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WHEB



ABOUT WHEB

WHEB is a specialist investment manager focused on the opportunities created by the global transition to more sustainable, resource efficient and energy efficient economies.

We are independent and owner managed.

Our focus is to create long-term value for our clients through a small number of high conviction products.

We are known for our extensive experience, thought leadership and innovation.

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EDITORIAL

"The future is already here – it is just not very evenly distributed" - William Gibson

It is still early days in the unfolding transition to more sustainable, resource efficient economies, but the patterns and structures of this new industrial paradigm are nonetheless slowly emerging. As William Gibson points out, the future is actually already here, you just need to look closely.

One person that you need to listen to if you are trying to understand how markets are likely to evolve is the legendary investor Jeremy Grantham. Jeremy has done more than almost anyone to alert the investment community to the issues of climate change and resource scarcity. Too few are yet taking his advice, but Ben Goldsmith was lucky enough to catch-up with him over the summer and we publish our interview with him in this edition of our new WHEB Insights.

Another area that is evolving very rapidly is the electric utility industry. Incumbent utilities in countries such as Germany, where renewables now represent a significant proportion of overall generating capacity, are being fundamentally challenged by the scale and pace of renewables deployment. Michael Pearson from WHEB's infrastructure team looks further at the dynamics now shaping the future of this critical sector in Europe and increasingly in the US and elsewhere.

Finally, George Latham from our listed equity business reports on the work that WHEB has been doing to embed sustainability frameworks into the investment processes of corporate pension funds. Our approach has been to bring together the Chief Sustainability Officers of leading corporates with the heads of the equivalent pension fund to share perspectives and expertise and seek greater alignment between the two. We summarise the discussions and key conclusions.

We hope you enjoy this edition of WHEB Insights.

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MASTERCLASS: JEREMY GRANTHAM ON INVESTING, RESOURCE SCARCITY AND CLIMATE CHANGE

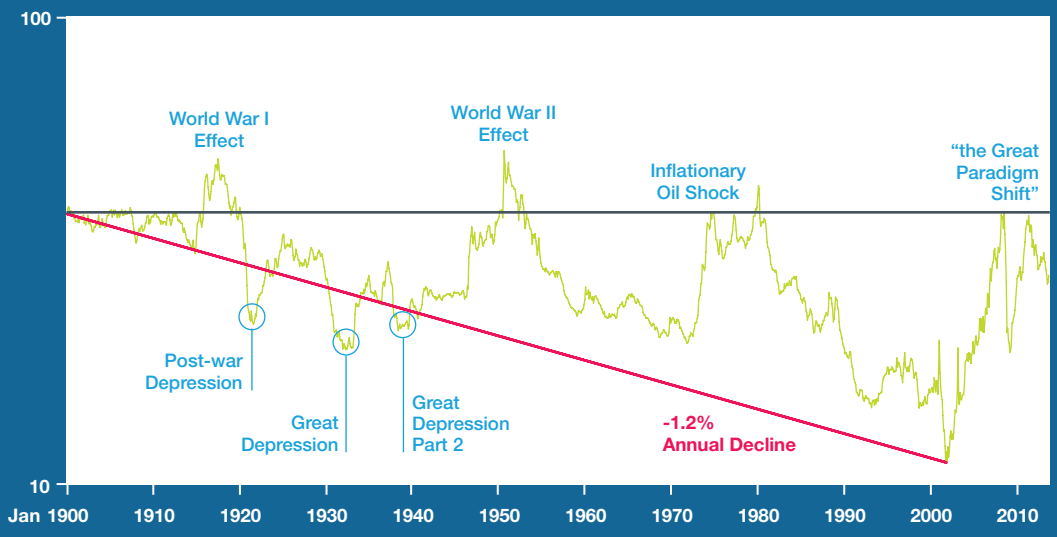
Ben Goldsmith, Head of Sales and Marketing and a Partner at WHEB spoke to Jeremy Grantham, the Chief Investment Strategist at GMO, on resource scarcity and climate change and the implications for investors.

During the summer I was thrilled to have the opportunity to sit down with one of my personal heroes the legendary investor Jeremy Grantham. Jeremy has a remarkable investment record as the Chief Investment Strategist at the Boston-based firm Grantham Mayo van Otterlook. He has also become one of the most outspoken and articulate commentators on the implications of growing natural resource scarcity for financial markets.

Ben Goldsmith (BG): Jeremy, you have said in the past how focusing on data related to resource use can clearly show what problems we are up against. For those who still think that climate change and resource scarcity is some sort of conspiracy dreamed up by environmentalists, what would you say?

Jeremy Grantham (JG): Our approach has always been to interrogate the data, and it is data that drove me to the problem of resource shortages. My team specialises in spotting bubbles in asset classes and we had an infamous exhibit called 'all bubbles break' – all the important bubbles we could find had broken and we had had a similar view of oil. It took me, I'm ashamed to say, two years to realise that oil was probably not an example of a bubble breaking back to a pre-existing trend, and instead was the first paradigm shift that I'd ever come across out of the literally thousands that we'd looked at.

Figure 1. GMO Commodity Index: The Great Paradigm Shift



Note: *The GMO commodity index is an index comprised of the following 33 commodities, equally weighted at initiation: aluminium, coal, coconut oil, coffee, copper, corn, cotton, diammonium phosphate, flaxseed, gold, iron ore, jute, lard, lead, natural gas, nickel, oil, palladium, palm oil, pepper, platinum, plywood, rubber, silver, sorghum, soybeans, sugar, tin, tobacco, uranium, wheat, wool and zinc.*

Source: *"Time to Wake Up: Days of Abundant Resources and Falling Prices Are Over Forever" by Jeremy Grantham. GMO Quarterly Letter, April 2011*

BG: But is it only oil? Or is there a wider pattern emerging?

JG: Well, being rather slow on the uptake, it took me another two years to gestate the question why oil would be the only finite resource to respond to the pressure it was meeting. As we studied the data, we realised that of course it was not, and that the world had begun to change pretty dramatically around the year 2000. We came out with a big report, which has been my one and only scoop, and showed that we were clearly entering a new era of scarce resources and rising prices. The commodity price declines that we had seen for 100 years had been incredibly helpful in creating wealth at about 1.2% a year or a total of 70% from 1900 to 2000, but then from 2002 to 2008 it gave the 100 years back and we were back to where we had been in 1900 (see figure 1).

Why was this? There was no world war three, there was no fight with Saudi Arabia and yet it was a bigger move than what happened during World War Two. So that was really an amazing story, commodity prices had tripled and oil had quadrupled without any fuss, without anyone really screaming about it. People focus so much on housing and finance that they were missing one of the great commodity moves of all time. Perhaps it is the single most important event since the industrial revolution because we really are beginning to run out of resources and if we live in a world where prices slowly rise, there will be a very critical shift in the economic environment, one that will cause a substantial slow-down in economic growth.

BG: And how does climate change play into all of this?

JG: Early action is important in dealing with a lot of resource scarcity issues, but the area where time really isn't on our side is in dealing with carbon emissions and climate change. We have got to somehow rise to the occasion on carbon emissions, even at a time when the pain from climate change is not immediately obvious. That's the real problem. We are slowly being warmed in the pan and we can't find the incentives to react yet. Meanwhile the damage is accumulating and, as you probably know, there is no confidence from scientists that limiting warming to two degrees will save our bacon. Two degrees may turn out to be irreversibly bad and there are many more people who think that today than ten years ago.

BG: Not forgetting climate change's ugly twin sister, ocean acidification, which nobody really talks about!

JG: Thank you – yes. It's unarguable that rising carbon dioxide emissions are making the oceans become more acidic, in turn threatening life in the oceans and the more than one billion people who are directly dependent on the oceans for their livelihoods.

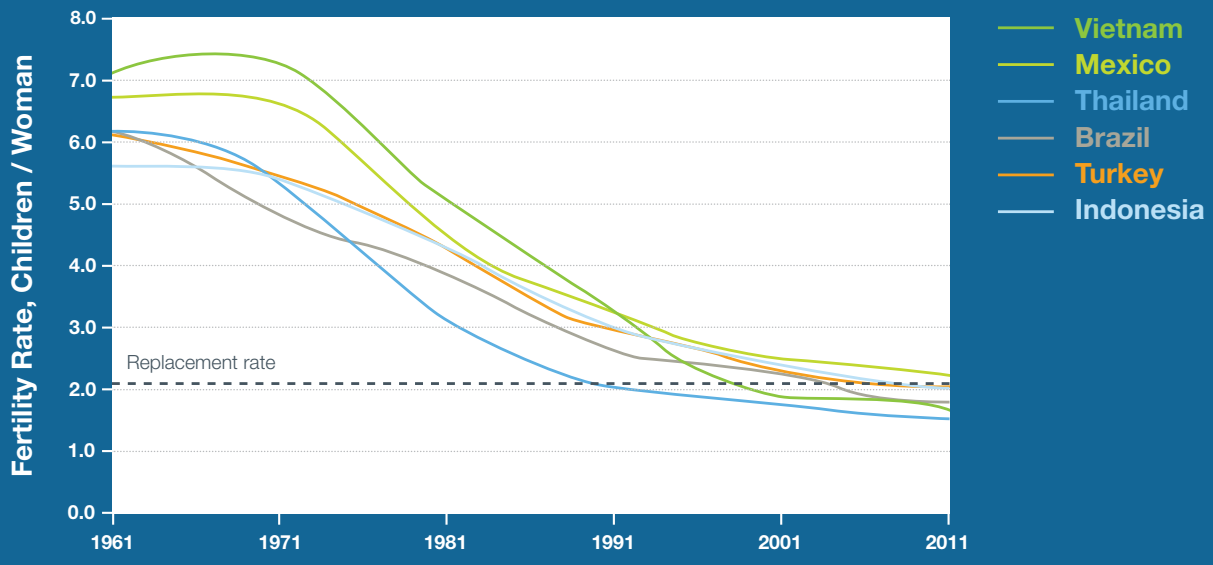
BG: So where are we likely to see the impacts of rising resource scarcity?

JG: Well, we are already seeing some of these impacts, and one region that is particularly vulnerable in my view is North Africa and indeed much of the Mediterranean circle. This region is particularly wheat dependant. So, in Egypt for example, you go and buy your wheat and take it home and it has USA printed on the sack and when the price triples, which it did, the country has to pay triple. Wheat is often subsidised for the individual but, in the end, Egyptian society has to pay the difference and Egypt's oil has peaked and the reserves are not there to pay for these resources. Meanwhile the population is still going through the roof. It has gone from 3 million in Napoleon's time to 80 million today with forecasts of a further 60 million to come. Egypt is already very productive and so can't easily increase its output, so who's going to buy the food for the next 60 million people? My concern – and we are perhaps already seeing this – is that this sort of things destabilizes society, and around the Mediterranean rim, you're going to find country after country, unless they're lucky, becoming dangerously destabilised.

BG: Ok, that is all pretty stark, but is it all doom and gloom?

JG: Well actually population and the global birth rate is one area of good news. It was actually in 1961 that the global birth rate peaked at 2.1% per annum and since

Figure 2. Declines in fertility rates in Emerging Countries



then it has been in decline. A decline that has been literally transcendental – the only word I can think of that adequately describes the change. In Iran in 1961, the average woman had 7 children. Now it is 1.6. Even in a dirt poor country like Bangladesh, the average has gone from 7 to 2.2 – just a tiny bit above replacement level. Country after country is coming down – the whole of Asia is way below replacement. The whole of Europe is way below replacement and, in the very last numbers, the USA just dropped to 1.9. So this was utterly unexpected. A complete god-send in my opinion and with luck and some encouragement we could stabilise the global population at 8 billion and then have it drift down from there.

BG: Where else can we see really positive trends?

JG: One area is in renewable energy, particularly solar. The progress in renewables is so much faster than the typical, reasonably well-informed businessman realises. The price of solar panels is now just a quarter of what it was just three years ago. Solar is on the cusp of literally changing the whole utility industry. In California, 97% of new energy infrastructure that is expected to be built in the second half of 2013 is going to be solar, with the remaining 3% in biomass. In Europe, 70% of new energy infrastructure is renewable energy and in China it is over half.

‘The progress in renewables is so much faster than the typical, reasonably well-informed businessman realises.’

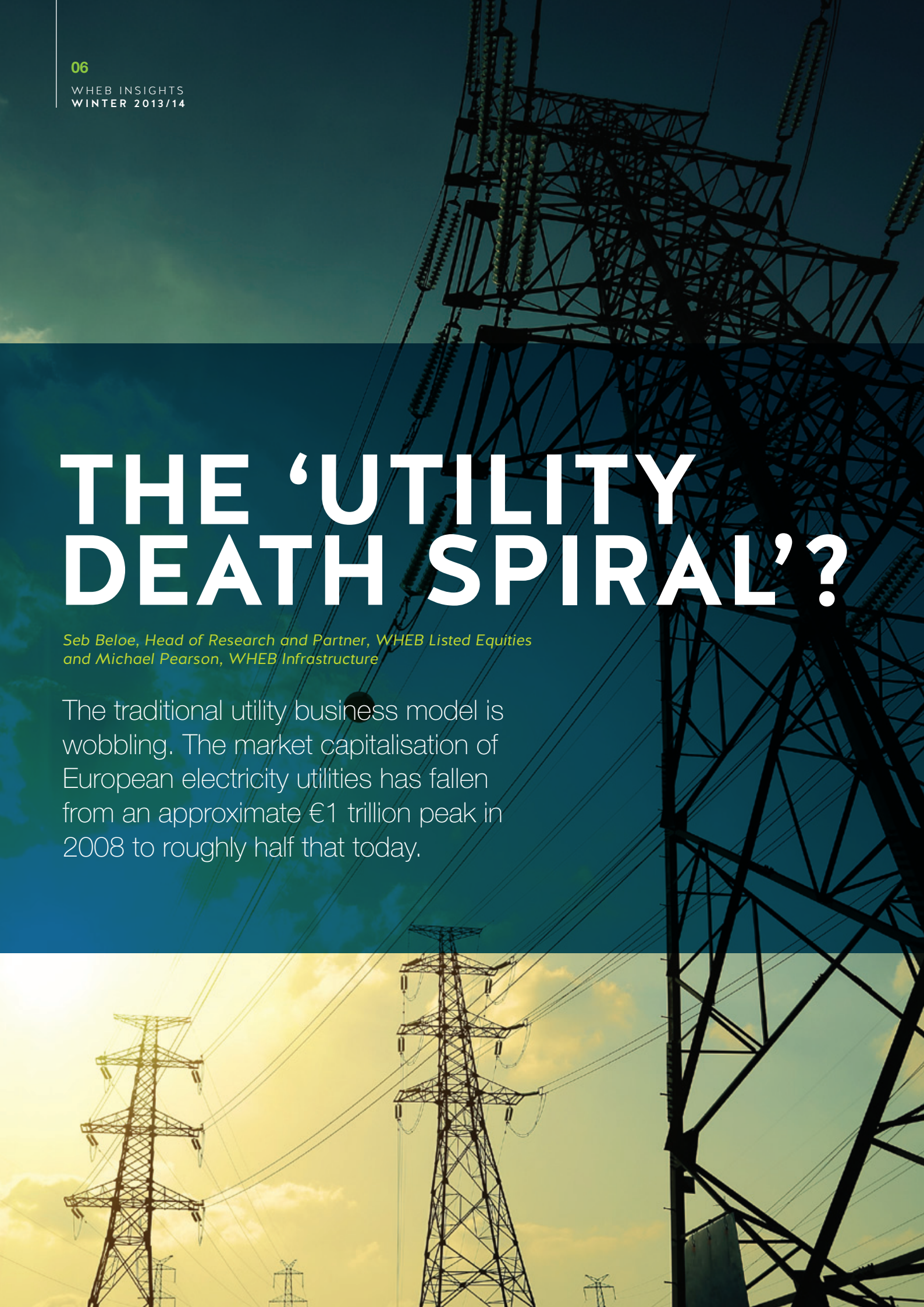
BG: So the good guys – as far as renewables goes – are winning. Are investors in renewables leading the charge?

JG: Don’t get too carried away! England has an attitude that is notoriously dopey on these issues and is still influenced by the ‘bad guys’ that to a degree is only seen in the US, and investors are not really moving as fast as the science and engineering. Really they are just following along and it’s down to the brilliant leadership of places like Germany and California. It isn’t being driven by eager minded, capitalists to be fair. It will eventually be driven by the market. As the numbers keep ticking through, capitalism will fully engage and the attitudes in England and America, particularly in America, will be swept away.

BG: What would you say needs to change to get investors to play a more constructive role here? Is it back to having a longer term investment horizon?

JG: I am not sure I have anything particularly profound or original to say on this. I would do away with quarterly reports, and the short term measurement periods for managers. You need to be very careful about incentive payments and make sure that they’re symmetrical. It’s all quite obvious how you’d make improvement. If we had to depend on the leadership of the investment management industry, it would be very slow. I think if we make it through this, it will be because the technology will move fast enough and the venture capitalists and some capitalists will move fast enough and it will be down to these asset managers. For the clients, it will become increasingly obvious that it’s a done deal. They won’t have to be heroes and they won’t have to use their brain. Things will just fall into shape.

The question at the end of the day is if we’ve been very lucky or slightly lucky and scraped by, in what condition will we have left the planet and what are the interactive effects of a warmer destabilised climate on the critical issue of food production. Even this in my lucky outcome, that is not knowable, it is not knowable how bad the weather will get, it is not knowable how adaptable ecosystems will be. They’ve had ten thousand years of very stable weather, they are designed for a world which is beginning to go out of business. The degrees of uncertainty are so great on climate change and that is what makes it so dangerous. ■



THE 'UTILITY DEATH SPIRAL'?

Seb Beloe, Head of Research and Partner, WHEB Listed Equities and Michael Pearson, WHEB Infrastructure

The traditional utility business model is wobbling. The market capitalisation of European electricity utilities has fallen from an approximate €1 trillion peak in 2008 to roughly half that today.

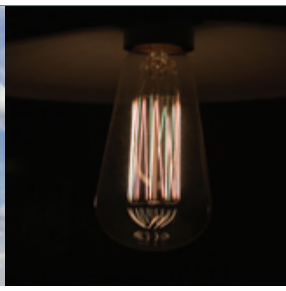
Even during the last 12 months, RWE and E.ON's share prices are both down more than 20% while the German index is up more than 20% over the same period.[i] The 13th PwC Annual Global Power & Utilities Survey, published in October 2013 found that 94% of global power and utility executives predict a 'complete transformation of, or important changes to, the power utility business model'. 67% also expect technology and new supply sources to dramatically reduce dependence on oil and gas-rich countries.[ii]

It is perhaps no wonder that RWE's Supervisory Board is reported to be considering a radical departure from its traditional business model by focusing instead on being 'a service company applying energy supply capabilities and information technologies intelligently'[iii]. In our view, the electricity utility model has been caught out by a combination of the scale and pace of technological change, and shifts in the underpinning economics and politics of electricity production and distribution. Like industries as diverse as publishing, music and film, executive recruitment, communications and estate agency before them, they are seeing their traditional business models and structures torn apart by new technologies.

The changes facing electric utilities are underpinned by a revolution in renewable technology, especially solar photovoltaic "PV" technology. Deployment of solar PV has now reached such a scale that it has helped reduce prices of solar panels by 80% in the last five years[iv]. In Germany, renewables are now generating electricity at such volumes that they are overwhelming the traditional dynamics of electricity market pricing to the point that electricity prices have actually turned negative at certain times[v]. At midday on a sunny day in Germany, when power consumption and prices are traditionally at their peak, solar PV accounts for approximately 50% of electricity generation. As a result, peak power prices have been slashed from €14 per MWh above base-load prices in 2008 to a premium of just €3 in 2013 and are obliterating the peak pricing model of traditional utilities[vi]. Other markets with growing renewables penetration such as California look set to follow suit.

The situation though is much worse for the utilities. Efforts to improve the efficiency with which energy is used mean that growth in demand for electricity, already weakened by recession, looks lacklustre at best. HSBC estimate that the EU's Energy Efficiency Directive, combined with other measures, will cause heating and electricity demand to fall by 14% and

'94% of global power and utility executives predict a 'complete transformation of, or important changes to, the power utility business model'.'



8% respectively from 2012-2020.[vii] While worrying for utilities, this is clearly good news for consumers (and the environment). In fact, because German households are already so well-insulated, electricity bills are actually lower in Germany than they are in Texas even though the price of electricity per Kwh is more than three times as much[viii] (see figure 1).

Worst of all though, renewable generating capacity is overwhelmingly owned by householders, farmers and small businesses and not by utilities[ix] (see figure 2). This makes the policies that support renewable energies like solar PV very popular. This is as true in the USA[x] as it is in Germany[xi]. Owning generation equipment helps mitigate higher energy prices and shifts revenue away from utilities to individuals and communities, driving what some have called a 'utility death spiral'. As more people install solar, the more attractive the technology becomes, thus accelerating the process. In a recent research note entitled 'Energy Darwinism'[xii], Citigroup concluded that 'combining the declining size of the electricity market in terms of volumes with the declining market share for conventional generation, could see [developed market] utilities in their current form suffer a 50%+ decline in their market'.

Figure 1.

	Average Monthly Consumption of household (kWh)	Price (Cents per kWh)	Monthly Bill
New Mexico	669	11.00	$73.57
Iowa	898	10.46	$93.94
Germany	320	33.85	$108.32
Texas	1,262	11.08	$139.81
Alabama	1,284	11.09	$142.41

i Bloomberg data, 30 October 2013
ii Energy transformation: The impact of the power sector business model, PwC, October 2013
iii RWE sheds old business model, embraces transition, Karel Beckman, Energy Post, 21 October 2013
iv http://cleantechnica.com/2013/05/06/solar-pv-module-prices-have-fallen-80-since-2008-wind-turbines-29/
v http://cleantechnica.com/2012/12/29/negative-european-power-prices-seen-sunday-through-thursday-due-to-strong-wind-power-supply/
vi How to lose half a trillion euros, The Economist, 12 October 2013
vii German Utilities, HSBC Global Research, 9 September 2013
viii 'Why we need the energy transition', Heinrich Böll Foundation, (www.pl.boell.org/downloads/Boell_Energy_change_in_Germany.pptx)
ix Citizens own half of German renewable energy, Craig Morris, Energy Transition, 29 October 2013
x Middle Class Homeowners Flock to Rooftop Solar, Anne Mulkern and Climatewire, 22 October 2013
xi http://www.earthzine.org/2013/08/22/solar-power-remains-popular-in-germany-despite-cost/
xii Citi, 'Energy Darwinism: The Evolution of the Energy Industry', October 2013

Traditional energy utilities will not of course disappear entirely, and in some regions are likely to remain dominant. Very large scale, highly capital intensive offshore wind, for example, is ideally suited to utilities with the balance sheet strength and capital allocation models that support these developments. Elsewhere, back-up generation will be required for intermittent renewables – at least until large scale energy storage becomes more commercially viable – and transmission and distribution as well as wider energy services will become increasingly important. However, the danger for traditional utilities is that rather like the role of copper-line landlines in contemporary telephone networks, they will remain, but progressively become static, low margin businesses, while the real action moves elsewhere. ■

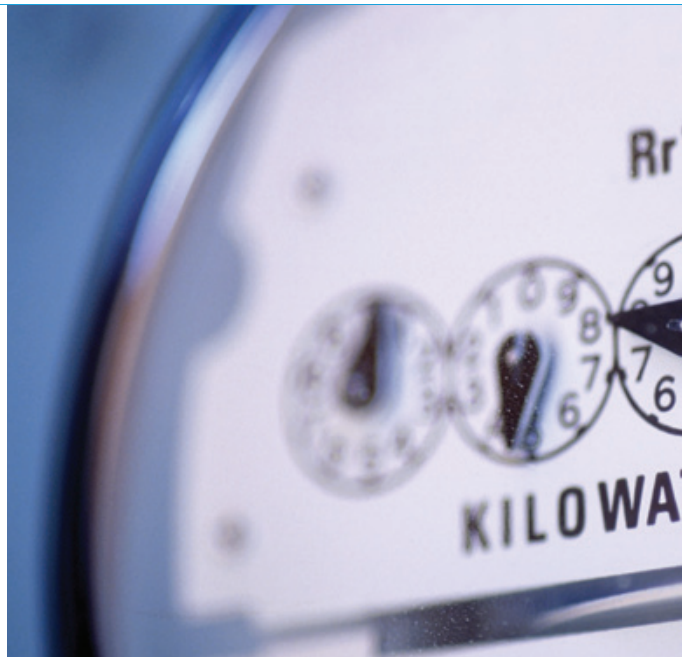
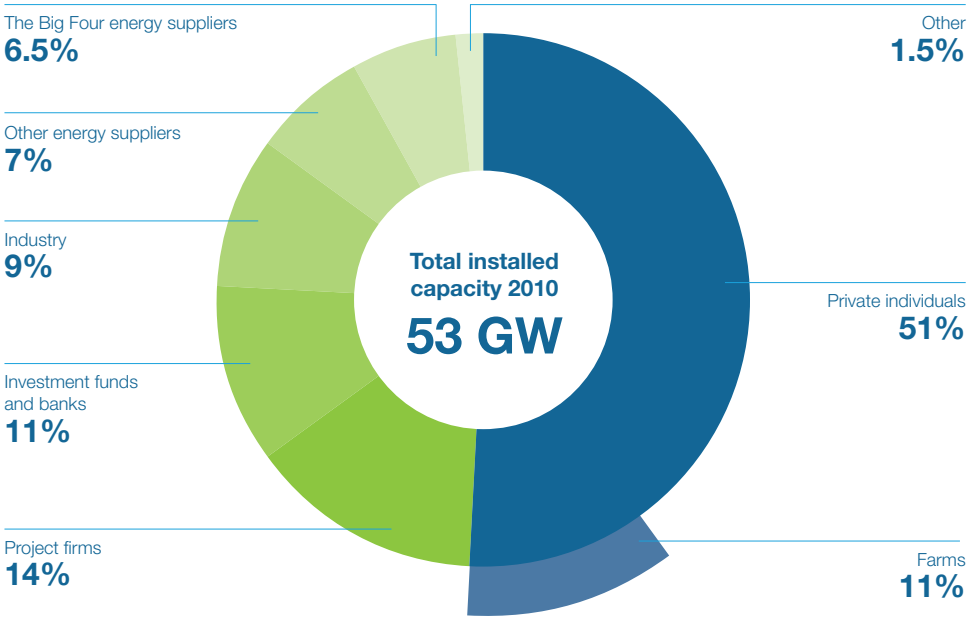


Figure 2.

Renewables in the hands of people

Ownership of renewables installed capacity in Germany, 2010



FROM CORPORATION TO CORPORATE PENSION

BRINGING SUSTAINABILITY INTO PENSION MANAGEMENT

George Latham, Managing Partner, WHEB Listed Equities

Fifteen or twenty years ago, in many of the companies we analysed, corporate responsibility was a part of the public relations team. Such 'CR' was typically limited to philanthropic activity such as building playgrounds or charitable donations, and was separate from the core business activity. Little wonder it was difficult to persuade the financial community that this had much to do with investing.

Today, the picture could not be more different. Increasingly, the Head of Corporate Sustainability or even the Chief Sustainability Officer has a strategic position, closer to the Chief Executive's office. Progressive Chief Executives have recognised the issues addressed under the headings of Environmental, Social and Governance "ESG" as critical to long term commercial success. These long term ESG themes offer an opportunity for value creation if they are aligned with overall business strategy and represent a threat to the business if they are ignored.

In businesses where sustainability is seen as a boardroom issue, would it not be logical that the company's pension fund should take the same approach? This was the question we posed to a roundtable of some of the leading companies in the UK. The invitation was addressed jointly to corporate sustainability and pension team executives from 10 FTSE100 companies. These executives were encouraged to come in pairs to two roundtables held at WHEB earlier this year and are continuing to meet to explore the issues raised and share their own experiences.

A sensible way of aligning business strategy with ESG is to frame the debate in terms of risk management. Pension funds are typically interested in the steps the corporate sponsor is taking to protect long-term cash flow from the business, and the sponsor has a keen interest in the way the pension fund approaches issues of long-term exposure and volatility. This discussion is no longer seen as a threat to the independence of the pension scheme from the corporate sponsor, which was an early concern, but rather an opportunity to understand better the other's perspective and even

'In businesses where sustainability is seen as a boardroom issue, would it not be logical that the company's pension fund should take the same approach?'

to leverage expertise and insights. Given that pension schemes do not compete directly with each other, this is also an area where pension funds benefit from collaboration, particularly at a time when they are challenged by thin resources, which makes it difficult to channel energy away from near term and operational issues.

Many of those attending WHEB's roundtable highlighted how engaged staff are with their corporate stance on sustainability, but remain frustrated in their ability to continue this thinking through to their pension fund. One sustainability executive commented on his own experience: "I nearly hit the roof when I found out my DC (Defined Contribution) pension's largest stock holding was in Exxon, [and] we're not given any sustainable options". A common frustration for many scheme trustees, particularly in a DC context, is the challenge of engaging staff on pension issues. At a time when financial services and investment management are held in low regard[i], perhaps adopting a more integrated and aligned approach to sustainability within pension management represents an opportunity not just to help manage investment risk, but also to engage better with employees. Several corporate pension funds are now thinking this way and will be sharing their experiences at our next roundtable. ■

'A sensible way of aligning business strategy with ESG is to frame the debate in terms of risk management.'

i http://www.edelman.com/insights/intellectual-property/trust-2013/trust-across-sectors/trust-in-financial-services/

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