



Energy policy and climate change

Tough choices for the UK

John Sauven

If you put a dirty coal fire power station in now that's going to pollute for the next 40, 50 years.

Tim Burke

There are no silver bullets so how come the Prime Minister thinks he's found a magic silver bullet in nuclear power?

Malcolm Wicks

The challenge for environmentalists is to say "isn't there just a possibility that you are now making a really historical mistake"?

Narrator

Today the UK's energy policy is operating in an environment of uncertainty. Energy demand is rising and energy supplies are under threat. Above all there's increasing evidence of global warming. The government is facing some tough decisions.

Malcolm Wicks MP

I think in terms of energy supply we have to recognise that this is a significant time of change here in Great Britain, why is that, well since the mid 60's we've done very well through the oil and gas from our North Sea and, and the wider UK content or shelf, we've been self sufficient in gas and oil broadly speaking, but those, those reserves are, are now in decline and secondly the nuclear reactors we have which currently produce almost one fifth of our electricity are old, they need to be de-commissioned, so by 2020 they only supply about six or seven percent of our electricity.

Malcolm Wicks MP

I think those issues about energy security alongside the real challenge to the planet of global warming has meant it's a good time for the UK to think it's overall energy strategy.

Narrator

In 2003 the government's energy white paper was published. It established a formal policy for the first time in 20 years and proposed positive steps towards increasing Britain's share of cleaner, greener energy.

John Sauven

The Government's 2003 Energy White Paper was something that overall we welcomed and I think that the, the Government did set itself some clear targets when it came to developing renewable energy, when it came to developing energy efficiency measures as well.

Narrator

But many were disappointed at what they saw as the government's failure to deliver.

John Sauven

I think that the problem is is that they never really took the 2003 White Paper very seriously and consequently it didn't meet its targets. I mean it might have met the Kyoto target that it set itself of, of 12 ½ percent cut in CO 2 emissions but in terms of the tougher target that the Government set for itself of, of 20 percent, it's not going to meet it.

Narrator

In 2006 the government published a further energy review designed to take stock of progress since 2003 and examined what further measures could be taken to reduce Britain's carbon footprint.

Jim Skea

A 2006 review was needed because of that lack of progress in meeting the goals in the 2003 White Paper, and really the objective was to, was to take a hard look at what, what the Government and others were achieving and look at the measures that would be needed to re-affirm and actually, you know, achieve the goals that the 2003 White Paper set out.

Malcolm Wicks MP

We want to see a 60 percent reduction in CO₂ by the middle of this century. Now that's probably the most ambitious target that's ever been set by a Government, certainly in Great Britain, maybe worldwide, and there's a sense in which we need a multi-faceted approach to that, energy efficiency, renewables, all sorts of things, I think including nuclear. There's a sense in which we've got to throw everything at it if we're going to make our contribution to saving the planet from climate change, and it was in that context of energy security and concerns about global warming that we advise in the Energy Review that, that nuclear should play a part.

Narrator

Unofficially many felt that a nuclear revival was the real motivation behind the energy review.

John Sauven

The Government pretended that they needed another Energy Review, and I think it was really a fig leaf for what Blair wanted to do all along, which was to introduce nuclear power. He was always in love with nuclear, he always wanted nuclear power, he hadn't managed to get it into the 2003 Energy White Paper and he wanted another chance to introduce it.

Tom Burke

The idea that the Prime Minister had an open mind on this subject is just a fantasy. He always, I mean and to some extent he'd have done better if he'd been more direct and more honest about it and said he's in favour, he's entitled to be in favour of nuclear, he's wrong, but he's certainly entitled to have an opinion, and what has actually happened now is of course people mistrust the Energy Review because it was seen as another dodgy dossier.

Narrator

Nuclear power is probably the most contentious and emotive method of energy production, but it is also the main large scale provider of low carbon electricity in the UK. With many nuclear power stations coming to the end of their lives Britain is facing a dramatic shortfall in its electricity generating capacity.

Malcolm Wicks MP

I think what we need to do is step back and just say "well what are the real issues? You know, what are the, what are the real fears? What are the real challenges facing us and, and how do we tackle them?" I think we do now have strategies to tackle the, the legacy of nuclear waste, we have to do that anyway, it's nothing to do with the new Bill. I understand people's concerns about terrorism and of course we need to build in, literally build in to any new generation of nuclear reactors a concern about terrorism.

Malcolm Wicks MP

This is a form of clean and green energy and I think history would look back and possibly be aghast thinking that some environmentalists weren't even considering this option seriously, when I think it's one of the answers, it's not the only answer, it's one of the answers to global warming.

Narrator

Nuclear power is seen by some as over-centralised and inflexible. They believe it incompatible with the more efficient, more localised energy system.

Tom Burke

The things that's really important to understand about nuclear power is, it's an illusion to say you can have nuclear power and all the other options, it's not true. Nuclear power requires

you to have very centralised electricity generated from very large units, it's only economic if you build it in 1200 megawatt units or so, that means that you have to use those stations all the time.

John Sauven

If you take a centralised power station, and it applies to nuclear as much to fossil fuels, is two thirds of the energy is, is wasted as heat at the cooling towers or whatever, we say you should have a de-centralised system rather than a centralised system so you're building power plants closer to point of use, that's a much better way to go.

Narrator

Despite these concerns the government believes that a nuclear rebuild will not hinder the development of a decentralised energy system, and that the two energy models can and will co-exist.

Malcolm Wicks MP

We need to see the development of renewables, micro generation, but also I think combined heat and power, but that'll be, that'll be a compliment to the old National Grid system.

John Sauven

There's massive, massive amounts of things that can be done and should be done and must be done in terms of energy efficiency, because that's the cheapest most cost effective way, and the fastest way of making really deep cuts in CO 2 emissions.

John Sauven

We have poor designed products, we have poorly designed buildings, we have poorly designed power stations, and this is such a, a, a huge area that the Government could tackle, and it could tackle it very easily if it wanted to.

Narrator

The starting point for reducing carbon emissions is to save energy. The 2006 review recognised the need to launch more radical measures to reduce the uk's energy demand.

Jim Skea

One very striking idea that came into it that will need to be explored a lot before it ever happens is the idea that our electricity and gas suppliers would actually have targets to reduce our consumption of electricity and gas in a very explicit kind of way. Now that is something that the Government is opening up discussions with the companies about, but it's actually quite an interesting idea, and I expect there will be some resistance from some of the companies about that very big change that's implied to the kind of business models that they would actually operate.

Narrator

Some believe achievements in the UK's renewables sector have been half-hearted, that the government is pushing the nuclear option because it's seen as the more familiar way forward. But on the world scale renewables are already making a major contribution.

Tom Burke

Last year, 2005, the renewables, primarily wind plus combined heat and power plus small scale hydro generation, that's not big dams, those between them delivered more electricity to customers than the whole of the world's 440 nuclear power stations combined so these are just as central to our energy future as nuclear power stations and we've just got to get out of the mindset of thinking them as marginal contributors.

Narrator

Nevertheless the energy review does propose measures to make up for Britain falling behind its European counterparts.

Malcolm Wicks MP

At the moment, I mean the, the, the British record doesn't look too impressive, maybe only four percent of our electricity comes from renewables, it's for that reason because we're committed to renewables that we want to see a five-fold increase so that by 2020 maybe one fifth, 20 percent of our electricity will be coming from renewable sources.

Narrator

So far most of the investment has been in on-shore wind which should provide more than five percent of Britain's electricity by 2010. The UK has also massive marine and tidal potential. It's likely that off-shore wind will lead the way in the renewables revolution followed by wave and tidal technologies if their development is successful.

Jim Skea

In the longer term other marine renewables, tidal for example, or wave, have potential in the UK. We've got one of the best resources in the world there. There there's still a lot of technology development that needs to be carried out to make the devices more survivable and get the costs down. It's a very hostile engineering environment so there's more research and development needed to make that happen. And the other area that is very important in terms of renewables I think will be bio energy for, for the UK. Now that could mean solid bio mass for power generation for heat, it could also mean developing liquid fuels for transportation purposes as well, and that is obviously a big prize to, you know, break out dependence on oil for transport, would be one of the biggest prizes in energy policy.

Narrator

But the world will continue to use fossil fuels for the foreseeable future. 30 percent of Britain's electricity is still generated by coal, one of the biggest sources of CO₂ emissions. To cut these emissions carbon capturing storage will need to play a central role in the UK's energy portfolio.

Tom Burke

We have to make coal carbon neutral because of what's happening in the rest of the world. If that's the case far more important for Britain to get involved in leading the way on that, and being one of the early movers on that, and therefore extending the range of its own options, which it could do a lot quicker than it could build a nuclear power station.

Malcolm Wicks MP

What we now need to see is the full scale development of carbon capture and storage both when coal is being burnt and when oil and gas is being used, and I think that's the challenge for a lot of different countries now, to bring on these what I would call major demonstration projects to see if the whole chemistry set of carbon capture and storage can be made to work. Technically it can be made to work but we now need to actually demonstrate that.

Narrator

The future UK energy system will involve a whole array of low and zero carbon technologies, most of which exist or are under development. The principal challenge now is to deliver. There should be no further delays in driving forward the transition to a genuinely sustainable energy economy.

John Sauven

The Government has got to take it a lot more seriously than they have done up until now. We, we've got maybe ten years in which to enact some really serious measures to cut CO₂ emissions, not just in the UK but globally.

Jim Skea

The big challenge and the big uncertainty for me is what happens over transport, especially over aviation which is the fastest growing area of energy demand.

Jim Skea

Renewables will go up in the future inevitably and the big unknown, and the big question and the one that I would flip a coin on rather than making a prediction, is nuclear power 'cos I

actually don't know whether it will go ahead or not. There's some enormous challenges to get it off the ground.

Tom Burke

Could we have gone to a zero carbon economy? Yes we could do, and in my view the technology is within our reach, if you like it's inside the envelope of our technical and economic competence to do that, but whether it's within our political ability to do that I don't know.