

## Tacitus Lecture

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### “Is energy just another power game?”

Master, Wardens, Lord Mayor, Your Excellency, Alderman, Sheriff, Chief Commoner, Ladies and Gentleman, it is an honour to be asked to give the Tacitus Lecture and particularly on what is increasingly become a key issue of the day. Energy issues have been widely reported as part of this week's cabinet meeting; they are now part of the Scottish Referendum question; and the argument of the 1970s about who owns North Sea Oil is back on the table. A report which sets out how much more we can expect to be able to extract from the North Sea has been delivered, and yesterday the regulator Ofgem stepped into the competition debate.

The part of the energy industry though and the energy story which I am proposing to discuss tonight is about electricity generation and the supply of that electricity and the supply of gas to our businesses and to our homes. That is the business of the 80 members of Energy UK.

When you came in to this event this evening you expected to see the lights on; you expected to feel warm. But how many of you wondered where the electricity that powers this building and the three and a half million homes and businesses in this capital city comes from? Energy in all its forms we live with as a part of our daily lives; as something that will always be there and seldom do we consider it much more than that – until we get the bill and we have to pay for it and then we complain. Which is why energy is an issue that is both near the top of the political agenda and a high octane topic as well.

The industry has four main problems. The first, it is big at a time when to be big is to be attacked. The second is that it is necessary and it makes a profit when profits and paying dividends to shareholders are now constantly questioned. Third, a variety of subsidies are required in order to enact the policy of these last few years and the decade or more to come. And fourth, it is in the spotlight; partly because of some poor practices, partly because of opacity, partly because the energy policy and the people are not one the same page and partly, or mostly, because bills have gone up.

Yet the energy sector plays a vital role in the UK economy; it is an instrument for growth and it powers the UK.

In 2012 - which is the last year for which we have full figures - its contribution to the economic value of this country through both its direct and indirect activities was £102billion making energy one of the biggest industrial contributors. It provides employment for more than 650,000 highly skilled people, which means that in every road or street in this country on average there are three households where individuals work within the energy sector. It takes on more apprentices than most and it pays its taxes. This performance in economic terms and in job growth underscores the critical role that the sector plays for the UK and in powering its continuing economic recovery.

If I dare say to an audience where many of you will be from the City and the financial services industry, unlike other prominent sectors, the energy industry provides jobs predominantly outside London and the south east and in so doing supports the regions hit hardest by the recession of the last few years.

But if that is a difference to the financial services industry, the similarity is that energy is one which is not liked, and which is subject to significant political involvement and legislative and regulatory change. And as the financial services industry knows only too well, it is not possible to get out of the political spotlight without grief, change and substantial cost.

So let me look back for a moment in order to set the context for this Tacitus lecture which asks the question “is energy just another power game?” – A power game it is and in both senses of the phrase.

### Looking Back

Gas and electricity were both part of the privatisation processes of the 1980s and 1990s. Then we had plenty of North Sea gas and the UK was an exporter. At that time electricity was generated principally from coal-fired power stations - some of which had been around for many years - from the nuclear power stations and there was surplus capacity. Initially the post-privatisation and pre-privatisation worlds looked in some respects very similar but with many millions of people now holding shares in their local energy companies.

In private ownership though the industry could invest outside the shackles of Government and a “dash for gas” resulted, with new and efficient combined cycle gas turbine generators being built. It also looked upwards and outwards and, advised by the investment bankers, undertook mergers, acquisitions, de-mergers and restructuring – some for logical reasons and some for less logical reasons. Our houses may have been badly insulated but seemed warm enough (and we wore jerseys in doors 20 years ago); the cost of heating did not appear such a big issue and the lights were on. Governments came and Governments went of all political varieties and types; nuclear got in to a mess; a hiatus occurred; it was resolved.

The power generating industry rationalised forming a number of large companies who generated electricity and also supplied it and many of the small shareholders sold their shares and took the cash. National Grid assumed ownership and control of the transmission system and a variety of independent companies emerged owning the networks that connect the Grid to homes and businesses.

Then in the early 2000's the first of several reviews commenced centring around the climate change debate. That review asked the questions that we are trying to answer today:-

- What does a low carbon economy look like and how would we achieve it?
- Could carbon capture and storage come out of the laboratory and into the mainstream to reduce the carbon footprint of predominantly coal-fired power stations and also some of the heavy industry sector?
- Was there a future for nuclear and if so, what was it?

The next review in 2006 raised concerns on the dependence on oil and gas; concerns about carbon emissions and proposed putting the UK on a path to cut carbon dioxide emissions by 80% by 2050 compared with 1990. At the same time it emphasised maintenance of reliable energy supplies, promoting competitive markets and making sure that every home was adequately and affordably heated. Clean energy was highlighted, the renewables obligation came in to being to promote particularly wind and community-based systems such as combined heat and power. Putting a price on carbon was also proposed with the intention of executing this through an EU-wide arrangement known as the Emissions Trading Scheme.

This 2006 review became the 2007 white paper and the Climate Change Act of 2008. That Act put in place the framework to achieve that mandatory 80% cut in the UK's carbon emissions with an intermediate target at 2020. In fact the UK became the first country in the world to set such a long range and significant carbon reduction target into law and also, the first country in the world to create such a legally binding framework.

As part of this legislative process we also imported in to the UK the requirement of the EU for Europe to produce 20% of energy from renewables by 2020 which for the UK means 15% from renewables and alongside sat the two directives to reduce emissions, the Large Combustion Plant Directive and the Industrial Emissions Directive.

Meanwhile during the same period:

- the UK turned from being an exporter of gas to being an importer in 2004;
- by 2010 the world price of gas had doubled; and
- the UK and Europe were struggling with the aftermath of the biggest financial crisis for more than 100 years.

### Climate Change

Climate change has not just been around though for a few years, it has been with us for centuries. A look through the pictures hanging in the many galleries of London show long-skirted ladies and men in top hats skating on a frozen Thames. Meanwhile in Roman times there were vineyards in York. Climate cycles happen and the question this time is not is it happening but rather the degree to which the population and use of fossil fuel resources has aggressively added to the normal climate cycle. Harsher winters; colder summers; droughts in countries not expecting them; heat waves in the US and Australia; floods this winter in Britain have all ensured that climate issues remain of public concern, of business concern and of continuing political concern. But in the debate then on the Climate Change Act of 2008, much of that which should have been discussed fully was not raised and to this day some of these issues still do not get the discussion they warrant.

What should have been raised in that debate were the economic costs in the wider and the narrower sense and what it actually meant to meet these targets. Practicality and pragmatism appeared absent and as a result that proper discussion with the British people on what it was that we actually needed to do, how we needed to do it, what it meant to each and every one of us both in respect of where we lived and also in respect of our energy bill did not flow out from that debate and is still largely absent to this day.

Although that vote highlighted the huge importance of climate change, on the other hand I am always reminded of something that was attributed – whether rightly or wrongly – to two great parliamentarians of almost totally opposite views, Enoch Powell and Tony Benn. It was said that one of the very few things about which they agreed was that when the House of Commons passed legislation with total cross-party agreement, it would inevitably go wrong.

Let me hasten to add here, I do not believe that the climate change agenda is wrong, nor that cleaning up emissions and moving to a low carbon future is wrong. I think though that the debate at that time did not get into the issues and the practicalities that are required when considering what is a mainstream economic policy, its implementation and its importance to us all.

### The Trilemma

So this leaves us today with what is often referred to as the Energy Trilemma. That is meeting the decarbonisation targets for 2020 and beyond; providing energy security so that when people come home they can switch on their lights and their heating; and thirdly all at an affordable price. Considering that right now both householders and industry are concerned about their energy bill and that the further investment needed to meet the low carbon generation target requires an estimated £100bn or more and that this passes through, like any investment, onto the customer's bill, can the trilemma be solved? How is this trilemma solved? Or maybe we should turn it in to a different form of words and call the trilemma “who pays, how much and for what?”

Energy requires an open and honest debate with the people and led by the policymakers. It should not be a “who is to blame” game.

I am now going to set out my next set of remarks firstly in respect of generation, where we are and where we are going; and secondly, on the supply side, what does it mean for us and our customers. And then I will link the two together.

### Generation

The UK and the climate change targets of reducing emissions by 80% by 2050 and producing 15% of our energy from renewable sources are economy targets that have been predominately placed on the energy industry to deliver. Yet energy covers a number of things such as gas central heating and more, as well as the electricity for the lights. So the overwhelming majority of the targets relating both to carbon reduction and to renewables that this country seeks to meet – these pan economy targets – are not in fact placed on the economy or even on energy, they have in fact been placed predominantly on one sector of one industry and that is on power generation. Therefore, renewable targets translate as 30% of our electricity from renewables. At the same time, two directives, the Large Combustion Plant Directive and its successor the Industrial Emissions Directive (which will impact from the 1<sup>st</sup> January 2016) are being implemented, with the steady closure of the coal power stations that are not converting to biomass being the main consequence.

The economics of meeting these low carbon and renewables targets from power generation are complex. Renewables - predominantly wind, both onshore and offshore, and biomass - have high capital costs and in the case of wind, low running costs, but all need support or subsidies if they are to be built. This support is paid for by the customer.

Small scale schemes such as solar panels on a house get a feed-in tariff which is an attractive price for the homeowner who can sell their surplus electricity. The cost of this is socialised across all customers' bills.

Currently, the larger scale schemes require suppliers to purchase the power generated by the wind farms via the Renewables Obligation which again is passed through on to customer bills.

With the Electricity Market Reform proposals legislated for in the Energy Bill 2013, the financial instruments which will be used from now on to support or subsidise low carbon generation is the Contract for Difference. The first CfD has been awarded for new nuclear at Hinkley, for delivery in the mid-2020s. The CfD means that the low carbon generator is guaranteed a price for its output known as the strike price, necessary to give the investors the return they require. The difference between the wholesale market price for electricity and that strike price is paid for by the customer through a levy on the bill.

Let me try and put a little more in the way of figures to all this. The total amount of support for low carbon in this current year is expected to be £3.9bn rising to £7.6bn by 2020. If I add it all up together then this gives us a total of £39.75bn in the six years 2014 to 2020. Now let me put the costs another way. Today the wholesale price for electricity which I looked at before coming here today was £52 per megawatt hour. Renewables currently require a considerably higher price than this to be economic and hence the support.

Added to this is the refurbishment and upgrading of the electricity networks bearing in mind as well that renewables are unlikely to be the same place as the traditional power stations they seek in part to replace.

And another cost to add in is back up as renewable power is intermittent. On average, National Grid estimates are that wind is available for about 30-40% of the time. The back-up required has to be flexible and be able to start and stop quickly. The extra capacity needed is most likely to be predominantly gas. However, gas, at the current wholesale price of £52 per megawatt hour is also difficult economically and to such an extent that currently a number of gas generators have been mothballed. And although 23GW of new gas generation – which is about a third of the total capacity the UK needs - has received planning permission, most of this pipeline has either been suspended or is on hold, with only one plant proceeding. That 23GW would do nicely for replacing the coal and providing the capacity back up required.

For this to happen, the economics have to be right. So gas needs a payment to provide that extra capacity when needed; a capacity mechanism has been devised and legislated for to do this, but not yet implemented.

I have two further complexities that I want to add to the mix. The first is the US Shale revolution. In his acceptance speech following his election for the second term, Obama said “the US will no longer be dependent on foreign imports”. That shows the extent of that US Shale revolution providing both gas and oil with the result that US electricity prices have fallen like a stone. At the same time, by replacing its coal by gas the US has met its emissions targets as well. And another consequence is that there is now a glut of coal in the world so coal power stations are producing the cheapest electricity.

The second is the EU Emissions Trading System which was supposed to give a price and help provide a cost effective route for low carbon generators, as sadly one has come to expect, has ended up in a tangle and a muddle and the carbon price as measured by that trading scheme in the EU collapsed. To provide certainty, the UK set its own carbon price – the Carbon Price Floor – which is now significantly higher than that of the EU and rising.

So for the UK, there is a rising carbon price to be paid for predominantly by the coal generators, in recognition that they pollute, which is considerably higher than that being paid elsewhere in Europe; electricity prices are significantly greater than is the case in the US as a result of Shale and the intensive electricity users are raising competitive concerns.

This is complicated so I will draw this together. On the one side we have renewables being built; the subsidies are in place; new nuclear agreed; the Electricity Market Reform legislation is now in law; the Contract for Difference process has been agreed; and the capacity mechanism is in train; some biomass conversion is taking place; and it looks like we may well meet our 2020 targets. On the other side, coal-fired power stations are closing on a faster than expected trajectory; gas is not coming forward in the amounts that are required; subsidies are significant; customers are complaining about their bills; and the outgoing Chief Executive of the regulator, National Grid and others have highlighted the narrowing surplus capacity and the increasing risk of a capacity crunch.

I appreciate the complexity and that it does not easily fit in to a 20 second sound bite or a 10 sentence article. This power game is getting more dangerous; the sums of money are large; risks are increasing and so an open and honest debate is required and policy makers need to explain their policy to the people – and get the buy in.

### Supply

Now energy suppliers are not exactly the most popular part of the energy industry – to say the least; we are vying for the place at the bottom of the ladder with journalists, politicians and estate agents, though we are still ahead of second hand car salesmen and the blokes on the tube with backpacks that they stick in your face – and so I will start with competition and oft repeated myths.

- Everybody knows that there is very little competition in the supply market.
- Everyone knows that there are just six companies only and they are keeping everyone else out.
- Everyone knows that these companies are making big profits.

Are we really sure this is correct? I am a great believer in facts. I appreciate that they are boring and dull and sometimes inconvenient. Facts though are essential.

So let's look at the facts. First of all, there is something like 40 independent generators and around 20 independent suppliers. In this context "independent" means not the Big Six. A third of all the generator capacity is independent. About a quarter of all the electricity bought by business is from the independent generators. Nearly three quarters of gas is purchased by the business community from independent suppliers. This looks to me, and indeed to many others, as a lot of choice and a lot of competition in both electricity and gas for the business community.

In domestic supply it is different. Independent suppliers are only just starting to get in to that market. There are though now more than 20 independent suppliers and households are switching to them. I keep being told that people do not switch and that switching is low. The numbers tell a different story. The switching rate is pretty steady at around 250,000 households a month and more than doubling at times when either there is a tariff increase or when something else happens that brings energy prices to the front pages of the newspapers. For example, in November and December last year, about a million households switched. So, even a conservative assessment demonstrates that the run rate for switching is between 3 and 4 million households per year. It is very difficult to equate 3 or 4 million households switching with the word "low". Many more energy suppliers are bringing choice in to the market and the customer is taking that choice.

Just as the independents transformed the non-domestic energy market, they will do the same in the domestic markets. Even now, the analysts are saying that the domestic energy retail market is more competitive than it has ever been. The substantial growth of the independent suppliers although still small has been driven by competitive pricing. As a result the large integrated companies are taking notice of their smaller counterparts, are reacting to new tariffs and innovations which may well not have otherwise taken place. The influence of the independent supplier already extends significantly beyond the customers that they directly supply. Competition in actions is beneficial to all.

So what about the "big profits"? There has been much misinformation about supplier profits and charges. At one end, there is use of accounts that are provided to the regulator in a way for which they were never intended, such as where earnings before interest, before tax, before depreciation and amortisation is being referred to as profit when it manifestly is not. At the other end, the energy companies make at or around £50 per customer per year. That is £1 per household per week. That does not look like a big or an excessive profit and especially weighed up against the very large sums that need to be spent on investment.

Even more schizophrenic is the proposal for a price freeze. A typical energy bill is composed of several elements of which a number are outside the control of the supplier. As the analysts have all clearly stated, the only way to avoid a massive problem is for big increases before the freeze and big increases after. But even then, we will lose some of the small suppliers who have brought such good competition in to this arena.

The mantra that proposes that price freeze says that at the end of it the wholesale market will have been restructured, generation will have been separated from supply and therefore all will be “ok” is disingenuous. There are always points and actions to be made about improving the operation of markets but it is difficult if not impossible to see how the outcome of such restructuring could possibly meet the expectation.

It is therefore hardly surprisingly that the energy companies, large and small, integrated or independent, an incumbent or a challenger welcomes the Government proposal for the authorities to undertake a competition assessment. An aura of allegation and counter claim; of misinformation; of confusion and of inaccurate assertion in these three areas or elsewhere, serves neither the industry, its customers nor indeed the UK well. We may be used to an aggressive debate on issues played out in the public domain in this country, however the investors are from overseas and the £100+ billion of investment required means that we compete for that investment both with other countries and indeed with other utilities. The debate here is not an attractive one for those international investors.

### Looking Ahead

Let me use my few moments remaining to say what needs to be done. Firstly by the industry who needs to take some of the domestic supply issues off the table and reduce the continuous stream of negative commentary and customer concern. Some actions are simple, ranging from clear bills and what does it mean, speeding up switching and making it more secure, solving the direct debit questions, bringing in the simpler tariffs, ensuring they are easier to compare, insulating homes, answering the phones and responding to complaints.

This list is not intended to be complete rather it sets out what is underway. It is easy to lose trust and hard to regain it and I suspect that it will be a long period of doing the right thing before these changes underway are properly recognised. And research shows that the industry is not believed. But do it the industry must and do it the industry will. That price freeze has touched a well of concern and should not be ignored.

A more compelling case is also required for customers of all types to conserve energy, insulate homes better and manage demand. Smart meters are on their way and that will help make saving energy visual.

And on the generation side as long as the necessary support is there for the low carbon technologies, we will build our plants, replace old nuclear with new, install the wind farms on and offshore and build the back up as required.

All is possible but there are provisos. Timetables need to be sensible and the programme must be fully explained to the population by the policymakers. Including the recognition that, as with any other industry, investment in generation will feed through to what the customer will pay. To have a policy that requires a major investment to bring it about but then to criticise the consequence, is like ordering champagne and blaming the waiter when you get the bill.

I worry that expectations are being raised that cannot be delivered and the ultimate risk is the energy security that is rightly considered to be a fundamental requirement of our economy and a right for the British people.

Energy – power - is being fought over from the perspective of policy, it is being fought over from the perspective of price, it is being fought over from the perspective of what should or should not be built, it is being fought over from the perspective of security of supply and it may well play a significant part in the 2015 general election. This is a political game and a power game about which we should all be concerned. I say again that a trilemma of decarbonisation, security of supply and affordability is in reality who pays, how much and for what. The right end game does not need more legislation, more regulation or more policy. It needs decisions on priorities and an open and honest debate.