Speech

Greg Clark: The economic case for acting on climate change

Greg Clark MP, Monday, October 26 2009

Last Friday we discovered that, despite all hopes to the contrary, the UK has not yet come out of recession.

This is now not only the deepest, but also the longest, economic contraction since the Second World War

Some have asked can we continue to afford to fight climate change at a time like this? Shouldn't we perhaps put it off until the economy gets moving again?

I: Addressing the question

Bad faith argument

It's a good question... though one that is sometimes asked in bad faith by those who'd oppose action on climate change at anytime.

That might be because they just don't believe the mainstream scientific position on climate change or, in some cases, because it doesn't suit their vested interests.

Either way, the recession argument is, for them, just the latest in a series of delaying tactics.

However, let's assume good faith and address the question head on.

The costs of fighting climate change

The first thing to note is its underlying premise - which is that fighting climate change is costly and, therefore, particularly unaffordable in a time of a recession.

As a working assumption, it forms part of a larger narrative that portrays environmentalism in purely sacrificial terms.
Ironically, this unites the greenest of the greens, who advocate a simpler way of life, with their sworn enemies, who see environmentalism as a matter of rationing and regulation.

My view is both extremes are wrong, and that this theme of great sacrifice - however you choose to spin it - is fundamentally misconceived.

To do so, I'm going to take a closer look at the apparent costs of climate change policy - and show you that far from coalescing into one undifferentiated sacrificial lump, they fall under three very different categories, each of which have their own justification:

- First of all, there are the costs that aren't costs at all, but actual savings - the money you don't spend on energy you stop wasting.
- The second category is that of investment. Compared to the first category there may not be instant savings to be made and the payback periods may be longer. However, following the breakeven point, the returns are still sufficient to provide a purely financial justification for action, over and above the environmental benefits.
- We don't get to what really are actual costs until the third and final category, which might not justify themselves as conventional investments - but which are justified by the contribution they make to reducing greenhouse gas emissions, and thereby minimising our exposure to the unpredictable and potentially extreme risks of climate change.

Now, let's have a look at each of these cost categories in detail.

II: Savings

First of all, the savings that arise from using less energy. These come under two sub-headings, demand reduction and energy efficiency.

Demand reduction

To look at demand reduction first, the world is currently experiencing the biggest contraction in energy use for decades:

- For instance, traffic on British roads is down for the first time since the three-day week in the 1970s. Similar patterns have been observed elsewhere - even the United States.
- Another example is global aviation, where the industry reports that carbon emissions are down - due mainly to the fact that less of its aircraft are up, because of reduced demand for air travel.

The impact of all of this on energy prices is even more dramatic. Over the same period, we've seen oil prices peak at nearly $150 per barrel, then drop and rise back up to about $80 per barrel now. Wholesale prices for gas and coal have also gone through the floor.

This isn't because the whole world has gone green, but because the credit boom has gone the way of every other bubble in history. The bitter irony is that far from being unable to afford action to stop carbon emissions, we can't afford to release them.

For the sake of jobs and prosperity we have to hope that the global economy will recover soon. But does that mean that energy demand and therefore carbon emissions will also rebound? To some extent they will. But in reassessing spending priorities, consumers and businesses will keep at least some of the savings they've made - producing permanent reductions in energy demand and carbon emissions.

For instance, the recovery plan for America's automobile industry has been predicated on a shift to lighter, more fuel efficient vehicles. Some would argue that having a smaller car represents a reduction in living standards. However, millions of consumers have already come to the conclusion that not only do they not need to use energy in such a way, they don't really want to either - and can find a better use for the money thus saved.

Efficiency gains

This brings me on to an entirely positive way of saving carbon by saving energy. This is energy efficiency - which is basically about using less energy to produce just as much of the things we use energy for.

If I were to tell you that you don't actually pay for any gas and electricity, you might want to wave your energy bills at me. But the consumer product really at stake here isn't fuel, but things like lighting, heating and hot water - which are collectively known as energy services.

Using less energy to produce the same level of energy service isn't a sacrifice for anyone; in fact it's a vital component of productivity - the ultimate source of economic growth.

There are many examples of energy productivity improvement in the home - such as better boilers, better insulation and better light bulbs. There will be many more examples in the future from simple devices that recover heat from waste hot water to organic LED televisions.

But here's an example that's on an altogether grander scale: the Empire State Building. This iconic landmark is currently undergoing a refit, the energy efficiency component of which will reduce energy use by almost 40%, generating annual savings of over $4 million and CO2 reductions of 100,000 tonnes a year.

Yes, there will be an upfront capital outlay - but factor in those savings, not to mention a substantial rise in rental value, and it is clear that this isn't a matter of cost, but of wealth creation.

III: Investment

A reward for patience

With an estimated payback period of three years, the Empire State project is not about instant savings. Rather, it's an investment - and compared to others available in downtown Manhattan, a very safe one.

Even before the credit crunch, 'investment' had become a much-devalued term - not least due to the efforts of New Labour, for whom there is no item of expenditure too profligate not to be called investment.

Energy efficiency, however, really is deserving of the description; as are various other green energy improvements.
It is true that some improvements have a quicker payback time than others. However, those that require greater patience often produce savings on a greater scale.

Obviously, upfront capital costs present an obstacle - one that looms all the larger in a recession. That is why I announced at Conference earlier this month that a Conservative Government would introduce a new entitlement, which we have called 'The Green Deal', for every home to be upgraded with up to £6,500 of approved efficiency improvements, the cost to be repaid over a period of 25 years through the energy savings made to the fuel bill.

We anticipate our Green Deal will unlock a private sector market worth at least £2.5 billion pounds a year for seven years, while creating over 70,000 skilled jobs and saving 9.4 million tonnes of CO2.

Green new deal

This sort of green investment not only generates the long-term benefit of an ongoing stream of saving, but the short-term benefit of upfront capital spending - an immediate and much needed boost the economy and job creation.

Furthermore, and unlike the kind of stimulus advocated by Messrs Brown and Darling at the start of this recession, the projects funded by green investments create the means by which the upfront costs can be repaid. Far from saddling our children with enormous debts, green investments produce permanent reductions in future energy costs. For a change, this generation could be doing something to reduce the burden on future generations - not only in terms of global warming, but in terms of cold, hard cash too.

Our Green Deal is the sort or private sector incentive that our economy needs to stimulate significant green investment.
Back in January, David Cameron and I launched the Low Carbon Economy, a green paper that set out the policies that a Conservative Government would pursue in order to secure such investment.

Together with further proposals to be published in our forthcoming energy green paper, we are determined to make Britain the world's number one destination for sustainable energy investment.

Economic reconstruction

There's a lot of ground to make up here. Earlier this year, the Financial Times reported on new research that shows that British investment in low carbon energy hasn't just fallen behind the likes of France, Germany and the United States, but also Bulgaria, Chile and Peru.

That should concern us, because we don't just have a recession to get out of, but a broken economy in need of reconstruction.

The days when we could rely on the short-lived bounty of North Sea oil and an even shorter-lived boom in the City are over.

With the ebbing of the oil and the bursting of the boom, our economy has suffered a double blow from which we will not recover unless we return to the task of real wealth creation.

In a speech in March, David Cameron put it this way:

"We've been over dependent on our growth on finance, housing and government spending - and we don't have the regional economies, the skilled workforce or the different industries and markets to fall back on and drive us through this recession.

That too has to change, and that's why our plans for fixing our broken economy will include new proposals for creating a more balanced economy."

There are two ways that energy policy can contribute to Britain's economic reconstruction:

- Firstly, by ensuring that we continue to produce a significant proportion of the energy we use. Given the depletion of our fossil fuel resources, that means we need to generate a lot more low carbon energy.
- Secondly, there is the wealth embodied in the associating manufacturing, construction and process industries.
  To those who say that we lack the necessary core competencies and comparative advantages to move in this direction, I say look at Britain's place in the world. Look in particular at the miracle of geography that is the North Sea.

If I may reiterate a point I made in my conference speech, Literally and figuratively our North Sea is still a sea of energy. Where else in the world do renewable resources coincide, in such abundance, with unusually shallow waters and enormous energy markets - not just on one coast, but two? We possess the world's best offshore wind, wave and tidal resources. Britain could and should be the Saudi Arabia of marine energy. We could and should be creating export markets in the design and manufacture of these cutting edge technologies.

And this isn't just about renewables. Beneath the shallow waters that surround us, within reach of safe harbours, we possess a vast resource of depleted gas fields and saline aquifers, with space to store not only natural gas, but also carbon dioxide - captured through the use of CCS technology. The power stations, refineries and energy intensive industries to which CCS could be applied are waiting on our shores - and those of our neighbours - ready to be connected by pipelines to those conveniently located storage sites. As in the case of renewables, the infrastructure requirements present a challenge, but also the opportunity to build new industries and create new jobs.

In this respect, the living inheritance of the oil and gas industry has vital role to play: above all, the priceless accumulation of marine engineering expertise. With our world-class research institutions, the world's greatest financial centre and membership of the world's richest market - Britain is well positioned to exploit its geographical good fortune.

Why on Earth wouldn't we want to make the most of all of that? How, in the light of the world situation, can we afford not to?

IV: Real costs

Not as much as you might think

The industrial potential of low carbon energy could go a long way to offsetting its costs. This is important, because not every low carbon technology will pay for itself as a conventional financial investment.

This is visibly demonstrated in a piece of research, which I am sure many of you are already very familiar with, called the Mckinsey Cost Curve. This takes the form of a bar chart in which the height of each bar represents the cost per unit of carbon abated by a particular green technology. By assembling those bars in height order, the cost curve is created.

On left side of the chart, the bars are inverted, reflecting the fact that the costs are negative; for the most part these represent the cheapest energy efficiency solution with the shortest payback times. As one moves up the cost curve, the costs are still negative, but the payback times are longer - requiring more patient investment.

It is only on the right-hand side of the curve that the costs become decidedly positive - exceeding the price of fossil fuel energy to various degrees.

Taken as a whole, the McKinsey cost curve shows why most economists believe that the overall costs of fighting climate change are affordable.

An insurance policy

But why should we pay any extra cost at all? The obvious answer is that the costs are justified by the avoided costs of climate change.

Of course, we don't know for sure what the extent of those costs might be. In attempting to quantify our exposure, economists tend work on the basis of a well-behaved bell curve of future possibilities. Unfortunately, complex phenomena like climate change don't work that way.

Advances in climate science mean that we have an increasingly good idea of what the most likely outcome is for a particular level of carbon in the atmosphere - and, on current trends, this would be bad enough. Yet, we can't overlook the fact that these represent midrange estimates. That might not matter if we could be certain that the actual outcomes won't deviate very far from the central predictions; but, to use the statistical jargon, these are left-tailed, fat-tailed distributions - meaning that the worst that could happen is really very bad indeed.

Thanks to factors such as the release of methane from melting permafrost, there is a danger that higher temperatures could trigger a vicious circle of runaway global warming, with truly disastrous consequences.

There are some risks, which are so extreme, so unpredictable, so global in their consequences, that they can't be tolerated.

We've come to know these as 'black swans', a term made infamous by the credit crunch, where conventional risk management techniques came spectacularly unstuck. When faced with a black swan risk the only way to protect yourself is to reduce your exposure in the first place. In the case of climate change, that means ending our grand experiment with the planet's atmosphere. The net costs of decarbonising the economy should therefore be regarded as an insurance policy - much as any sensible householder would pay to insure themselves against the remote, but real, risk of fire and flood.

And not just the climate risks

The insurance principle doesn't just apply to climate change.

As fossil fuel reserves become increasingly concentrated in unstable and unfriendly parts of the world, security of supply is another source of risk.

Much of our oil comes through vulnerable bottlenecks like the Suez Canal and the Straits of Hormuz. The same goes for natural gas, European supplies of which were badly disrupted last winter by the perennial dispute between Russia and Ukraine. As for coal, most people are surprised when I tell them that by far our biggest supplier is Russia.

Low carbon energy is different. Renewable resources are widely distributed and can be found close to home. The potential for energy efficiency improvements can be literally found in the home. Rapid progress on other technologies like solar PV and heat pumps will provide consumers with other options to meet their own energy needs.

Such security comes at a price, but the same could be said of fossil fuels. The costs may not show up at the petrol pump, but they are there in military budgets and various other hidden subsidies.

The balance is shifting

Even if we discount the concealed costs of the fossil fuel economy, few experts doubt that fossil fuels prices are heading up in the long-term.

This isn't because the oil is running out, but because oil in the easiest-to-reach locations is running short. Oil industry executives, and even OPEC oil ministers, openly admit that the "age of easy oil" is over.

That is why, in recent years, oil prices doubled and doubled again without any significant increase in supply. Indeed, it required an unprecedented slump in demand to bring prices back down again.

That, at least, might seem like good news, but in an age where replacement oil production has to come from difficult locations like the deep ocean and the Arctic Circle, low prices mean inadequate investment - which will leave the industry unable to meet a recovery in demand. If recent history is any guide, that will mean a future full of price spikes, not just in oil, but in the other fossil fuels too.

As for whether we can afford to fight climate change, it is worth remembering that the costs of action are calculated relative to business as usual scenarios, which are themselves based on price trends established during the age of easy oil. Those conditions no longer apply. There is no more business as usual. As with the global climate, we have entered an age of fundamental uncertainty.

However, in contrast to fossil fuels, the cost of low carbon energy is largely a factor of its capital costs, which for most of the technologies involved, are on a long-term downward trend. With fuel costs generally playing little or no role in the economics, the cost of the energy produced or saved by each low carbon development is comparatively stable, having been largely determined upfront. Indeed, in the case of energy efficiency, where energy is saved rather than produced, the costs actually go down as fuel prices go up.

Action against climate change therefore provides a hedge against the economic instability engendered by increasingly volatile fossil fuel prices. Those countries that provide themselves with such an anchor will enjoy greater economic stability than those that don't. In fact, the greater the disparity in low carbon progress between the best and rest, the greater the comparative advantage.

V: Why now?

I've made my case on the cost of fighting climate change. I've argued that many of the 'costs,' are not costs at all, but either savings or investments. Even where low carbon energy does cost more than fossil fuels, I've made the point that insuring against climate change, also insures against energy insecurity. Above all it provides a means by which this country can return to the task of real wealth creation.

You might accept all of that and still say: "Why act now? Why not wait until after the economy recovers?"

The political case

To that I say we've been waiting for twelve years already. Because don't imagine that that this Government used the economic good times to make progress on energy and climate change.

If they didn't even fix the roof while the sun was shining, they certainly didn't install any solar panels. In fact, they didn't even insulate the attic.

Despite two Energy White Papers, three energy departments and 15 different energy ministers, they did nothing. That is how, despite the entirely predictable depletion of North Sea oil and gas, we entered the age

of import dependency with just 15 days of gas storage capacity - while the Germans have 99 and the French 120.

We need an energy policy fit for the 21st century, not one forever stuck in 1997. That will require a Conservative Government - and like all new governments that want to make changes, we have to hit the ground running. Wait for two years and we might as well wait forever.

It's not an option anyway. With our generating and transmission infrastructure in desperate need of new investment, urgent decisions will have to be made - with long-term consequences. If we want a low carbon economy for the future then we have to make the decision now - recession or no recession.

The business case

That's political case for immediate action, but there's a business case too.

Tom Nicholas of Harvard Business School was recently quoted in an article for the Spectator:

"Although deep downturns are destructive, they can also have an upside. For companies with cash and ideas, history shows that downturns can provide enormous strategic opportunities."

History does indeed provide many examples:

- In the Long Depression of 1870s Thomas Edison started up a little company called General Electric.
- In the Great depression of the 1930s DuPont developed synthetic rubber and another new material you might have heard of called nylon.
- In the oil shock years of the 1970s, Bill Gates and Steve Jobs were busy founding Microsoft and Apple.
- And from the wreckage of the dotcom bubble, Google emerged from its status as just another search engine to become the information giant it is today.

I believe that in thirty years time we will look back to the current crisis, with a shudder at the recklessness of those who caused so much pain, but also with admiration for those who fought back by founding the great industries of the low carbon economy.

I don't think it's any surprise that the future-focused IT industry is investing heavily in clean energy. In fact, job creation in Silicon Valley is now heavily dependent on this new sector.

As with all parts of the economy, the downturn will have a disruptive effect, but, make no mistake, the race to develop green technology is already under way. Those companies and countries still up and running when the recovery eventually begins will be well placed to take the prize.

Britain, however, is already falling behind. Today British firms have less than a five per cent share of the global market for green goods and services - less than France, Germany and the United States.

Stop-go environmentalism

This is no time to slow down, take a breather, relax the rules or reduce incentives. The recession shouldn't make us less ambitious - it should make us more ambitious..

After all, this is a crucial time for climate change policy. With just over 40 days to go to Copenhagen, the recent pronouncements from the Chinese have never been more promising, the science has never been more certain, the technology never more ready .

Taking a temporary halt to proceedings now, with the intention of returning to the race in due course, is not a winning strategy. As Aesop might have said, it's a bad idea for the hare and an even worse one for the tortoise.

The renewal of our energy infrastructure depends upon sustained investor confidence, which in turn rests upon the support of a strong and stable policy framework. The chopping and changing of a stop-go environment policy would make Britain a no-go for investment.

Conclusion

It must be a primary ambition of the next UK government to dispel this uncertainty and turbulence in energy and climate policy.

With all the variables you already need to contend with; the recession, volatile energy prices, volatile carbon prices and reluctant credit markets, your work already contains sufficient levels of risk without government adding even more.

It should be the role of policy makers to offer a shelter from uncertainty, rather than be an additional source of it.

This will allow businesses like yours to be the ones to ensure that Britain is the country arriving at the future first, rather than trying to play catch up from behind.