

2. Short term uncertainties: impacts of global fossil energy markets and political change

- Objective: assessing the resilience of the EU's energy and climate strategy to changing economic and political conditions
 - ***The Energy Transition in a Scenario of Sustained Low Fossil Fuel Prices***
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Hot Energy Topic, No. 19
November, 2016
 - ***HET 20: The Energy Implications of Brexit***
Steve Pye (UCL), Carole Mathieu (Ifri), Paul Deane (UCC)
Hot Energy Topic, No. 20
January, 2017
- Approach:
 - Confront these issues with energy system dynamics
 - Provide detailed information/estimates on the potential implications, based on recent studies
 - Put ongoing debates into perspective and weigh up the different arguments
 - Identify potential policy responses from the EU

Context of HET19: the “lower for longer” fossil fuel price scenario

- The need to reduce our reliance on costly fossil fuel resources is a central economic argument supporting energy transition processes
- What if the current low fossil fuel prices were to persist over the medium-term? Could it derail the global and EU shifts to low carbon energy systems?
 - Oil still trading at half its price of before June 2014 and sustained uncertainty over the re-balancing of the market, even with OPEC deal
 - Abundant supplies for gas and coal and lower demand growth in emerging markets keeping prices down / BUT slight rebound in coal price owing to mine closures in China
- WEC 2016 survey: commodity prices are ranked as the most crucial uncertainty facing the energy sector today

Presumed interference with energy transition processes

- Income effect: real-income shifts between net commodity exporters and importers, pushing global demand for energy
 - Alters the rationale for energy efficiency measures / investments
 - Real effect depends on how prices to final consumers are designed
- Substitution effect: fossil fuels will substitute low-carbon energy in areas where competition is technically and “legally” feasible
 - Real effect depends on the type of public support for low-carbon solutions: through fixed grants (→longer payback periods) or mandatory purchase (→ increase in the implicit cost)
 - The competitiveness issue is also influenced by parallel cost decreases for low-carbon solutions
- The income effect lowers the incentive for R&D in energy efficiency solutions and the substitution effect lowers the incentive for low-carbon energy R&D

Recent developments and look into the future

Sector	Impacts over 2015
TRANSPORT	<p>Higher demand for transport fuels and related emissions</p> <p>Higher sales of less-efficient vehicles</p> <p>Decrease in global investment in biofuels</p> <p>No signs of slowdown in market for electric mobility</p>
ENERGY EFFICIENCY	<p>Increase in energy efficiency of GDP and investments, helped by the expansion of supporting policies</p>
ELECTRICITY	<p>Record year for REN investment</p> <p>Fuel switch from coal to gas, including in the EU</p> <p>Lower wholesale prices</p>
HEATING AND COOLING	<p>Lower investment growth in REN heating and cooling technologies</p>

- The long-term impacts will depend on investors' expectations regarding the permanence of low prices and the design of future policies

Context of HET 20: bringing the EU energy policy forward, without the UK

- 6 months after the Brexit referendum, little clarity on the future relationship between the UK and the European Union
- Non-exhaustive list of possible Brexit outcomes:
 - Brexit-Lite, based on Norway model
 - Brexit-Select, based on Switzerland model
 - Brexit-Hard, based on Canada model
- Energy & climate did not feature heavily during the campaign, but they have a strong EU dimension and will inevitably be affected
- Is it possible to find economically and politically-sound compromises in the field of energy and climate?

Navigating the Brexit uncertainties

- The UK electricity system requires significant investment in the next five years and Brexit uncertainty could increase total costs:
 - Higher financing costs in unstable market conditions
 - FID for Hinkley Point C shows large investments can go forward but other investors may decide to “wait and see”
 - UK projects may lose access to EIB and EFSI financial support
 - Currency fall could increase the costs for importing materials
- UK-EU interconnectors face multiple risks
 - If EU trading rules cease to apply at interconnectors, profitable transactions will be missed / system flexibility will decrease
 - Interconnector projects could be considered too risky
 - The deployment of high shares of REN will be more costly, for the UK and the EU
 - Even more acute issues for the Irish energy system

No straightforward solution in sight

- Political uncertainties for the UK:
 - Questionable whether greater policy flexibility would help the UK better meet its energy & climate goals
 - UK climate policy loses its EU “double-lock”
- Political uncertainties for the EU:
 - High transaction costs for adapting the EU ETS and broader EU climate targets
 - EU loses one of its most progressive MS on climate issues
 - EU may go forward with policy steps that were opposed by the UK (e.g. Mandatory national targets for REN, higher energy efficiency targets...)
- Treating energy and climate separately would be sensible from an economic and environmental perspective, but it could well be politically unacceptable for Brexiters and the EU