New Power

REPORT

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‘Renewables is becoming a competitive edge and a necessity to grow your economy’

Andy Kinsella, group chief executive, Mainstream Renewable Power

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ANDY KINSELLA, MAINSTREAM RENEWABLE POWER

Why renewables are taking over the world

Global renewable energy deployment can only get faster, says Andy Kinsella. But the UK is is danger of squeezing out new offshore wind players

Mainstream Renewable Power is one of a "new class of renewable energy majors", according to the company's group chief executive Andy Kinsella.

Talking to him about how that class has arisen since Mainstream was set up in 2008, I suggest it is hard for us in the UK to grasp just how big the global change in energy has been. I recall a period at the turn of the century when the UK was in the middle of a decade of opposition over a single new coal-fired station. Meanwhile Malaysia – not one of the Asian behemoths – was bringing 14 new coal plants on line and had a fleet of new gas-fired stations alongside.

> Renewables was in linear growth and it will be exponential

Kinsella agrees: his company is working in South America, Asia and Africa as well as Europe and he says we are at an inflexion point: "Renewables was in linear growth and it will be exponential."

Kinsella notes that in 2008 the world's biggest private coal company was Peabody Energy. At the time Fortune ranked it as one of America's most admired companies. "In 2016 it filed for bankruptcy. Nobody would have thought a company would be dead and buried within eight years of all the praise heaped on it," he says.

The coal industry is finished and in terminal decline, Kinsella believes, and $270 billion in coal assets will be stranded in the next 10 years. So there is no question "money is going to move out of oil and gas and into renewables globally".

During our conversation he highlights two major drivers: one is the rapidly falling cost and rising maturity of renewables; the other is customer power.

FALLING COSTS, CHANGING EXPECTATIONS

Kinsella points to one of Mainstream's major markets – Chile – which had its first big power auction three years ago.

He says: "What's important is that they are firm power auctions, so coal, oil, gas, solar, hydro, nuclear – everyone bids in the same auction, new and old, and it's for firm power. We won 28% of the auction, which means we will build out 1.75GW."

Mainstream beat incumbent coal and gas, with a price of $42/MWh for power purchase agreements (PPAs) in the form of 20-year index-linked contracts.

That works relatively well in Chile, Kinsella says, "because of where our wind and solar sites are, essentially the wind in Chile blows through the night and goes off in the morning and solar is the opposite. We have 10 plants all over Chile and when they come together they start to look very like baseload."

Although the battery market is not properly formed in Chile, Mainstream's sites are "precooked to install large battery banks when the structure is there for it". Kinsella says: "This hybrid utility is the future – not a single site with wind, solar or battery, but combining strategically to get as close to baseload as you can."

Not all countries will have Chile's benign mix of PV and wind profiles. As Kinsella says, "it's about looking at the sources of renewable energy, about smart metering, the internet of things, all controlled and shaped by big data. I am not sure the traditional utilities are getting that fast enough."

For years we have looked at power plant in terms of the levelised cost of energy (LCOE) for generation plant, Kinsella says, "but more and more we have to look at the LCOE for the system as well as generator". Mainstream's 'hybrid' utility goes some way towards managing the risk, "but then you have >

to trade in the market. We need balancing, we have to spill when we over-produce and buy when we under-produce This is more and more being pushed back on the generator…. we have to be a more active participant in providing the solution and trading and providing ancillary services."

> "Money is going to move out of oil and gas and into renewables

Kinsella says that "you may see more vertical integration, because if you have to manage that risk for firm power one of the ways to manage it is to be your own customer on the supply side".

That is a change from the previous renewables 'take or pay' contracts and feed-in tariffs that meant buyers had to take wind or solar when it was available.

In Chile, the contract is an index-linked PPA for 20 years, "but for firm power, so you have to deliver 24/7 that power you have contracted for. It's a different trading arrangement, it's a different skill set, it's different risk management."

> "This will require whole new trading and finance solutions

In future, Kinsella expects to see offshore wind moving to merchant in the European market, and corporate PPAs "where corporates want five or maybe 10 year PPAs, but not necessarily the 25 years that corporate finance requires … this will require whole new trading and finance solutions".

I ask if there will be central buyers, as in the UK, and he notes that in Chile his customers are nine distribution companies (involving around 60 PPAs). Kinsella says: "I think you are not just going to see CfDs [Contracts for Difference] around the central market to mitigate price risk… The market is going to disaggregate – central buyer, corporate PPAs, CfDs to hedge and contracts with distribution companies." He says in the USA 70% of all new renewable energy PPAs were with corporates.

> "Renewables... is becoming a competitive edge and a necessity to grow your economy

BUYER POWER

Kinsella's second renewables driver is customer power. In Chile, he says, mining company BHP Billiton is out to tender because the company "wants to get all their power from renewables by 2024 and the size of it TWh contract means it will need 2.5-3GW of renewable plant to deliver it. Here is a traditional mining heavy industry that is recognising that it is certainly not climate change and emissions friendly. One way to mitigate that is to take all their electricity from renewables. That is a $3-4 billion capital spend on renewables and that is just one company."

An example that shocked Kinsella, he says, is Vietnam, which is leaping from 200MW of PV just months ago to 1.7GW. It has no alternative: Kinsella refers to a company employing thousands of people in the country.

"They have told the government there that they want to source all their power from renewables or they are not staying. That's the kind of pressure that is coming for foreign direct investment… if they don't put the regimes and the policies and the licensing in these companies will just up sticks. They will go to India or China where they can get renewables. It is becoming a competitive edge and a necessity to grow your economy."

Returning to our discussion about coal, he says: "We are the biggest player in South Africa renewables. We have built 850MW of wind and solar in South Africa and they will only have two coal plants in operation by 2050. Our wind and solar projects are beating new and existing coal generation."

THE UK'S COMPETITIVE EDGE?

That need to provide enough renewables for industry should be a warning shot: can the UK win the competition to attract renewables investors?

Offshore wind is where Mainstream competes in the UK: that is where it started when the Airtricity >

IN IT FOR THE LONG TERM

Mainstream Renewable Power has to exit projects it has developed, but it may want to stay with them. The company's Mainstream Renewable Capital (MRC) arm answers this need.

Andy Kinsella explains: "The idea of MRC is that Mainstream will exit the project at financial close and Mainstream Renewable Capital will sort low-cost financing from investors who want to own renewable energy generating assets."

The model is flexible but MRC may take anything from zero to 25% interest in the asset. Kinsella says: "It allows us to exit and take a development premium but allows us to stay in [as general partner] keep equity and give some comfort to limited partners who are maybe not experts in operating power plant and taking it through construction."

That may include pension funds and others who are not experienced renewables investors, and Mainstream has the potential to hold an interest in long-term operating assets.

team moved to Mainstream lock stock and barrel, Kinsella recalls, when the company undertook what was then the world's biggest offshore wind farm, Greater Gabbard.

In the following round, in Scotland, "10 were awarded, three got consented and one got built".

That was the 450MW Neart na Gaoithe (NNG) wind farm. Kinsella agrees that was a long process. The invitation to tender was mid 2008, it was awarded in early 2009, and as a developer Mainstream could not exit until three court cases over development consent had been completed. The company had to regain its CfD. The project was sold to EDF, and will reach financial close this autumn. Construction is expected to take another two years, so the invitation to tender to the operation will be over 13 years.

> Planning in Scotland and the judicial review system is not as robust and efficient

Talking about NNG, Kinsella says: "The planning system in Scotland and the judicial review system is not as robust and efficient as it is in England and Wales. That's just the fact of it."

> The option fees and the large balance sheet requirement are precluding a lot of people from participating

As for the current round, Kinsella says: "I hugely respect what the UK has done… going from virtually nowhere to being a world leader. "Net zero is going to mean large scale wind and solar and the only way to do large scale wind is offshore."

"The costs have come down and we are really excited about round four and the Scotwind round." But he says the UK has effectively excluded smaller companies from taking part.

> It leaves it in the realm of certain large utilities and the oil and gas majors

Even though Mainstream has been a major presence developing, consenting and getting offtake agreements for 3.95GW of offshore wind in the UK, Kinsella says: "We could not prequalify on our own for the next round, even though we were the most successful in all the rounds – because you need a £600 million sterling balance sheet minimum for each of the past three years. That would have excluded us."

Mainstream has found a partner to strengthen its balance sheet and "we will be in Round 4 and the Scottish round", he says.

Also limiting the number and variety of entrants are option fees for the leaseholders (The Crown Estate and Crown Estate Scotland). Kinsella says this has been driven by offshore wind in Massachusetts, where auction winners will pay $135 million each – before they do any development or consenting work. He suggests UK options could be £100 million per site.

"Between the option fees and the large balance sheet requirement, that is precluding a lot of people from participating. It leaves it in the realms of certain large utilities and the oil and gas majors," Kinsella says. The winners in Massachusetts were Shell, Iberdrola and Orsted.

Nevertheless, "I think Europe has led the way and the UK has led the way in Europe," he adds.

It has been suggested that winning a lease, and then a CfD auction, represents a double hurdle for UK offshore wind. Kinsella says it is a valid criticism, but qualifies that: "Offshore wind development is a high-risk game… It's a long time to win a franchise and then find out five or seven years later that you are not getting consent – maybe for valid reasons."

The Crown Estate awarded 48GW but only 10GW has been built, "so it's a race and even when it is consented you are into an auction… For us we are really good developers offshore… but if we hadn't won our court case with NNG we would have written off £50 million."

In this round The Crown Estate will mitigate the risk because it is choosing zones that meet high-level 'habitats' requirements, "so I think they are making a genuine effort to reduce the consenting risk", Kinsella says. Nevertheless, if there are awards early next year the new plants will not hit commercial operation until 2026 at the earliest.

I ask about the likely price in Round 4. Kinsella notes that he was called a 'maverick' when Mainstream bid £113.13 in the first auction. "We spent £50 million developing it and sold it for £650 million and the next auction went for £57.50, half our price. I think we got it right.

"It is going to come down again. Vessels can still get more efficient. The supply chain is getting deeper and there is more competition."

I ask what the next step is for offshore wind. Is it floating turbines? Kinsella says that off of England and Wales there are "lots of sites to develop, Dogger Bank is huge. It is relatively far from shore but it is shallow and wind speeds are great out there. So I don't think in this round in England and Wales that floating is the next step."

He says it is different in Scotland: "There are fewer shallow sites closer to shore. There are lots of good sites for floating and we are trying to get our heads around it." NP