

Local Climate & Sustainable Energy Solutions & 100 % Renewables in the United Kingdom Zero Carbon Britain UN Climate Dialogue 2020 Side Event November 26, 2020

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Proceedings: <https://www.inforse.org/cd2020.php3>
UNFCCC: <https://unfccc.int/cd2020/specialevents>

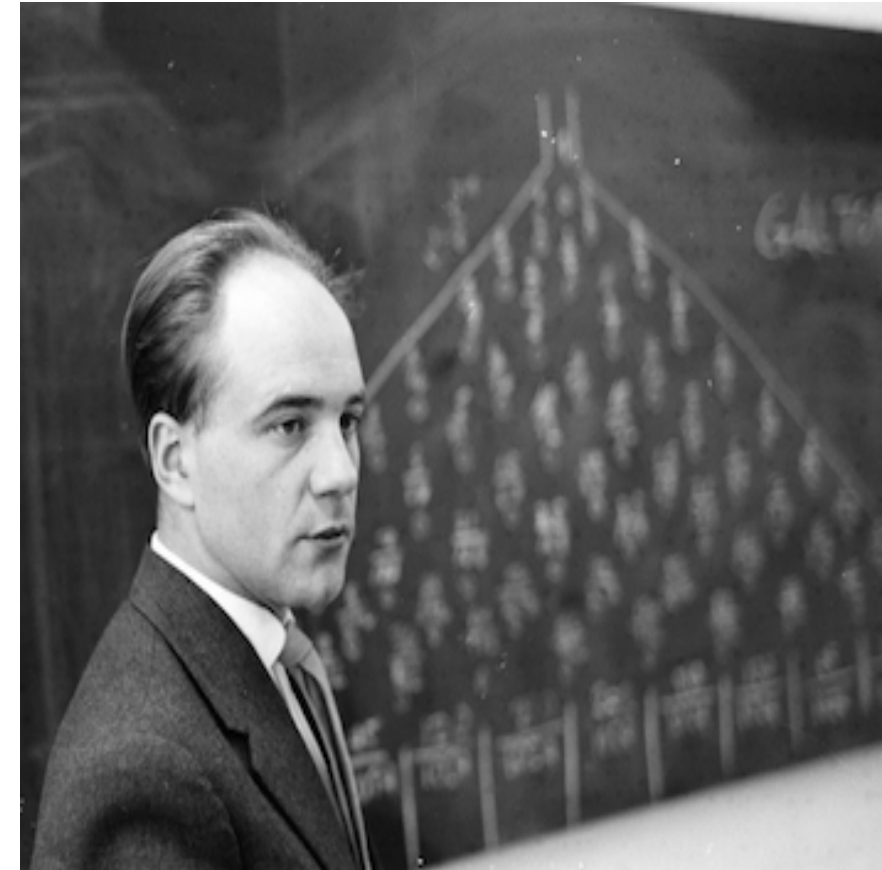


#ZeroCarbonBritain



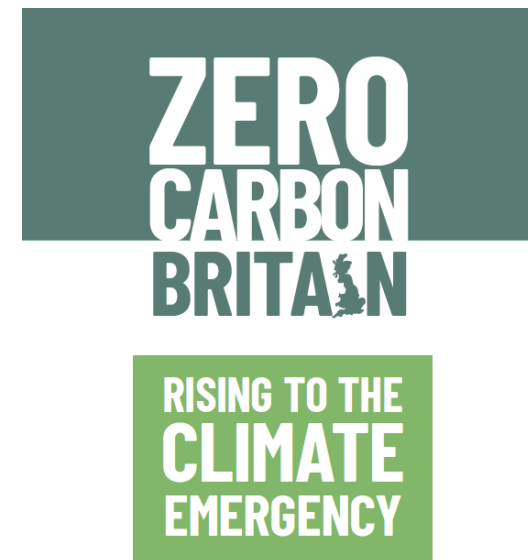
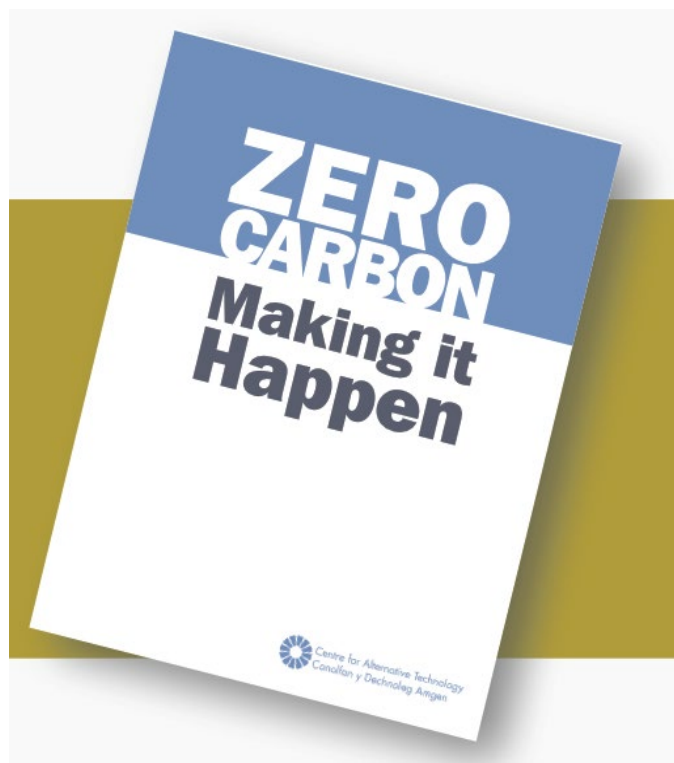
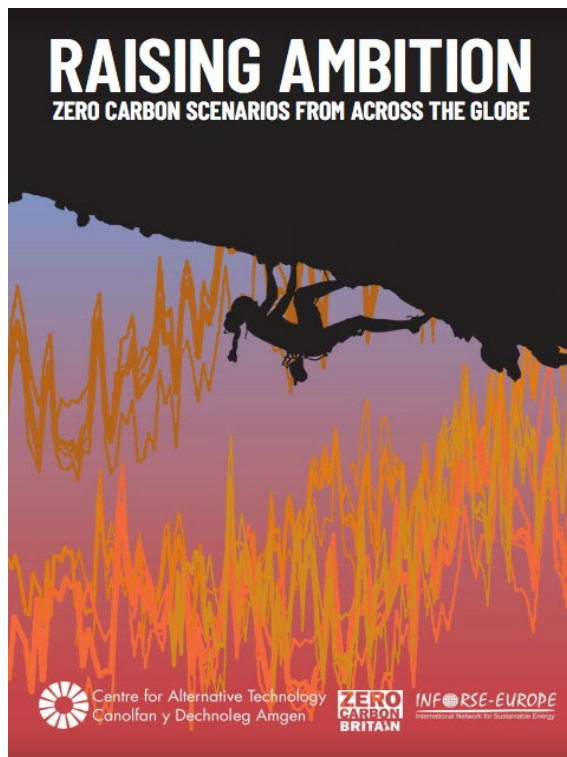
Wicked problems need wicked solutions

Back in 1973, design theorists
Horst Rittel and Melvin Webber
developed the term for problems
with many feedbacks
deeply ingrained in a system
no single solution





Wicked Solution 1 - evidence-based net zero visions un-leash new thinking



IF WE CAN'T IMAGINE
A POSITIVE FUTURE
WE WON'T CREATE IT



CLIMATE
DIALOGUES
2020

UN CD2020 Side Event: November 26, 2020 - INFORSE: Local Climate & Sustainable Energy
Solutions in East Africa Catalogue, South Asia Eco-Village Development ToT, 100% Renewables

INFORSE
International Network for Sustainable Energy



Power-down & Power-up

Through integrating a smart approach we can Power-down demand & Power-up a 100% clean energy supply for buildings, transport, energy & land-use, backed by natural carbon capture – so the UK's greenhouse gas emissions can be reduced to net zero.



Power down – smart use of energy:

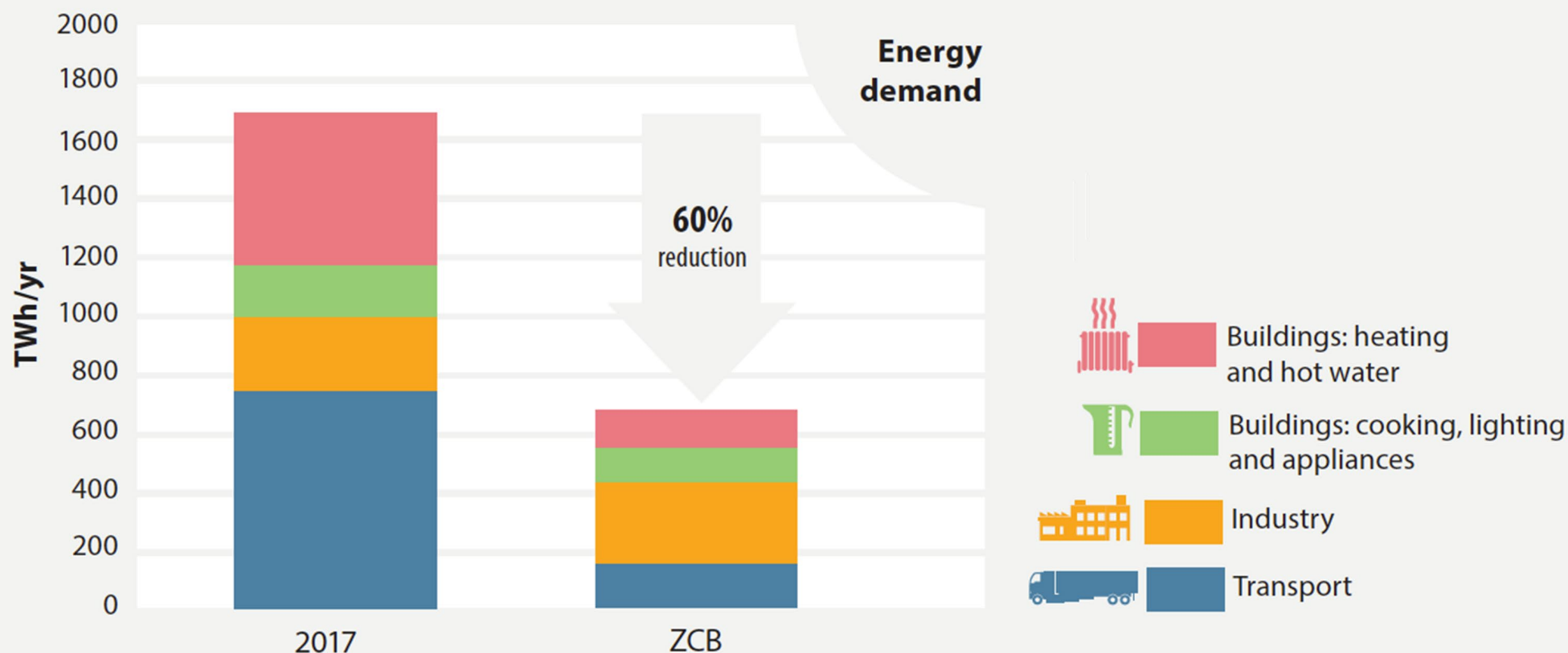


Figure 3.4: Total annual energy demand by sector in the UK in 2017 (BEIS, 2018) and in our scenario.

Power up – a new fuel mix:

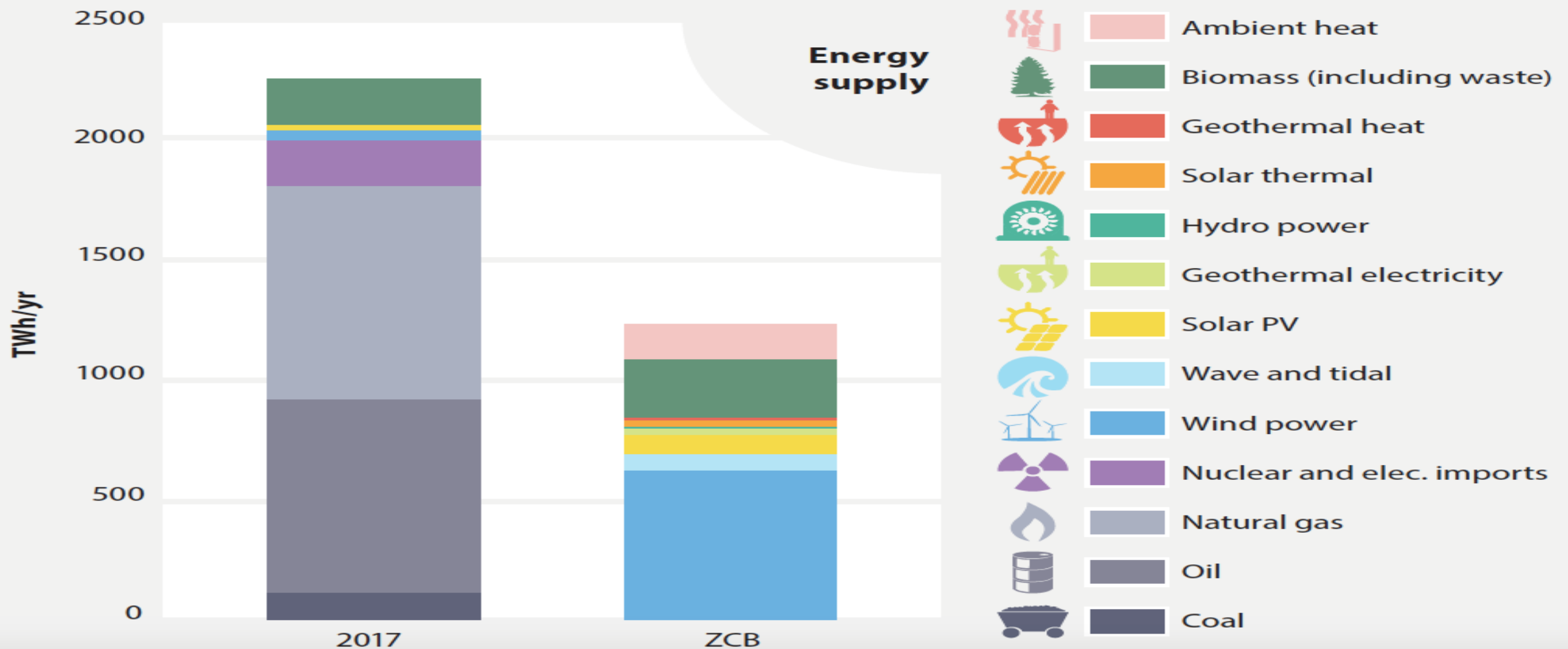


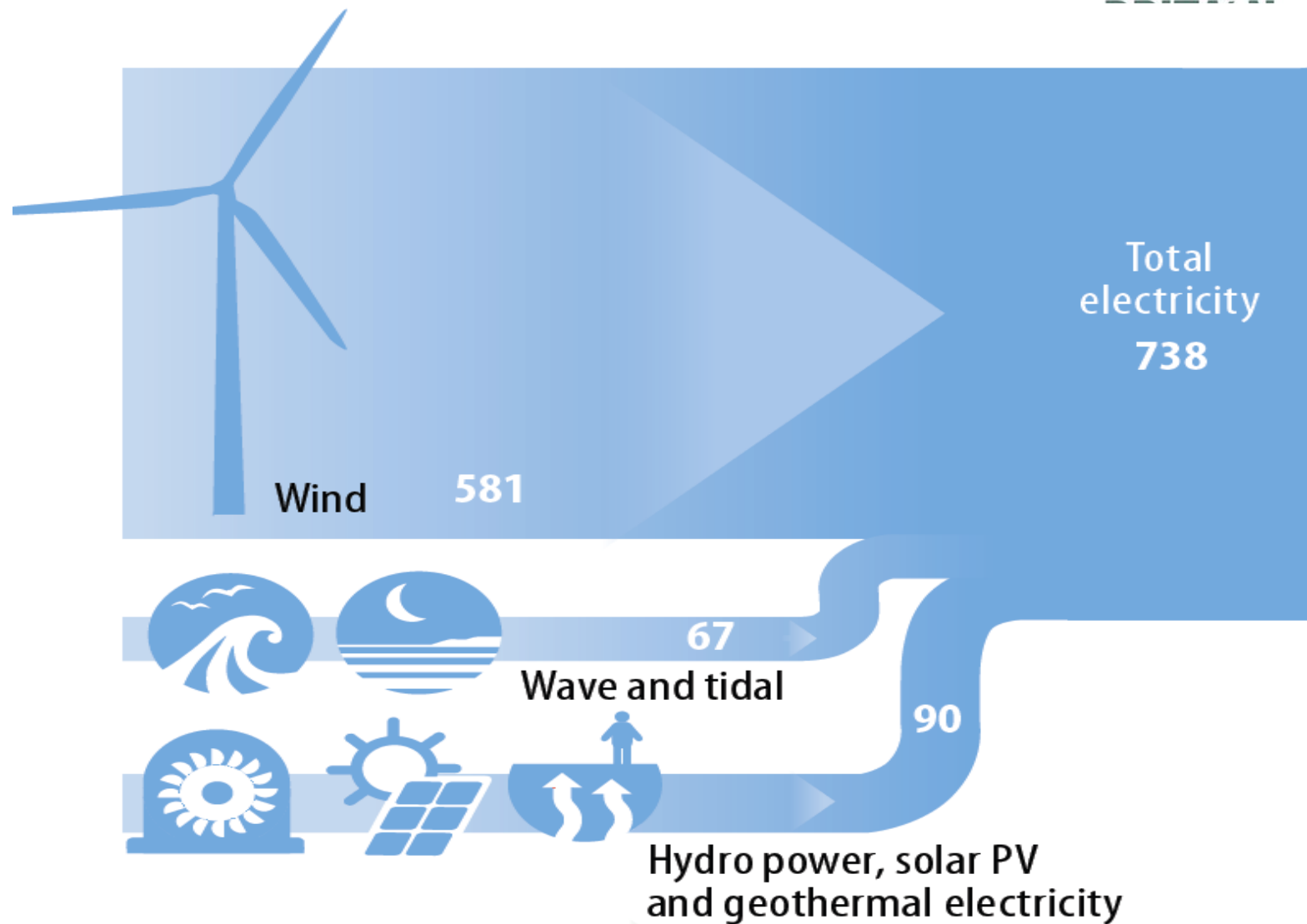
Figure 3.15: Energy supply in 2017 (BEIS, 2018a) and in our scenario



We can keep the lights on!

The ZCB Energy Model
uses ten years of real-
world hourly data from
2002 – 2011

87,648 hours



Management of supply & demand in a 100% renewable energy system is possible with existing technology

- 74% of the time, supply exceeds demand.
- 26% of the time, supply does not fully meet demand.
- Short-term storage & load shifting reduces this to 11%.
- Carbon-neutral synthetic gas power stations cover this.

But this requires re-thinking land-use...



A healthier diet can reduce emissions & capture carbon with natural systems!

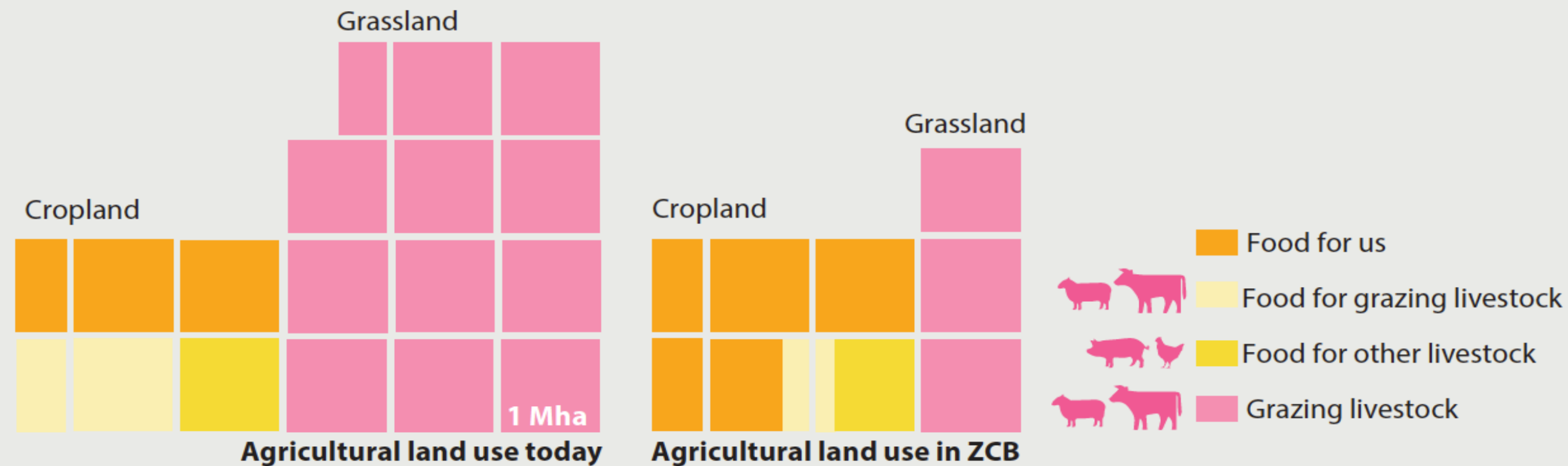


Figure 3.28: The area of cropland and grassland used for agriculture today (DEFRA, 2012) and in our scenario.



So we can go from this...

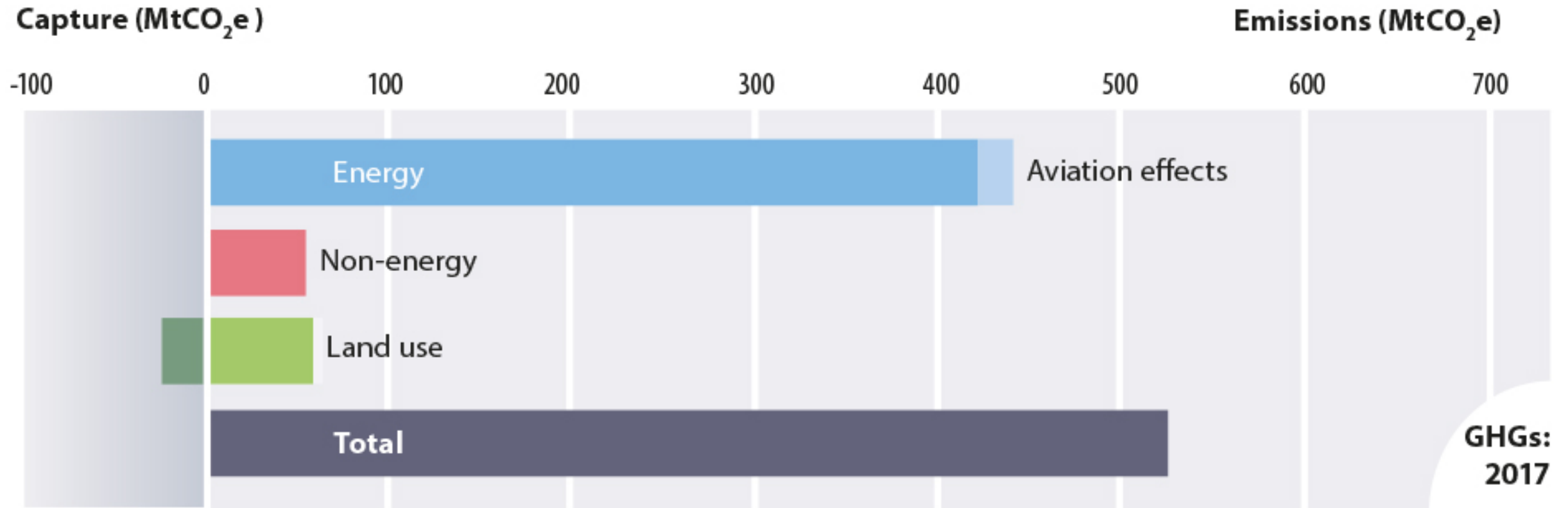


Figure 3.1: UK Greenhouse gas emissions in 2017, including international aviation and shipping, and the enhanced effect of emissions from aviation (BEIS, 2019).



... to this - Net zero is achievable!

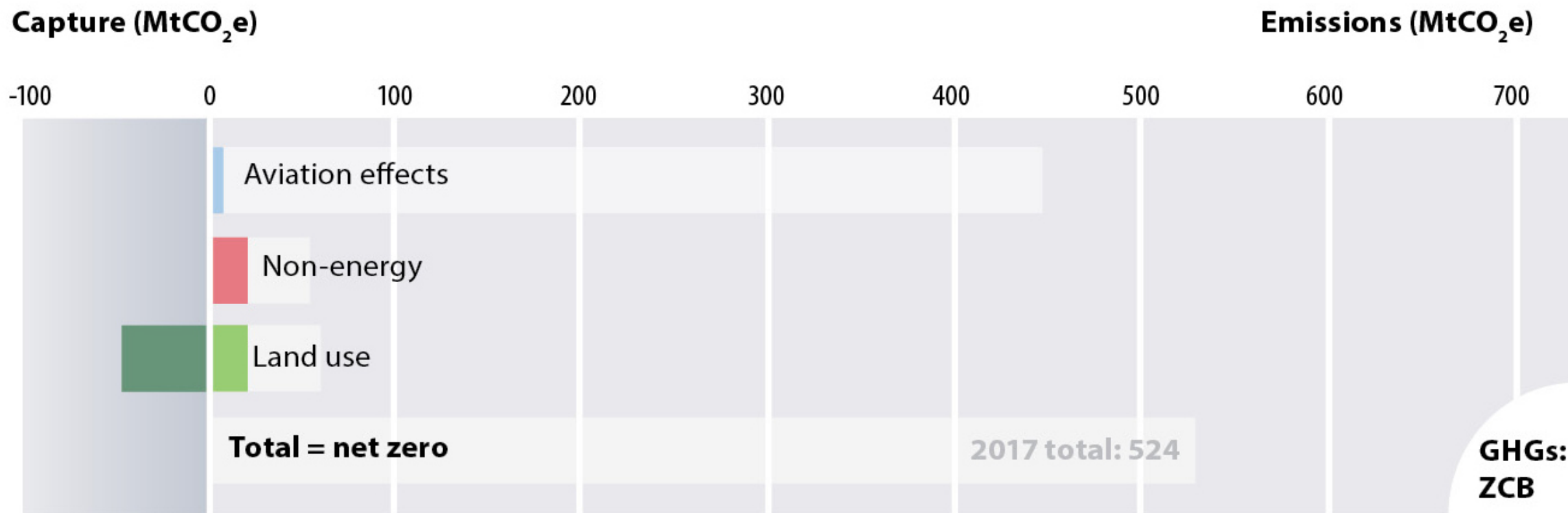


Figure 3.35: Carbon captured and greenhouse gas emissions for the UK in our scenario relative to 2017, including international aviation and shipping and the enhanced effect of emissions from aviation. Total emissions sum to net zero.

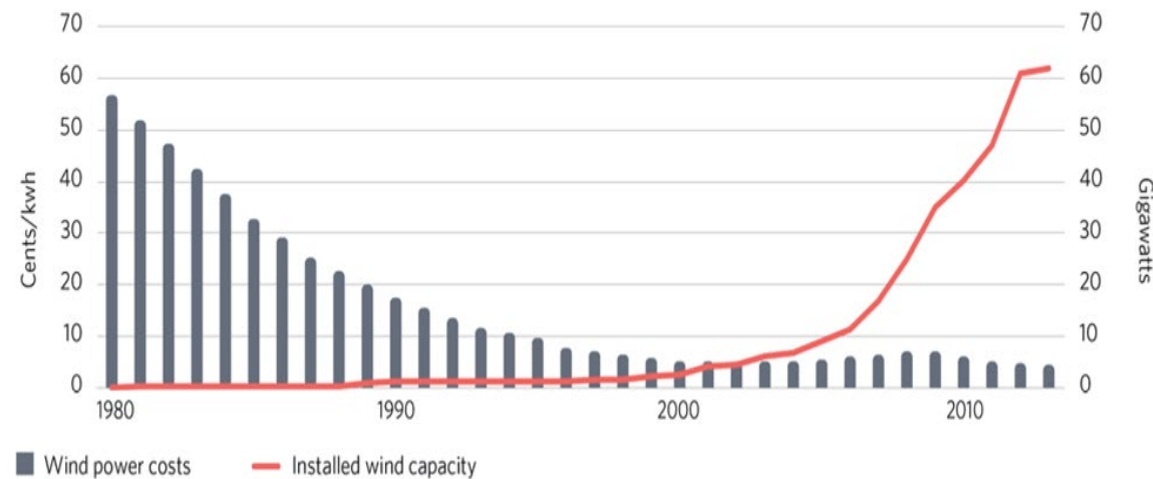


‘Wicked solution 2’ Costs are falling faster than experts predicted

Figure 1

Wind Capacity Increased as Prices Fell

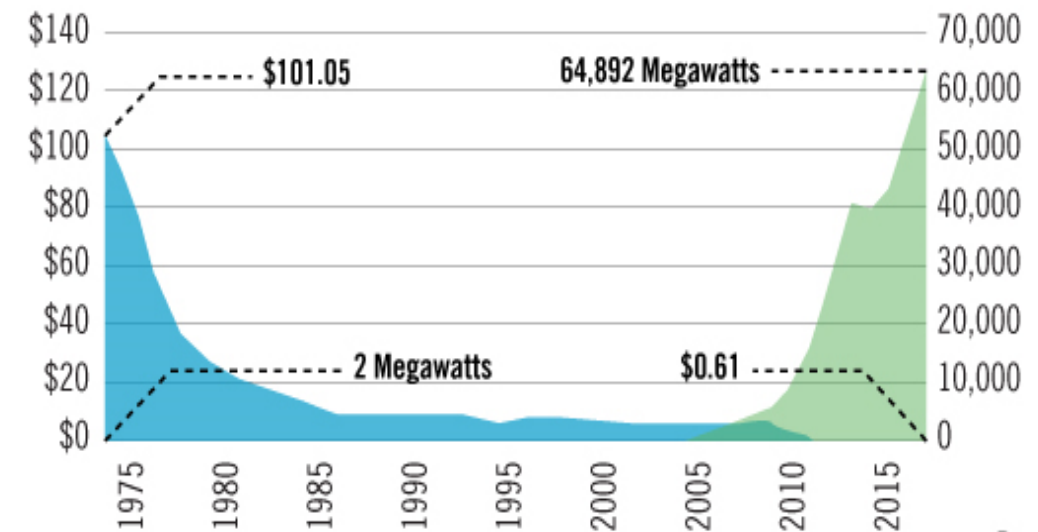
Land-based wind installations (in gigawatts) and cost (in cents per kilowatt-hour)



Source: U.S. Department of Energy

© 2015 The Pew Charitable Trusts

Price of a Solar Panel per Watt vs. Global Installations





‘Wicked solution 3’ New leadership is feeding back!





Declare a Climate Emergency

Go Zero Carbon by 2030

Local Councils Zero Carbon Britain Climate Change Resources Solutions Policy

DECLARE A CLIMATE EMERGENCY

Local councils can play a key role in leading the climate emergency response. Write to your Councillor & sign a petition.

UK GOVERNMENT & PARLIAMENT

Click to sign the Petition: Declare a Climate Emergency, end fossil fuel use and build community resilience

RENEWABLE ENERGY

Switch to renewables and take your money out of fossil fuels

Local Council News



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Local Councils

Zero Carbon Britain

Climate Change

Resources

Solutions

Policy

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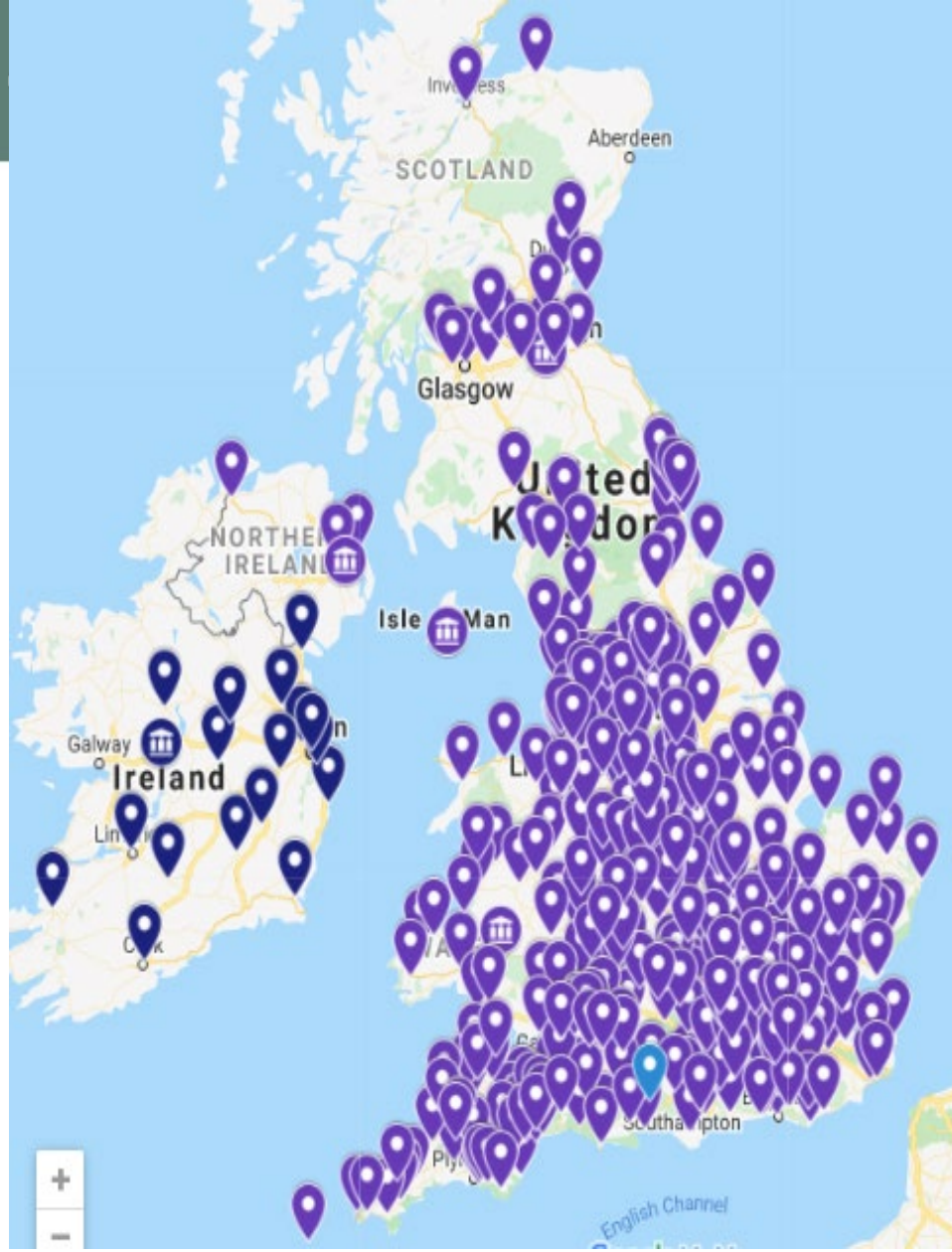
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Local Council News

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‘Wicked solution 4’

Real-life innovative projects are ready to go





‘Wicked solution 5’ – Multi-solving

Multi-solving – maximising the benefits beyond carbon





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**ZERO
CARBON
BRITAIN**

Thank You

