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UK biomass and life after ROCs

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A small number of UK biomass projects have been inching towards financial close ahead of a looming September deadline to qualify for incentives. But several contenders have already fallen by the wayside, and the future is very bleak for dedicated biomass plants.

The rationale for treating biomass as a fully-fledged renewable power source has been steadily eroding. European efforts to adopt the technology more widely have inspired producers from far away to step up production, even as the carbon neutrality of biomass attracts increasing scepticism from environmentalists and politicians. The UK consensus is now that biomass is a transitional technology in the countrys shift to cleaner power.

Subsidy turnaround

Biomass has been a beneficiary of the UK governments legal commitment in the 2009 Renewable Energy Directive to meet 15% of the countrys power demand from renewable sources by 2020. Biomass has not enjoyed the growth of wind (either onshore or offshore) or solar, but benefits from using proven technology, and its ability to dispatch when required rather than when weather conditions allow.

Currently, the chief incentive mechanism for biomass and other renewables is the Renewables Obligation, and its associated Renewable Obligations Certificates (ROCs), which energy suppliers must purchase. Under the current scheme an average-sized biomass power plant receives 1.5 ROCs per MWh (biomass-fired combined heat and power plants receive more). Each ROC is worth around £50, of which £42 is the fixed buy-out price, and £8-9 is the floating recycled price.

In the 2012 UK Bioenergy Strategy, the Department of Energy & Climate Change (DECC) signalled that biomass would not be a favoured technology. It should be focused on co-firing and conversion of existing coal power plants. Any support for new dedicated biomass generation should be limited to small-scale only or, at a minimum, any support for new large-scale dedicated biomass should be limited to a very small number of projects.

The ROC mechanism, never popular with lenders or sponsors, is now being phased out in favour of Electricity Market Reform (EMR), which will replace ROCs with contracts for differences (CfDs). Under EMR, after 31 April 2017 ROCs will end for dedicated biomass power plants, though biomass-fired combined heat and power (CHP) plants will benefit from CfDs. Even before the new reforms kick in, there will be slim pickings for biomass developers.

In May 2013 the DECC started a four-week consultation on a proposed total cap of 400MW of new-build dedicated generating capacity that would be eligible for ROCs before 2017. Only on 31 July did the DECC confirm an exact time-frame for the 400MW cap in its response to the consultation. For projects that closed before 20 August, there is an application window between 21 August and 10 September 2013 when projects must be shovel-ready and registered on the notification register.

Plants that come in under the cap but before April 2017 will be grandfathered into the ROC scheme, and will benefit from 20 years of support. Other technologies will have the option of choosing between ROCs and CfDs, and will benefit from 20 years of support if they choose ROCs.

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With less than 200MW of capacity ready to close by mid-August, coming in over the cap was not the greatest risk facing projects in the market, so much as closing in time. Worries about planning permission, fuel supply, and incentives treatment have made debt and equity providers very nervous about biomass.

The fallen

Harsher scrutiny of biomass generators financial viability in the last 12 months has led to many projects being scrapped. In October 2012 Centrica abandoned plans for an 80MW wood powered plant in Roosecote and a 137MW plant in Brigg, North Lincolnshire, anticipating the change in policy. In July 2013, RWE, which owns UK utility npower, said it would close a newly converted 750MW biomass plant in Tilbury after it became clear that the plant would not be eligible for CfD treatment.

Welsh Power had sold Santander a 50% stake in its proposed 50MW Nevis plant in Newport, Wales in November 2011. The developer postponed development while it waited for more clarity from government, but has not provided any indication of if or when the plant might come to market. Meanwhile in Newport, Isle of Wight, Real Venture, the developer of a 50MW project on a local government-owned site, allowed its preferred bidder status for that site to lapse in July 2013.

Drax, which is converting at least half of its 3,960MW of existing coal-capacity to run on biomass, had formed a venture with Siemens to develop three 290MW dedicated biomass plants at Selby, Immingham and a third site. In February 2012 Drax said that it had cancelled Selby, and in October 2012 it cancelled Immingham.

Lender wariness

In the six months since the changes were laid out senior lenders were reluctant to make debt commitments until they were certain that projects would benefit from ROCs. During the consultation the DECC asked developers of priority projects to submit their expected financial close date, with the aim of setting a realistic deadline for the most viable financings. One banker familiar with the market commented that there would be a moratorium if the deadline was missed, which was a real disincentive to give an early date.

Given sponsors interest in giving themselves some breathing room, delays in financing may have been intentional efforts to push back the DECC deadline. Sponsors did, however, have to balance this effort with assuring the DECC that financings would close rapidly and should be counted towards the cap. The priority projects are thought to be Eco2, which recently closed on Brigg, and Helius Energy, which is near close on its Avonmouth plant.

Eco2's financing for its 40MW straw-fired plant in Brigg, North Lincolnshire, best illustrates this balancing act. As recently as the end of July 2013, the sponsor, advised by NIBC, was in advanced negotiations with a club of four banks: BTMU, Barclays, Rabobank and the UK Governments Green Investment Bank (GIB).

But on 8 August the financing closed with PensionDanmark as debt provider and its engineering, procurement and construction contractor providing equity. PensionDanmark is providing £128 million in debt from its Copenhagen Infrastructure I fund, whilst Burmeister & Wain Scandinavian Contractor (BWSC) is investing £32 million.

The sharp change in course ensured that the plant would be on course to meet the deadline. But PensionDanmark and BWSC only started negotiations with the developer three months before close. BWSC is happy to take equity stakes in projects it builds, and Eco2 normally sells plants at completion, so the package is not unprecedented, though one source familiar with the market suggested that BWSC had put up more equity than usual.

Helius Energys Avonmouth biomass plant has also suffered delays. Helius said in April 2012 that it was in advanced discussions with RBS, Santander and Lloyds to finance the 100MW plant. The plant would be primarily wood-fuelled and its location near the port of Bristol would give it access to an international fuel supply. Over a year later, the financing has still not signed and Lloyds has left the group of lenders. Helius now aims to close later in the financial year and insists that it is close to signing, even as the deadline creeps closer.

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One developer taking a more leisurely route towards financial close is RES, which is likely to bring its 100MW North Blyth plant to market early in 2014. North Blyth, located in Northumberland, would run on imported wood, and use existing facilities. While the plant is not a priority project, sources close to the developer believe that since those projects will not account for more than half of the cap RES is comfortable coming to market after the deadline for guaranteed eligibility.

Domestic fuel

Though lenders faced uncertainty around incentives, they typically benefit from straightforward power purchase agreements. Developers ability to mitigate fuel supply risks has also improved. Eco2 has now closed two financings for straw-fired biomass plants, though both financings suffered delays. Its first project, 38MW Sleaford closed in December 2011, with £120 million of long-term debt from NIBC, RBS, Siemens, and UniCredit, and £40 million of equity from the BNP Paribas Clean Energy Fund. Settling ROC issues delayed proceedings, but Eco2 had straw supply contracts for Sleaford in place well in advance of close.

Eco2 lined up suppliers for both plants from within an 80km radius, and for Brigg its supply contracts involve an outlay of £10 million per year. Eco2 says it will benefit from a vast surplus of straw, particularly in the north of the country. The UK produces about 10 million tonnes of straw per year, according to Eco2, and about 5 million tonnes is cut but not exploited.

But using straw exposes sponsors to the vagaries of UK agriculture, since wheat straw, the most common fuel, experiences volatile prices. Sponsors will need to keep plentiful supplies on hand to mitigate the effect of seasonal planting variations. National winter wheat plantings are down by 25% this year, for instance, according to research from HGCA.

Emma Haight, vice-president for infrastructure and renewables at NIBC, commented that Given the lack of counterparty creditworthiness typical of local biomass supply contracts, lenders look to mitigate supply side risk by way of building up mandatory surplus supply stores during construction and operation, and building fuel flexibility into technology where possible.

Eco2 has signed in suppliers to contracts with differing lengths and volumes. Lenders prefer that about 70-80% of fuel should be procured under long-term contracts matching the tenor of the debt and the rest can be shorter and more flexible as little as one year.

International fuel

The alternative to domestically-produced straw is usually foreign-grown virgin wood. UK forestry operations usually do not operate on a sufficient scale to supply large biomass-fired power plants. US producers, particularly those in south-eastern states, have stepped up to supply UK generators.

Large utilities in Belgium, the Netherlands, Denmark and Sweden, including GDF Suezs Electrabel, RWE and E.ON, operate biomass plants using US-derived wood. Drax primary wood suppliers, Enviva, Pinnacle, Green Circle, Rentech and Plum Creek in the US and Canada, each produce between 50,000 and 15 million tonnes of wood pellets per year. Biomass power plant development activity in the US is minimal, and US producers have to hope that Europe will, as planned, be consuming about 30 million metric tonnes of wood-pellets per year by 2020.

Private equity investors in generation and fuel production might believe they have the market knowledge to handle the risks of working with virgin wood. Senior lenders are not necessarily set up to take the risk, though Haight suggests that many equity investors active in the biomass sector have sufficient expertise in managing these projects and their supply flows enable them to more comfortably accept flexible and shorter fuel supply arrangements."

Drax, which is now the largest biomass plant in the UK, accounts for between 7% and 8% of UK power production, and its scale is such that it relies on pellets imported from the US as fuel. In July 2012 it confirmed plans to convert three of its six generating units to use 90% biomass fuel, at a total cost of about £2 billion The first converted unit started burning wood pellets at the start of April this year and the two other conversions are scheduled for 2014 and 2015.

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Drax is large enough and important enough to the UK power sector to raise competitive corporate debt. It funded the conversion of the first unit with a £100 million eight-year loan from the M&G UK Companies Financing Fund, a £400 million revolver priced at 225bp over Libor, an institutional loan and a £190 million equity issue.

The UK government has actively participated in the financing of the conversion, with a £100 million eight-year loan from the Green Investment Bank and a UK Infrastructure Guarantee for a £75 million loan from Friends Life. Drax, as a conversion of a coal plant, will not be included in the 400MW ROC cap.

Drax, each of whose units will consume around 2.3 million tonnes of pellets per year, benefits from economies of scale and heavy government support. But lenders on other projects have to reconcile US dollar-denominated fuel costs and sterling power revenues, often using cross-currency swaps with the same duration as long-term supply contracts. But international pellet production volumes are so plentiful that sponsors may prefer a more stable dollar-denominated fuel source to a volatile sterling one.

Turning the heat on

Whereas ROCs for dedicated plants will end in 2017, combined heat and power plants will be eligible for CfDs. Some pure power developers have tried to reconfigure their plans to include a heating element, but most plants are not in suitable locations, and will need to be scrapped. Eco2 had originally planned a slate of 10 new biomass projects, but has confirmed that the number has been significantly reduced.

Iceni Energy, on the other hand, has a 40MW plant at Snetterton, Norfolk, out to market, and has been firming up its hitherto vague plans for the plant to have a steam component. Forth Energy and Scottish Southern Energy won planning permission in June for a 120MW £465 million plant in Grangemouth Scotland, which will be located next to a port and positioned to use internationally-sourced wood.

In July 2013 developer Evermore closed the debt, equity and mezzanine financing for a £81 million CHP wastewood plant in Londonderry. The financing featured equity from the plants contractor, BWSC and fund manager Foresight, but senior debt accounted for little more than 50% of project costs. EKF took 80% of the Derry plants £43.3 million 15-year senior term loan, and Investec the rest.

The £35 million 19-year mezzanine priced at 9.55% all-in and broke down into £20 million from the Foresight-managed and Green Investment Bank-funded UK Waste Resources & Energy Investments fund (UKWREI), and £15 million from the Gravis Capital Partners-managed GCP Infrastructure Fund. This low gearing appeals to fund managers looking to put commitments to work with high-yielding assets, but eats into sponsor returns.

Grading the alternatives

Biomass conversions and biomass with CHP should survive the 2017 reform introduction, and lenders compare the technologies favourably with onshore wind. Each renewable energy source has its own merits, says one banker. Lenders are looking to the sources with the longest future, and at the moment biomass can appear limited due to public opposition and the withdrawal of government support. But onshore wind at the current time holds less subsidies however and right now biomass is still attractive.

The draft CfD strike prices are £105 per MWh for biomass conversion and £120 for dedicated biomass with CHP. These levels are higher than onshore wind (£100, down to £95 by 2018) and CHP from waste (£90), though lower than offshore wind (£155, down to £135 by 2018). Current debt market pricing does not track these CfD strike prices. One lender notes that biomass plants have typically come to market with pricing higher than offshore wind, though they caution that there is a small number of biomass financings from which to ascertain trends and offshore financings typically feature better-rated sponsors.

UK biomass financings 2006-2012

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Deal name	Status	Status date	Sponsors	Total Debt Loan Amount	Lead Arranger / MLA / Lead Manager
Englefield Renewable Energy Project	Financial close	09/02/2006	Englefield Capital LLP	$m125.91	Bank of Tokyo-Mitsubishi
Energy Power Resources Portfolio Refinancing	Signed	28/02/2006	Macquarie European Infrastructure	$m241.98	ANZ, Mizuho Corporate Bank, National Australia Bank, Prudential M&G, Royal Bank of Canada
Viridis Clean Energy Fund Refinancing	Signed	13/02/2009	Viridis Energy Capital Pty Ltd	$m58.68	ABN AMRO, Investec Bank (Australia) Ltd
Helius CoRDe	Signed	13/04/2011	Helius Energy, Rabo Project Equity, Combination of Rothes Distillers	$m67.12	Lloyds Banking Group, Royal Bank of Scotland - RBS
Rothes Biomass Combined Heat & Power Plant	Signed	13/04/2011	Helius Energy, Rabo Project Equity, Combination of Rothes Distillers	$m73.64	Lloyds Banking Group, Royal Bank of Scotland - RBS
Sleaford Biomass 1	Financial close	09/12/2011	BNP Paribas Clean Energy Partners GP Ltd	$m178.76	NIBC Bank, Royal Bank of Scotland - RBS, Siemens Financial Services, UniCredit
Avonmouth Project	Finance mandated	26/04/2012	Helius Energy		RBS, Santander
Londonderry biomass	Signed	29/07/2013	Foresight, Evermore, BWSC	$m68	EKF, Investec
Brigg Biomass	Signed	13/08/2013	Eco2, BWSC	$m200	PensionDanmark

Source: Project Finance Deals Database

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