

Climate change priorities for the next UK Government

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Introduction

Since 2010 the UK has made good progress towards creating a climate-resilient and low-carbon economy. The UK met its first carbon budget in 2012 and is on track to meet the second carbon budget. The fourth carbon budget was legislated in June 2011, committing the UK to an ambitious 50 percent cut in emissions in 2023-2027 compared with 1990.

In October 2012, the Government launched the world's first Green Investment Bank, dedicated to stimulating investment in green infrastructure. The Energy Act in 2013 has paved the way for far-reaching reforms of the electricity market to support the deployment of low-carbon energy generation. The Green Deal was launched in January 2013 allowing the cost of installing energy efficiency measures in homes and businesses to be financed through a charge attached to a property's electricity meter. The Government also published the first national Climate Change Risk Assessment in 2012, and the first statutory National Adaptation Programme in the following year.

But challenges remain in ensuring that the full risks and costs of high-carbon activities are confronted and addressed. Current policies for greenhouse gas emissions focus on emissions reductions up to 2020. The next Government will be required to design and implement policies that keep the UK on a least-cost emissions reduction pathway to 2030 and beyond.

To meet this challenge the next Government should provide clarity and a sense of direction to enhance the credibility of its climate policies, through:

1. building long-term investor confidence in the UK's low-carbon economy;
2. harnessing the UK's potential as a leader in energy 'cleantech';
3. ensuring that the transition to an energy-efficient and low-carbon economy is affordable for businesses and households;
4. increasing the UK's resilience to extreme weather; and
5. demonstrating leadership in international climate negotiations.

1. Building long-term investor confidence in the UK's low-carbon economy

More than £200 billion of investment is needed in UK energy infrastructure by 2020. Half of this is required for the electricity system alone (DECC, 2014). Political uncertainty and policy risk pose significant threats to investment. Weak or inconsistent policy raises the cost of capital and damages private sector investment. It also undermines markets and entrepreneurship. To build long-term investor confidence in the UK's low-carbon economy the next Government should:

i) Agree upon and commit to a domestic carbon intensity target for the electricity sector.

Such a target, likely to be in the 'flexible' range of 50-100g CO₂/kWh, would give an indication of how much low-carbon power is required in the generation mix, while the levy control framework would encourage industry to provide this low-carbon generation at least cost.

This would give a clearer sense of direction for the power sector and encourage investment, learning and innovation across a range of technologies, including on energy efficiency and carbon capture and storage (CCS). It will thus allow the private sector to choose the cheapest options among a broad set of low-carbon technologies, avoiding both 'picking winners' and closing off valuable options (Bassi et al., 2013a; Stern, 2013).

ii) Create new institutions to unlock infrastructure investment. Better strategy, delivery and funding of major projects will be essential to deliver the required investment in UK infrastructure, particularly in energy. This could be enabled through a new institutional architecture (Aghion et al., 2013). This could include, for instance: a Strategy Board, providing strategic vision and independent expert advice on infrastructure issues; a Planning Commission, delivering strategic priorities independently from ministerial decision making (a similar body existed but was replaced by the Infrastructure Planning Unit under the Department for Communities and Local Government, reintroducing ministerial approval for projects); and a dedicated financial institution (either through a new body or by extending the mandate of the Green Investment Bank) to raise finance and provide convening power and know-how, which can ultimately crowd-in additional private financing.

2. Harnessing the UK's potential as a leader in 'cleantech'

The UK is among the leaders in low-carbon innovation, as reflected by the number of low-carbon patents submitted in the past decade. However, it is starting to fall behind the competition, mostly because of faster increase in patenting elsewhere (Dechezleprêtre and Martin, 2010). The UK has the potential to catch up with its competitors and become a global leader in innovation in several areas. To harness the UK's potential as a leader in 'cleantech', the next Government should:

i) Increase investment in research and development. Supporting research and development would not only contribute towards climate change objectives, but could be a driver of economic growth.

Evidence shows that low-carbon patents tend to have particularly broad applications in other areas of the economy (Dechezleprêtre et al., 2013) suggesting that 'cleantech' provides broad economic benefits and can create economic growth. Public expenditure on research and development should be increased gradually during the next parliament and accompanied by investment in education and skills.

ii) Focus innovation activities on key technologies. The UK already has a competitive advantage in a number of technologies including marine energy, offshore wind, biomass and energy from waste (Dechezleprêtre and Martin, 2010). These technologies should be a focus for UK innovation activities. Aside from these, the Committee on Climate Change (2010) has recommended that deployment efforts should focus on carbon capture and storage (CCS) applications for power generation and energy intensive industries, aviation technologies, smart grids, electric vehicles, as well as on more mature technologies such as nuclear power, advanced insulation materials and heat pumps. Promising new technologies requiring increased research and development effort include hydrogen fuel cell vehicles, third generation photovoltaic, energy storage and advanced biofuels technologies.

iii) Increase decision-making power and fiscal autonomy for cities in relation to low-carbon innovation. Cities are well-placed to lead and benefit from strong action to reduce emissions. Scale economy benefits of urbanisation mean that cities can capitalise on developing green investments, such as integrated public transit, sewers and water systems, congestion pricing, smart grids, smart buildings and decentralised energy networks. Careful urban planning and policy designed by local authorities, with government support, can simultaneously improve resource efficiency while tackling waste, noise, congestion and pollution and provide an attractive environment for skilled labour and innovative firms (Rode, Stern and Zenghelis, 2012).

3. Ensuring that the transition to an energy-efficient and low-carbon economy is affordable

Decarbonising the economy is likely to lead to moderate increases in costs for households and businesses in the short term, mainly as a result of increased energy bills. This is not unique to the UK, but measures should be taken to minimise the costs. The next Government should:

i) Reform environmental taxation. The UK has a complex system of energy taxes which affect the business sector. Overlaps between taxes mean that carbon prices are uneven across sectors and fuels, and result in some businesses paying for their greenhouse gas emissions several times over. Merging and simplifying instruments such as the Climate Change Levy, Climate Change Agreements and CRC Energy Efficiency Scheme into a single instrument would improve consistency, while reducing administrative burdens (Bassi et al., 2013b). The new instrument should retain the design of the Climate Change Levy.

Determining the appropriate carbon price for such an instrument is a sensitive issue and, ultimately, a political choice. In principle, there is an argument for aligning the carbon price for businesses towards a single value for all sectors of the economy, whether or not they are covered by the European Union Emissions Trading System (EU ETS), and in line with the overall UK carbon budgets.

A reform along these lines could result in higher tax rates for several businesses, and increase fiscal revenues for the Government. There is a case for recycling these additional revenues back to businesses whose international competitiveness would be impacted, provided these can be accurately identified. Compensation options could include lump sum payments or reductions in business taxes. Revenues could also be used to cover the expenditures associated with other climate-related policies, for instance by reducing the burden of the Renewable Obligation, Contracts for Difference or Feed-in Tariffs on energy bills.

ii) Review and reform the Green Deal. Slow progress has been made on energy efficiency (Committee on Climate Change, 2014). The Government's flagship household energy efficiency policy, the Green Deal, has had limited success, partly due to unforeseen interactions with ECO and lack of engagement by energy companies. The 'principal/agent' problem (i.e. the challenge of motivating one party to act on behalf of another) has also prevented tenants from investing in energy efficiency.

The next Government should conduct a comprehensive review and reform of the Green Deal. It may want to consider a stronger role for local councils to identify opportunities and priority neighbourhoods for intervention, especially in poorer areas; implement upgrades neighbourhood by neighbourhood; and support community energy systems (Committee on Climate Change, 2014).

4. Increasing the UK's resilience to extreme weather

The UK needs a strategic approach to climate change adaptation, both today and in the long term. Investing in resilience can be very cost-efficient, but many barriers still exist, including lack of risk information and awareness, missing incentive structures, and limited consideration of the social impacts of extreme weather events. The next Government should:

i) Develop an adaptation policy framework. Developing a policy framework that encourages action on adaptation will be critical to prepare the UK for more frequent and/or more intense extreme weather events as a result of climate change. Priority actions include, making infrastructures more resilient; increasing investment in new and existing flood protection measures; providing the right incentives for resilience, for example through land-use and planning policies; increasing awareness and transparency of current and future risk levels; increasing water efficiency through water pricing, better planning and abstraction policies; and supporting local governments through better monitoring and risk information tools (Fankhauser et al., 2013).

ii) Re-design Flood Re. The availability and affordability of flood insurance should be improved by re-designing Flood Re and placing risk reduction at its core. Improvements should include: providing flood risk information to households covered by the scheme; developing a clear plan for the proposed phasing out of Flood Re within 20 to 25 years; encouraging and rewarding flood risk reduction measures by homeowners; extending the supervisory role of the Secretary of State; and engaging local communities and new stakeholders, such as property developers or mortgage providers, through rewards or mandatory requirements for risk management (Surminski and Eldridge, 2014).

5. Demonstrating leadership in international climate negotiations

Underlying all of the above, the next Government should maintain the UK's leadership in international climate change negotiations and support an ambitious global deal to combat climate change at the 21st session of the Conference of the Parties to the United Nations Framework Convention on Climate Change in Paris in December 2015. The next Government should:

i) Develop a negotiation narrative that highlights economic opportunities arising from climate action. The UK can have a role in supporting new approaches to 'equitable' mitigation effort, by moving away from 'distributive justice' and 'burden-sharing' framings towards a more collaborative approach. This should build on the recent evidence that more than half of emissions reductions required to meet an ambitious target generate co-benefits, for example, from improved health and poverty eradication. This suggests that appropriate and fair sharing of mitigation action should be based not only on the principle of 'burden sharing' and responsibility, but also on the consideration of opportunities from green policies to promote efficiency and generate economic returns (Averchenkova et al., 2014). It will also be important to work out a mechanism for continuous ramping up of the ambition post-Paris to ensure that the global net emissions are consistent with a pathway to avoid global warming of more than 2°C above pre-industrial levels.

Additional action will also be needed beyond the Paris agreement. In particular, the new Government should explore the potential for 'narrower and deeper' coordination with groups of willing states and non-state actors to pursue specific decarbonisation initiatives. These could include, for instance, a shared medium-term goal for electricity sector decarbonisation, concerted efforts to gradually phase out coal, or cooperation on zero-carbon energy innovation (Green, 2014).

ii) Provide climate finance for low-carbon investment in developing countries.

International climate finance flows, including from the UK, need to increase sharply if climate risk is to be reduced and developing countries are to achieve lower-carbon and more climate-resilient development paths. The case for providing access to affordable finance and supporting capacity-building in low income countries is strengthened by the fact that climate action can provide significant local co-benefits, such as improved health and reduced pollution. It can also have additional pay-offs for other countries, for example, by reducing emissions or alleviating the demand on scarce global resources (Averchenkova et al., 2014).

The next Government will need to consider how best to contribute. Investment needs could be met not only through traditional climate finance or aid channels, but also through various other forms of partnerships, such as information exchange, bilateral and multilateral agreements and cooperation with the private sector. Sectoral agreements on intensity targets or technology-sharing, for example, could also provide a level playing field for trade while supporting structural transition across sectors (Averchenkova et al., 2014). Initiatives to lower the cost of capital for low-carbon and climate-resilient investments in developing countries could help mobilise private finance and increase the pay-off for the public finance that is committed. Furthermore, the UK should play a major role in helping developing countries identify and prioritise mitigation and adaptation opportunities, enabling these countries to increase their ambition over time.

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