A WORD ABOUT WIND

JANUARY 2015

FINANCE 2015

The issues and trends that will shape wind during 2015

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EDITORIAL

by Richard Heap,
editor at A Word About Wind

When you work in an industry it is easy to focus on the minutiae. It is far harder to take a step back and see how that industry fits in to changes in politics and the wider economy.

Thankfully, the chance of a few days off during the festive season has allowed us to do just that. That is why we are kicking off the new year with this new report, Finance 2015.

In this report we will run down the key trends in the wider economy that will shape the wind power sector through 2015, and what impacts these are likely to have on project financing. These include ongoing impacts of historic low interest rates in leading wind markets; and the potential ramifications of low oil prices on the wider economy.

We have also taken the opportunity to look at potential effects on the US due to the failure to extend the wind production tax credit for two years or more. Heated debate in the US Congress and Senate has done little, and a deal looks further away than ever.

These will all provide starting points for debate in wind over the next year.

And they also bring us to a wider point about the importance of the wind industry. Wind is often portrayed, particularly among its detractors, as being a sector of niche interest. This is natural given that the sector only accounts for about 4% of worldwide energy usage.

But that doesn't tell the whole story. Wind is playing a key role in the shifts at the heart of political regimes around the world, and in the global economy.

It should go without saying that energy is a driver of economic growth and political change across the globe, and we shouldn't underplay the role of wind. Nations need access to reliable and affordable energy if businesses are to thrive and citizens are to stay happy. Wind can help to provide both.

This industry is also helping countries to move away from over-reliance on traditional fossil fuels and exposure to upheaval in areas of major political uncertainty, including the Middle East and Russia. Wind is key to these changes.

And this frequently puts this industry at the heart of the political agenda. The argument in the US over the wind production tax credit is not simply about 'letting the wind sector to stand on its own two feet'. It is about the threat that wind poses to traditional energy, and the opponents of the production tax credit extension are often those with vested interests.

Wind is also central to the UK's energy debate ahead of the general election in May; is a big reason why Australian leader Tony Abbott is becoming isolated within the global community; is driving big changes among European utilities; and so on.

Now, as this is the first week of the new year, it is tempting to end with a resolution. So here is our suggestion: 'Remind myself every week how important the wind sector is.'

This is a resolution we will be able to help you achieve, via the insight in our newsletters and in our reports.

All the best for a prosperous 2015. ■

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Finance 2015 is our first special report of 2015. For more information about upcoming reports, you can find them at the back of this report and online.

If you want to contact me then call, find me on Twitter (@RichHeap), or email: richard@awordaboutwind.com

> "Wind is playing a key role in the shifts at the heart of political regimes around the world, and in the global economy."

A Word About Wind
www.awordaboutwind.com
editorial@awordaboutwind.com
T: +44 (0)20 7193 6013
+1 (917) 310 3307

2nd Floor,
167-169 Great Portland Street,
London, W1W 5PF

Editor: Richard Heap
Designer: Lee Washington
Sales & Membership:
Joe Gulliver
Publisher: Adam Barber

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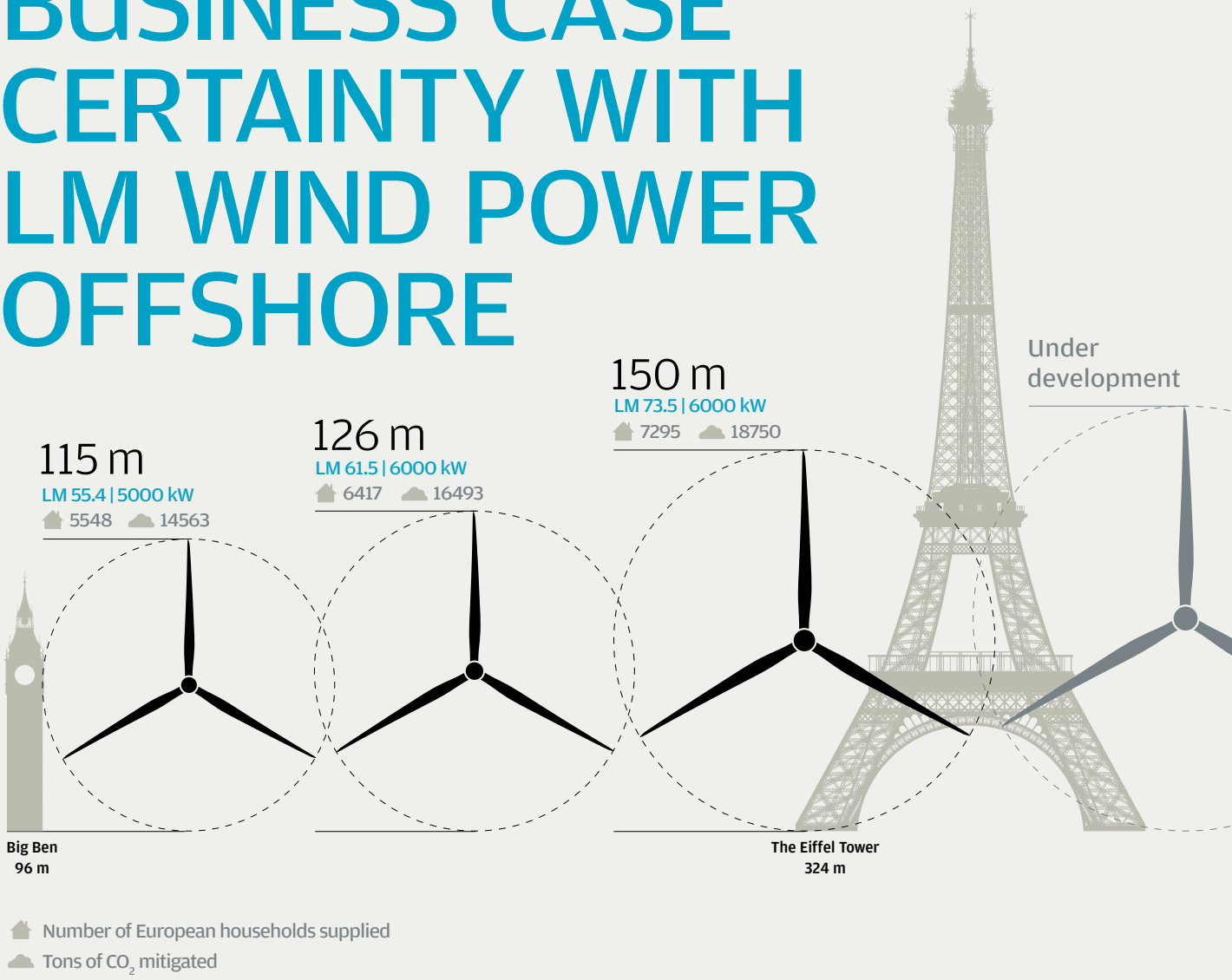

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OIL PRICE DROP FUELS WIND FEARS

The wind sector should be able to cope with short-term oil price shocks, but long-lasting low prices are a big concern.

If wind farms are less able to compete then it will put off investors, and raise pressure on politicians to cut subsidy support.

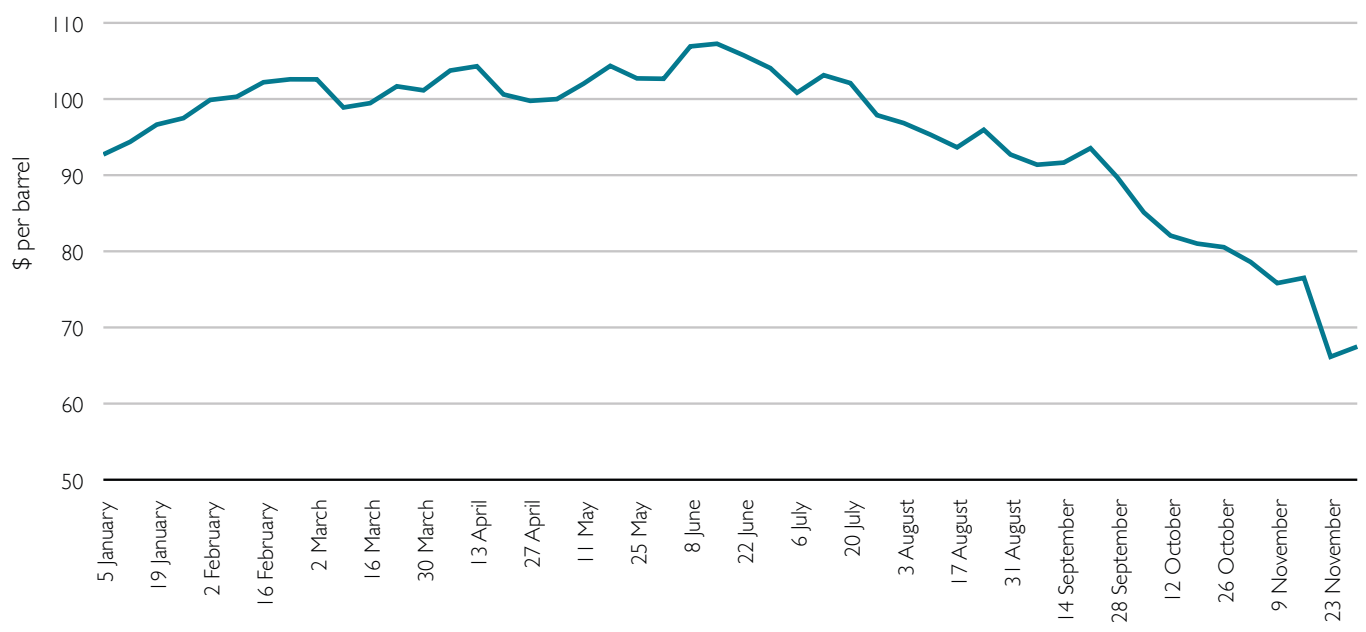
Crude oil prices have dropped to their lowest levels for five years. If they stay at low levels during 2015 then it will cause headaches for those in the wind sector.

The biggest risk for wind investors is that prolonged low oil prices will push down electricity prices and make wind farms less able to compete with fossil fuels. This is a warning made by, among others, billionaire Richard Branson, who said oil nations are fighting against fracking and renewables.

If wind farms are less able to compete with other sources then it would put off some firms from investing in wind projects; and raise pressure on politicians to cut support for a sector that looks uneconomical. These are significant concerns.

However, this is far from certain. In most developed markets, wind continues to benefit from stable long-term subsidy regimes, and is seen as an important part of the battle against climate change. This long-

Falling price of Brent crude from January to November 2014



Source: Nasdaq

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term support should help insulate the sector from short-term oil price shocks, while the growth of wind around the world is an indication that the sector is becoming more mature — and, in some markets, wind is reaching grid parity.

There are a few key reasons why crude oil prices have become a significant issue now.

World's most powerful oil nations

Top 10 Crude Oil Producers		
Country	Tonnes annually	% of world's total
Saudi Arabia	540,000,000	13.1
Russia	525,000,000	12.8
US	440,000,000	10.7
China	208,000,000	5.1
Canada	193,000,000	4.7
Kuwait	165,000,000	4
Venezuela	155,000,000	3.8
UAE	153,000,000	3.7
Iraq	153,000,000	3.7
Iran	151,000,000	3.7
Rest of the world	1,434,000,000	34.7

Top 10 Crude Oil Exporters		
Country	Tonnes annually	% of world's total
Saudi Arabia	371,000,000	18.7
Russia	239,000,000	12.0
Nigeria	124,000,000	6.2
Iraq	119,000,000	6.0
UAE	118,000,000	5.9
Kuwait	103,000,000	5.2
Venezuela	93,000,000	4.7
Canada	90,000,000	4.5
Angola	84,000,000	4.2
Mexico	66,000,000	3.3
Rest of the world	578,000,000	29.1

Source: International Energy Agency, 2013

OIL PRICE COLLAPSE

The main reason for the fall is that basic principle of business: supply outstripping demand. The parlous state of the eurozone and slowing growth in China have both contributed to Brent crude being at its lowest price for five years, at under $60 a barrel (see graph, p.5).

This is set to remain low for at least the first half of this year after the decision by the Organization of Petroleum Exporting Countries (OPEC) in December to maintain existing production levels. The organisation is led by Saudi Arabia, the world's largest crude oil producer and exporter (see tables, opposite), and has voted to maintain its high production levels. This is mainly to put pressure on the US fracking industry, but harms renewables too.

This also lets Saudi Arabia put political and economic pressure on regional rival Iran to limit its nuclear programme; and on Russia to change its position on Syria. Saudi Arabia has estimated that the crude oil price could stabilise at around $60 a barrel, whereas Russia and Iran require prices in excess of $100 a barrel to break even.

Oil market instability last month prompted Christiana Figueres, executive secretary of the UN Framework Convention on Climate Change, to say countries should embrace more renewable energy.

She said this is "one of the main reasons we must move to renewable energy which has a completely predictable cost of zero for fuel" once a project is built.

IMPACTS ON WIND

Even so, if crude oil stabilises at $60 a barrel then it would have a big effect on wind. Low oil prices in the long-term would make it cheaper for gas-fired power stations to generate electricity and start to

Continued low oil prices could reinforce opposition to wind farms

Source: Wikipedia

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Source: L.C. Nøttaasen

Low oil prices show why developers and manufaturers must continue to drive out cost from projects.

push down energy prices. This would make projects including wind farms less able to compete and potentially put off potential investors in new wind developments.

This would then grow pressure on politicians, with the anti-wind lobby arguing that wind farm subsidies should be further curbed due to the comparatively high cost of the sector.

The impact would be felt hardest in the fledgling offshore wind market, where the cost of energy is significantly higher than it is onshore due to the complexity of building at sea.

This highlights the importance of driving down the cost of offshore wind. Swedish utility Vattenfall and Danish developer Dong Energy have both signed up to a target of reducing the cost of offshore wind by 40% by 2020; and DNV GL published a manifesto in September that set out how to cut 25% of offshore costs by mitigating risk, improving efficiency of existing processes, and introducing innovative new technology.

In the onshore market, continued low electricity prices would undermine the investment cases for some marginal projects, and be likely to put off some investors. This shows why developers and manufacturers need to continue to drive out cost from onshore projects because, even though the sector is approaching parity with other energy sources in some areas — most notably in parts of the US — it still has much to do.

On the other hand, if the low crude oil price only proves to be a short-term dip with a rise again in the second half of 2015, then the impact on wind should be limited. But it will take a brave business to bet on an oil price rebound given Opec's recent decisions.

CLIMATE COMMITMENTS

In general, wind continues to benefit from long-term political and economic support, and there is little chance of nations across the world backing away from the move to clean energy. The issue of climate change will not move off the political agenda any time soon.

And uncertainty over oil prices does not change the fact that fossil fuels are finite, and that it makes sense for countries to embrace renewable energy regardless.

The oil price may be changing, but that fundamental truth will not. ■

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GROWTH AT SEA RAISES FUNDING CONCERNS

Michael van der Heijden is managing director at Amsterdam Capital Partners

www.amscap.eu

European offshore needs €40bn by 2018 if it is to meet 2020 targets. But will there be enough banks to fund this expansion?

Recent cancellations of some offshore wind projects in the North Sea may make some people worry that the market is slowing. My concern is the opposite.

We expect the number of North Sea offshore wind farms looking to raise construction project finance to grow exponentially over the next three to four years. This is likely to put pressure on the funding partners who will be expected to finance these projects.

> "The proportion of offshore wind projects financed with non-recourse debt is rising."

There are two main factors that are set to underpin this growth:

First, a number of offshore wind projects have reached the ready to invest stage, including grid connection slots where relevant. With a typical construction period of up to three years, including long lead items, developers seeking to achieve any installed capacity target for offshore wind by 2020 will need to get construction finance in place no later than 2018.

Second, the proportion of offshore wind projects financed with non-recourse debt is rising. Capital constrained utilities are moving into the project finance arena, not least because our recent experience in raising the €2bn of construction debt finance for the 600MW Gemini project shows that utility-scale offshore wind can be financed this way. It is this expected significant growth that formed the basis for Amsterdam Capital Partners' plans to build an offshore wind financing platform.

In terms of numbers, the European Wind Energy Association (EWEA) expects the European installed offshore wind capacity to triple to 23GW by 2020, which it

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reported last July. Taking into account that 5GW of offshore wind is currently under construction means that approximately €40bn of capital expenditure needs to be deployed in the next three to four years.

And if only half of the planned offshore wind farms in the EWEA central scenario are project-financed, the demand for senior debt increases to about €4bn per annum on average through 2018.

> "We expect four offshore wind projects to seek to raise senior debt this year. However, since 2006, no year saw more than two projects reaching financial close."

What does this mean for 2015? We expect four offshore wind projects with a total capacity of 1.3GW to seek to raise senior debt this year. With capex at approximately €4m per MW, and gearing at 70%, this means a total senior debt requirement of €3.6bn for 2015.

Although a significant amount by any account, liquidity on the financial markets may not necessarily be the constraining factor at this stage, as was demonstrated by last year´s results. In 2014, the offshore wind arena reached an all-time record, in which not only the largest ever offshore wind project (Gemini) reached financial close, but where the €2bn debt package was actually oversubscribed.

The concern, rather, is the marked increase in pace. Since 2006, 12 offshore wind projects raised a total of €8bn in project debt finance, including construction risk. In that period, no single year saw more than two projects reaching financial close.

The existing set of approximately 20 to 30 banks active in offshore wind sector should be sufficient to accommodate the liquidity this year. But the question is whether the volume of transactions can be accommodated within these banks; and whether banks will be able to meet this increased pace and exposure to the sector.

In my opinion, 2015 should probably manage. However, I am doubtful that this trend can be sustained in following years without additional lenders entering the market and providing significant lending tickets. ■

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LOW RATES, HIGH INTEREST

Investors have been looking at wind farms as a better performing alternative to government bonds, and this is set to continue through 2015.

The return to work in the new year tends to bring with it a new sense of optimism for the year ahead. And, for wind, there are reasons to be positive.

This may seem counter-intuitive. The global economy is still limping after the crash of 2008, and there is even talk of another world recession this year. Falling GDP growth in Asia is one factor that could tip the global economy back into the mire.

Meanwhile, in the renewables sector, governments in established markets are cutting the subsidies that have enabled the wind to grow to the global industry it is today. Spain has been the most dramatic, but Germany and the US have done too.

And yet, things still look positive for those seeking the funding to kickstart new schemes, whether that is securing early-stage backing for a specific project or selling operational wind farms to gain the capital to reinvest. Perversely, global stagnation has provided a boost for those working in the financial side of the wind sector.

One major reason for this is interest rates. The European Central Bank and US Federal Reserve are holding interest rates at historic lows — 0.05% and 0.25% respectively (see graph, p.11) — to encourage businesses and individuals to spend money and provide a boost to the economy. These low rates are putting investors off investing in government bonds with low interest rates, and encouraging them to put money into steady cash-yielding assets.

Renewable energy projects, including wind farms, have been among the beneficiaries — and this is going to continue this year.

HISTORIC LOW INTEREST RATES

Low interest rates will continue to be a factor in 2015 as, in the most established markets, rises look unlikely. The European Central Bank is set to keep its interest rate at its historic low until it sees more signs of recovery in the Eurozone, while HSBC said in November it did not expect the Bank of England to raise rates until 2016.

The prospect of a rate rise is higher in the US, where economists and businesses expect the Federal Reserve to do so some time this year if the US recovery continues.

And yet, the global wind market has continued to grow over the last six years in spite of low interest rates in developed markets, so there are good reasons to think it will continue. Governments around the world are coming under continued

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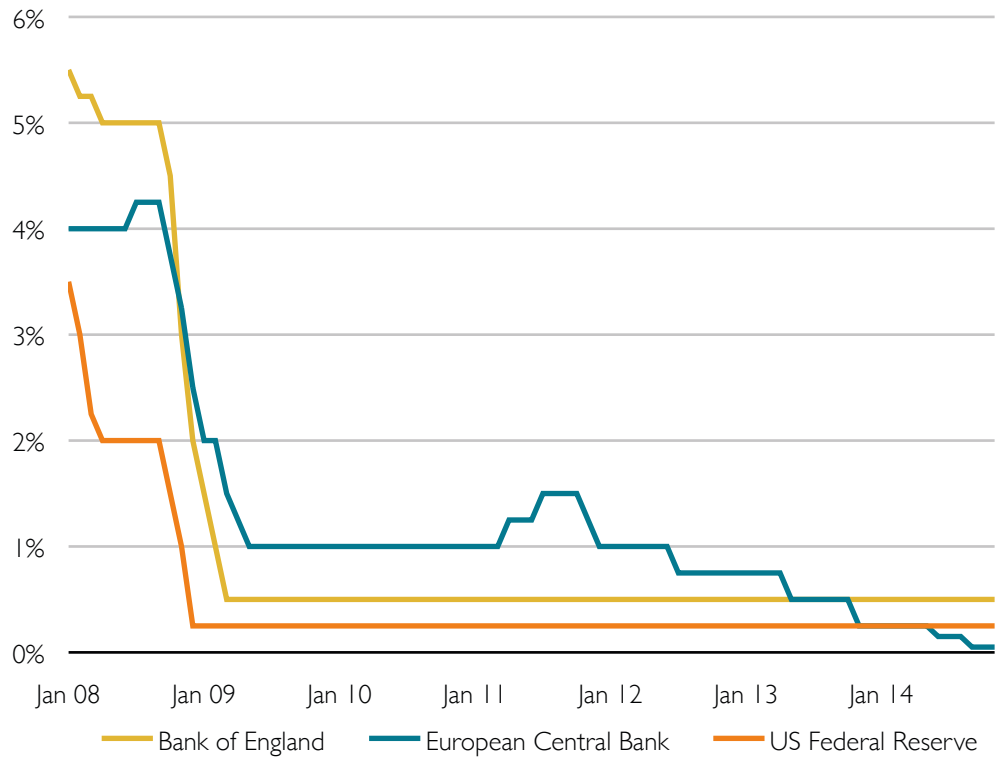
Historic low interest rates in Europe, UK and US since January 2008



Source: Bank of England / European Central Bank / US Federal Reserve

> "You're likely to see continued appetite on the part of institutional investors for operating renewable energy assets. This is part of their appetite for reliable cash-yielding assets."

pressure to improve energy networks and embrace renewable energy sources; while people will always need energy.

Fintan Whelan, co-founder at developer Mainstream Renewable Power, who left as the firm's corporate finance director in November, expects central banks to delay raising interest rates in the next year because they would want to let economic recovery pick up. He said this would help support investor appetite in wind.

"You're likely to see continued appetite on the part of institutional investors for operating renewable energy assets. This is part of their appetite for reliable cash-yielding assets in general, not just in wind and solar — and not even just in power," he said.

He added that he expected to see more institutions getting involved in wind over the next year while interest rates stay low. Institutions like Aviva Investors and global fund manager IFM Investors have both demonstrated an interest in investing in the wind sector over the last year, and Whelan expects this to grow while the opportunities remain.

Institutions are not the only keen investors. Banks continue to show appetite for providing project finance and buying working wind farms, while yieldcos like Greencoat Capital and The Renewables Infrastructure Group have been raising additional funds.

For example, Greencoat raised £125m in October through a new share issue and plans to use some of this funding to buy operational projects for its Greencoat UK Wind fund; and, in November, TRIG revealed plans to raise capital by issuing 250million more shares.

There is also interest in established markets from traditional infrastructure players, with the likes of John Laing and Brookfield proving wind farms are of interest to firms with a track record in construction and property; and Japanese conglomerate Marubeni has shown it is keen to continue investing in the burgeoning UK offshore wind sector.

All these investors are after the same thing: reliable cash-yielding assets. And wind is seen as an increasingly reliable location for investment, due to improvements in turbines and in the forecasting technology

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used to forecast how well a particular site will perform. This lets investors know what returns they are likely to make.

This interest from investors is good news for developers who are looking to attract finance for new schemes, or sell operational wind farms in order to raise capital for new projects. But the wide range of players showing an interest in the wind sector is not without risk.

Rate rises: Investors will keep a close eye on activity at the European Central Bank

Source: Bobby Hidy via Flickr

THE SCRABBLE FOR YIELD

The risk is that competition for wind projects will drive up prices to unrealistic highs, and drive down the returns that investors can expect to receive. Some onlookers have warned that investors are not properly factoring long-term risks into their investment decisions.

These factors include the potential for change in the regulatory regime; ensuring that the scheme performs as promised; and wider trends in power pricing, including the impact of shale gas. Investors must carry out this background research to ensure they don't overpay.

As David Jones, managing director at Allianz Capital Partners, wrote in our Top 100 report: "There are many new and inexperienced in the sectors who are driving asset prices upwards towards bubble-level pricing that we saw in the build-up to the 2008 crisis."

He said he hoped more investors would re-visit their assumptions on asset pricing in light of their track records in the sector. This growing experience from investors is also increasing the types of projects that they are keen to get involved in financing.

For Ian Temperton, head of advisory at Climate Change Capital, this is less of a concern. He said that he could understand why some investors were frustrated at the historically low internal rates of return (IRRs), but that there were plenty of investors confident they could make their targeted returns in the current low-interest-rate environment.

He said: "Part of the issue is adjusting what they think is an acceptable return, and that's fair enough. We've had low interest rates for a long time now and these are good assets for giving you some reliable and correlated returns."

"The place you can look at pricing that is totally transparent is what the yieldcos say they are doing. They're very clear that they try to deliver a 9% IRR and a 6% yield largely in their public pronouncements, and to a lot of investors that looks good compared to what else you can do in the world with interest rates where they are."

So what sort of deals do investors want?

RECYCLING CASH

For those looking to buy operational schemes there are a large number of opportunities in the secondary market because utilities and developers have been selling schemes in order to raise funds, either to shore up their balance sheets or to invest in new developments.

One example is Dong Energy, which has been selling stakes in its offshore wind farms to raise funds to invest in other developments. This is offshore, but it shows a trend of selling stakes in operational projects, to pay off debt or fund new schemes.

Temperton said there is a big question in offshore over how much of the money raised would be reinvested in new schemes.

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US economist Jerome Levy Forecasting Center has said there is a 65% chance of a world recession this year. It may just be one forecaster, but it is an influential one.

He said: "Dong has clearly got a plan and their money will be recycled, because they want to meet the targets they've set for megawatts by the end of the decade. Everyone else is more difficult to predict, but nobody has the same commitment to a programme of build-out [as Dong does]. That's what makes us a little bit concerned about offshore wind."

Even so, investors are keen to buy into operational wind farms because there is greater certainty about how much energy they are able to produce, and therefore future returns.

In the UK, the attraction of the secondary market compared to the primary market is driven by the difficulty in getting government consent for new onshore wind farms. This is largely due to the hostility to wind from the Conservative Party. It is more difficult to get permission for new onshore wind farms so buyers must look at projects that are already operational.

Charles Yates, founder of CmY Consultants and former environmental finance director at Grant Thornton, said institutions were keen to provide equity so they could own schemes directly; and provide debt to developers. Investors who have previously owned operational wind farms tend to be more confident in getting involved earlier in the development cycle, and we are seeing investors in the UK and western Europe taking on this extra risk.

Chinese manufacturers will make further strides outside Asia in 2015

Source: Land Rover Our Planet

This confidence also comes from the progress in the wind sector more widely.

Turbines are becoming more efficient and consultancies are better able to forecast how much energy that new schemes will produce, which is in part due to technology like lidar. Historically, investors getting into renewables have favoured solar over wind because solar irradience is more predictable than wind speed patterns, but that is changing. Wind farms are becoming more predictable, and that is central to attracting new investment.

One challenge for developers can be funding the initial research needed to give investors that confidence. Established developers can fund this off their balance sheet but, for newer players, it may mean bringing in an early-stage investor to help to fund that work.

In short, we saw great interest from investors in wind last year, and we expect that to carry on through 2015 as long as the same low-growth conditions remain.

RISK OF RECESSION

But what if 2015 is worse than 2014? The big unknown for the wind sector in 2015 — and the economy as a whole — is whether there will there be a global recession in 2015.

US economist Jerome Levy Forecasting Center has said there is a 65% chance of a world recession this year due to continued balance sheet excesses in advanced economies and limited room for policy makers to reverse any problems. It may just be one forecaster, but it is an influential one, as it forecast the 1929 Wall Street Crash and the meltdown of 2008.

The prospect of a recession would not necessarily be disastrous for wind. Unless there is another major crash then investors are unlikely to be put off the sector, as

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Wind has grown into a global industry over the last six years and continued to innovate in spite of the parlous state of the world economy.

governments will remain under pressure to promote investment in their energy infrastructure; and a recession would mean a continuation of the current low interest rates for bonds.

It would also be a further spur for wind companies to find ways to become more efficient, to drive out costs from projects, although this is a process that is happening already and will carry on regardless.

The wind sector is looking at how to make power more competitive compared to fossil fuels; and manufacturers are already aware that Chinese manufacturers like Goldwind ad their counterparts in Korea are looking at ways to tap into global markets, which will put pressure on manufacturers in the Americas and Europe.

We don't expect these Asian manufacturers to make a major breakthrough in Europe or the Americas in 2015, but we do expect them to continue to look at overseas expansion. Turbine manufacturers should be driving down costs already to head off these threats.

As Whelan puts it: "It is always distressing to go from fat and happy to lean and mean. We haven't really seen Chinese or Korean turbines making much of an impact in Europe, but the longer the margins stay at a place where they appear to be comparable, compared to other markets,, the more new entrants will come in attracted by what's possible."

That isn't to say that a global recession would be a good thing. It would raise uncertainty across the market, with investors and developers putting investment decisions on hold until things stabilise. This, in turn, would hit manufacturers' order books and put them under extra pressure. We shouldn't be naive about the damage a recession would do.

But we also shouldn't get too down about it. Wind has grown into a global industry over the last six years and continued to innovate in spite of the parlous state of the world economy.

Perversely, uncertainty for the wind sector will pick up as the economy does. ■

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FOUR TRENDS SHAPING UK OFFSHORE

Edward Northam is Head of Investment Banking at UK Green Investment Bank

www.greeninvestmentbank.com

2015 will be a big year for UK offshore as consolidation and the emergence of a secondary market start to take hold.

The UK has made a rapid start to the development of offshore wind. With more capacity than any other country, a strong regulatory support regime, and a large development pipeline, the UK has become the world's most attractive location for offshore wind investment.

The UK industry is now at a critical stage in its development, which offers important lessons for other markets. We see four key trends that will shape its growth in 2015 and beyond.

> "Inevitably, after such a fast start, we are now beginning to see consolidation focused around the projects most likely to go ahead."

Consolidation of projects and active developers: Inevitably, after such a fast start, we are starting to see consolidation focused around the projects most likely to go ahead in the short- and medium-term. While this may see some early market participants elect to focus their efforts elsewhere and the cutting back of project opportunities in the short term, it is a vital step in the maturation of the sector.

The UK has a strong band of committed and experienced developers, a clear project pipeline on track to deliver a further 8-10GW by 2020, and an industry that is capable of supporting the development of an extensive UK-based supply chain, bringing further economic and social benefits to the UK.

Emergence of a secondary sales market: With over 5GW of capacity either already operating or under construction it is vital that we see the emergence of a strong, liq-

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uid market in secondary assets. This is critical for three reasons:

- it allows developers to recycle their capital into new projects;
- it will deliver a broader base and deeper pool of capital to the sector, attracted by the long-term, predictable cash flow profile of the assets; and
- it will attract more capital to the early stage development of projects, with the comfort that capital can be recycled on successful delivery of a project.

> "A strong secondary market is critical as it allows developers to recycle their capital into new projects."

Widening the pool of investors: The key strengths of the UK market are its natural resource and site conditions, the stability of its policies and the experience of its project developers.

These attributes are key to attracting a wider pool of long-term investors, who can invest with confidence in the security of their investment returns.

At the UK Green Investment Bank, we are at the forefront of bringing new investors into the sector. As part of that we are fundraising for a new £1bn fund to invest in operational offshore wind farms. This will be the first of its kind in the world and, alongside our own commitment, will bring in up to £800m from new investors who might not otherwise have been able to participate in the UK offshore wind market.

Moving down the cost curve: The long-term growth of the sector is dependent on cost reduction. UK GIB is contributing to this by backing new, lower cost and more efficient technology, encouraging greater competition in the supply of that technology, supporting the development of a UK-based supply chain, and helping to reduce the overall cost of capital for projects.

This will help the UK offshore wind sector to capitalise on its rapid start. ■

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US: THE BATTLE OF THE PTC

Last month's extension of the production tax credit has been derided as too little, too late. US wind is braced for the hit.

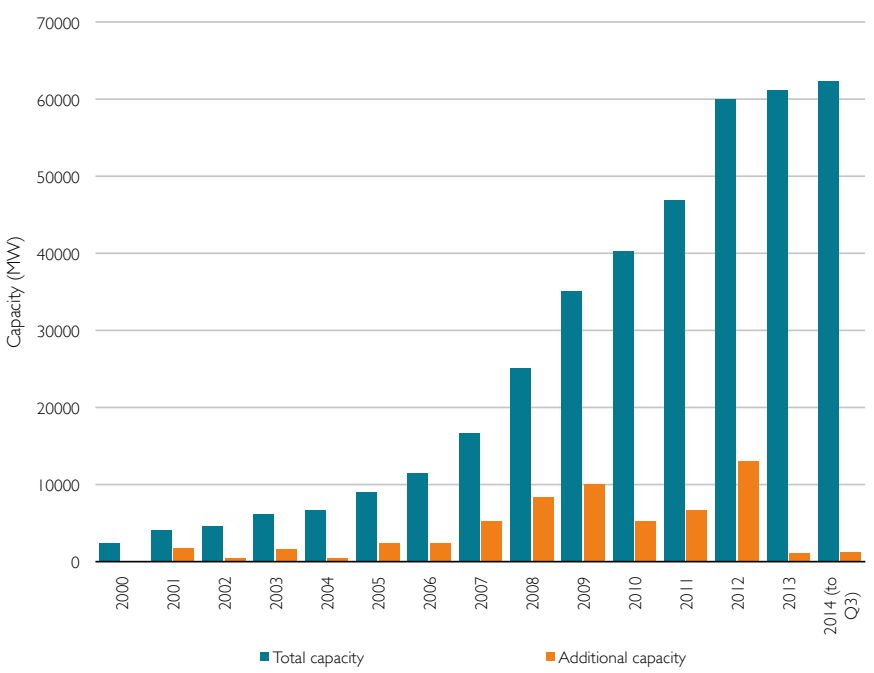
In reality, the PTC was only extended for three weeks. The fact it has not been extended further is a bitter blow.

The US wind industry is battling for its future. he country may have the largest wind industry in the world when ranked by electricity generated, but it now has to do without the main financial mechanism that has supported its growth.

The wind energy production tax credit (PTC) expired at the end of December 2013, and Congress voted last month to extend it through 2014 — though in reality this was only a three-week extension. The fact it has not been extended further is a bitter blow.

The battle to reinstate the PTC will continue this year, but success looks further away than it did at the start of 2014. The Republicans now control the Senate following the election in November, which gives this traditionally anti-renewables party more power to scupper new green-friendly policy. Here we will look at whether there is a realistic chance that the PTC

Total US wind farm installations since 2000



Source: American Wind Energy Association

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New dawn: US wind could struggle in a post-PTC world

Source: US Geological Survey via Flickr

would be extended; and how the US wind industry is set to fare in a post-PTC world.

CONTROVERSY OVER THE PTC

The US government originally introduced the PTC as part of the Energy Policy Act of 1992. It gives a tax credit of 2.3¢/kWh for the production of energy from utility-scale wind turbines and other renewables for ten years, which means wind farm owners eligible for support of the PTC pay a slightly lower rate of income tax than they otherwise would.

This has been one of the main reasons behind the growth of the US wind industry, and on the three previous occasions where the PTC has expired — in July 1999, December 2001 and December 2003 — it has resulted in a major drop in installations (see graph, p.18). There was also a 92% drop in wind installations in 2013 due to uncertainty over whether it would be extended at the end of 2012. This shows the strong link between the PTC and growth.

This has helped the US to develop a large onshore wind industry, which is the largest in the world in terms of electricity generated; and second largest in terms of total installed turbines (61GW), behind China. Unsurprisingly, the policy has been controversial in some quarters given that renewable energy sources pose a threat to traditional fossil fuels.

One high-profile objector is conglomerate Koch Industries, which is involved in markets including sectors including petroleum, liquid gas and investment. The Koch brothers — Charles and David — are among the high profile backers of a lobbying group called the American Energy Alliance, which is urging the Congress to reject extension of the PTC; and has claimed that a PTC extension would cost taxpayers $13bn over a decade.

The argument against the PTC 'subsidy' has clearly been compelling for anti-renewables politicians in Congress, but it is spurious. At best, it is based on a misunderstanding of how the regime works; and, at worst, it is based on a deliberate misrepresentation.

The PTC helps US taxpayers because it supports the development of new schemes where owners pay income tax. That $13bn is the difference between what wind farm owners pay in income tax on their projects and what they would pay if the PTC wasn't in place. It does not mean that the government is taking $13bn from the economy to support wind farms.

If you cut the PTC then you are cutting support for wind developers to build new schemes. This means fewer schemes will be built and result in less tax revenue all round. This is a key message, but has not been made clearly enough to win over anti-wind politicians.

BATTLING FOR REINTRODUCTION

Moves by those in wind and pro-renewables politicians to extend the PTC for two years or more may have failed, but that does not rule out the chance that the PTC could be extended further.

The argument against the PTC 'subsidy' has been compelling for anti-renewables politicians. But it either misunderstands the regime or is a deliberate misrepresentation.

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The American Wind Energy Association has argued that an extension has support across the US political spectrum. In November, it led a group of over 450 businesses, companies and other organisations that sent a letter urging Congress to immediately extend the PTC.

The letter said: "Allowing the lapsed clean energy tax provisions to languish undermines investor confidence and jeopardises continued economic and environmental benefits."

It has also released a new poll showing that 73% of registered voters supported the PTC, including 63% of registered Republicans. AWEA has said stable policies are vital if the US wind industry was to keep developing more efficient technology; sustaining 73,000 jobs; and generating an average of $17.3bn a year in private investment into the US economy. The US states with the most installed capacity are Texas, California and Iowa (see map).

The US Department of Energy has also shown that the PTC has reduced the cost of wind energy by 43% over the last four years, which directly benefits businesses and individuals. In total, 7% of new electricity generating capacity in the US in 2013 came from wind farms.

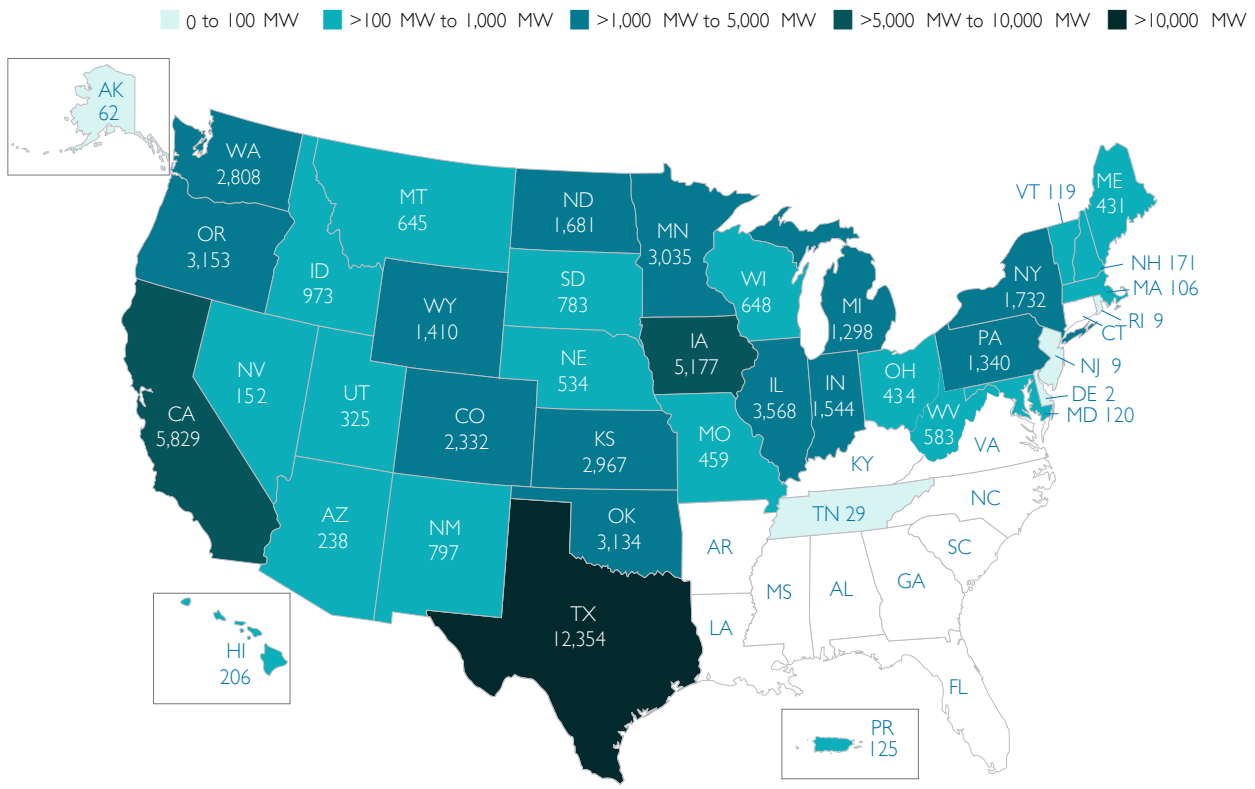
The PTC's supporters will continue to make these arguments this year, but that does not mean politicians will take notice, particularly in the face of well-connected and well-funded opponents like the Koch brothers. There are also investors in wind who argue that PTC is no longer needed because it has succeeded in supporting the initial growth of US wind.

Wally Lafferty, vice president of engineering at Renewable NRG Systems, said the fact the PTC has been allowed to expire has highlighted to many in US wind that the sector is still unstable; and said that short-term extensions would not bring much confidence.

He said: "There's still going to be a reasonable amount of uncertainty unless it is a long-term extension… We really need something more than that to offset the fact that it expired last year." In our view, it is unlikely there will be an extension of the policy that does enough to give the sector long-term confidence.

So how will the US wind industry cope in a post-PTC world?

Most wind-friendly US states: installed capacity state by state



Source: American Wind Energy Association (Q1 2014)

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We need only look at what happened in 2012, when the threat of PTC expiry halted new developed and forced manufacturers to make hundreds of lay-offs.

COPING IN A POST-PTC WORLD

The withdrawal of PTC support will have a significant impact on the number of projects in development, as it has on previous occasions. It was only two years ago — in January 2013 — that the previous extension of the PTC again kickstarted the UK market, and we should not fool ourselves into thinking the market now is significantly different from then.

The US Department of Energy has warned of other challenges for the sector in its '2013 Wind Technologies Market Report' in August 2014. This warned that continued low prices of natural gas and slow growth in electricity demand as a result of the slow recovery in the world economy would affect the appetite from investors in new wind projects.

Wind power may have reached parity with other energy sources in some states in the US midwest, but that is not enough to protect wind in the long term.

The impact of a slowdown would also be tough on US manufactures. Currently, there are around 550 factories in 43 states that product equipment for turbines, but a lack of projects would force some manufacturers to scale back their operations.

We need only look at what happened in 2012, when the threat of PTC expiry halted new developments and forced manufacturers like LM Wind Power and Siemens to each make hundreds of lay-offs.

The same would happen again in another PTC-inspired slowdown. If it isn't reinstated then US wind will have to deal with slow growth again, and lower profitability for manufacturers will affect the amount they can invest in new technology innovation. The PTC is one of the biggest factors behind the growth of the US into one of the world's leading wind markets.

Without PTC support in place, that legacy is under threat. ■

Connect, network and engage with the people that matter.

Q1 Quarterly Drinks, Thursday 19th March 2015

Contact Joe to reserve your ticket today. joe@awordaboutwind.com

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We are the UK's leading renewable energy trade association, working to grow your business.

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YEAR AHEAD

2014 has been a busy year for A Word About Wind and its growing membership community, and 2015 will be busier still. Here are the key dates for our programme of regular events and reports.

Events

19th March	Quarterly Drinks Q1
18th June	Quarterly Drinks Q2
10th September	Quarterly Drinks Q3
5th November	Quarterly Drinks Q4
October	Annual Conference

Reports

March	Middle East Focus Report
April	Funding Offshore Report
June	Special Report
July	Eurozone Focus Report
September	Special Report
November	Top 100 Power People 2015

Networking at A Word About Wind annual conference 2014

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