

UK experience in the promotion of energy efficiency and 'economic dematerialization'

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Abstract

The UK government has positioned itself as a global leader in policies towards a low carbon society (LCS). This has included being the first G20 nation to legislate stringent long-term carbon targets via an 80% reduction by 2050 in carbon dioxide (CO₂) and other greenhouse gas (GHG) emissions (Climate Change Act, 2008). This target sits alongside other UK energy policy goals notably ensuring a resilient and secure UK energy system, and ensuring equity in access to energy services.

Evolution towards an LCS continues to enjoy a UK political consensus, although it is recognised that this evolution may in fact require a revolution in production and use of energy: *"The transition to a low-carbon economy will be one of the defining issues of the 21st century"*, foreword to the Low Carbon Transition Plan (2009). The institutional implementation of UK energy policy goals has been seen in the setting up of the Cabinet level Department of Energy and Climate Change (DECC), establishment of an independent Committee on Climate Change (CCC) to establish and then report to Parliament on progress to 5-yearly GHG budget periods, a major increase in research funding via the UK Research Councils interdisciplinary energy programme, and the cooperation of major UK and international energy firms via the Energy Technologies Institute (ETI)

However there are three major controversies in the assessment of current progress towards LCS goals. Firstly, the immediate and long term role of the current economic crisis and recession with specific regard to the dematerialisation of the UK economy. Secondly, the actual impact of existing policies on UK CO₂ emissions, and the role of economic contraction, fuel prices and other international drivers. Of specific concern is the general lack of ex-post verification of the impact of a given LCS policy. Thirdly, concerns remain on the long-term path (to 2050) for an LCS and the political will to maintain the pricing, innovation and behavioural elements to any transition.

In order to address these key issues, a broad portfolio of LCS analytical tools is required to generate insights and underpin policy elements. Specific UK modelling gaps include sectoral analysis (industry and buildings); global (macro) modelling of flows of capital flows, technology and resources; and methods to better characterise uncertainty. LCS tools and energy models require sustained funding to enable model development and retention of expertise. It is an open question as to what an appropriate funding level is, but this presentation argues that at least an order of magnitude increase is required.