

Foreword by the Rt Hon. Tony Blair MP



A clean, secure and sufficient supply of energy is simply essential for the future of our country. We need energy to heat and light our homes, to power our businesses and to transport people and goods. Without it, we could not function as an economy or modern society. Even minor disruptions in supply, after all, can cause major problems for communities and businesses. Ensuring we have a sustainable, secure and affordable energy supply is one of the principal duties of Government.

As a nation, we have been fortunate up to now that our energy needs have been met largely from domestic sources. Coal, with oil and gas from the North Sea more recently, have driven our economy. Investment in nuclear power has also provided a significant proportion of our electricity.

But we now face two immense challenges as a country – energy security and climate change.

First, we will soon be net importers of oil, and dependent on imported gas at a time when global demand and prices are increasing. Energy consumption by China and India, for example, is projected to double by 2030. At the same time, many of our coal and nuclear power stations are coming to the end of their lives. Without action to ensure reliable supplies and replace power plants, there will be a dramatic shortfall in our energy capacity and risks to our energy security.

Second, and even more important in the long term, is the impact that our sources and use of energy are having on our planet. The evidence is now compelling that the activities of humankind – and greenhouse gas emissions in particular – are changing the world's climate. Temperatures are rising and so are sea-levels. Extreme weather is becoming more common.

There is no scientific consensus yet on how much time we have to avoid dangerous irreversible climate change. But the overwhelming majority of experts believe climate change is already underway and, without collective action, will have a hugely damaging effect on our country, planet and way of life.

The prime source of greenhouse gas emissions is the production and use of energy. If we are serious about tackling climate change, the centrepiece of our programme – in the UK and across the world – must be in ensuring we power our economy and way of life in a cleaner, greener and more efficient way.



Overcoming these two major challenges – which are faced across the world – will require hard decisions both nationally and internationally. It was to consider our energy needs and to come up with long-term sustainable solutions that the Government set up the energy review last year. Its findings are the basis for this report.

The review underlines the fact that there is no simple, single solution to the energy challenges that we and other countries face but that a balanced approach, driven by technological advances and increased efficiency, will be needed. It also sets out a framework of action at home and abroad to strengthen our energy security.

It is clear that we must significantly increase investment in, and support for, renewable energy so that it plays a larger role in our energy needs. This is vital not just to give us a secure source of energy but also to meet our obligations to our children to tackle climate change. It is for the same reason that much greater emphasis must be given to finding alternatives to oil as an energy source for transport.

This document sets out how this can be done. But it also makes clear that wind, wave or solar power, let alone less established technologies, are not yet enough by themselves.

We need, as well, to put a much greater emphasis on the efficient use of energy. Such changes not only cut bills for organisations and families but also cut carbon emissions. The review sets out an ambitious strategy for securing more of the heat, light and power we need in ways that reduce the demand for energy and how now we can do much more to encourage its smarter and more efficient use.

This is not just a task for government, although government must give a lead. We will provide incentives to use cleaner fuels, work with power producers to provide more information about the costs and impact of energy use and with manufacturers and retailers to phase out energy inefficient products.

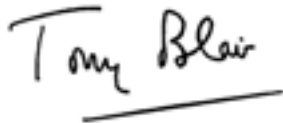
In the end, however, we must all – government, business and individuals – play our part by changing behaviour. If enough of us do, even small changes can make a big difference. If every UK household installed just three energy efficient light bulbs, the electricity saved would supply all our street lighting.

But neither renewable energy nor greater energy efficiency can provide the complete solution to the shortfall we face. This will depend on securing energy supplies from abroad, in new nuclear power stations to replace those becoming obsolete and replacing older coal-fired stations with cleaner, more efficient technology.

The review also calls for more effort to encourage and support the local generation of power. There is significant potential in the future to use small-scale local generation to provide affordable and reliable energy. All this is important both for limiting our dependence on imported gas and for tackling climate change.

Important as national measures are on climate change, it is only acting on an international basis that effective action can be taken. The UK, for example, only accounts for some 2% of global carbon emissions which are expected to rise by another 50% by 2030. It is vital, therefore, that the UK continues to give a lead internationally and to push for a post- 2012 framework that includes China, India and the US.

The scale of the challenges we face, both domestically and internationally, is great. The proposals included in this report set out how we can overcome them to secure our country's future prosperity and the health of our planet.

A handwritten signature in black ink that reads "Tony Blair". The signature is written in a cursive style and is underlined with a single horizontal line.

Preface by the Rt Hon. Alistair Darling MP



Energy is essential to just about every aspect of our life and to our continued economic prosperity. But today, we face two big challenges: climate change and security of energy supplies.

Without urgent action, at home and abroad, we face a damaging rise in temperature bringing with it a huge threat to our planet.

At the same time, the UK is entering a new era for energy supplies. For years, we have been self-sufficient in gas and oil, thanks to North Sea production. There are still many years of production there, but in future, we will increasingly depend on imports to meet demand. That is why it is so important to look for ways to cut demand for energy. Our aim must be to grow our economy whilst cutting waste and using every unit of energy as efficiently as possible.

In the UK it is estimated there is scope for saving many million tonnes of carbon dioxide each year through energy efficiency measures – from smart metering and energy saving lightbulbs, to a radical scheme to incentivise suppliers to save their household customers energy.

But this is only part of the story. We also need to look at the nature of the fuel we use. It is essential that we get the incentives right now for investment in low-carbon options, from offshore wind to tidal power, and even cleaner fossil fuels. Carbon capture and other measures could help us do more to reduce harmful emissions.

The mix of energy supply in the UK has served us well over many years. And that is essential for the future too. Cleaner coal, oil and gas, more renewable sources of energy. But we also need to look at nuclear power. It currently provides almost 20 per cent of the country's electricity needs, but most of these power stations are scheduled to close over the coming two decades. A good deal of our coal plant will also close. In the near term, some of this capacity will be replaced by renewables. Some of it is also likely to be filled by gas. But, if we do nothing, the reality is we will have to rely increasingly on gas. The Government believes nuclear has a role to play in the UK not only in reducing emissions but also to maintain the diversity of our electricity generation mix.



Transport accounts for around 30 per cent of the total UK energy use, and around a quarter of carbon emissions. The Review includes a number of measures. If, to take one example, we were to double the use of biofuel, this could save another 1 million tonnes of carbon a year by 2015, equivalent to taking a million cars off our roads.

We also need to tackle problems with getting planning consent. We have a responsibility to ensure that our planning system deals with investment proposals in an efficient and timely way. Proper scrutiny and challenge will remain essential, but it is time to overhaul the present planning system.

Full implementation of the proposals and potential further measures set out in this report will get us on course to making real progress in emissions reductions by 2020.

They make a substantial contribution to meeting the challenge of climate change and of providing the cleaner and secure supplies of energy we need.

Introduction

Energy is a vital part of every aspect of life in modern Britain. The Government has four long-term goals for energy policy:

- To put the UK on a path to cut our carbon dioxide emissions by some 60% by about 2050, with real progress by 2020;
- To maintain reliable energy supplies;
- To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve our productivity; and
- To ensure that every home is adequately and affordably heated.

In November 2005 the Prime Minister announced a major review of the country's progress on achieving these goals. The Review has been led by Malcolm Wicks, the Minister for Energy. This document is the Review's conclusions and it will be followed by a White Paper around the turn of the year.

We face two major long-term energy challenges:

- Tackling climate change, along with other nations, as global carbon emissions from human activity continue to grow; and
- Delivering secure, clean energy at affordable prices, as we become increasingly dependent on imports for our energy needs.

The scientific evidence for climate change, caused largely by the build-up of carbon dioxide and other greenhouse gases in the atmosphere, continues to strengthen. Without urgent action, there will be a damaging rise in temperature. Some 70% of global emissions come from the way we produce and use our energy. So energy policy has a vital part to play in tackling climate change.

If we are to effectively tackle climate change we need a global response with national governments taking action. We made progress last year at Gleneagles and Montreal. But we now need to accelerate discussions on a future framework for after 2012. Time is short. The UK is committed to the EU's 2 degrees Celsius objective which remains a valid objective in terms of avoiding dangerous global climate change impacts. In the next 12 months we need to begin to build a global consensus about the scale of the action we need to take, and the long-term goal we're all working towards.

The UK is entering a new era for our energy supplies. The North Sea has given us self-sufficiency in oil and gas, but this is now changing. In the future we will increasingly depend on gas imports to meet demand and by the end of the decade we will become a net importer of oil.



These developments are unfolding against a backdrop of rising global demand for energy as India, China and other countries rapidly grow their economies. Global demand for natural gas is projected to increase nearly twofold by 2030. The main reserves of oil and gas are concentrated in a few regions of the world: Russia, Central Asia, the Middle East, and Africa. Two countries – Russia and Iran – account for nearly half the world’s proven gas reserves.

With energy demand growing, there is a risk that supplier countries don’t make sufficient or timely investments to increase output to meet demand. There is growing competition between countries to secure energy supplies. And, of course, there are risks of political instability and weaknesses in governance.

As world demand for energy grows, national access to adequate energy supplies will become an increasingly important strategic objective. It is critical that the UK has access to the energy we need to support our economic prosperity. We must be alert to any steps by other nations to deny fair and open access to energy reserves.

Combined with a strong international policy, we must promote the growth of our own home-grown energy resources – from maximising output from the North Sea to microgeneration (small scale generation of heat and electricity for homes or buildings).

We believe that the UK’s framework of competitive markets, regulation and public policy is sound, but we have concluded that within that framework there is a need for new policy initiatives if we are to meet the very significant challenges we will face in the coming decades.

This report sets out the next steps we need to take in responding to the energy challenges facing the United Kingdom. It makes a number of proposals for actions to be taken now, identifies proposals on which Government intends to consult further, and indicates areas where Government considers there is further work to be done. In doing so it explains how we will work with the devolved administrations to identify action in areas of devolved responsibility which will help us achieve our shared goals.

As we build our energy future, it will be vital to ensure that the talents of our science base help us achieve our energy goals to reduce emissions and maintain reliable supplies. We therefore announced in the 2006 Budget that we shall establish a National Institute for Energy Technologies.