



Reform of energy markets to meet the CO₂ challenge

By Chris Huhne,
Secretary of State for Energy and Climate Change, United Kingdom

Since our electricity market was liberalised in the 1980s, the system has delivered secure and affordable electricity for the UK. But in the years ahead, we face unprecedented challenges. The existing market was not designed to meet them.

The days of self-sufficiency are long gone; our native resources can no longer match demand. Our fossil fuel habit leaves us hostage to global energy markets. Today, we rely on imported fossil fuels to provide a third of our energy; in fewer than fifteen years, it will be half.

This would not matter so much if we had a balanced energy portfolio where nuclear and renewables smoothed out volatile gas prices. But we are 25th out of 27 European countries for renewables, and have not built a nuclear power station since 1987.

Most of our electricity comes from gas-fired power stations, and so household bills track global prices. When wholesale gas prices rise, so does the cost of living in Britain.

Our ageing power stations also need replacing. Demand for electricity could double by 2050 as we opt for electric vehicles and heating. If we do not do something now, supply will not keep up and the lights will go out.

A quarter of the UK's capacity will need replacing before the decade is out, as old coal and nuclear plants come to the end of their useful lives. It would not be safe, efficient or legal to prolong them. And we face ambitious carbon emissions and renewable energy targets, as we seek to build a cleaner energy future for Britain and the world.

Keeping the lights on and our carbon emissions down means raising a record amount of investment.

Our energy regulator estimates we need £110 billion of electricity investment by 2020. That is £30 million per day for ten years – double the investment rate of the previous decade. It is the equivalent of twenty new power stations together with the infrastructure to connect them to the grid.

The current market arrangements will not deliver investment at the scale and the pace that we need. The 'big six energy suppliers' – who provide 99 per cent of the electricity in Britain – cannot meet the investment challenge alone. We need new blood in the electricity market.

That is why the Coalition government has set out the most significant reform of our electricity market for thirty years. It will deliver secure, affordable energy for generations to come.

By reforming the market, we can build a cleaner, more diverse, more sustainable electricity mix. This will mean reducing risks for investors by setting out a clear and stable investment framework – and making sure we create the right conditions to attract the capital needed to transform our system.

It also means establishing a system where, in time, low-carbon technologies can compete against each other on a level-playing field to find their place in the energy mix.

And it means making the existing market fairer – to low-carbon suppliers, who

Chris Huhne examines part of a wind turbine at the Vestas Medina Mills site, Isle of White



Photo: Rick Tomlinson/DECC

currently have to compete in a market in which they are at a natural disadvantage. To new entrants, who struggle to sell their electricity in a market dominated by six big firms. And to consumers, who want investment to take place in the most cost-effective way.

There are four parts to our reforms.

First, we will ensure the security of our energy supply by changing the way we contract for our back-up electricity. A capacity mechanism will make certain that when the nation's kettles flick on at half-time in FA Cup final, the system can cope.

Second, a new carbon price floor will put a fairer, firmer price on carbon emissions. This reduces the uncertainty for investors, and provides an incentive to invest in low-carbon generation now.

Third, we will introduce a new system of long-term contracts to remove uncertainty and make low-carbon energy more attractive. Companies will be attracted to build new plant in our market because they will be able to plan for the price they will receive. If the market price is too low, they will get a top-up. But the good news for consumers is that if prices go sky-high, companies will pay back the difference.


The new price contracts will spur investment in all forms of low-carbon energy. By ironing out price volatility, they will lower the cost of capital which is particularly crucial for both renewables and nuclear, which have high up-front construction costs but low running costs.

Fourth, we will set a limit on the pollution of carbon from new fossil-fuel power stations with an Emissions Performance Standard. This means no new coal power can be built without a system to capture and store its carbon, but it will encourage new gas plants to keep the lights on in the short term.

Together, these reforms will secure our energy future. They will get us off the fossil fuel hook and onto clean, green

and secure energy. They will insulate our economy – and our household finances – from volatile global prices, and they will bring new entrants into the market to boost competition and help consumers. Crucially, they will keep household bills lower than they would be if we stuck with the existing arrangements.

But our reforms are about more than incentivising investment in new supply capacity. The most cost-effective way to secure our future supplies is not just to build new power stations. That is why we have put demand reduction at the heart of our policy programme. From next year, a nationwide energy efficiency programme will begin; energy saving packages worth thousands of pounds will be installed in millions of homes and businesses, right across the country.

The Coalition, when it comes to energy security as elsewhere, is determined to take the tough decisions to protect our Nation's interests. These reforms will yield the biggest transformation of the market since liberalisation, heralding the shift toward a low-carbon economy. They will put us back to the forefront of low-carbon technological development. And they will deliver secure, affordable, sustainable energy for generations to come. 

Assembly of a turbine in the Horns Rev wind farm in the North Sea



Photo: DONG Energy A/S