



ENERGY SECURITY IS THE UK DOING ENOUGH?

October 19th 2010 • Queen's Building, Emmanuel College, Cambridge



Executive Summary

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INTRODUCTION

The UK can no longer take energy security for granted. The decline of North Sea gas supplies has ended several decades of relative energy independence. Growing international demand for oil and gas, particularly from emerging markets, has increased competition for dwindling resources. Meanwhile, heightened geopolitical tensions in resource-rich regions of the world have led to volatility in commodity markets.

Moreover, the transition to import dependency takes place at a time of great economic uncertainty. The UK has emerged from the financial crisis with its public finances in a perilous state, which has led the current Coalition Government to propose significant cuts in public spending. At the same time, the UK must honour its commitment to reducing CO₂ emissions and making the transition to a low-carbon economy. Taken together, these issues have ensured that energy security is a key topic on the UK policy agenda.

On October 19th, 2010, Economist Conferences hosted a debate in Cambridge entitled Energy Security: Is the UK Doing Enough? The event brought together leading experts from academia, corporates, government and non-governmental organisations to discuss the strategies that would prove most effective to ensure the UK's long-term energy security. The debate was chaired by Tom Clarke, Science and Environment Correspondent, Channel 4 News. The three panelists were Pierre Noël, Research Associate, University of Cambridge, David Green, Chief Executive, UK Business Council for Sustainable Energy and James Smith, Chairman, Shell UK.

A SECURE SUPPLY FOR NOW

On one key point, all three panellists agreed. Despite the shift towards import dependency and the fast-changing geopolitical and economic environment, the UK continues to enjoy a secure energy supply. "There is very little evidence to suggest that markets do not deliver an adequate level of energy security," said Pierre Noel. "Countries such as the UK have well developed institutions and markets that do deliver security."

Long-term investment in energy infrastructure from shareholders, taxpayers and customers has helped to deliver a secure energy supply with very limited risk of outage. "The real challenge for the UK is to a large degree elsewhere," said David Green. "First, how do we upgrade outdated infrastructure that is a legacy of nationalised industries and that is coming to the end of its useful life; and second how do we address the huge challenge of climate change."

The scale of investment required in the UK's energy infrastructure is daunting. The energy regulator Ofgem has estimated that £200bn of investment will be required in energy infrastructure over the next 10 to 15 years. Making sure that investments are directed towards technologies and solutions that deliver long-term energy security and reduce carbon emissions will be a key challenge for both the public and private sector. "Delivering the projects that are needed will require us to make sensible technology choices, have the right skills in place and the right incentives to get the job done," said James Smith.

THE MARKET IS NOT ENOUGH

Liberalised energy markets have helped to deliver confidence in energy security, but the urgent need to make the transition to a low-carbon economy means that the market cannot operate entirely independently. "The looming problem of climate change will require us to decarbonise the economy and the market on its own cannot deliver this," said Mr Noel. "In their current form, energy prices do not adequately capture the consequences of releasing carbon emissions, so we need powerful government intervention to correct this market failure."

With the prospect of a global carbon market still some way off, investors do not have the certainty that they need to commit significant resources to long-term investment in low-carbon technologies. "We need active programmes in place that will drive forward new forms of power generation and that will transform the energy market in such a way that investors have confidence to invest in low-carbon technologies and are rewarded for those investments over the long term," said Mr Green.



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Making the transition to a low-carbon economy will require the UK to focus on technologies that already work, while also allocating resources to a range of promising ones that still need further development. “We need to diversify our sources of energy, which means concentrating our efforts on building effective low-carbon capacity in nuclear, carbon capture and storage, and offshore wind,” said Mr Smith. “We also need a platform of sound economics, which means we must spend the money on the right things. For example, replacing coal power stations with gas will make by far the biggest contribution to making our targets for the reduction in carbon emissions.”

THE DANGER OF PICKING WINNERS

With so many promising candidates for investment, it is essential to select the right technologies to take forward. But this is a long-term goal that can only be achieved effectively by letting the market decide. “We can’t play central planners because we don’t yet know the true costs of individual technologies,” said Mr Noel. “If governments decide to back winners, we may achieve a low-carbon economy but we will do so at great financial and political cost. That is why we need a market and that is why we need a carbon price that is technology neutral. Over time, the market might reveal that a certain technology is not able to be an effective part of a low-carbon future, but it is the role of the market to decide that.”

Mr Smith agreed and highlighted the importance of setting a floor price for carbon to give investors the certainty they need and to stimulate the market to make the right investments. “Incentives should be technology neutral, rather than steering us towards specific solutions,” he said.

With many low-carbon technologies at a relatively early stage of their development, the cost of deployment can be prohibitive. This highlights the importance of subsidies to support the development of new ideas and enable them to compete effectively with cheaper, more established technologies. “There is a strong rationale for subsidies today,” said Mr Noel. “These technologies may be very expensive now, but in 20 years’ time they could play a key role in a low-carbon economy. Subsidies facilitate the learning process, but we need to have clear rules about when to stop providing support. The problem with industrial policy is when to withdraw it.”

Yet equally, there are many quick and easy wins, such as domestic loft insulation, that do not require substantial new investment and that have not yet been fully exploited. These may not be as exciting as some emerging technologies but they can nevertheless play a significant role in reducing carbon emissions and contributing to energy security. “Tackling the demand side is an important part of the equation,” said Mr Green. “Many of us continue to live in poorly insulated homes and, compared to countries such as Denmark, we are a long way behind.”

The process of letting the market decide inevitably creates winners and losers but that is central to the risk-reward calculation of any investment. “We will face awkward choices and we may need to build new infrastructure before we have all the answers,” said Mr Smith. “With £200bn worth of investment required at a time of deep public spending cuts, we need to ensure that we spend wisely.”

But often, suggested one audience member, it is the political barriers that matter, rather than financial or technological ones. While some low-carbon technologies, such as offshore wind, attract widespread support, others, such as waste-to-energy, face opposition from planning departments and residents. “It’s not a financial or an innovation problem, it’s a political one,” said the audience member. “We need to start making choices about technologies we know work, even if they are difficult from a political perspective.”



THE WAY FORWARD

The shift to import dependency against a backdrop of increased demand for energy and geopolitical tension inevitably raises concerns about the long-term prospects for energy security in the UK. But the three panellists at this debate broadly agreed that efficient global energy markets continued to deliver stability of supply and long-term security.

But they also agreed that, in the broader context of climate change, the market is not enough. It is now extremely urgent to put in place a carbon price that provides certainty to investors and stimulates investment in low-carbon technologies. For now, subsidies will be required to incubate promising new innovations, but governments must be careful not to pick winners and distort markets.

“The UK’s energy security may be reasonably secure but time is running out to deliver climate security,” concluded Mr Smith.

“If we had the prescience to put in place a carbon price 40 years ago we might have been able to leave the unseen hand to achieve a low-carbon economy. But it is now absolutely essential that we diversify our approach and put our attention behind the full range of R&D options. Policy-makers need to put in place the framework, but we need to let the market decide which technologies to take forward.”

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