often have the least voice and power in international climate change negotiations and policies
- Within nations, marginalised or deprived groups often have less political power and lower participation rates

What can be done?

Address climate change!

But also…

- Tackle the multiple inequalities that result in differences in sensitivity and adaptive capacity
  - Reducing deprivation; mobility schemes; information provision; building design; increased green space
- Target resources and adaptation strategies and measures need at the most vulnerable places
- Increase political voice of those most vulnerable
- Fundamental political-economic change?


NATURE DOESN'T DO BAILOUTS!
CLIMATE JUSTICE!
MOBILIZATION FOR
CLIMATE JUSTICE
ACTFORCLIMATEJUSTICE.ORG/WEST

Part 2: Conclusions

- Environmental problems are often experienced unequally
- At a variety of scales, climate change impacts are likely to be unequal – due to differences in **exposure** and **vulnerability**.
- This can be considered a particular *injustice*
- But the exact form of the inequality, and its underlying causes, is complex

Next time:

Week 10 – Health Geographies and Social Geographies

Twitter task:

Tweet a news story or report relating to *poverty*

#uom_ihg2