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Energy policy priorities for an uncertain future

Jim Watson, UKERC

Is There a Plan? UK Energy Policy for the 2020s
BIEE Policy Conference, London, 21st Sep 2017

Energy policy priorities for an uncertain future

1. An uncertain future: optimism vs pessimism
2. What are the current policy priorities?
3. Mitigating uncertainties through policy:
   - Review of energy costs
   - Energy security
   - Managing the risks of Brexit

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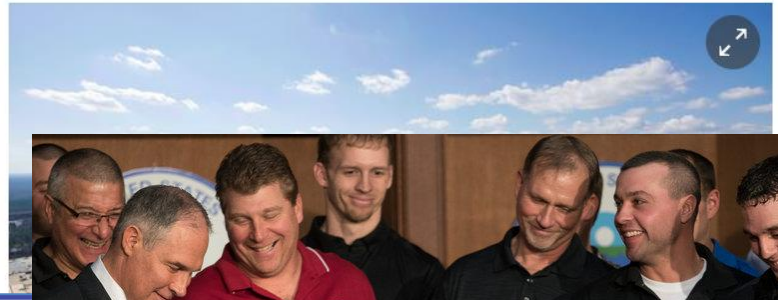
No shortage of uncertainty

Energy industry

Westinghouse bankruptcy move casts shadow over world nuclear industry

Plight of US firm, which has technology in about half world's reactors, deals blow to building of new plants



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Wednesday 29 March 2017 09.20 BST

The Telegraph

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Robots will take a third of British jobs by 2030, report says

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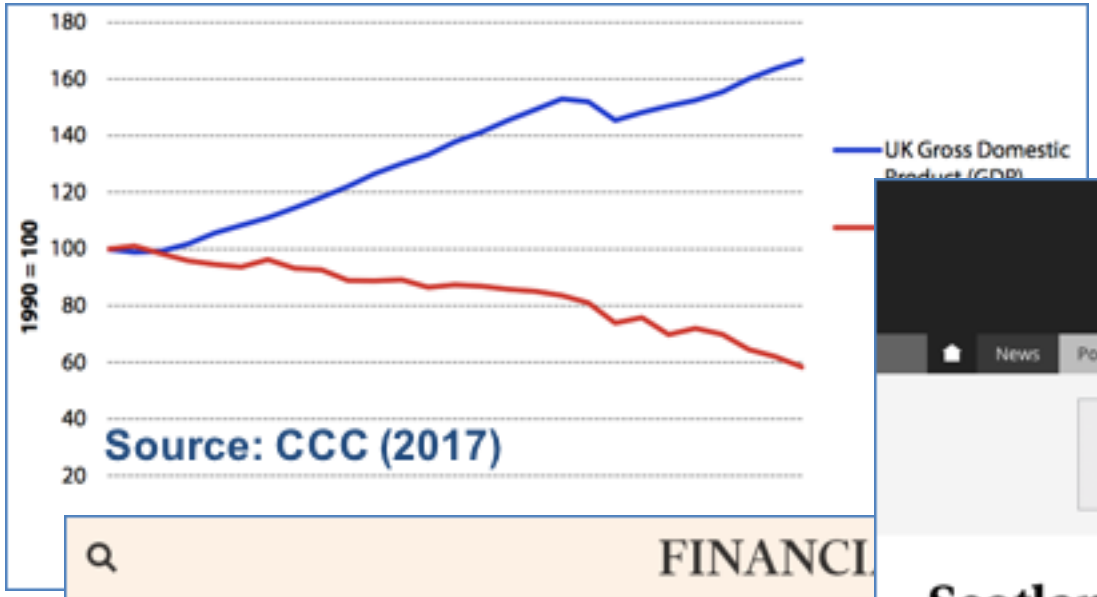
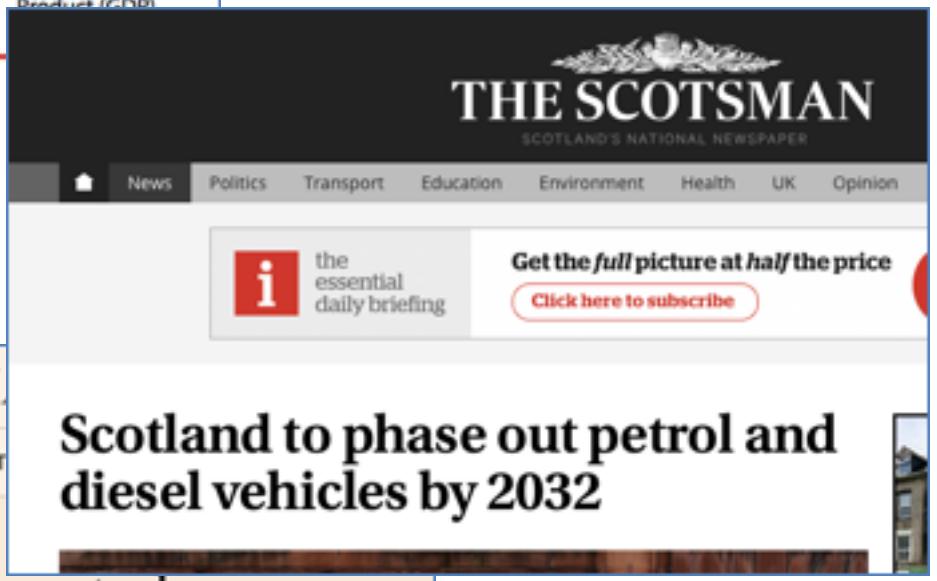
Some reasons for optimism





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Current policy priorities

‘The carbon targets need to be met, whilst concurrently ensuring security of supplies of energy, in the most cost-effective way …

The specific aim of this review is to report and make recommendations on how these objectives can be met in the power sector at minimum cost and without imposing further costs on the exchequer’

Terms of Reference, Cost of Energy review, Aug 2017

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Cost of Energy review

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David Cameron reportedly tells aides to 'get rid of the green c**p'

David Cameron has reportedly told ministers to scrap the "green c**p" driving up household energy bills

David Cameron Photo: STEFAN ROUSSEAU/PA

By Peter Dominiczak, Political Correspondent
8:04AM GMT 21 Nov 2013

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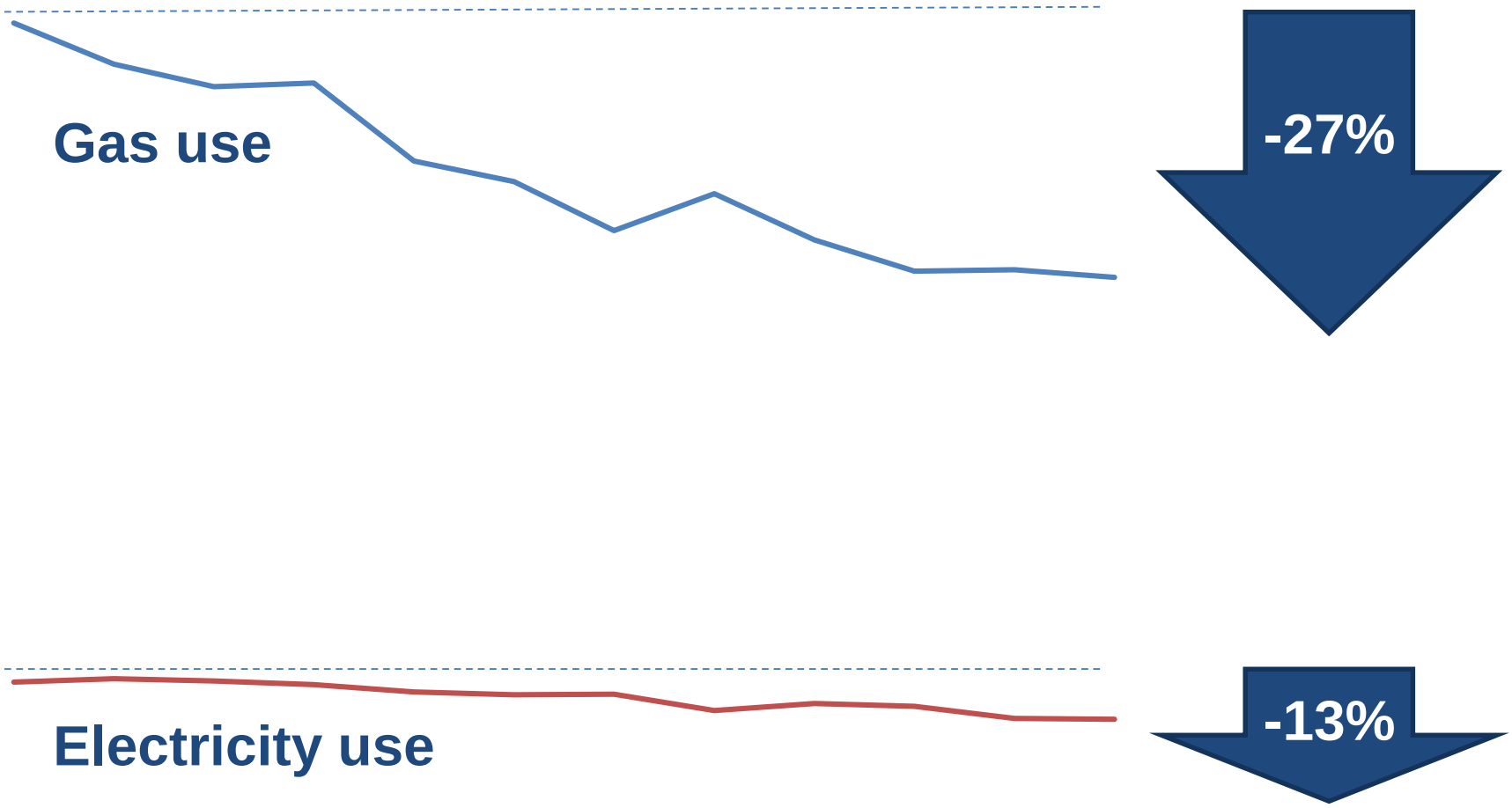
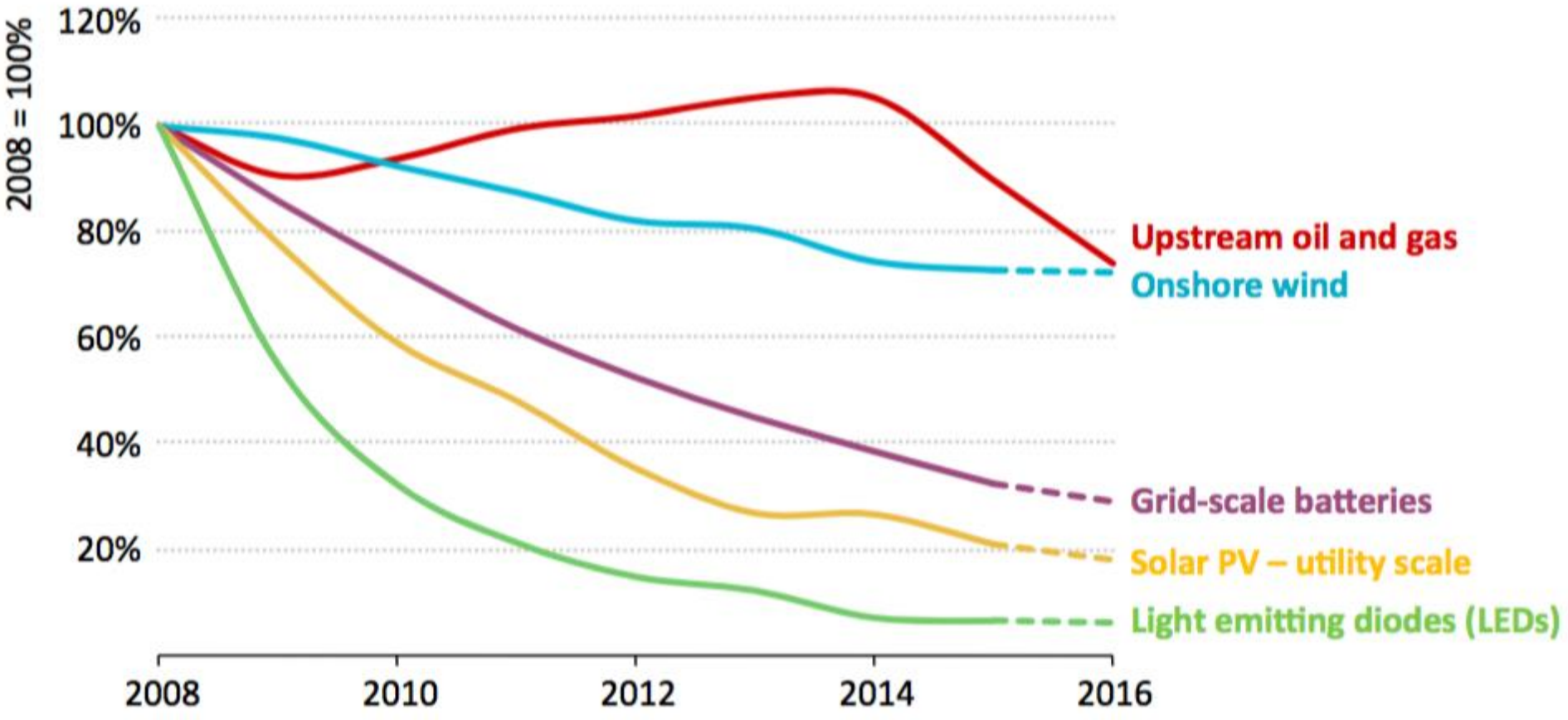
Central role for energy efficiency



Central role for energy efficiency

Source: UKERC and CIED (2017)

Innovation & technology cost reductions
Global trends



Cost deflation has affected diverse technologies across the energy spectrum

Source: IEA World Energy Outlook (2016)

A systems approach to costs

UKERC evidence review on costs and impacts of intermittency (2016 update):

- At 30% share of intermittent renewables, UK-relevant balancing and reliability costs less than £10/MWh
- As the costs of renewables fall, system costs will become increasingly important
- Range of forecast integration costs very wide: costs for flexible electricity systems likely to be relatively modest
- Policy, regulation and markets should reward flexibility. If not, costs may be much higher than they need to be

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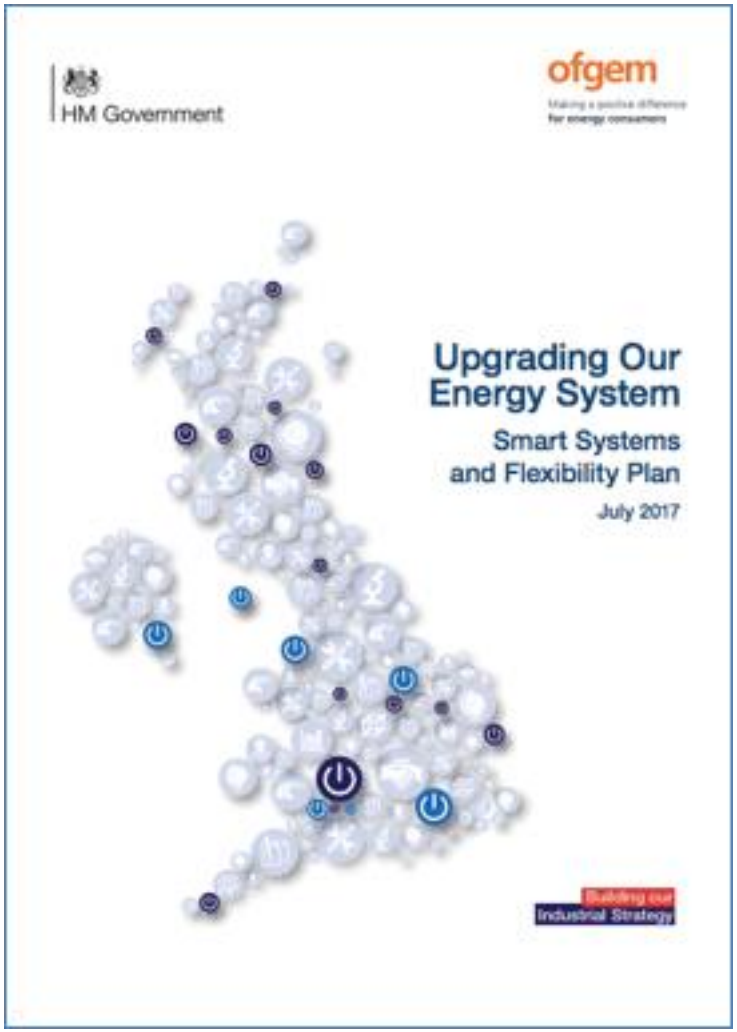
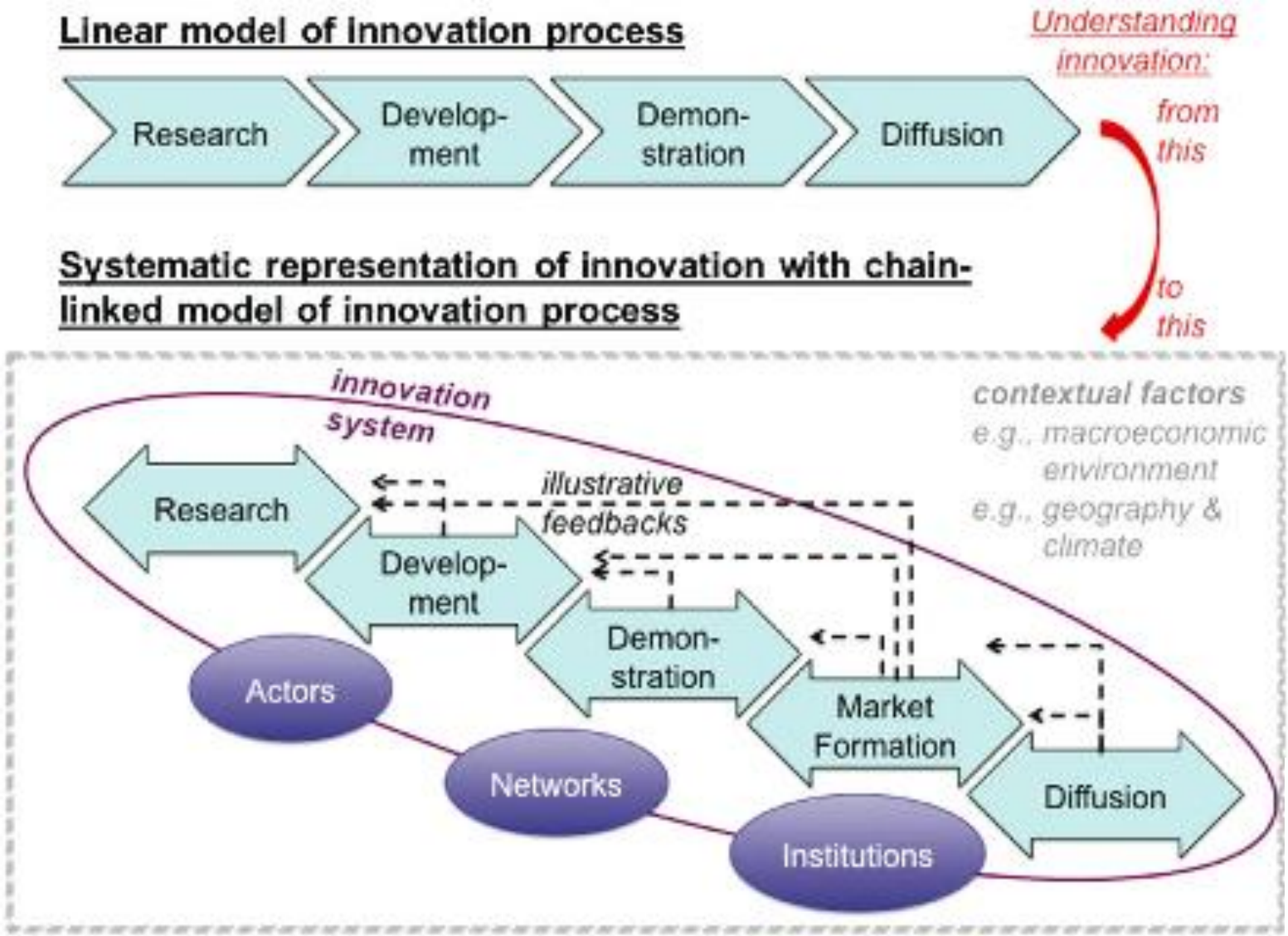
A systems approach to costs
(21st century edition)



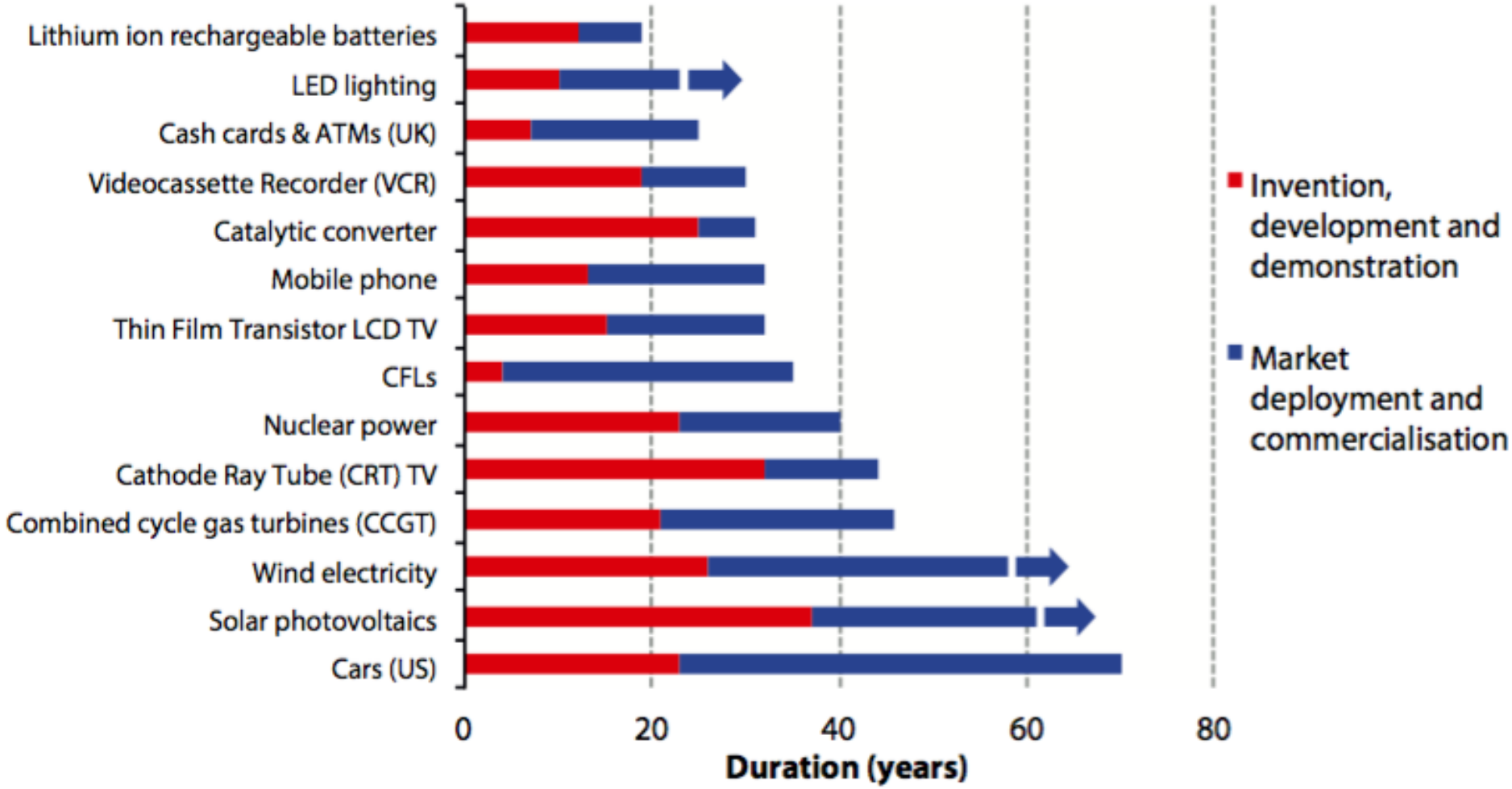
What role for R,D&D?



Source:
Global Energy Assessment

What role for R,D&D?

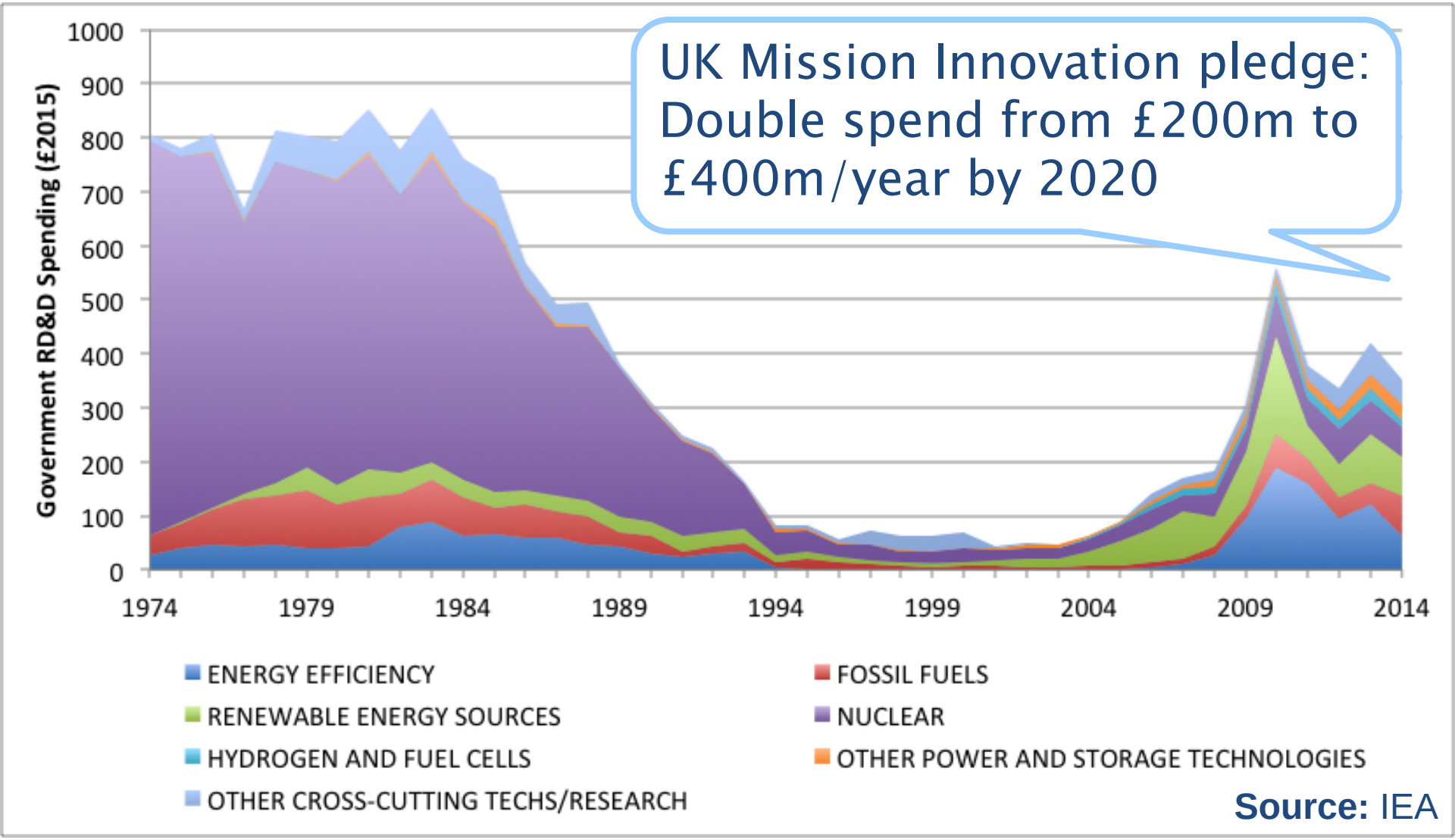
New innovation takes time



Source: UKERC / CCC

What role for R,D&D?

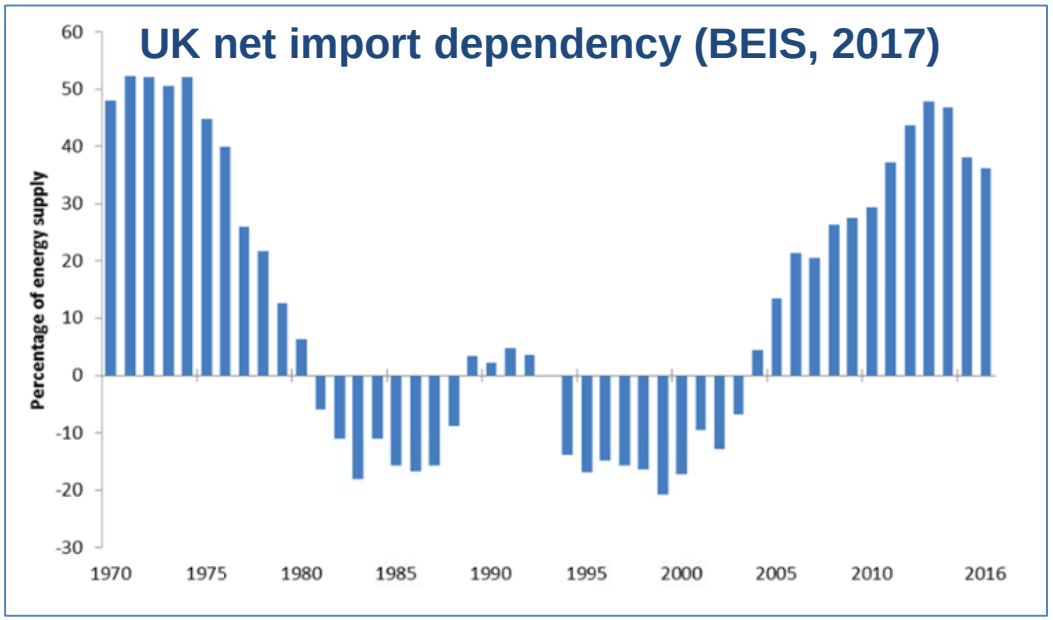
UK spending reported to IEA



Source: IEA

Energy security

Traditional framings of energy security making a comeback?



However:

- Security shouldn't be measured using one indicator
- Imports and interconnection can strengthen security and resilience
- Security risks will change as the low carbon transition progresses

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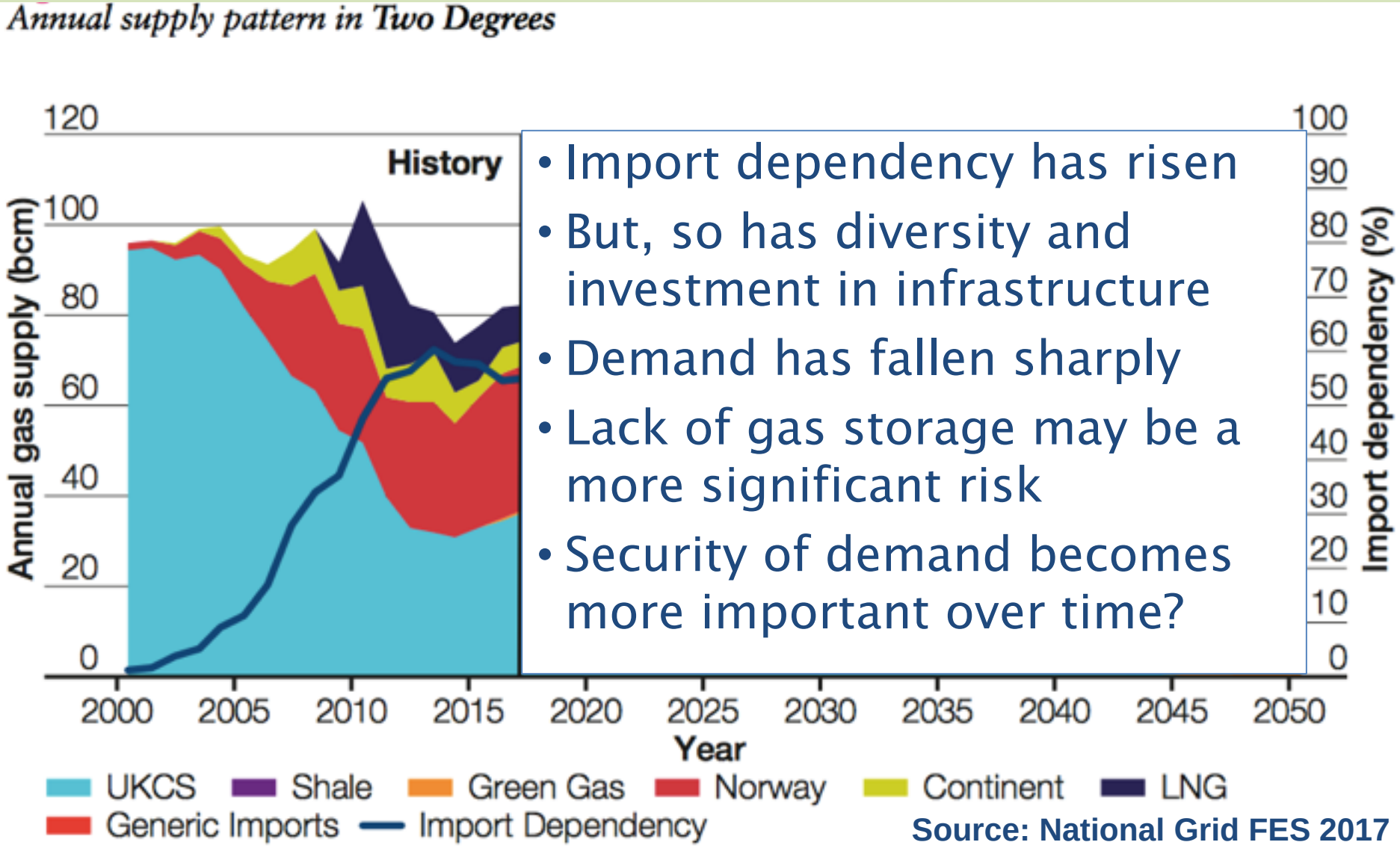
Energy security: the case of gas



- Import dependency has risen
- But, so has diversity and investment in infrastructure
- Demand has fallen sharply
- Lack of gas storage may be a more significant risk
- Security of demand becomes more important over time?

Source: National Grid FES 2017

Managing the risks of Brexit

Strong UK-EU27 energy cooperation would benefit UK, EU27 and wider region – particularly for electricity

Final / transitional deal needs to address key areas, e.g.

- Maintaining Single Electricity Market across Ireland
- Benefits from interconnectors & market coupling
- Mitigating potential negative impacts of 'Brexatom' to avoid safety and non-proliferation problems

Domestic action will be needed too, e.g.

- Ensuring that energy & climate investment and R&D funding are at least comparable to current EU funding
- Deciding whether to remain within the EU emissions trading scheme or replace with domestic ETS / carbon tax

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Source: UKERC and Chatham House (2017)

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Thanks

http://www.ukerc.ac.uk

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