UKERC

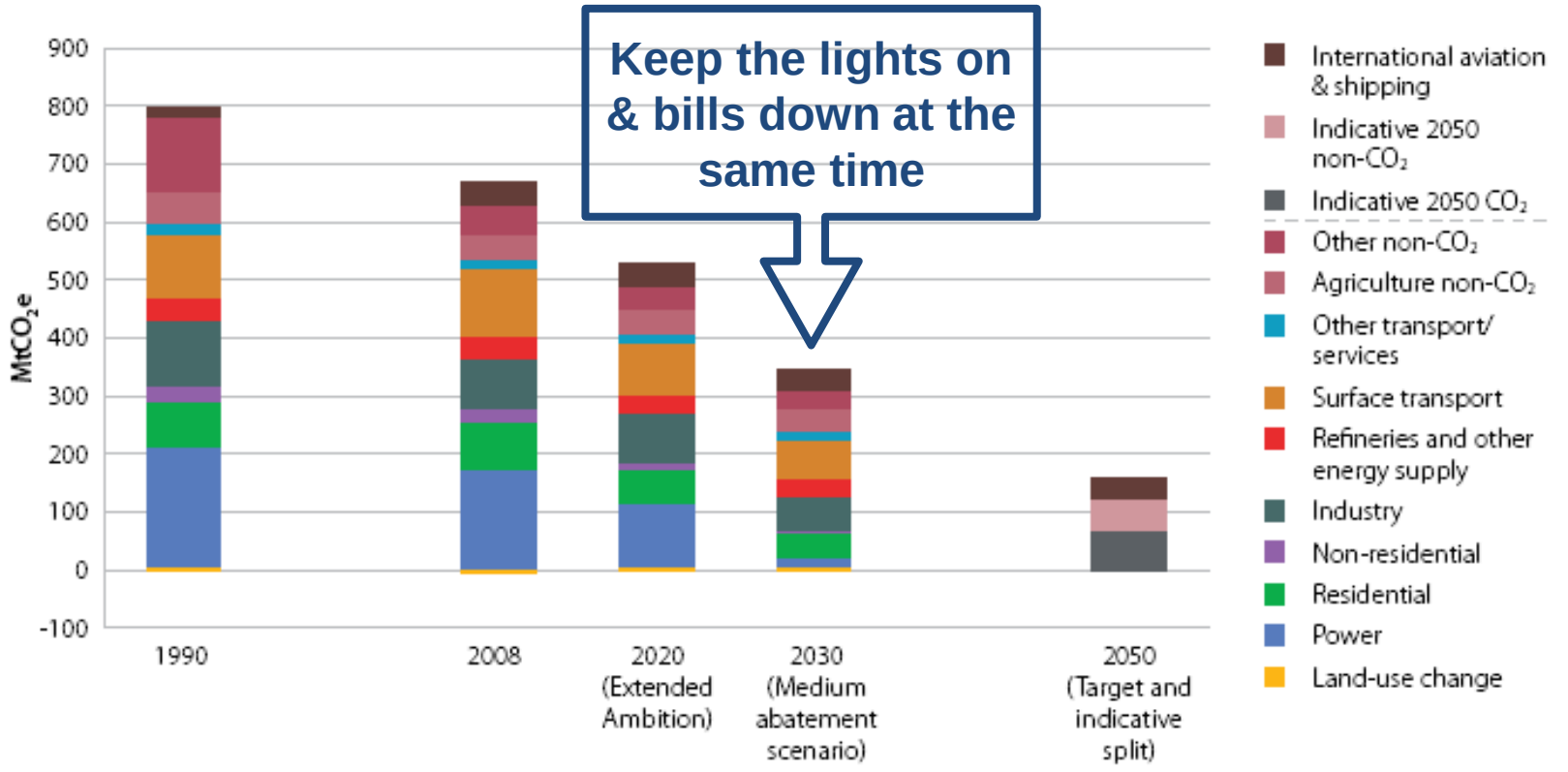
UKERC's research programme

Jim Watson, Research Director

November 2014

The UK's low carbon transition

Figure 3.13: UK greenhouse gas emissions (1990-2050)



Source: NAEI 2010, CCC calculations.
Note(s): Other transport/services includes CO_2 emissions from domestic aviation and shipping and agricultural energy use. Other non-CO_2 includes non-CO_2 emissions from waste, buildings, industry, energy supply and transport.

Source: Committee on Climate

Increasing politicisation

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Energy boss warns of blackouts as competition probe 'stops investment in power plants'

Centrica chief executive says energy giant is unlikely to invest in power plants needed to keep the lights on while under investigation by the top competition watchdog

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24 September 2013 Last updated at 17:37

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Ed Miliband: Labour would freeze energy prices

COMMENTS (2104)

Labour would freeze gas and electricity bills for every home and business in the UK for 20 months if it wins the 2015 election, Ed Miliband has said.

Ed Miliband: "Britain can do better than this"

The big energy firms would be split up and governed by a new tougher regulator to give people "a fairer deal".

Labour says the move will save average households £120 and businesses £1,800 - but cost the energy giants £4.5bn.

But energy companies said the policy could lead to power shortages, and jeopardise investment and jobs.

Labour conference 2013

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Cameron considering manifesto commitment to curb onshore turbines, senior party source says

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The UK Energy Research Centre

The UK Centre for …

- Policy-relevant
- Independent
- Excellent
- Interdisciplinary
- Energy systems

… research and engagement

UKERC

UKERC Phase 3: key features

Shift to a 'hub and challenge' model

UKERC phase 3 'hub' (£14m) includes:

- Core headquarters (HQ) functions, including activities on behalf of UK energy research community as a whole
- Core 'whole systems' research programme, structured into six problem-focused themes
- Flexible research fund (~£4m): open calls for proposals, overseen by independent Research Committee

Additional 'Research Challenges' will be commissioned separately. The first Challenge has been announced.

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UKERC phase 3 research programme

2004–09: What does a decarbonised the UK energy system in 2050 look like?

2009–14: Making it happen: how can decarbonisation by 2050 be achieved?

2014–19: The UK energy transition in an uncertain world: challenges and trade-offs

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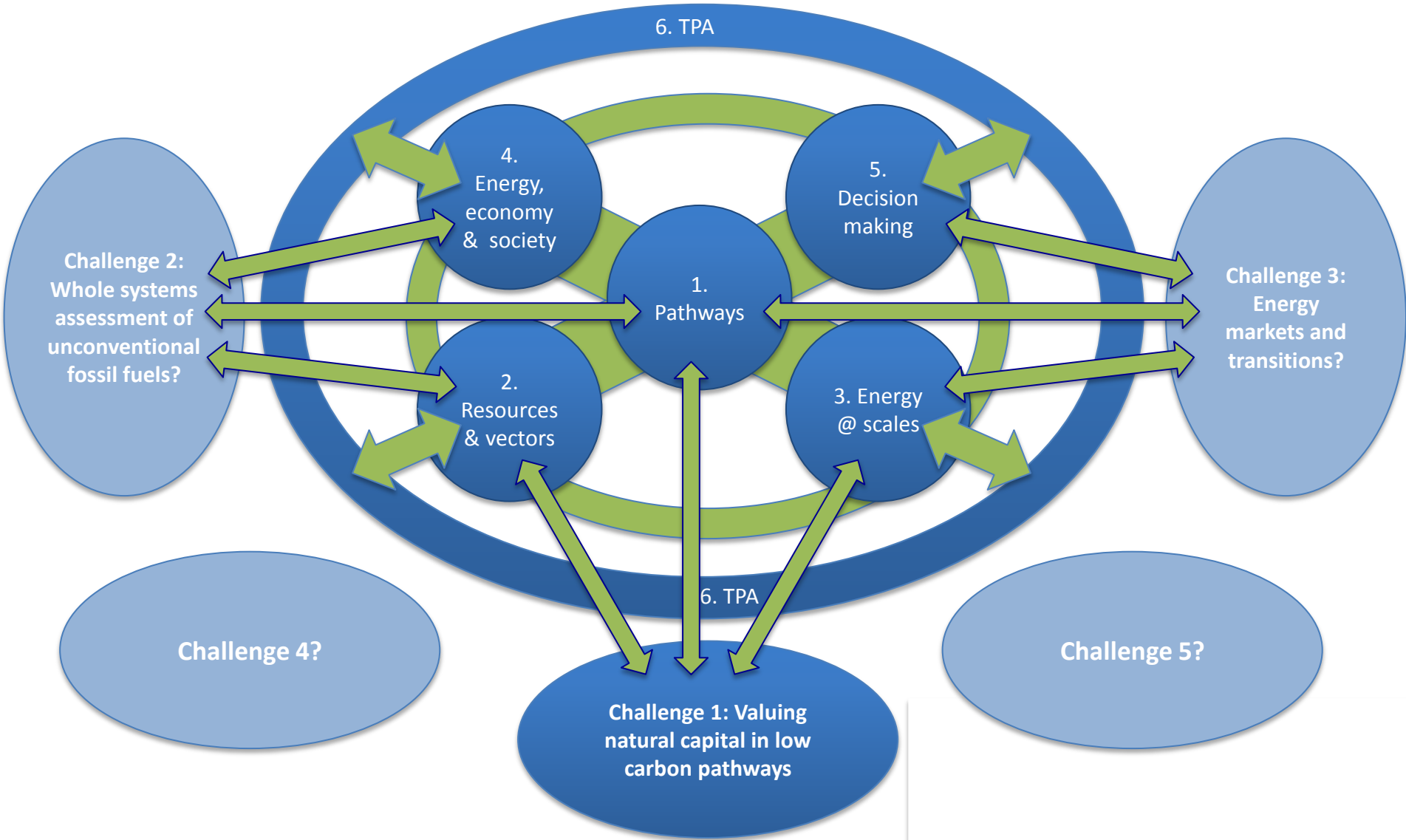
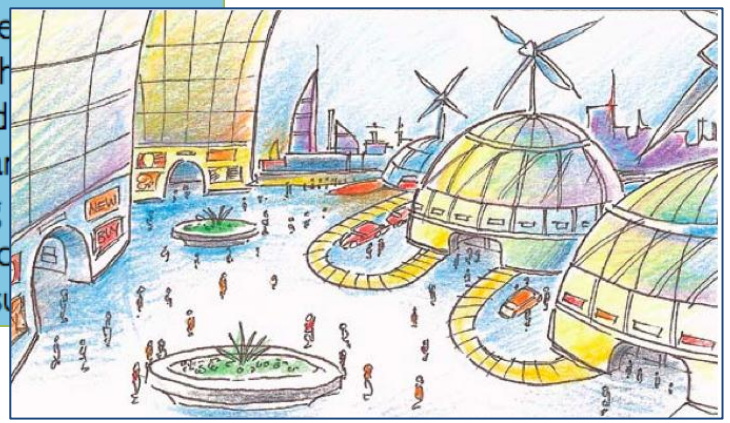
UKERC phase 3 research programme

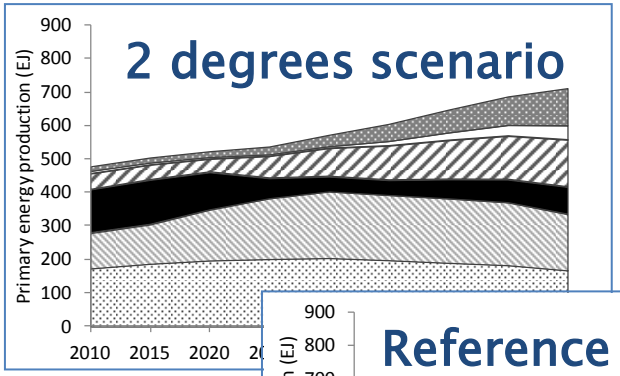


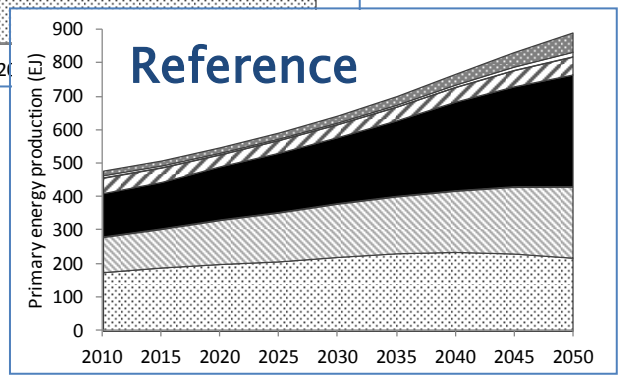
Exploring diverse energy pathways

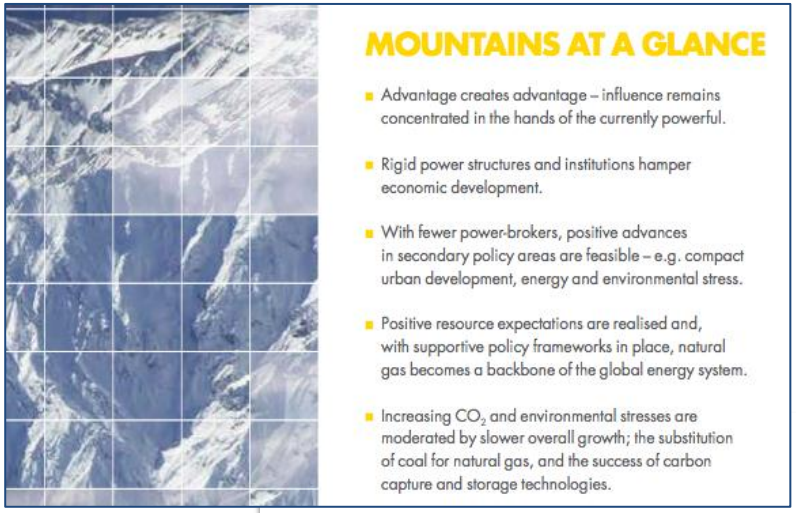
Resourceful Regions

This is a world in which political trust has diminished on a world scale bilateral trade continues. Most UK energy comes from fossil fuels with being focused on the optimisation of existing systems. These are used efficiently than in the past, but the focus is more on energy security ar of fuel. English sub-regions have a high degree of autonomy, matching Wales. In situations of resource scarcity, regional trade in fuel carries c leverage. Some regions do deals with overseas countries on energy su

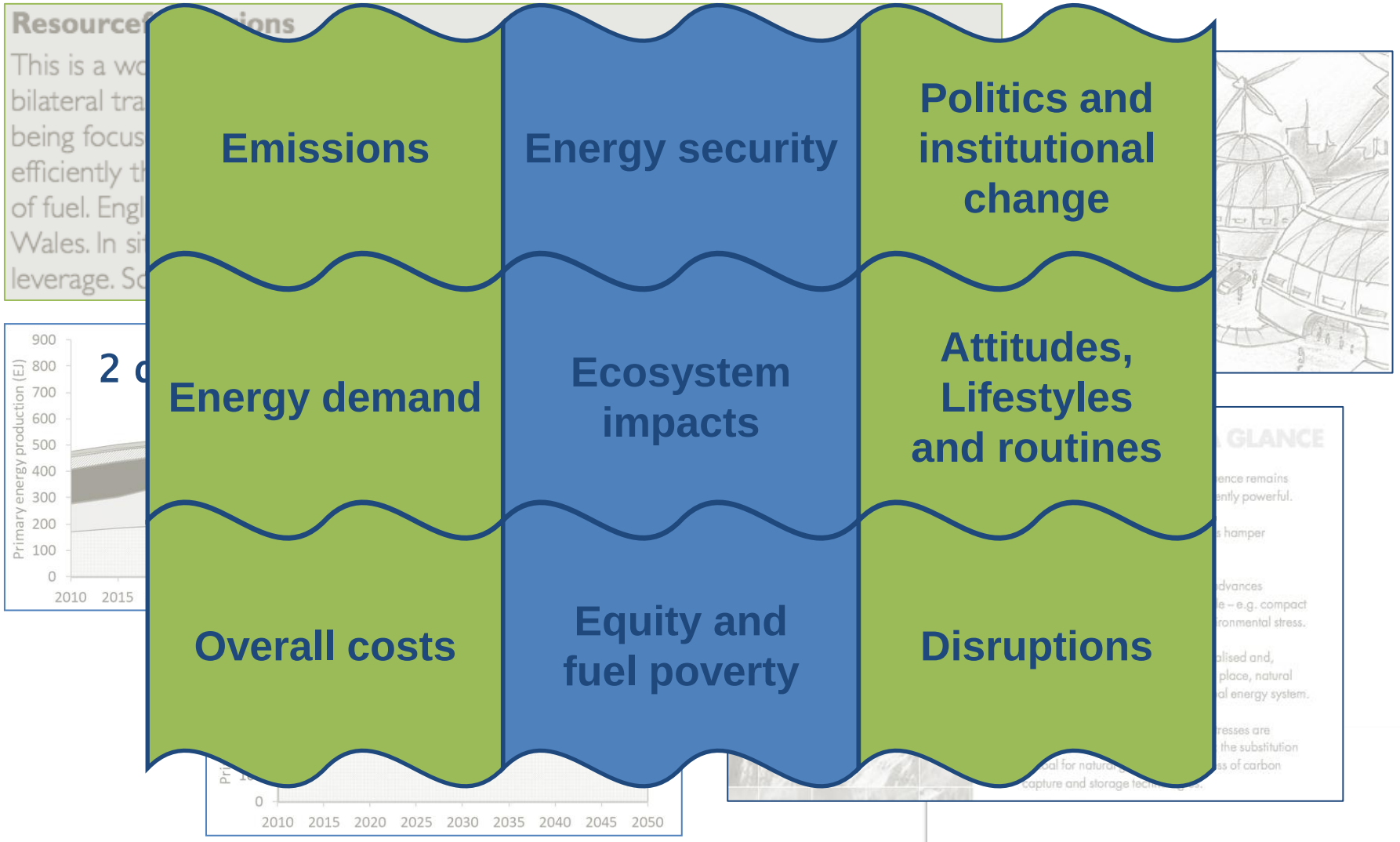




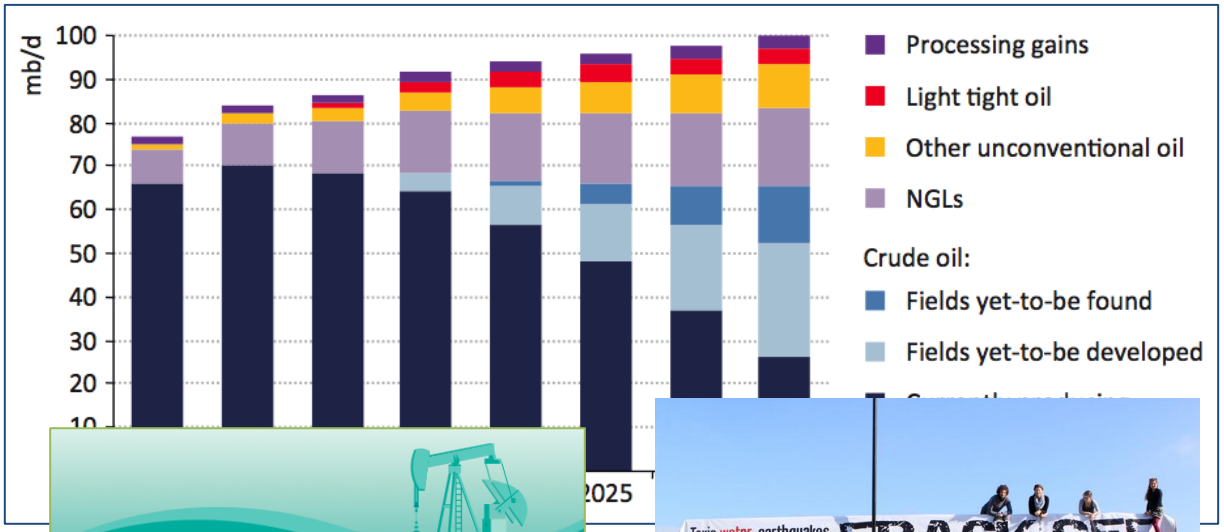


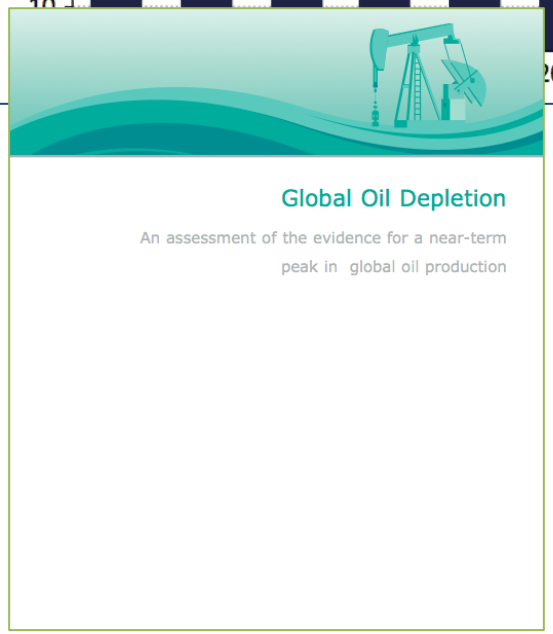


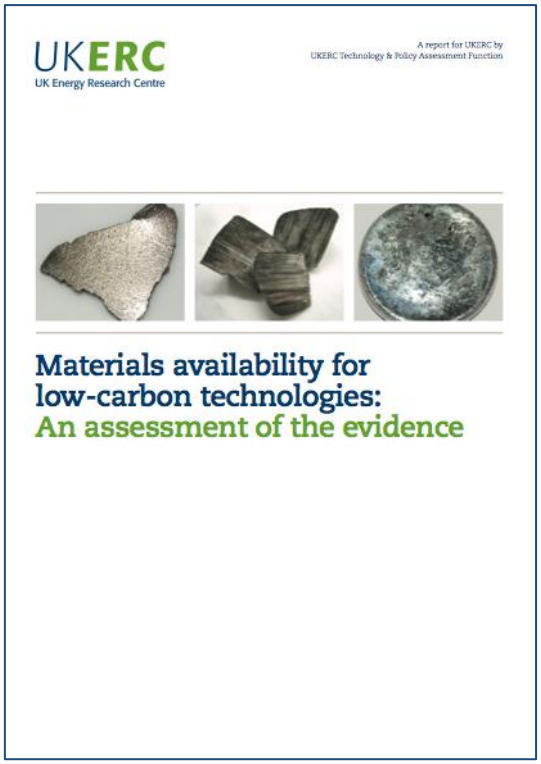
Exploring diverse UK energy pathways



Resources for energy systems







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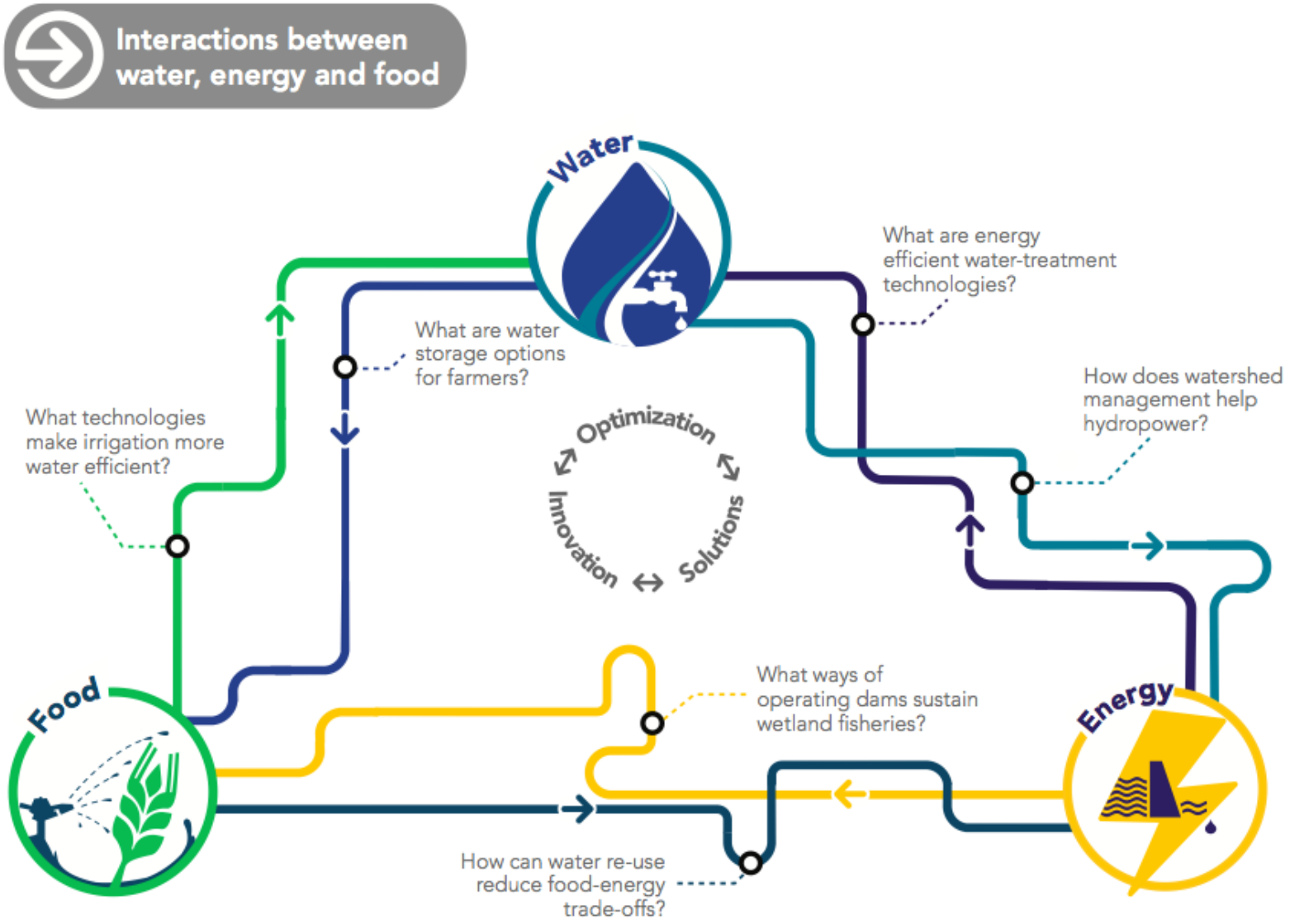
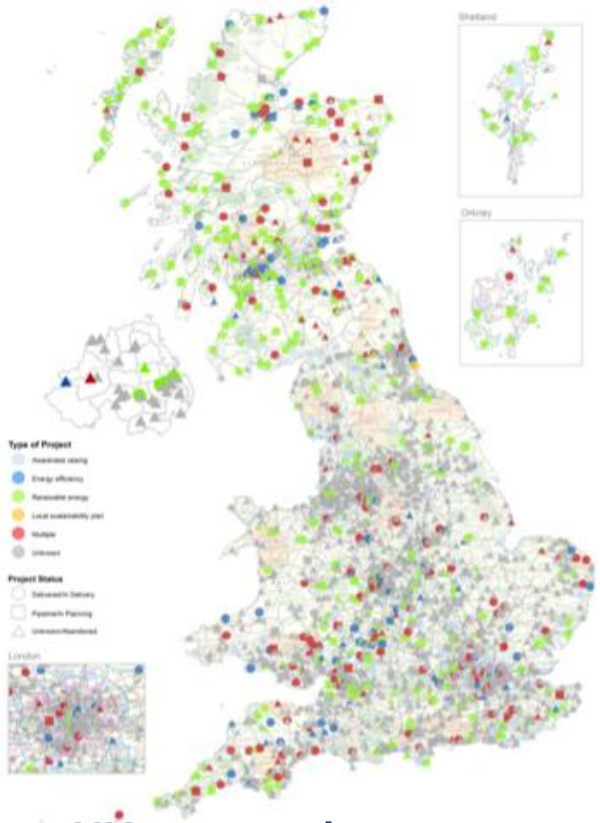
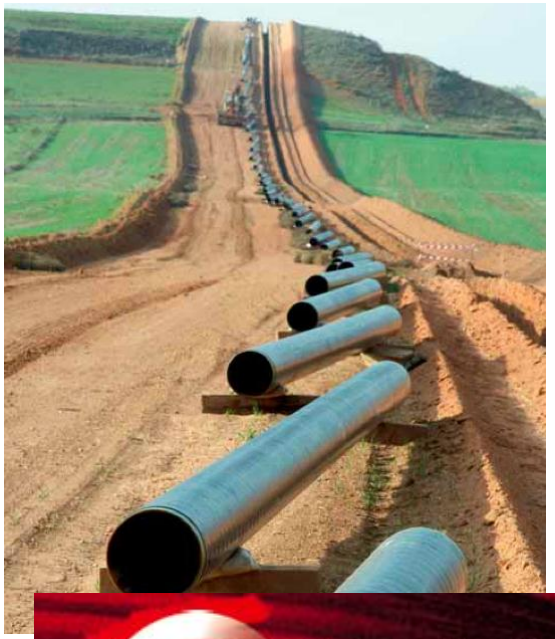


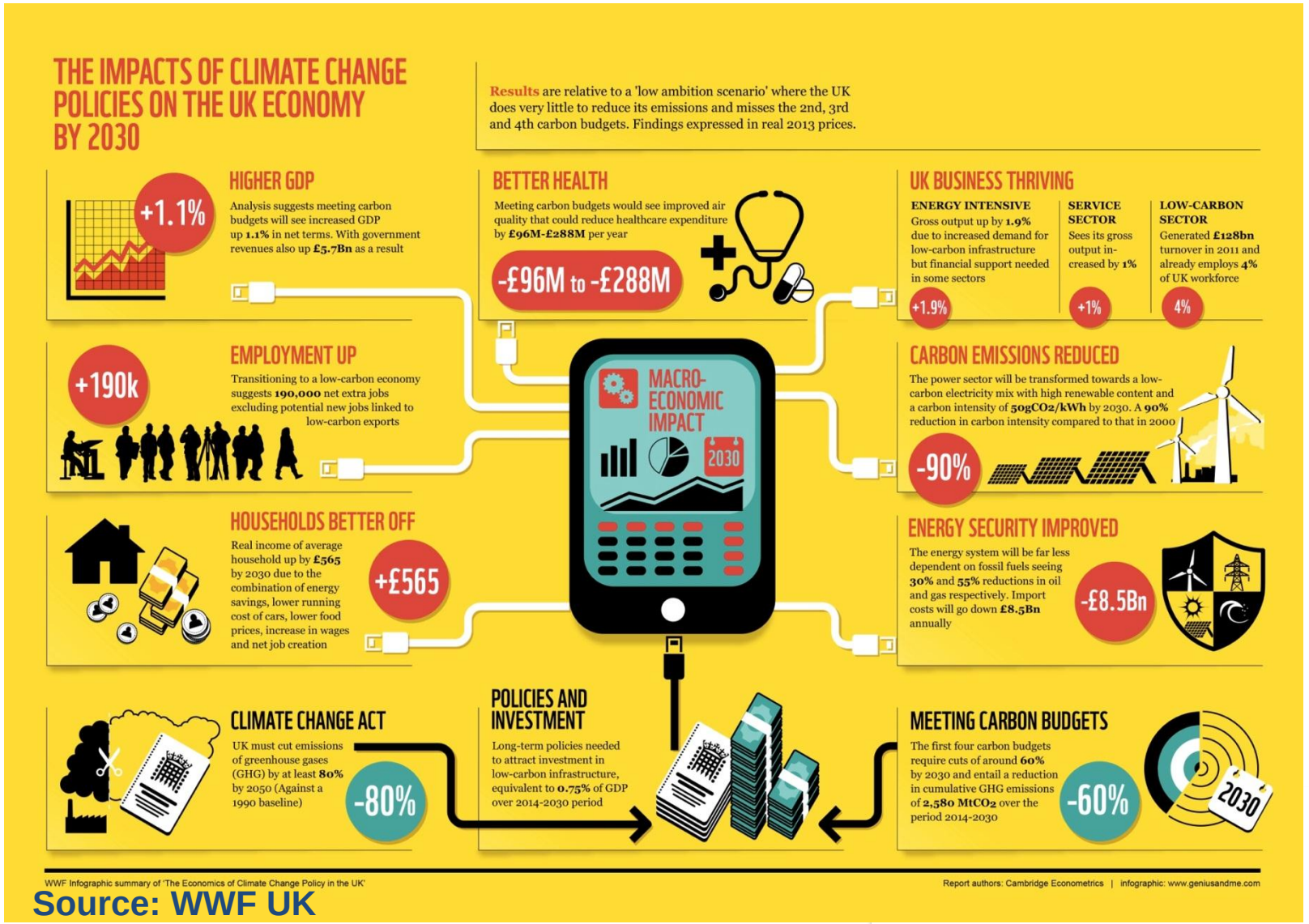
Energy systems at different scales



UK community energy projects (DECC)

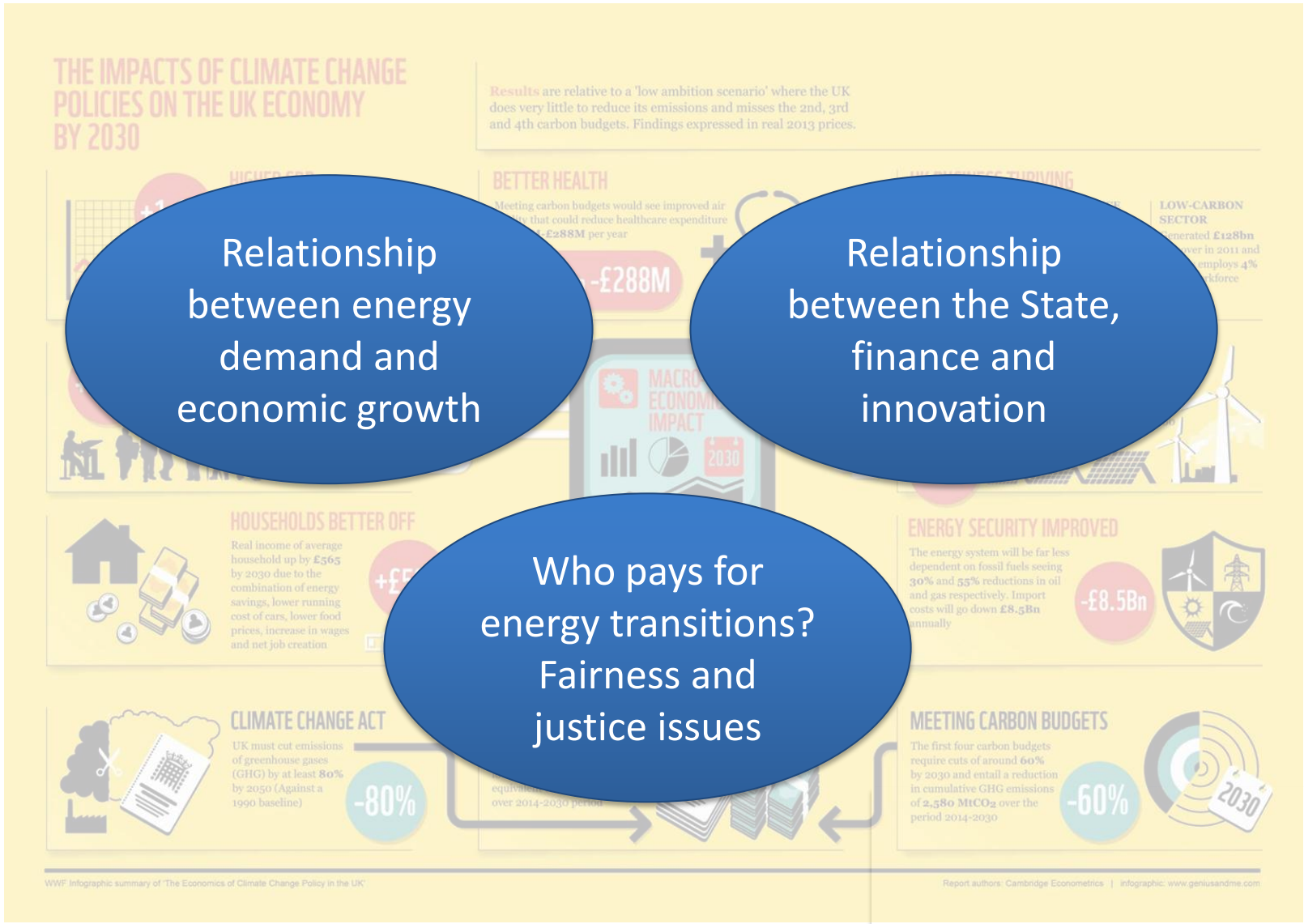


Energy systems and the economy



Source: WWF UK

Energy systems and the economy

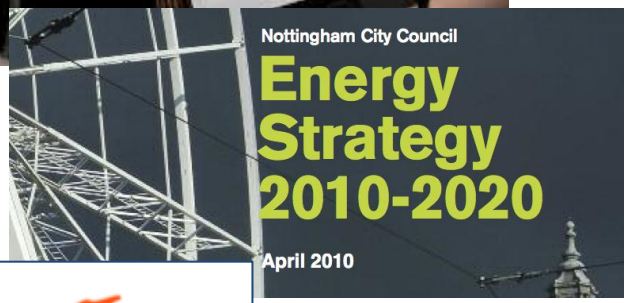


Relationship between energy demand and economic growth

Relationship between the State, finance and innovation

Who pays for energy transitions? Fairness and justice issues

Decision-making in energy systems



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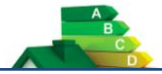

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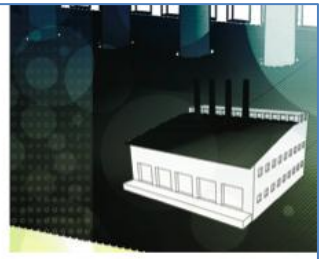

An Energy Insight briefing paper

Carbon Emission Accounting – Balancing the books for the UK

Summary

- Nearly 20 years of climate change policy has failed to reduce greenhouse gas (GHG) emissions linked to economic activity in the UK.
- Although the UK has met its Kyoto obligations, this has been achieved largely by outsourcing production and relying on importing consumer products from abroad to meet growing consumer demand. As UK consumer demand has continued to grow, so have the GHG emissions embedded in imported goods.
- If the UK is to measure its overall contribution to changes in global GHG emissions, consumer emission accounting offers a sound method for attributing GHG emissions.
- Increased transfer of low-carbon technologies to producer countries, even when technology transfer does not form part of any international GHG emissions reduction agreement, will help those countries to reduce their emissions and thereby contribute to a true global reduction.
- "Framework conditions" to encourage sustainable consumption might involve government intervention in areas such as prices, providing infrastructure for a sustainable lifestyle, and public engagement.

Greenhouse gas emissions: is hitting the targets enough?

As the UK has already met its Kyoto obligations, it appears to be a leader in the effort to curb greenhouse gas (GHG) emissions. But all is not what it seems. The Kyoto Protocol reductions only take into account "territorial emissions", or GHG emissions generated within a country. Emissions related to international shipping, aviation and the embedded emissions in imported goods and services are excluded from the calculations.

This accounting procedure hides the fact that the reduction in UK GHG emissions has been achieved mainly by outsourcing production and meeting the increasing demand for consumer products by imports from abroad. It also reveals that the UK has failed to decouple economic growth from GHG emissions. As a result increasing UK demand for consumer goods and services means GHG "imports" will also increase. There are no binding agreements to regulate this growth. Following the 2010 UN Climate Change Conference in Cancun, Mexico, this UKERC *Energy Insights* paper, based on research by Professor John Barrett (University of Leeds) and his research team, summarises the situation and suggests ways for the UK to achieve a "real" reduction in GHG emissions.

Phase 3 Flexible Research Fund

- Key aim is to expand the diversity of researchers, disciplines and institutions involved in UKERC
- Will play an important 'bridge building' role, developing links with other research domains, groups and centres
- Projects like to vary in size, and could include both original research and synthesis / integration projects
- Priority topics are being identified through extensive consultation process: town meeting in June 2014
- Series of targeted calls for proposals, from spring 2015
- Oversight by independent research committee, a sub-committee of UKERC's advisory board

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Thanks

http://www.ukerc.ac.uk

https://twitter.com/watsonjim2