

UK climate strategy – are we making progress?

Stuart Parkinson examines the UK's record on reducing greenhouse gas emissions, arguing that official figures hide a lack of progress and highlighting the key reforms that need to be made.

Over the last few months, the government has been very upbeat about its action on climate change.

At the start of the year, it gave formal backing to a new generation of nuclear power stations, arguing they were necessary to help reduce carbon emissions. Indeed, in a speech a couple of months afterwards, Industry Secretary, John Hutton, declared he wanted to make the UK "the gateway to a new nuclear renaissance across Europe".¹

In June, the Department for Business (known as 'BERR') launched proposals² for further development of renewable energy, aiming for a ten-fold increase in the proportion of total energy supplied, from about 1.5% in 2006 to 15% by 2020.

Then, in July, the government released the latest progress report on its climate change programme.³ This included figures for UK greenhouse gas (GHG) emissions, showing that the level in 2006 was just below 620 million tonnes⁴ (Mt) – almost 21% below the 1990 level.⁵ This is well beyond the target of a 12.5% cut by the period 2008-2012, agreed under the Kyoto Protocol.

Another significant development is the new Climate Change Bill, which is currently making its way through parliament. If passed, it will set down a legal requirement for the UK to reduce its emissions of carbon dioxide (the main GHG) by at least 60% by 2050.

On the face of it, it seems like the government is finally giving the issue the urgency it needs. But is progress really being made? And are the future plans the right ones?

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Progress at a national level

At first sight, the 21% cut in UK GHG emissions is impressive. However, this headline figure hides some important shortcomings.

The first cause for concern is that 33Mt are allowances bought through the EU Emissions Trading Scheme.⁶ This scheme has been much criticised in its early years for setting targets that are too weak, and thus calling into question the true value of the allowances.

An even more significant problem is that the national GHG emissions data does not include those emissions from our contribution to international aviation or shipping. While emissions from shipping are approximately the same as in 1990, those from aviation have more than doubled.⁷ Furthermore, the total warming effect of emissions from aircraft is estimated to be about three times that of the CO₂ emissions alone – due to conditions in the upper atmosphere.⁸ These factors would add about 60Mt to the official estimate of the total GHG emissions of the UK.

But there is even worse news from a study published by researchers at the York office of the Stockholm Environmental Institute.⁹ This assessed the net effect on the UK's CO₂ emissions of the increasing amount of energy-intensive goods being imported from countries such as China. Their conclusion was that the UK, through its net imports, was responsible for an extra increase of 105Mt of CO₂ emissions between 1992 and 2004. In effect, the UK has moved production of huge amounts of energy-intensive goods offshore during this period and claimed this as emissions reduction activity.

So, if we put all these factors together, what is the actual progress on reducing the total GHG emissions of the UK? Far from an emissions reduction of 21% since 1990, we have actually seen no reduction at all (or, arguably, a small rise).

In order to try to highlight where the problems are and where the main action needs to be taken, it is necessary to look at the main sectors in the UK economy.

Transport sector

Let's start with the transport sector. Emissions in this sector covered by the Kyoto targets have risen by 12% since 1990.¹⁰ The vast majority of these emissions are from road transport. Not included, as discussed above, are emissions from international aviation – which have grown by 100% over this time period.

What does the future hold? With the government's current plans for major airport expansion, passenger demand is set to more than double by 2030, with direct CO₂ emissions from aviation predicted to rise by a massive 57% by this time.¹¹ Accounting for upper atmosphere effects, this translates into about an extra 60Mt.

The situation for road transport is not hopeful either. Even including the effects of the latest policy measures to reduce CO₂ emissions from cars, the Department for Transport still predicts that domestic transport will be responsible for higher carbon emissions in 2020 than in 1990.¹²

The only silver lining arises from the recent rises in fuel costs, which are leading to low-cost airlines cutting routes and falls in the sales of 'gas-guzzling' cars.

It is clear, however, that much more radical policy measures are needed. Airport expansion cannot be allowed to continue and we cannot rely mainly on incremental increases in vehicle efficiency to deliver emissions reduction. We need a much more concerted effort to encourage people to switch transport modes to trains, coaches, buses, cycling and walking.

Residential sector

Despite a range of policy measures designed to help improve home energy efficiency and expand the provision of domestic renewable technologies, GHG emissions from the residential sector are also higher now than in 1990.¹³ One major factor has been the ever-expanding use of electronic appliances, which has again outstripped improvements in efficiency. Another factor – as pointed out in *SGR Newsletter* 33¹⁴ – is the over-bureaucratic attempts to subsidise solar panels and other cleaner energy technologies. However, the biggest factor in a failure to reduce emissions has been the unambitious attempts to improve home insulation.

While there are some important and policy initiatives in the pipelines – such as the banning the sale of inefficient light bulbs by (probably) 2011, and the target of making all new houses built in England zero carbon by 2016 – the planned measures could be significantly stronger.

The biggest failing is the lack of ambition in improving the energy efficiency of existing homes. In frustration with government policy, a new coalition – the Existing Homes Alliance – has been formed to push for an 80% reduction in the carbon emissions of the housing sector by 2050 (see p.13). This would have the twin benefits of delivering major GHG emissions reduction and tackling fuel poverty.

Commercial sector

One area of the economy that government statistics indicate has cut GHG emissions substantially is business (including industrial processes). Emissions in 2006 were 30% below the base year¹⁵ – due mainly to a combination of reduced energy use and reductions in GHGs apart from CO₂.

So, is commerce the big success story in the UK climate strategy? Sadly not, and the reason is mainly the one discussed earlier – because of a growing imbalance between the import and export of energy-intensive goods. While UK industry has made some important efficiency and other technological improvements, the relocation of many industrial processes abroad has been a key factor in the reduction shown in the official statistics.

Put simply, we will not make significant and real cuts in emissions in industrial emissions unless we cut our consumption of energy-intensive goods.

Energy supply sector

The energy supply sector (which includes electricity generation and fossil fuel production) is responsible for the largest share – 36% – of UK GHG emissions.¹⁶ Currently, emissions in this sector are 15% below those in the base year. This large drop has been mainly achieved through a large-scale switch from coal (the highest carbon fuel) to gas for electricity generation. A small expansion of renewable energy has also made a contribution. However, emissions now are only at the same level as in 1995 because of a recent rise in coal use.

In order to make further progress in this sector, the government plans a nuclear renaissance and a large expansion of renewable energy, together with other measures such as more efficient use of coal and some end-use efficiency improvements.

SGR has criticised the attempt at a nuclear renaissance on many grounds,¹⁷ but perhaps the most pertinent to highlight here is the industry's continuing problems with delivering on its promises. Two current cases exemplify the point: the construction of the Olkiluoto-3 nuclear power plant in Finland (of the type most likely to be built in the UK), which is two years' behind schedule and well over budget;¹⁸ and the recent collapse of a financial deal between the French and UK nuclear corporations, EDF and British Energy.¹⁹

On the renewable energy side, after many years of frustration, we are finally starting to see a rapid expansion of electricity from renewable energy sources, especially wind.²⁰ However, the UK is still

failing to implement some of the most successful policies used by Germany in its recent large and rapid expansion of renewable energy, notably 'feed-in tariffs'. We urgently need this to change.

All this promised emissions reduction is threatened, however, if the UK simply goes ahead with a new generation of (albeit more efficient) coal power stations without a clear strategy for minimising emissions. Disturbingly, progress on the commercialisation of technologies such as coal gasification and carbon capture and storage has been all too slow.

We also need to deal with serious side effects caused by liquid biofuel. This renewable energy source is being phased in to try to reduce GHG emissions of road vehicles. However, much biofuel production is contributing to major problems – such as deforestation and food insecurity – and these must be dealt with if this source is to make a positive contribution to environmental protection.

More concerted action

It should be acknowledged that the UK has made some progress with tackling GHG emissions. While many other industrialised countries have seen their emissions rise rapidly – especially when international aviation and imported energy-intensive products are taken into account – at least the UK has managed to (roughly) stabilise them.

However, as the recent reports from the Intergovernmental Panel on Climate Change have shown, we urgently need to put in place programmes that will deliver real and large-scale cuts over the next few decades. Some of the major policies needed to bring this about have been highlighted above. However, the overall strategy must be to reduce greatly the demand for energy-intensive goods and lifestyles. Key in doing this will be the implementation of strong economic policies – such as ecological tax reform and personal carbon allowances – and facing down the opponents of these policies such as the motoring and aviation lobbies.

It will not be easy, but this is the only route likely to deliver enough emissions reduction to prevent devastating climate change.

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