Renewable energy investment: A pause for breath?

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"History does not follow straight lines. And neither does the future," remarked Alvin Toffler, author of The Future Shock. His topic, in an interview with the Chinese People's Daily in 2006, was China itself. But in 2013, those same words might apply just as well to the transition of the world energy system.

For eight years up to 2011, global investment in renewable energy enjoyed a steep upswing. Yes, there was a minor, temporary setback in 2009, in the teeth of the financial crisis, but the trend was powerfully upwards - from US$40 billion in 2004 to US$279 billion in 2011.

However, in 2012, there was a meaningful bend in that line for the first time. Investment in so-called "new renewables" that exclude large hydro-electric projects of more than 50MW fell back 12 per cent to US$244 billion. It is too early to be confident about the likely figure for 2013, but data from Bloomberg New Energy Finance for the first half of this year suggest that it will, again, fall short of the 2011 record and could well be lower than the shrunken 2012 total.

World investment in renewable energy has indeed flown into a bit of an air pocket. The question is whether the resulting weakening of the dollar figures since 2011's record marks global disillusionment with the low-carbon transition at a time of economic difficulty in many countries - or whether it just shows the merit of Toffler's observation, in other words that even trends with strong momentum unfold in zig-zags as exuberance gives way to consolidation and then to re-acceleration.

Part of the answer lies buried in the numbers themselves. Two big things are evident when you dig deep. The first is that even though dollar investment fell in 2012 from the record of the previous year, the amount of renewable power capacity added to the world electricity generating system did not. In fact, 2012 was a record year for commissioning of both wind power (48.4GW worldwide) and solar photovoltaics (30.5GW). Altogether, renewable power capacity excluding large hydro accounted for 41.6 per cent of all generating capacity added last year, up from 36.3 per cent in 2011 and the highest figure ever.

The explanation is that technology costs have fallen sharply. Onshore wind turbine prices per MW dropped by some 25 per cent from their peak in 2009 to early 2012. Average PV solar system prices worldwide fell by 30-40 per cent between 2011 and 2012 alone, the lower end of this range relating to residential systems and the upper end to utility-scale solar parks.

The second thing that emerges is that a big swing in the geographical balance of investment is taking place. In 2004, some 80 per cent of world investment in renewable energy was in developed economies and only 20 per cent in developing economies. Even in 2011, the balance was 66 per cent in developed and 34 per cent in developing. But last year, this shifted to 54 per cent in developed economies and 46 per cent in developing countries. While investment in the former fell sharply, from US$186 billion in 2011 to US$132 billion in 2012, outlays in the latter increased for the eighth successive year, this time from US$94 billion to US$112 billion.

The two halves of the global economy were seeing very different trends in 2012. In developed countries, governments were reducing incentives for renewable energy deployment, partly in response to those cost improvements but also to protect the public finances or shield consumers from excessive increases in their electricity bills. Subsidies were cut in Italy, Germany and the UK, they were taken off the table entirely in Spain, and in the US, two important federal incentives expired late in 2011 and a third one looked likely to expire at the end of 2012 (although in the end, it was extended for another year). All this created uncertainty in some of the busiest markets for wind and solar deployment of recent years.

Meanwhile, in developing nations, the hunger for additional power capacity as economies grow, and the reduced cost of renewables, are continuing to drive investment. Last year, China was by far the largest investor in renewable power and fuels, at US$66.6 billion, up 22 per cent on the previous year, but there were also totals of between US$1 billion and US$10 billion from India, Brazil, South Africa, Morocco, Kenya, Mexico, Thailand and Turkey. Other countries such as Chile, Peru and Ethiopia grew spending and threatened to break into that 10-figure club for dollar investment in the years ahead.

However, it would be wrong to suggest that all of the underlying news behind the headline investment numbers is good. Policy uncertainty in key European markets such as Germany, France and the UK has been slow to dissipate, and some countries – such as Spain, Bulgaria and Romania - have inflicted serious damage on investor confidence by cutting the revenues available even for existing renewable energy plants – so-called "retroactive cuts". Meanwhile, the plunge in carbon prices in the European Union Emissions Trading Scheme since 2008 has eroded one of the

supports for low-carbon generation. In the US, the advent of low-priced shale gas has damped the appetite for new wind projects by reducing the value of power purchase agreements available to developers. Also, there was a spurt in US investment back in 2011 before the expiry of two incentive programmes hatched in the Obama economic stimulus of 2009. Those incentives will not return, although others (the Production Tax Credit for wind and Investment Tax Credit for solar) continue. In India, the temporary withdrawal of key incentives for wind power development has slowed activity.

The evidence so far in 2013 is that, with a couple of notable exceptions such as solar development in Japan and China, investment in renewables is not bouncing back from the 2012 setback. In fact, in the first two quarters of this year, overall outlays were US$93.8 billion, down 18 per cent on the same period of 2012 and 29 per cent down on the first half of 2011.

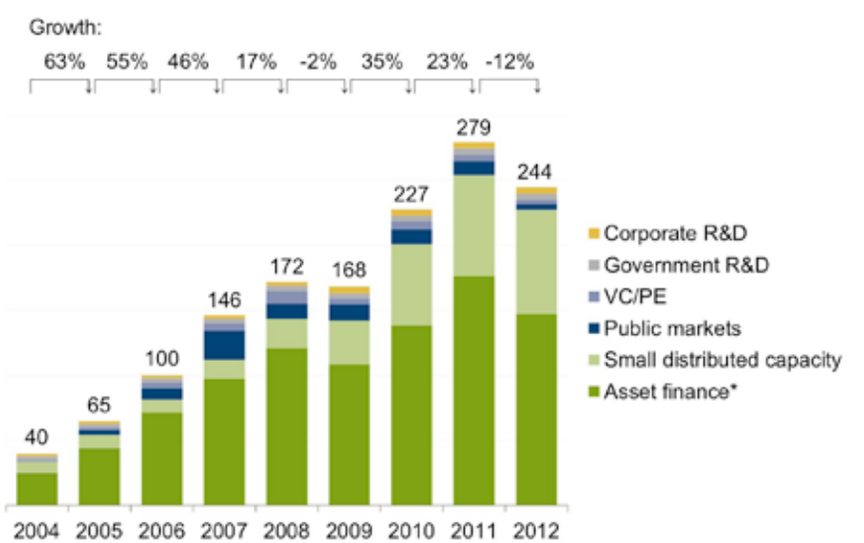
On the bright side, the second quarter of 2013 showed some improvement on the first, with investment up 22 per cent, but it was still 16 per cent down on the second quarter of 2012. There were some highlights, such as a recovery in US activity, helped by the US$2.5 billion financing of the 681MW SunPower Solar Star PV plant in California by MidAmerican Energy; continuing strong investment in Japan, particularly in small-scale solar; and US$2.5 billion of financings in South Africa, including US$395 million for the 134MW Cennergi Amakhala Emoyeni wind farm in the Eastern Cape.

But perhaps the most notable ray of light was coming from what has been clean energy's darkest corner in the last few years – the public stock markets. After a boom in clean energy share prices in the years up to late 2007, there was a painful crash during the recession and then a prolonged period of underperformance compared to wider market indices such as the S&P 500. By 25 July 2012, the WilderHill New Energy Global Innovation Index, or NEX, which tracks the performance of 98 specialist stocks, was down 78 per cent from its peak.

That proved the low, at least for quite a while, and there then ensued an impressive rally, the NEX rebounding more than 50 per cent to a short-term peak in May this year. There were much bigger increases for some of the most battered renewable energy stocks – turbine market leader Vestas Wind Systems, for instance, up 224 per cent between 25 July 2012 and early July this year, solar manufacturers SunPower and SunEdison up 453 per cent and 380 per cent respectively, Spanish wind turbine maker Gamesa up 329 per cent, US thin-film solar specialist First Solar up 223 per cent, solar glass maker China Sinyes Solar Technologies up 206 per cent.

Investors on public stock markets appeared to be taking the view that the worst of the over-capacity in wind and solar manufacturing chains, and perhaps the worst of the uncertainty about future demand, was past. After a period of distress for renewable energy manufacturers and many bankruptcies in solar, notably those of Solyndra of the US, Q-Cells of Germany and Suntech of China, it has been a bold call. As with all stock market rallies, it started not when investors felt confident but when they felt deeply gloomy. ❑

Global new investment in renewable energy by asset class, 2004-2012 (US$bn)



**Asset finance volume adjusts for re-invested equity. Total values include estimates for undisclosed deals*