



**Professor of Energy & Climate Change** 





Let's start with the sheer scale of our failure

...consider the UK, a self-avowed 'climate-progressive' nation







Guardian graphic. Source: Total



use up ~40% of the UK's fair carbon budget

# HEATHROW AIRPORT EXPANSION IS ANNOUNCED IN THE HOUSE OF COMMONS

# ... but isn't the UK showing leadership?



"In 2017 emissions were 42% below 1990 levels, provisional 2018 figures are 44% below."





# UK plc. emissions virtually unchanged since 1990

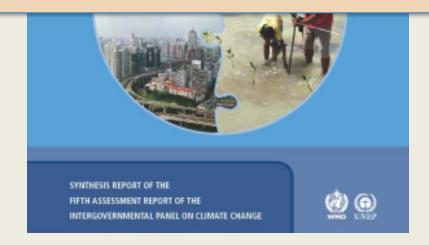
Include aviation & shipping, imports & exports

- just a 10% fall since 1990
- average 0.4% p.a. reduction





... it is carbon budgets, not long-term targets, that link with temperature rise



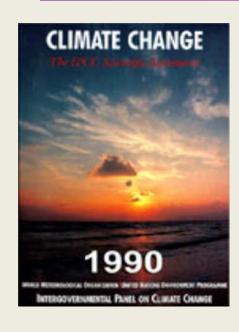
### Based on the IPCC's latest report ...

- To meet the Paris "pursue ... 1.5 °C" to "well below 2 °C" commitment
- From **2020** the global carbon budget (energy-only) is **~650GtCO**<sub>2</sub> (to 2100 & beyond)
- In 2018 global CO<sub>2</sub> emissions (from energy) were ~37GtCO<sub>2</sub>
- i.e. under **18 years** of current emissions

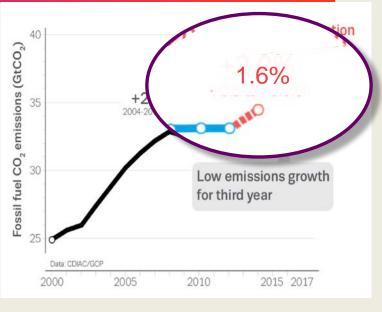




# Humility as a starting point for hope & action



- 1990: first IPCC report
- 2018: CO<sub>2</sub> 67% >1990
- ...still rising in 2018
- ...up by around 1.6%



29 years of abject failure in terms of reducing total emissions

# Thus far ... litany of technocratic fraud

- Partial accounting ... announced as world leading success
- Offsetting (& CDM) ... paying a poor person to diet for us
- Afforestation ... plant a tree, expand an airport
- Speculative 'negative emission technoligies' (NETs) ... at huge planetary scale
- Geo-engineering ... a sticking plaster on gangrene

#### ... we have not seriously tried to cut our CO<sub>2</sub>!

# ... failure writ large

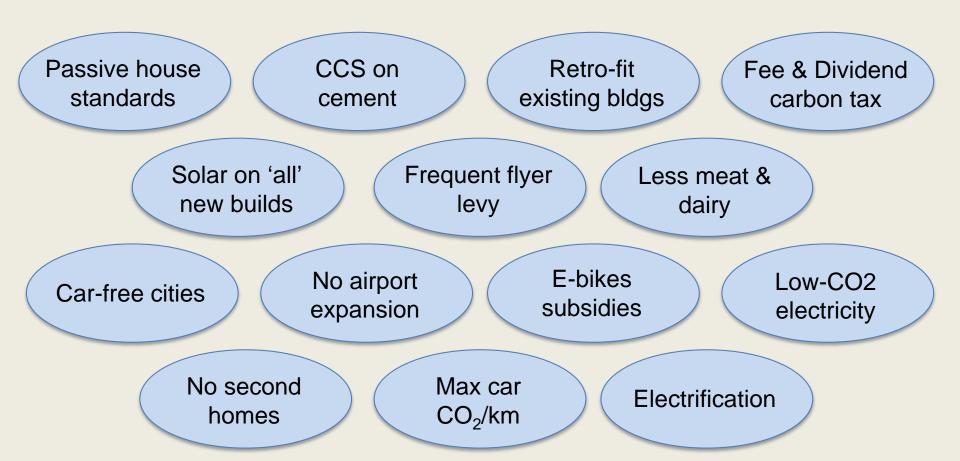


**Leonard Cohen** 

Ring the bells that still can ring Forget your perfect offering There is a crack in everything That's how the light gets in

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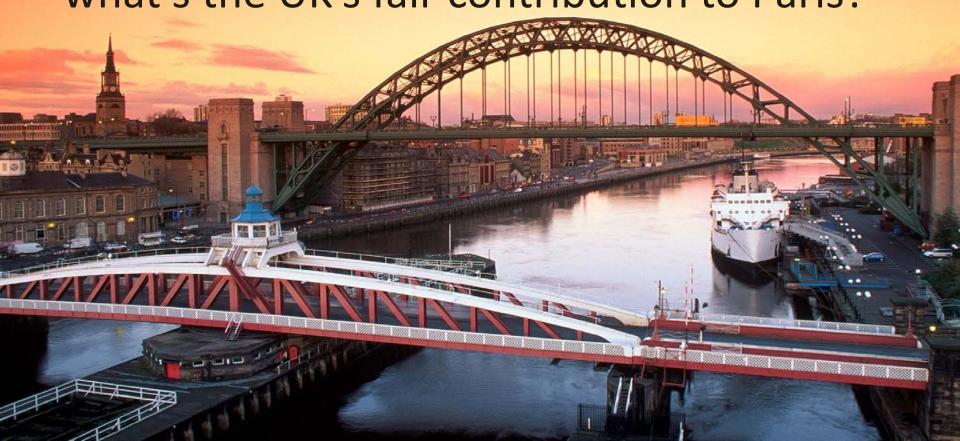
## Ring the bells that still can ring ...



## Forget your perfect offering



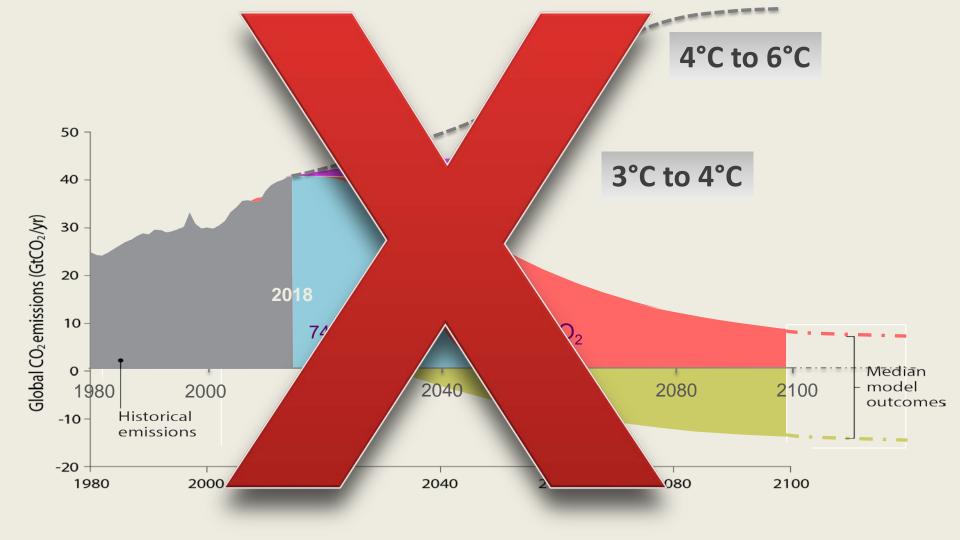




# To limit warming to a 1.5-2°C rise ...

...We need to understand:

the science & maths of climate change





... it's all about pies ...

## To meet the Paris 1.5-2°C commitment ...

we have a

global carbon pie

... to be split

equitably

amongst all nations



#### We estimate a Paris-compliant budget for the UK of:



... for 2020 to 2100 & beyond 1,2

i.e. under 9 years of current emissions\*



# Headline mitigation for the **UK**

- Need to reduce CO<sub>2</sub> at 10-13% p.a. starting now
- Over 30% by end of 2022, & 70% by 2030 (cf. with today)
- ~fully decarbonised energy by around 2035-40

i.e. immediate & profound system change

and declarated SYSTEM CHANGE AHEAD

Politicians

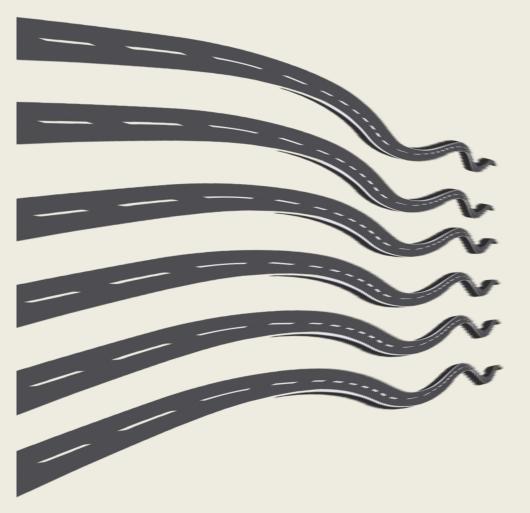
Scientists

**Academics** 

**Businesses** 

**Journalists** 

Civil society







# There is a crack in everything



#### Post-2008 – "cracks" in the fabric?

Banking crisis – QE resources quickly mobilised as markets fail to self regulate

**Social Media** – usurping the media barons' stranglehold

**Brexit & Trump** – the establishment being questioned and rejected by a 'new' constituency

**Arab Spring** – emergent people power

Plummeting price of renewables – & they continue to fall

Raising concern of health impacts of fossil fuels – even IMF engaged in fossil-fuel bashing

# That's how the light gets in



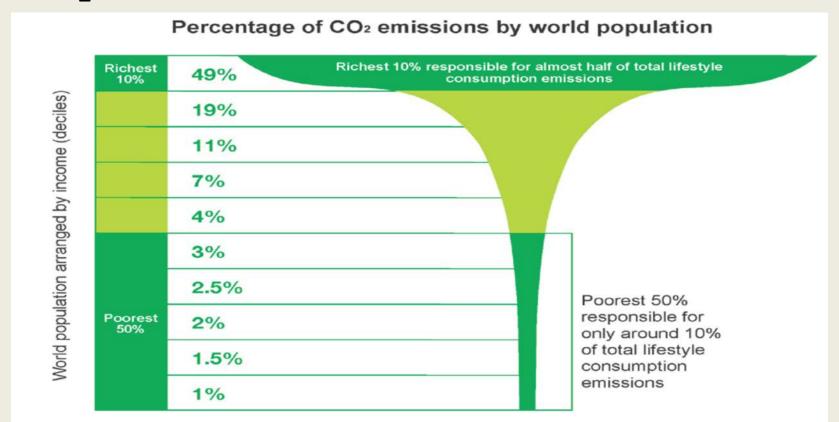
## That's how the light gets in





Twitter: @KevinClimate

# CO<sub>2</sub> is highly skewed towards the 'few'?



Global income deciles & associated lifecycle consumption emissions

# CO<sub>2</sub> is highly skewed towards the 'few'?

50% of CO<sub>2</sub> from 10% of the population 70% ...... from 20%

... but does this really matter?



# Imagine ...

- 1) Climate change was considered a serious (existential?) threat
- 2) Regulations force top 10% to cut their CO<sub>2</sub> footprint to the EU mean
- 3) The other 90% make no reductions

= 1/3 cut in global CO<sub>2</sub>

# An unavoidable 3 phase strategy to deliver Paris

### 1) Immediate & near term:

Profound changes in the energy behaviors & practices of high-energy users.

#### 2) Near to medium term:

Very stringent energy efficiency standards on all major end-use equipment

### 3) Medium to longer term:

Marshall-style construction of zero-CO<sub>2</sub> energy supply & major electrification



# An unavoidable 3 phase strategy to deliver Paris

### 1) Immediate & near term:

Profound changes in the energy chaviors & practices of high-energy users.

### 2) Near to medium term:

Very stringent energy efficiency standards on labour & resources

furnishing the relative luxuries of the hi-emitters

### 3) Medium to longer terms

Marshall-style construction of zero-CO<sub>2</sub> energy supply & major electrification



## A flavour of this shift in labour/resource allocation

#### From:

- Large houses, holiday homes, second homes
- Prestige cars; SUVs; Multiple car ownership
- Highly mobile lives; Frequent fliers; Business/First class travel
- High levels of consumer goods

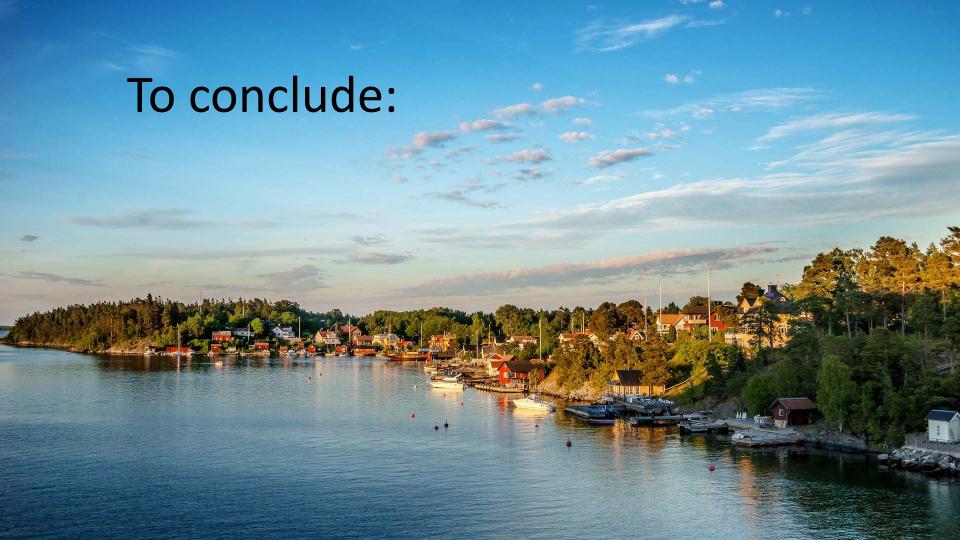
#### To:

Rapid transformation from fossil fuel to zero-CO<sub>2</sub> infrastructure



## We urgently need new narratives on ...

- what constitutes growth, progress, development?
- reframing values and rewarding success (if at all)?
- alternative relationships with time?
- genuinely embedding Intra/Inter equity
- & a deeper appreciation of the more-than-human world



## Climate change has become system change

As Einstein(?) noted:

... insanity is doing the same thing over and over again and expecting a different result.

Thus far we have chosen to pass on to our own children the consequences of 30 years of such insanity.

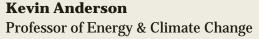


# But perhaps in 2019 times are changing?

Ring the bells that still can ring
Forget your perfect offering
There is a crack in everything
That's how the light gets in

**Leonard Cohen** 









#### The scale of action required if the UK is to deliver on its commitments enshrined in the Paris Agreement

... all starting January 2020, if not before!

- A moratorium on all new fossil fuel development
- An immediate phase-out of all fossil fuel production, to be complete by 2030-35
   with detailed polices of a just transition for those working in the industries
- A rapidly rising frequent flier levy to immediately slash how often the 'frequent fliers' fly
- No airport expansion
- No expansion of the road network
- The rapid move to car-free (including EVs) cities and towns
- A minimum emission standard on all new cars (max 100gCO₂/km & tightening at 8-10% each year)
- A tight emission standard on all power stations (a fleet level for all suppliers of 250gCO<sub>2</sub>/kWh, reducing at 8-10% each year)
  - A minimum & very stringent efficiency standard for all rented properties/homes
- All new houses and buildings to be passive-house standard and include onsite renewables
- A fair carbon tax (fee & dividend) or personal carbon allowance
- Major subsidies for E-bikes (paid from the Frequent Flier levy?)
- Stop all fossil fuel advertising
- Devolve responsibilities and powers to regions & cities to help deliver culturally-appropriate policies

### So ... what can we do?

- 1) Identify our big carbon impacts & try hard to reduce them ... but importantly talk about why & how we're doing this
- Engage with our university, place of work, local council, etc.
   ... make our arguments & suggest what they could do

3) Email our MP (cc. the relevant minister) about our concerns

... ask them why their actions do not meet their commitments

(& lend them support when they're doing the 'right' thing)



