Issue 373 Winter 2019



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Henvey Inlet Wind LP CAD 925 Million

Development, financing, construction, and operation of a 300 MW energy generation facility and associated transmission line facilities Collateral Agent and Account Bank December 22, 2017



Michigan Power Limited Partnership USD 251 Million

Refinancing of existing indebtedness related to the financing and operation of a 125 MW combined cycle gas-fired cogeneration power plant in Ludington, Michigan Collateral Agent and Depositary October 20, 2017



Hickory Run Energy, LLC (Tyr Energy, Inc., Sponsor) Total debt facilities of USD 530 Million

Approximately 1,000 MW natural gas-fired combined cycle power generation facility in Lawrence County, PA Depositary Bank and Collateral Agent August 21, 2017

Mosaic

USD 230 Million

U.S. Gulf Coast

Collateral Agent

October 2017

The Mosaic Company

Lease financing of an articulated tug and barge unit operated in the



Aela Generacion S.A. USD 413 Million Aggregate Financing

Construction and operation of wind farm facilities located in Chile Offshore Collateral and Depositary Agent

August 8, 2017



Carlsbad Energy Holdings LLC USD 407 Million

500 MW natural gas-fired generating facility Collateral Agent and Depositary May 26, 2017



Delaware Basin Residue, LLC USD 147 Million

Development, design, permitting, engineering, procurement, construction, completion, testing, operation and maintenance of two natural gas pipelines in the State of Texas Collateral Agent and Depositary July 27, 2017



United States and Canada Julie B. Good, Director 714-336-4230 julie.good@unionbank.com

MUFG Union Bank, N.A.

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Asia and Latin America Rafael Diaz, Director 646-452-2014 rafael.diaz@unionbank.com Eastern U.S., Europe, Middle East, Africa, and Australia Nils S. Dahl, Director 646-452-2115 nils.dahl@unionbank.com



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Editorial Director Angus Leslie Melville +44 20 7779 8034 angus.lm@ijglobal.com

Editor Jon Whiteaker +44 20 7779 8554 jon.whiteaker@ijglobal.com

Assistant Editor Eleonor Lundblad +44 20 7779 8040 eleonor.lundblad@ijglobal.com

Funds Editor Viola Caon +44 20 7779 8324 viola.caon@ijglobal.com

Americas Editor Ila Patel +44 02 7779 8629 ila.patel@ijglobal.com

Senior Reporter, Americas Juliana Ennes +1 212 224 3430 juliana.ennes@ijglobal.com

Senior Reporter, Europe Beatrice Mavroleon +44 207 779 8405 beatrice.mavroleon@ijglobal.com

Senior Reporter, Asia Pacific Mia Tahara-Stubbs +65 8117 8240 mia.taharastubbs@ijglobal.com Senior Reporter, M&A Alexandra Dockreay +44 20 7779 8406 alexandra.dockreay@ijglobal.com

Reporter, Energy Elliot Hayes +44 02 7779 8404 elliot.hayes@ijglobal.com

Reporter, Funds and M&A Arran Brown +44 20 7779 8441 arran.brown@ijglobal.com

Reporter, MEA James Hebert +44 20 7779 8181 james.hebert@ijglobal.com

Reporter, Asia Pacific David Doré +852 2912 8052 dave.dore@ijglobal.com

Reporter, Europe Eliza Punshi +44 20 7779 8648 eliza.punshi@ijglobal.com

Senior Marketing Manager Andrew Rolland +44 20 7779 8364 andrew.rolland@ijglobal.com

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Business Development Manager, EMEA Doug Roberts +44 207 779 8546 doug.roberts@ijglobal.com

Business Development Manager, Americas Alexander Siegel

+1 212 224 3465 alexander.siegel@ijglobal.com

Business Development Manager, Americas Nicolas Cano

+1 212 224 3426 nicolas.cano@ijglobal.com Senior Business Development Manager Tim Willmott

+44 20 7779 7216 twillmott@ijglobal.com Head of Sales, Americas

Susan Feigenbaum +1 212 224 3431 susan.feigenbaum@ijglobal.com

Head of Subscription Sales Nicholas Davies +44 20 7779 8284 nicholas.davies@ijglobal.com

Production Manager Steve Ashenden

Managing Director Stuart Allen

+44 20 7779 8312 stuart.allen@ijglobal.com

Divisional Director Danny Williams

IJGlobal

Euromoney Institutional Investor PLC 8 Bouverie Street London, UK EC4Y 8AX +44 20 7779 8870 © Euromoney Institutional Investor PLC 2019

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Directors

David Pritchard (Chairman), Andrew Rashbass (CEO), Wendy Pallot (CFO), Sir Patrick Sergeant, Andrew Ballingal, Tristan Hillgarth, Imogen Joss, Tim Collier, Kevin Beatty, Lorna Tilbian, Jan Babiak



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The ethics of funding coal power stations is not as black and white as it may seem at first.

Coal-fired consciousness

Is it ever acceptable to support the construction of new coal-fired power stations? In developed markets, it increasingly seems like a settled question.

Most major banks or investors will no longer finance new coal-fired generation in Europe or North America.

President Trump has discovered that his desire to save the US domestic coal industry is not enough to turn the tide on the renewables wave. Companies and investors, even oil majors, are investing heavily on cleaning up their act and their image.

How 'coke woke' these institutions are is dependent, however, on which country they are from and which continent they happen to be working in.

The French banks and utilities are completely out, and have been for some time. Ever since the 2015 United Nations Climate Change Conference (COP21), held in Paris, significant pressure has come from the French government for its companies to be taking a lead on reducing global carbon emissions.

Various multilaterals and other European lenders have followed their lead.

Many other major international project finance lenders have taken a more nuanced approach. They won't finance coalfired *except* in markets where there is no other viable option for building generating capacity. Another stipulation is that they will only back ultra-supercritical generation – the 'cleanest' of coalfired technology.

In a region like Asia Pacific this can be a valuable distinction. Markets such as Indonesia, Vietnam and Bangladesh have plans for added coal-fired capacity, and few other options to build baseload generation.

The cynical view is that these institutions are willing to bend their principles for no other reason than a fear of missing out on business. The phrase most often heard on a recent trip to Singapore was the need to "retain a seat at the table". If it is going to happen anyway, we might as well get a cut.

I think the situation is more complicated, however, and it is evolving fast. Right now, I think there is justification for some countries to build new coal-fired power stations. It is easy to be high-minded from New York or London, but some of these nations are desperate for power.

Renewable energy there is not yet nearing a cost-

comparative rate as it is in developed nations. It will take years to build large solar and wind markets in these countries, and in the meantime they need baseload.

A host of countries that lack domestic fuel resources are exploring gas-to-power initiatives, but this structure of project has been slow to take off. The complication of having to build a receiving terminal in addition to the power plant have meant only a couple of the deals have reached close – the long delayed Java 1 in Indonesia being the latest.

Given this context, the development of coal-fired assets in some countries is part of the energy transition, even if at first that seems absurd. It buys developing countries time until they can deploy renewable and gas-fired alternatives.

The window of opportunity is closing however. It seems an increasing number of international lenders are finding hard to justify their support for coal. Even in exceptional circumstances.

While in Singapore, at least one Japanese bank made clear to me that despite the public policy of willing to make exceptions, they would not do any coal projects in future. Where one Japanese bank goes, the others tend to follow, and it would be easy to imagine a domino effect where Korean, the remaining European, and possibly other Asian banks follow suit.

Given the size of capital required to fund construction, and the level of expertise required to get these projects over the line, it would seem a big ask for local lenders to project finance these deals on their own even in countries with plenty of local bank liquidity.

The elephant in the room is China, whose banks have shown no concerns over funding coal-fired power projects around the world in recent years, particularly in Africa. Asian nations are far more wary of become client states of their regional superpower, however, and if Chinese debt is the only viable option it may prove an agonising choice for countries in the region.

This growing international pressure to quit coal will likely do what it is intended to – push governments towards green power as traditional solutions become unviable. I just fear the speed of transition imposed by the developed world will be too great for some countries to keep pace with.

Right now, there do seem to be exceptional circumstances under which it is acceptable to support coal-fired power projects. That will not be the case for long though.

Jon Whiteaker Editor

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Briefings

FUNDS

UBS closes Archmore II fund at hard cap

Swiss investment bank UBS has reached final close on its European infrastructure debt fund at the €1 billion (\$1.15 billion) hard cap.

Archmore Infrastructure Debt Platform II completed fundraising within nine months of launching, exceeding its €700 billion target.

The vehicle raised the capital from 48 institutional investors hailing from 10 different countries in Europe and Asia. It boasted a 70% re-up rate from its predecessor, Archmore Infrastructure Debt Platform.

It is now 20% deployed following investments in four senior infrastructure financing transactions.

GIP to raise India fund/ KKR to raise Asia fund

Global Infrastructure Partners (GIP) is to raise an India-focused infrastructure fund in the near future according to a senior figure in the company.

The equity fund will partner with infrastructure developers and operators looking to enter India. It will target buyout opportunities.

MK Sinha, managing partner and co-head of GIP India, said the fund would launch after the sale of Highway Concessions 1 (HC1), the road platform it acquired from IDFC Alternatives in April 2018.

In the same transaction, GIP created additional platforms in renewable energy, telecoms, and rail freight terminals.

Meanwhile, investment manager KKR is planning its maiden Asian infrastructure fund which will have a target size of between \$1.5 billion and \$2 billion.

The fund will consider investments in sectors including telecoms, roads, and energy. KKR is said to be involved in discussions aimed at launching the fund, and to be reaching out to investors.

The investment manager hired leading Indian infrastructure investor Hardik Shah as director, which is thought to be linked to the launch of the Asia vehicle.

Chile moves on infrastructure fund

After years of planning, the Chilean government has jump-started the creation of a \$9 billion infrastructure fund to invest in PPPs in the country.

In early January, the Fondo de Infraestructura (Foinsa) held its first shareholder meeting.

Officially created by a new law in March 2018, Foinsa's main goal is to develop financing and investments in infrastructure projects and related service, including construction, expansion, repair works, conservation and exploitation of infrastructure.

The first action of the fund will be to define a five-year strategy. The fund will provide long-term investments, directly or through third parties, to public infrastructure.

In December, President Sebastián Piñera nominated two directors from a shortlist of five names presented by Minister of Public Works Juan Andres Fontaine: Luz Granier Bulnes who is the president of the fund and Luis Hernán Paul, the vice-president.

AfDB invests in Climate Investor One platform

The African Development Bank (AfDB) has approved a \$32.5 million investment in the emerging markets renewable energy infrastructure-focused Climate Investor One (CIO) platform, managed by Netherlandsbased Climate Fund Managers.

AfDB will invest in the sub-vehicle Construction Equity Fund. Its participation is limited to investments in Africa. The construction equity fund has so far invested \$50 million in Cleantech Solar, a pan-Asian solar developer and supplier. The Singapore-based company has 100MW and is targeting a portfolio of 450MW installed commercial and industrial rooftop solar capacity.

The platform in particular targets solar, wind and run-of-river hydro projects across Africa, Asia and Latin America. Its target is to finance 1.1GW of new clean energy capacity. The expectation is to finance 20 projects over the vehicle's lifetime.

The development fund – another sub-vehicle – is currently investing in the development of renewables projects in, Morocco, Tanzania, Vietnam, Philippines, and Djibouti.

The most recent commitment to the fund was \$20 million from Development Finance Institute Canada.

NTR's second renewables fund raises €229m

Dublin-based infrastructure asset manager NTR has raised €229 million for its second renewable energy fund.

The NTR Renewable Energy Income Fund II is targeting €500 million in equity commitments, and will invest in preconstruction and operational onshore wind and solar projects across Europe, as well as associated energy storage.

Legal & General Capital joined as a cornerstone investor and will match 20% of all funds raised, up to €100 million.

Meanwhile, European Investment Bank (EIB) made an €84 million commitment in December 2018. A UK local government pension scheme pool, Brunel Pension Partnership, has also invested in NTR Renewable Energy Income Fund II.

The unlisted, closed-ended fund has so far made three investments, including two French wind farms and a portfolio of nine solar projects in the UK.

More funds news at ijglobal.com

Briefings

M&A

Carlsbad Desalination auction in first round

Stonepeak Infrastructure Partners and Poseidon Water's sale of the Carlsbad Desalination Plant in California launched in January, with an information memorandum document issued to interested bidders.

Macquarie Capital is the financial adviser to the sellers, putting a combined 100% shareholding up for sale.

The asset is de-risked, presenting the owners with a chance to realise value, according to sources. Pension funds and very long-term investors are widely expected to bid.

The capital cost of the plant was \$980 million roughly, and construction ended in December 2015. The Carlsbad Desalination Plant is long-term contracted (to 2045) for the O&M services and water offtake, so the process will be competitive, a source said.

Duke advances renewables portfolio sale

An auction process for Duke Energy's commercial renewables portfolio has attracted widespread interest and moved into a second round.

The company hired Morgan Stanley to run the sale process last year (2018) in response to expressions of interest it had received for the portfolio, which comprises 2,907MW of utility-scale wind and solar generation as well as storage assets across 14 US states.

The process has garnered interest mostly from insurance companies and pension funds, both from the US and Europe, say deal watchers.

JERA invests in Taiwan offshore wind

JERA has agreed to acquire a combined 32.5% equity interest in the 128MW Formosa 1 offshore wind project in the Taiwan Strait from Macquarie Capital and Swancor Renewable.

JERA becomes the second largest shareholder of the project, after Ørsted, which holds 35%. The project now features shareholders from Japan, Denmark, Australia and Taiwan.

An initial 8MW of the project has been operational since April 2017, and Danish company FairWind is working with Siemens Gamesa on pre-assembly for the 120MW phase two.

Israel moves on Haifa Port privatisation

Israel's Ministry of Finance and Ministry of Transport have signed an agreement in principle ahead of the scheduled privatisation of Haifa Port, establishing terms for the port's departing and remaining workers.

The agreement, which will become a collective labour agreement in the next few months, includes several protections for workers as negotiated by the Histadrut labour federation and the Haifa Port Company. In addition, the government has agreed to forgo any dividends from the sell-off.

The government of Israel plans to privatise the port and sell it to a strategic investor by Q2 2019. Israel is due to release detailed bidder criteria in May.

Worker union opposition has slowed previous infrastructure privatisation attempts in Israel. In the ports sector, the government first put forward the Port of Ashdod and Haifa Port for privatisation in 2015.

Consortia form for EWE sale

Consortia including fund managers and institutional investors are forming ahead of the launch of the sale of a 26% stake in German energy, telecoms and IT utility EWE at the end of February or early March. The advisers on the sell-side are Citi and White & Case. The sellers of the 26% are the treasury, regional authorities and Energie Baden-Württemberg (EnBW).

According to *IJGlobal* sources, potential bidders include: a consortium of Macquarie and Allianz Capital Partners; IFM Investors; DWS; OMERS Infrastructure; AXA Investment Managers – Real Assets; and PGGM.

EWE, based in Oldenburg, Lower Saxony, operates in north west Germany as well as in parts of Poland and Turkey. However, the utility is close to selling its Turkish business to Azerbaijan's SOCAR, according to local press reports.

EWE formed a new 50:50 partnership in December 2017 with Deutsche Telekom. The partners are planning to invest €2 billion (\$2.3 billion) in building open-access fibre-to-the-home (FTTH) to connect one million households across Lower Saxony, North-Rhine Westphalia and Bremen.

Albany buys 25 Interserve contracts

Albany SPC Services acquired Interserve's PFI asset management business at the end of 2018. PGGM and the Pensions Infrastructure Platform (PiP) own Albany, while Dalmore Capital manages the vehicle.

Albany has taken on 33 members of staff, as Interserve has exited its noncore management service agreements. Albany takes over the services for 25 assets including various Building Schools for the Future (BSF) PFIs, as well as other healthcare, fire station, prison, naval base, social service and school PFIs.

Investors for the projects supported the sale to Albany SPC Services, as according to a statement the deal "meets investors" preference to have increased independence from the respective supply chains".

Equity investors for the related PFI concessions include InfraRed, Dalmore, Aberdeen Standard Investments, Equitix, Sodexo and Innisfree.

More M&A news at ijglobal.com

CAPITAL MARKETS

Briefings

CAPITAL MARKETS

Companies consider arbitration over NAIM cancellation

Four construction companies with contracts for Mexico's Nuevo Aeropuerto Internacional de México (NAIM) are considering taking the government to arbitration over the cancellation of the project.

The president of the Mexican bar association José Mario de la Garza Marroquín told local press that there are "important construction companies deeply analyzing why actions they can take," including arbitration based on international treaties that would protect foreign investors.

President Andrés Manuel López Obrador (AMLO) announced in December 2018 the repurchase of around 30% of the bonds issued to finance the construction.

The government had to close a deal with bondholders who had bought \$6 billion in notes that would fund the construction. AMLO's government made an offer to buy back \$1.8 billion of the bonds in order to avoid declaring default.

However, even with the repurchase of bonds, construction works continued instead of being immediately halted, as had been announced by the new government.

Canadian Solar closes on Japan equity securitisation

Canadian Solar has closed on the equity securitisation of two Japanese solar power plants.

The transaction, called Canadian Solar Securitized Green Equity Trust 1, raised ¥6.3 billion (\$58 million). The 18-year investment period matures in September 2037. The two solar farms, both rated A by Japanese credit rating agency JCR, are the 24MW Solar Yamaguchi-Aio development and the 10MW CSJ Kamikitagun Rokunohemachi project. The debt portion of the assets have already been financed as project bonds. The securities were placed with Japanese and South Korean investors. Goldman Sachs is the sole structuring and placement agent.

Enex Infra Fund to list on Tokyo Stock Exchange

Enex Infra Fund will list on the Tokyo Stock Exchange's funds market on 13 February. The fund, sponsored by Itochu Enex and Sumitomo Mitsui Trust Bank, is seeking to raise up to ¥9.5 billion through an offering of 91,000 new shares, including a greenshoe option.

The indicative offering price has been set at ¥100,000 per share.

Funds raised are earmarked to acquire Enex Infra Fund's stakes in a 38MW portfolio of solar farms across Japan.

Bookbuilding will take place between 25 and 31 January. The pricing date is set for 1 February, shortly before *IJGlobal* went to press.

SMBC Nikko is the lead bookrunner, while the other four brokers on the syndicate are: SB Securities; Nomura; Daiwa; and Mizuho.

MidAmerican prices latest green bond

MidAmerican Energy issued a green bond on 9 January as part of the financing for a wind portfolio it is building in Iowa.

Lead underwriters and bookrunners on the dual-tranche first mortgage bond (FMB) offering, which priced on 7 January, are: Barclays; BNP Paribas; BNY Mellon; Mizuho; US Bank; SMBC; and Wells Fargo.

The deal comprised a \$600 million 10-year tranche, priced at 97bp above Treasurys to produce a 3.65% coupon, and a \$900 million 30-year tranche priced at 130bp to produce a 4.25% coupon. The notes have Aa2/A+ ratings from Moody's Investors Service and S&P Global Ratings.

MidAmerican will allocate the proceeds to capital expenditures it made from November 2017 up to December 2018 on its 2GW Wind XI portfolio, 591MW Wind XII project and the repowering of existing wind assets, according to a recent filing with the US Securities and Exchange Commission.

Cordelio refis renewables portfolio

Cordelio Power has issued a C\$858.2 million (\$639.6 million) dual-tranche private placement to refinance a 249MW portfolio of renewables in Ontario that the Canadian Pension Plan Investment Board-owned company bought in June 2018.

The two tranches both mature in 2034, with C\$433.4 million due in June and C\$424.8 million due in September.

Cordelio staggered the maturities to provide a three-month cash flow tail before the final PPA in the portfolio expires, according to a report published by Moody's Investors Service, which has given the bonds a Baa1 rating with a stable outlook.

BMO Capital Markets and National Bank Financial were the bookrunners, says a London-based banker away from the deal.

The funds will be used to refinance two wind farms and two solar farms.

The bulk of the private placement, C\$335 million, will go toward refinancing the 149MW Jericho wind farm, while \$247.3 million is earmarked for refinancing the 59.9MW Bluewater wind farm. Meanwhile, C\$136.6 million is due to go toward the Sombra and Moore solar farms, which are each 20MW and collectively called the St Clair project.

More capital markets news at ijglobal.com

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Briefings

PEOPLE

Funds/lls

Canada Pension Plan Investment Board (CPPIB) has hired Batiste Ogier and Juergen Heeg (right), both infrastructure



and energy specialists in London. Ogier joined CPPIB in January as a senior principal, having left Australian fund manager First State Investments where he was a director. Heeg joins CPPIB as a principal in the global power and renewables team, having previously worked as a director for US-based energy and resources private equity firm Denham Capital.

OMERS Infrastructure has hired Bart de Jong as an associate director from a Netherlands-based rival to boost its London team. De Jong started at OMERS in January, joining its infrastructure investing arm in the UK from PGGM, where he worked as an investment manager.

Banks

Philip Green has stepped up within the London team of **SMBC** to replace Tylor Hartwell as the Japanese bank's head of transport and telecoms. Green is an established director at SMBC having been at the bank since the summer of 2008 and has deep experience of project and infra finance.

Mizuho has hired Franklin Sherman as director in the project finance team, based in New York. Prior to joining Mizuho, Sherman spent four years at NordLB working his way up from associate to director, project finance. Jim Yong Kim, president of the World Bank announced this month that he is stepping down



from his role after six years. During Kim's tenure, several innovative financial instruments were launched, including facilities to address infrastructure needs. Kim will join infrastructure investor **Global Infrastructure Partners** (GIP) as a partner and vice-chairman, effective 1 February. Kristalina Georgieva, who is CEO of the World Bank, will assume the role of interim president until a permanent replacement for Kim is in place.

Natixis has announced a number of executive appointments in its corporate & investment banking (CIB) division, including naming Olivier Delay as chief executive of the Americas. Until recently, Delay was global head of real assets, a role he was appointed to in March 2018. Prior to that, he was global head of aviation, export and infrastructure in New York. Stéphane About, who spent seven years as CEO of CIB Americas, has been appointed CEO for EMEA (excluding France) and will be based in Paris.

Advisers

Jørn Zielke will later this year take over the reins at K2 Management, starting in the first half of 2019 as the advisory



firm's chief executive. He will join the firm once current employer Vestforsyning – a regional power supply and distribution company in Denmark – releases him from his contract. Zielke has more than 20 years' experience in the service and energy industries, having served in various chief exec and senior management positions over the past 10 years. He is currently chief executive at Vestforsyning.

Peter Luketa has left his role as global head of export finance at HSBC to join

UAE-headquartered financial advisory boutique **Cranmore Partners**. His appointment was announced at the same time as that of **Kurt Roelandt** who has previously been head of strategy at Aveng Group. Both join Cranmore as senior advisers. Luketa has been the global head of export finance at HSBC since 2004. He also holds a managing director role at advisory firm CB Advisers. Roelandt is the founder of Infrastructure Advisory House, based in Johannesburg. He was previously at Aveng Group, and prior to that, he was a management consultant at McKinsey and a civil engineer at Infrabel.

Sponsors

Macquarie Capital has appointed Oliver Bradley as the managing director for digital infrastructure, He will re-join Macquarie for the London-based role. He previously worked as corporate finance director at UK fibre infrastructure operator CityFibre. Macquarie's Green Investment Group has hired Julie Lee as vice-president in New York to manage investments in green energy projects across the Americas. Macquarie Group has also appointed Paul Plewman as regional chief executive for EMEA, replacing David Fass who will take on the role of co-head of Macquarie Infrastructure and Real Assets for the Americas.

George Biediger, a well-known figure in the US infrastructure world who worked for more than 38 years at Fluor, retired at the end of 2018 is to be replaced by Thomas Kelly. Biediger retired on 31 December from his role of vice-president of project development and investments at Fluor where he also headed the construction firm's involvement in North American P3. Kelly, executive director of project development and investment, is also leading Fluor in North American P3. Kelly has more than 12 years of project finance experience as well as 20 years in engineering and construction.

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Briefings

POLICY & REGULATION

China plans zero-subsidy renewables

The Chinese government is planning zero-subsidy solar and wind projects as it looks to improve the competitiveness of renewable energy and cut back reliance on central government support. Pilot projects are due to be trialled across certain resource-rich regions, while the current national subsidies will remain in place in the rest of the country.

The no-subsidy policy will span a project's whole life if construction starts by the end of 2020. However, the government will scrap projects that were proposed but not built within this time limit. China's National Development and Reform Commission expects power prices from the pilot projects to be the same or lower than from coal-fired plants. Long-term PPAs with grid operators at fixed tariffs are expected to be a staple of the new renewables market, and the government is considering exempting them from the power market.

EU gives further backing to rail

The European Union is providing €68.6 million (\$78.2 million) in additional funding to co-finance the second phase of a rail link renovation between Macedonia and Bulgaria. The agreement signed in mid-December 2018 and the will be used to jointly finance construction of the 24km Beljakovce-Kriva Palanka section that will eventually run from the Adriatic to the Black Sea.

Funding is also being provided through the Western Balkans Investment Framework (WBIF), which brings together the European Commission, international financial institutions (including EBRD), bilateral donors and West Balkan governments.

The EBRD is heavily involved in the project having arranged sovereign loans to the tune of €145 million and €46.4 million. The first phase is already well advanced, rehabilitating 31km of track on the Kumanovo-Beljakovce line which has been out of service since 1994. Procurement is now underway for the second phase, with a third one planned to run the line 23km to the Bulgarian border at Deve Bair and railhead at Gyueshevo.

Australia sets up South Asia infrastructure programme

Australia's government is setting up a A\$25 million (\$18 million) programme to advise on infrastructure finance in South Asia. The programme will focus on advising countries on how to structure deals in Bangladesh, Bhutan, India, Nepal and Sri Lanka.

Former World Bank manager, Sanjivi Rajasingham will be working on the project, which will begin on 1 July with funds disbursed over four years.

Japan to cut solar FIT

The Japanese government is preparing to slash the country's generous solar feed-in tariff (FIT). The Ministry of Economy, Trade and Industry has submitted a report to cut the FIT to ¥14 (\$0.13) per kWh from April, at the start of the new Japanese fiscal year.

The government had not set a FIT for solar for the current fiscal year ending in March, but tested market appetite for lower tariffs by holding two reverse auctions, though both were subsequently cancelled. The most recent occurred in September 2018. Green Investment Promotion Organization, the governmentowned procurement agency, had set the tariff ceiling at ¥15.50 per kWh but all bids came in at between ¥16.47 and ¥20.99 per kWh.

Some 19 companies submitted EOIs but only nine submitted bids,

for a combined capacity of 197MW. The government cancelled the auction shortly thereafter. The previous effort, in November 2017, suffered a similar fate.

UK to invest in African renewables

The UK government announced £100 million (\$125.2 million) in extra funding for its Renewable Energy Performance Platform (REPP), to support private sector firms with renewable energy projects in Africa.

The government is adding the new funds to its initial investment of £48 million made when founding REPP in 2015. Camco Clean Energy manages the platform with the aim of accessing long-term lending from financial institutions, both private and public. REPP seeks to provide early stage development support, obtaining gap financing and risk mitigation instruments.

REPP is supporting 18 renewables projects in Africa and has a pipeline of another 40 projects. The government expects to unlock a further £156 million in private finance into the African renewable energy markets.

Wales gains bond issue power

The Welsh government has gained powers to issue bonds to fund infrastructure investments. The new powers will enable Wales to issue redeemable bonds to fund projects such as schools, hospitals, roads and public transport, the government has said.

Finance Secretary Mark Drakeford said: "At a time when our capital budgets are continuing to fall, these additional powers provide us with the full suite of borrowing levers so we can continue to invest in our ambitious infrastructure plans for the whole of Wales. We will always use least expensive forms of capital first when investing in infrastructure before using other sources of repayable capital, such as bonds."

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Americas 14 March 2019 Mandarin Oriental

New York

Asia Pacific 28 March 2019 Singapore Hilton

Singapore

Middle East 13 March 2019 Emirates Towers Hotel Dubai

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Middle East

Abu Dhabi National Oil Company ACWA Power Allen & Overy Ashurst **BNP** Paribas Covinaton Mott MacDonald Mubadala National Bank of Egypt Norton Rose Fulbright PwC Shearman & Sterling SMBC Société Générale CIB Standard Chartered Bank Synergy Consulting White & Case

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Charged with uncertainty

Various public and private led funds are being raised in early 2019 targeting electric vehicle charging infrastructure. Private investors are battling with oil majors and energy utilities for dominance of this nascent market, as appropriate financing structures remain up for debate. By Arran Brown and Alexandra Dockreay.



he electric vehicle (EV) charging industry is, some say, stuck in a chicken or the egg-type predicament. Does EV charging infrastructure need to grow to encourage wider take-up of electric cars, or will it only be sensible to invest in the infrastructure once EV uptake grows?

Finding an answer to that question is complicated by a lack of data – consumer behaviour forecasts to date have been based on relatively small samples. It is difficult to predict whether future EV drivers will typically charge at home or in public spaces, or what distances they will be willing to travel between charges.

Despite the uncertainties it seems an inevitability that EVs will replace internal combustion engine (ICE) vehicles eventually, and many investors are trying to gain a first-mover advantage.

Faster, faster

The largest charging network rollouts will have capital expenditure at infrastructure project scale. As an example, the EUsupported Metropolitan Greater Areas Electrified (MEGA-E) initiative has an estimated capex of around €300 million (\$341 million), to install 322 ultra-fast chargers at 29 multi-modal charging transport hubs (such as park-and-rides, bus terminals, e-taxi ranks and train stations) across at least 10 European cities.

Jeremy Parkes, business lead for electric vehicles at DNV GL, says: "We have seen capex for the charging equipment range from \in 1,250 for a 22kW AC charger up to \in 20,000 for a 50kW DC charger. This is just for the equipment; there would be further costs for the installation works and grid connection. These installation costs vary considerably depending on the location, the electrical capacity and grid connection, and might be of the order of 50% to 150% of the equipment cost."

EV charging speeds are only increasing with each new model. There is clear obsolescence risk in investing in an evolving industry such as this.



Jeremy Parkes

According to Parkes: "We are seeing as a trend that newer vehicles have larger batteries... Speeds are increasing. In the UK [public] networks DC chargers are at the 50kW level, and that is rising. In continental Europe there are some DC chargers at the 150kW level and the latest capability is 350kW. There has been a recent improvement with a DC fastcharger prototype going up to 450kW. These advances can shift the charge anxiety people have. As the network increases and the speed of charging rises, ownership of vehicles becomes easier and



Jeff Casey

the EV transition accelerates."

Inevitably, different types of shareholders are going to take varied approaches to financing their infrastructure developer's large-scale rollouts.

Major backers

DNV GL's Energy Transition Outlook 2018 forecasts that by 2033 half of all light vehicle sales will be electric, while by 2047 EVs will start to outnumber ICE heavy vehicles.

Car manufacturers are responding by investing in EV charging infrastructure themselves. Daimler, Ford, BMW and Volkswagen, Audi and Porsche have formed a Germany-based JV named IONITY, which is targeting a pan-European network of 400 charge stations (with six points each) on or close to motorways by 2020, at speeds up to 350kW. It is gaining sites through partnerships, which include teaming up with oil and gas majors Enel and Shell.

Oil companies' interest in this emerging sector is understandable.

Jeff Casey, UK business development director at North American engineering-construction firm Burns & McDonnell, says: "The oil majors actually have the most to lose, but the good thing is they have perhaps the most to gain too, as well as the deepest pockets to invest in electrification."

Shell gained a foothold in the EV market by acquiring the Netherlandsbased NewMotion, which manages over 30,000 charging points in Western Europe and offers its users access to a public network of 80,000 points through an app.

This complements Shell's rollout of EV chargers at its petrol stations under the brand Shell Recharge, which is launching across the company's network of service stations in England, Wales and Scotland. Shell has promised to install super-fast 150kW charging points at selected service stations in 2019 to complement its 50kW rapid chargers, has kept the model open-access for carmakers, and says power is sourced from 100% renewable energy sources.

Meanwhile, BP spent £130 million (\$172 million) in June 2018 to buy UKbased charging infrastructure supplier Chargemaster. The company launched in 2008 and offers units for home, work and public charging. In addition to selling chargers to clients, Chargemaster owns and operates public charging points on behalf of hosts, assuming the cost and risk of installation and maintenance. The BP Chargemaster POLAR public EV charging network has 6,500 points, of which 400 are rapid chargers.

In June 2018, BP said it would install charging points at its 1,200 petrol stations in the next 12 months, including ultra-fast 150kW chargers. BP Chargemaster's chief operating officer David Newton says: "BP Chargemaster differentiates itself from competitors by being vertically integrated in this space, participating and investing in all parts of the value chain to ensure the quality of its product."

Chevron invested in Californiabased ChargePoint, by participating in the company's \$240 million Series H fundraise in November. ChargePoint has also brought Total into the fold, having on 25 October formed a partnership with Total Gas & Power. The company is targeting 2.5 million charging points by 2025 globally, which it says is the industry's most ambitious target.

Total in September acquired equity in G2mobility in France, gaining 10,000 charging points and a 25% market share for serving local governments.

Casey says that, as well as buying EV charging point start-ups, some oil majors have also acquired energy retailers recently. "They are in a unique position to own the customer relationship," he explains.

"Oil companies are generally big, trusted brands, and they already have significant motorway infrastructure and fundamentally know how people travel and move. They understand how to make money on a commodity..."

The utility play

The oil majors' interest in utilities come as no surprise, given their natural advantage



in the nascent EV sector. Utilities also have existing scale on their side – in many cases they have the resources of the state backing them – and as the energy suppliers to homes and businesses they have stacks of data on electricity consumption patterns.

Utilities could soon be offering an integrated product combining a property's electricity supply plus vehicle charging power supply, fitted with smart tariffs and smart metering. Such products could incorporate solar panels and batteries in homes.

Jean-Bernard Lévy, chief executive of French state-backed utility EDF, said in October 2018 that he wanted the company to be the largest supplier of EV charging points in Europe by 2022.

Lévy plans to get there through joint ventures, citing carmakers and battery start-up companies as potential partners. EDF has already collaborated



Alex Harrison

with Nissan Europe to explore how to combine recycling of retired Nissan EV batteries with EDF Energy's demand-side management PowerShift brand.

Meanwhile, German utility E.ON partnered with German motorway service areas operator Tank & Rast and Scandinavia-based charging network operator CLEVER. E.ON is targeting 150kW chargers (easily upgradable to 350kW), domestic chargers combined with rooftop solar and rapid chargers for businesses. CLEVER, meanwhile, is 94.9% owned by Danish energy utility SEAS-NVE.

The level of opportunities and types of challenges facing utilities is different in different markets. BP Chargemaster's Newton comments: "There are barriers around access to grid connections in the UK, for example with distribution network operators (DNOs) having exclusive visibility of network maps that show where power is available."

Alex Harrison, London-based energy partner at Hogan Lovells, says: "In the US it's very different: the expectation is the power utilities will largely be responsible for the rollout of charging infrastructure in their existing regulated asset base. Here [in Europe] it's a market private players can get really involved in."

Harrison adds: "In the UK, an interesting question is whether Ofgem will think that road-side charging stations need to be licenced electricity suppliers or can be treated as unlicensed consumers

of electricity." If a licence were required, the charging point companies would face administrative costs, a duty to protect consumers and high demands on technology standards. Of course, the utilities would take this in their stride, compared to other types of shareholders like oil majors and private equity.

Newton says: "BP Chargemaster have an advanced product development process that allows us to quickly update or upgrade our products, for example to meet Office for Low Emission Vehicles (OLEV) or Ofgem's smart charging specifications, expected to the market this year."

Fund managers revving up

Quercus Investment Partners is making a bold play into the EV charging space with the launch of what it hails as a first-of-itskind EV infrastructure fund. The move is novel given its former funds have focused exclusively on renewable energy. Quercus co-founder and chief executive Diego Biasi told *IJGlobal* last year (2018) that the manager hopes that the fund will benefit from a first-mover advantage.

The £500 million Quercus Electric Vehicle Infrastructure fund will invest exclusively in fast charging points using the petrol station model – public access charging with revenues coming from the sales of electricity (estimated costs per full charge are £15-25). While Shell is installing EV charging points at its retail outlets, Quercus sees installation on forecourts as just one of a host of locations.

"You can also put slower EV charging stations where there aren't forecourts, and in many respects that is easier because the footprint isn't as large. You can put these points anywhere there is an attraction that people remain for a period of time – they become natural destinations for charging spots. Forecourts are the natural place for fast charging stations, as most of the infrastructure is already in place," says Asif Rafiq managing director of investments at Quercus.

Efforts to install newer charging points may prove shrewd. Market leader Ecotricity has 300 charging points across



Asif Rafique

the UK, but has been criticised for failing to invest in its ageing technology, though it benefits from contracts with important service station groups such as Moto, Welcome Break and RoadChef. Quercus and its partners are speaking directly to landowners and business owners to establish its network. It has made a strategic partnership with The EV Network, which will develop and build the assets that, once operational, will ultimately be acquired by the Quercus vehicle.

Investors in the fund are assuming a risk profile more associated with private equity than infrastructure. Returns are expected to be in the low double digits.

Rafiq says: "The type of investors have to be consistent with the risks involved and the kind of rewards that are potentially available for this type of investment. So it may be the same blue chip institutions, but it may not necessarily sit within the infrastructure arm, it's much more likely to sit in the private equity side, in addition to industrial or other utility companies."

The UK government is behind the UK Government Charging Infrastructure Investment Fund (CIIF). The Infrastructure and Projects Authority (IPA) launched a tender process in July seeking fundraisers to at least match its £200 million seed capital. Sources suggest that the mandate will be split between a UK-based infrastructure fund manager - Equitix is thought to be in the mix - in addition to one or more private equity players. The hedge will result in a spread of investments in high-risk and low-risk opportunities, a move that suggests the government is keeping an open mind on who is best suited to lead the investment agenda in this space.

A structured finance

If fund managers play a larger role in this market, then debt markets will likely have a vital role to play to support them as they leverage the cost of rollouts.

Dutch EV charging point operator Allego is seeking to raise debt for its MEGA-E project. The European Investment Bank (EIB) has invested \notin 40 million of quasi-equity into the company, while the European Commission is providing a \notin 29 million grant.

Allego's owner, French



EV charging stations growth by charging point type

infrastructure fund manager Meridiam, is using its projects expertise and recently hired Green Giraffe and Linklaters to work on a structured finance solution. Lenders are invited to provide senior co-financing, while well-established traffic advisers will work on the modelling.

Meridiam claims to have attracted most interest from French and German banks, while talks are also ongoing with the EIB.

Julien Touati, Meridiam's leadership council chair, says: "The long-term investors are looking to do project finance... You need to think more flexibly, more structured finance than pure PF... MEGA-E will deliver a constellation of projects. The project company will take some traffic risk, but will also establish risksharing agreements with key stakeholders such as site providers (e.g. retailers) which would give some visibility on revenues. It implies sharing value over the long-term, but provides the ability to deploy a broader network with reduced risk."

There are some other models that could be project financeable for the infrastructure rollouts, Touati added.

The German government in 2015 launched a concession model in Berlin to initially provide 220 charging points by September 2016. Under this model, the infrastructure provider (in this case Allego and NewMotion) stands to receive availability-type payments over the longterm, linked to the performance of the assets. The management contracts run to 2020, when the Berlin Senate could



Julien Touati



increase the project's scope. The typical period for concessions would be 10 years, according to Touati.

However, tight local authority budgets and nervousness around investing in the wrong type of kits are restraints on the uptake of this model.

Alternatively, rollouts for on-street charging could use a demand-driven model involving a deal with a city to obtain the land for the infrastructure and an information sharing system whereby new purchases of EVs in the area must be registered. The infrastructure provider can then make decisions using that information on how many EVs are in the area and their locations, to reduce the risk profile. "We've seen this particularly in Belgium and the Netherlands," Touati says.

MEGA-E looks set to be the first project finance-like deal to cross the banks' structured finance desks, and it is due to feature a share of traffic risk.

Stefan Barrow, a director in MUFG's infrastructure team, says: "From a senior debt perspective one of the biggest areas of focus for us in this developing sector is trying to understand how sticky the revenues are. Clearly the sector is in the very early stages of development. The projects with contracted revenues should find [raising debt] easier. One of the challenges is that there is only a certain amount of EVs on the road and chargers, and it is still hard to get large volumes going through, so people are still road testing the commercial concepts they have... It may be easier if there is some grant money attached or some EU funding, for example, which might offer some support or almost act like a mezzanine layer in the financings."

Downing-backed Pivot Power has plans to roll out £1.6 billion worth of charging stations combined with gridscale 50MW batteries at 45 sites across the UK. There is no visibility yet on the "programme of project finance" that Downing has planned for Pivot Power.

Barrow adds: "I think we will see a lot of activity around the sector in 2019. Whether that is projects coming to market requiring debt or projects with a more equity funding flavour is to be determined,



Stefan Barrow

but I think at this stage in the cycle it will be more equity funding."

Hogan Lovells' Harrison sees a potential structure in which debt finance could fit quite comfortably. "The obvious place for debt to start is providing captive solutions for [vehicle] fleet operators... I think that is the biggest opportunity," he says.

The fleet operator could agree tariffs with the infrastructure provider over a period of time, ensuring for the operator a stable price and for the provider of infrastructure a stable volume of EV chargers. There are two categories of fleet operators: last-mile delivery vehicles (not the HGVs, mind) such as Amazon, postal services, UPS' converted fleet, street cleaners; while the other is passenger fleets, such as taxi-services like Uber, ridesharing services and car hire potentially.

"It's a question of, have the fleets reached a point where they are ready to enter the market in a committed way and do they think this is the best way to go about it – to have their own dedicated charging infrastructure. If so, I think that is the way the project finance side takes off," Harrison says.

Ren Plastina of Investec's power and infrastructure finance team says: "Though in the US and Canada EV users are mostly charging at home, Investec is looking into the charging space. We see opportunities in contracted revenues from installations of points in residential buildings to hubs for electrified fleets in commercial spaces. We also believe that collocating EV charging points with storage would enable us to tap into multiple revenue streams."

Quercus has its eyes on this market, too. Of an estimated 1,000-1,500 charging points Quercus is looking to finance, some will be within depots or on routes of, for instance, delivery services. The fund manager is already speaking to a number of clients who could roll out charging points nationwide in order to electrify their fleets in part or fully.

Selling power stored in car batteries back to the grid, for example at long-term parking sites, could be a vital component



Michel Debs

in the revenue stream structure. Meanwhile, Downing has said Pivot Power's integrated network with batteries could be a "key resource for National Grid" in the UK.

Harrison says: "The sale of power to the grid or behind the meter offers a huge potential additional revenue

"In this industry there won't be a lot of big winners"

source for EV charging providers, but bidirectional power flow through an EV battery has the potential to degrade performance and life-span on the EV battery. It remains to be seen if and how the vehicle or battery owner will be insulated from this risk and rewarded for its role in facilitating the sale of power and power services to third parties."

Braking momentum?

Yet there remains scepticism around the very possibility of profitability from EV infrastructure, at least at this stage. The current risks may make the space the natural preserve of private equity investors, or industry-at-large players able to comfortably place investments on balance sheet.

One of those less sanguine about the prospects of EV is Michel Debs, portfolio manager and analyst with AMP Capital's listed infrastructure team. He stresses that though the technology and feasibility is not an issue, profitably selling it to users is. Various regulations, insurances and taxations make the challenge even harder.

"You can market charging points either as a service or simply selling electricity. If you sell as a service you're going to sell at a fixed price because most customers want visibility on prices, which means as an operator you'll take the risk on the margin of the electricity you sell. If you're selling energy, you have the exact same issue: do you have your own sources of energy, or are you buying on the market? How can you ensure you make a margin?"

In addition to the capital-intensive nature of installing the infrastructure, it is an open question of how the entity strengthening local distribution networks will be remunerated for the extra investment: "Network operators tend to be regulated meaning any capex they do needs to be sanctioned by the regulator, to get a rate of return that is regulated. If they do capex that is purely merchant, they need visibility on revenue, which returns to the question of how you ensure you make money."

Utility companies are under tremendous pressure and operating with margins that makes it hard for them to invest in any potentially loss-making projects. Government budgets are also constrained and politicians are wary of passing costs onto the electorate.

And investing in EV infrastructure is still somewhat of a step into the dark. "Although you are seeing a number of countries launching studies into whether or not they should adapt their networks for electric cars, the projections for the power demand from electric cars are tiny," says Debs. Instead, he suggests hybrid vehicles may enjoy greater success owing to the requisite infrastructure already existing.

Burns & McDonnell's Casey says: "In this industry there won't be a lot of big winners – when I say a lot, I mean maybe 10s of winners... Probably thousands of companies will lose out, because it is a fledgling market..."

Europe

Pipeline & procurement deals

180

DEALS

10 projects 10 projects

Spain

Closed deal values by sector

Renewables: \$23.69 billion

Transport: \$26.02 billion

Telecoms: \$10.08 billion

Oil & Gas: \$5.51 billion

Power: \$2.33 billion

Water: \$1.27 billion

Social & Defence: \$1.14 billion

Greece

United

Kingdom

55 projects

France

15 projects

Germany

11 projects

Others

61 projects

Poland

9 projects

Ireland

9 projects

INSIDE

The French connection

Acquisition of JLIF, UK

Hitting the road

New fundtiers

Cory Riverside refi, UK

Projects with recent tender updates

Sale of Kladno and Zlin Power Plants Hornsea I Offshore Wind Complex Moray East Export Cable Neart na Gaoithe Offshore Wind Farm Sofia Offshore Wind Farm Viking Link Interconnector UK High Speed 2 Rail Phase II Privatisation of Podgorica and Tivat Airports

Countries with highest closed deal values

	*** ** * ***	
Spain	\$23.55 billion	16
United Kingdom	\$20.66 billion	52
Italy	\$9.13 billion	6
France	\$3.58 billion	14
Netherlands	\$3.28 billion	4
Belgium	\$2.36 billion	4
Cyprus	\$1.68 billion	1
Sweden	\$1.17 billion	7
Denmark, Norway	\$1.00 billion	1
Estonia	\$758 million	2
Germany	\$725 million	1
Greece	\$612 million	1
Serbia	\$325 million	2
Netherlands, United Kingdom	\$306 million	2
Norway	\$298 million	4
Ireland	\$202 million	4
Russia	\$202 million	2
Hungary	\$196 million	1
Finland	\$80 million	3
Italy, Slovakia	\$73 million	1
Ukraine	\$59 million	1
Lithuania	\$25 million	1
	+	-



Source: IJGlobal, from 1 October 2018 to 31 December 2018.

DATA ANALYSIS: France sets new targets to try and spread broadband coverage across all areas of the country. By Sophia Radeva.

The French connection

France's uneven distribution of network coverage means very-high-speed broadband networks exist primarily across the country's very densely populated *zones noires* ('black areas') with less populated semi-urban and rural areas (*zones blanches* – 'white areas') lagging behind.

The government launched its Broadband Programme in 2013, involving private funding for fibre optic networks to provide a faster alternative to the existing copper ADSL digital infrastructure. At the time, the government was targeting 100% coverage across France by 2022, primarily using fibre optic cable, at a total cost of \in 20 billion (\$23 billion). Of this, \in 13.3 billion was to be funded by the state.

However, the coverage gap between zones meant that a single solution would not suffice.

Traditional telecoms operators have been eager to compete, sparing no resource to develop their existing networks in densely populated cities, mostly thanks to the minimal risk involved.

But busy cities only correspond to about 20% of France's population, while the white areas account for nearly half of the country. And building investmentheavy infrastructure in these parts is less attractive due to higher risk and lower returns. So local authorities have stepped in and awarded concession contracts under a PPP model.

IJGlobal data shows that a number of big white area broadband projects closed in recent years, all of which were procured as PPPs with durations of 22-35 years.

Although expectations have been that traditional telecoms operators, which tend to focus on black areas, would leave space for new entrants in less profitable areas, reality turned out to be less straightforward.

High investment coupled with low



Broadband PPPs

Project	Project value (\$m)	Financial close year
Grand Est Broadband	1,321	2017
Herault Broadband	431	2018
Nord-Pas-de-Calais Broadband	402	2016
Alsace High-Speed Broadband	377	2016
Haute Garonne High-Speed Broadband	295	2018
Meurthe et Moselle Broadband	210	2008
Auvergne Broadband	174	2015
Hautes-Pyrenees Broadband	49	2010
TOTAL	3,259	
Source: IJGlobal		

returns led to a slowdown in development. Faced with missing the programme's deadlines, President Macron introduced substantial changes to the agenda.

It was decided that targeted coverage was to be achieved earlier (in 2020), but the scheme was no longer intended to be "all fibre optic". It would also use alternative 4G, upgrading copper wire ADSL networks and satellite communication technologies and permitting slower connections. A series of measures were set in motion, aimed at incentivising operators and imposing sanctions on those unwilling to participate in the less profitable areas.

The redesigned broadband programme is subject of intense discussions between the government and operators. Although there is uncertainty about the effect of the new 2020 targets, there is little doubt that the French broadband PPP market will remain active in the coming years. **NEWS ANALYSIS:** Following Dalmore/Equitix's take-private of John Laing Infrastructure Fund, is it open season on listed funds? By Arran Brown.

Acquisition of JLIF, UK

Opportunity knocks just once. A consortium led by fund managers Dalmore Capital and Equitix demonstrated that it knows this only too well in the recent joint acquisition of the John Laing Infrastructure Fund (JLIF).

The buyers capitalised on a series of unfortunate external events that had beset the former London-listed fund; events which sent its share price on a protracted descent from autumn 2017. And while some have described the takeover of a weakened target as opportunistic, the shrewdness of the move has been equally lauded.

Curious observers will now wonder what the deal means for the market. Was it a one-off, take-private deal by a clever consortium? Does it suggest opportunities for more of the same by rival buyers? Or is it a sign that listed funds must change in order to prevent such manoeuvres again?

One man's loss...

Among London-listed infrastructure funds there were a handful of established vehicles with a focus on core infrastructure and PPP investments: HICL Infrastructure; International Public Partnerships (INPP); JLIF; and BBGI.

JLIF had a mandate to invest in the equity and subordinated debt issued to operational PFI/PPP projects including transport and social infrastructure, and benefited from a right of first offer arrangement with its investment adviser, the John Laing Group. Though the vast majority of its projects were located across the UK, it also had investments in Finland, the Netherlands, Spain and the US.

The Guernsey-based vehicle was incorporated in August 2010, with an IPO held on the 29 November 2010 which raised $\pounds 270$ million (\$349 million) – the second largest capital raise that year despite the ongoing hangover following the financial crisis. Investors were attracted to an IRR of 7-8%. In the same month as the IPO, JLIF acquired a portfolio of 19 PFI/PPP investments from the John Laing Group, which eventually grew to 65 assets by the time of the sale.

As mentioned in its first annual shareholders report, the fund had a share price at the end of 2010 of 106.5p. From then the share price steadily grew through the years to a high of 140.20p on 10 March 2017. Shares regularly traded at a premium.

Standout assets held by the fund included: 40% stake in Barcelona Metro Line 9; 52% stake in City-Greenwich-Lewisham DLR; 15% stake in Intercity Express Programme; and 50% stake in M40 Motorway.

Then came the fall. First the UK's shadow chancellor John McDonnell threatened at the Labour Party conference in September 2017 to bring PFI contracts in house. Then the following month, the Catalonian referendum (the fund had sizeable exposure from metro projects in Barcelona) caused the share price to fall to 126p.

A trading update statement from November 2017 addressing McDonnell's comments mentioned the fund would receive compensation worth 86% of its UK portfolio value, heralding a further tumble to 118.30p.

Further slides came following the news of Carillion's collapse, sending the share value to 118.30p in January 2018 down to 109.60p in April, a mere 3.1p more than its close-of-year share price seven years previously.

The discount to NAV made fundraising a difficult exercise, risking,

as it did, further NAV dilution. Without access to capital, the vehicle was not in a position to pursue future opportunities.

John MacLellan, JLIF chairman, summarised the issues facing the vehicle: "JLIF and the wider PFI/PPP infrastructure sector has been challenged by a number of exogenous factors which have contributed to share price volatility and a general weakening in the value that public equity markets ascribe to infrastructure funds as compared to their underlying portfolio values.

"[The] UK continues to be a particularly competitive market with an over-supply of capital seeking to be deployed and an under-supply of projects in which to invest. This has caused prices of UK PFI/PPP assets to increase to a level where it is increasingly challenging for JLIF to transact and generate a satisfactory economic return."

... is another's gain

Dalmore had been following JLIF's waning share price and decided to make a takeover bid in January 2018. Dalmore brought on board LPs including several UK-based institutional investors and South Korean backers. Equitix was recruited several months into 2018.

The consortium reportedly considered other listed funds suffering depressed share prices, including INPP and HICL, but were ultimately drawn to the higher number of lucrative PPP assets held by JLIF. The deal's success would make the consortium the largest holder of PFI/PPPs in operation.

According to one expert linked to the deal: "Listed companies and institutional investors have a completely different risk appetite. Dalmore and Equitix are taking the Corbyn threat completely differently to the conservative attitudes typical of the listed funds." Dalmore and Equitix understood that the fund managers of JLIF had the duty to shareholders to endorse an offer that offered even a modest premium after the shares' poor performance.

The consortium set up Jura Acquisition as the bidco that would acquire all of JLIF's outstanding shares through a scheme of arrangement – requiring shareholders to approve the scheme and pass a special resolution by a majority of 75%, compared with typical takeovers requiring 90% of shareholder's consent.

According to a (Macquarieconfirmed) KPMG model, indicative sources for the deal totalling £1.667 billion, comprise: £152 million Dalmore fund equity; £200 million Dalmore coinvestor equity; £262 million Equitix Fund equity; £54 million Equitix Eday equity; and £1 billion acquisition bridge debt.

The same model put uses of capital as follows: £1.412 billion equity value; £180 million net dent; and £75 million transaction costs.

Dalmore is understood to have contributed funds from the Dalmore Capital 3 fund, while Equitix utilised capital from its Fund V.

The acquisition bridge debt was supplied in roughly equal measures by Lloyds and NatWest and comprised a £964 million facility and a €40.7 million (\$46.3 million) facility. The loans have floating margins starting at 1.25%, and rising to 1.75% and 2.25%.

Interestingly, one important figure in the deal later described the facility as "not significantly drawn on", leaving open the question of where much of funding for the transaction came from.

Jura Acquisition advanced an unsolicited bid for JLIF on 26 June 2018

which was rejected by JLIF's board. After a round of negotiations which likely involved an increase in the offer share price, a renewed offer was accepted by JLIF's board in 16 July. On 3 August, an agreement was reached on the terms of the cash offer for the entire issued and to be issued share capital of the fund.

The acquisition offered 142.5p per share in cash for each scheme share, in addition to a dividend of 3.57p per share for the six-month period ending 30 June 2018. This offer valued the company at roughly £1.45 billion. The offer price (the combined share price and dividend) of 146.07p represented a 23.6% premium to the undisturbed share price of 118.2p on 13 July, and a 12.4% to the published NAV per share price at 30 June.

On 24 September, a court meeting and general meeting were convened to vote on the deal. In the event, results for the court meeting were 85.85% for and 15.15% against.

The special resolution was also passed at a general meeting, resulting in a vote of 85.4% for and 14.6% against.

With the acquisition consented to, the last day of JLIF trading was 27 September.

The vehicle's listing was cancelled on 1 October, and the balance for the transaction paid by 12 October.

Opportunities all round

The acquisition bridge facility is understood to last for two years, with an option extension of a further year. Sources close to the deal, however, expect the balance drawn down to be paid within six months.

This will partly be done by jettisoning the Barcelona and Connecticut assets to generate cash to repay part of the facility, as well as some consortium capital fronted for the deal. The remainder of the acquisition bridge debt is to be refinanced with long-term debt at portfolio level. Bidders in the intensely competitive infrastructure market will benefit from these assets.

The remaining assets will be split between the consortium members according to preferences around exposure to specific projects, though Dalmore is expected to maintain its assets via Jura Acquisition.

An attractive feature of the acquisition is the ability for the bidco to exercise pre-emption rights for certain assets in the portfolio. The status of ROFOs from the John Laing Group are as yet unknown; they may well prove to be another lucrative facet of the deal.

Ultimately, the deal has had benefits felt beyond those enjoyed by the consortium; the share price of other listed funds returned to levels last seen prior to Carillion's collapse on the back of the deal's announcement.

Is this a one-off? Will the listed funds continue to enjoy their independence?

One unlisted fund manager thinks not: "This won't be the last take-private by an unlisted fund – it's a closed game. There are no new PFI contracts on the horizon."

However, one adviser linked to the deal thinks this unlikely: "The bid has supported their share price so probably less likely targets as a bidder will need to offer a similar premium to the higher trading price."

Advisers

The team of sell-side advisers on the deal included JP Morgan Cazenove (lead financial), Rothschild (financial) and CMS (legal).

Meanwhile, buy-side advisers included KPMG (financial), Lazard (financial), Macquarie Capital (financial), Allen & Overy (legal) and Stifel (corporate broker).





DATA ANALYSIS: Greece looks to swap EU funding for PPPs, but investors aren't entirely convinced. By Daniela Todorova.

Hitting the road

In pre-crisis years, infrastructure projects in Greece were largely dependent on government spending through the Public Investment Program (PIP), whereas today Athens is reliant on EU funding more than ever.

Since the launch of the New Start for Jobs and Growth in Greece (NSJGG) plan in 2015, many projects that were put on hold during the crisis have been rekindled. Indeed, NSJGG has been a major instrument for funnelling EU funds into Greek infrastructure.

The lack of development has not been due to a lack of ambition. Since 2010, the country has launched projects with a total combined capex of over \$12 billion. The most targeted sector, according to *IJGlobal* data, has been roads with €9.25 billion (\$10.7 million) of projects attempted.

Though only a small portion of these projects have been fully realised to date, there is some momentum. Many important motorway projects that were shelved in 2015 were subsequently restarted and commissioned in H1 2017. These projects are the Ionia Odos motorway, Corinth-Patras motorway,



Central Greece motorway and Maliakos-Kleidi section.

As well as roads, the EU has also supported transit projects, such as the €730 million provided by the Cohesion Fund in June 2017 for the €1.57 billion Thessaloniki Metro. The project involves the construction of the 9.5km line 1 and the 4.8km line 2, expected to be fully operational in 2020. The project is being developed by a Greek-Italian consortium



consisting of Aegek, Impregilo, Ansaldo, Seli, and Ansaldobreda.

It comes as no surprise that the Greek road infrastructure sector has the biggest number of completed major projects, including tunnels and bridges. *IJGlobal* data shows that the road sector has seen the most investment to date, but focus is now shifting toward expanding the country's railway and improving urban transit networks.

With state funds dried up, the government has tried to promote PPPs and attract more private funding.

Foreign players of the likes of Acciona (Spain), Vinci (France), Intertoll (Hungary), and Marguerite Fund (Luxembourg) expressed interest in the tenders for the three sections of Crete's Northern Highway launched this summer.

The Hersonissos-Neapoli Northern Road Axis section and Neapoli-Agios Nikolaos Northern Road Axis section are being procured together under a 30-year availability-based DBFMO contract. Meanwhile, the Chania-Heraklion Northern Road Axis section will be developed under 25-year concession contract. Additionally, in September three consortia featuring Italian, French and German co-participation were shortlisted for the first section of the new line 4 of Athens Metro.

Greece is also undertaking an ambitious and extensive privatisation programme of major assets such as Athens Airport, though not all the tenders have attracted the interest hoped. At the end of November, a tender for a concession to operate the Chios Marina received just one binding bid.

Clearly international investors still harbour some concerns over investing in Greece. **NEWS ANALYSIS:** New global energy trends have given rise to new investment opportunities for UK infra funds. By Arran Brown.

New fundtiers

The end of last year saw the launch of several new speciality infrastructure funds for alternative assets in the UK. These vehicles look to define new energy transition sub-sectors, specifically targeting investment opportunities in energy efficiency, energy storage, electric vehicle charging infrastructure and smart city infrastructure.

The new funds include Gresham House Energy Storage Fund, Quercus Electric Vehicle Infrastructure Fund, SDCL Energy Efficiency Income Trust Fund (SEEIT), Smart City Infrastructure Fund and UK Government Electric Vehicle Infrastructure Fund.

The landscape

Changing global energy trends have seen billions of dollars invested in so-called energy transition. In some parts of the world, this transition means a ramping up of fossil fuel production with the US now the largest oil and gas producer on the planet. In Europe, however, the transition has hinged on a prodigious appetite for renewables, an increasing role for electricity in transportation, and strong drives to improve energy efficiency.

The UK is law-bound to reduce CO₂ levels as enshrined in its carbon budgets, and has committed to closing all coal power plants by 2025. Indeed, since 2008 coal as a percentage has fallen from over 30% to well below 10% according to the Department for Business, Energy, and Industrial Strategy (BEIS).

The corresponding shortfall made up by renewables heralds a variety of new challenges and opportunities. The trend towards greater electrification of mobility is fuelling the need to develop the underpinning infrastructure – a greater uptake in EV numbers is predicated on there being such infrastructure in place. In addition, the need for balancing mechanisms to counteract the lack of reliability in renewable power, where wind speeds can fluctuate and winter, cloud, and night frustrate a PV panel, is creating opportunities to capitalise on unpredictability.

Pioneers

The new 'fundtiers' opening up in the UK, it must be said, are not all without precedent. Swiss fund manager SUSI has been especially active in developing speciality vehicles for at least five years. Sustainable Development Capital (SDCL) has had several unlisted energy efficiency investment vehicles for even longer, with UK, Ireland, Asia, and USfocused offerings.

Recognising the importance of diminishing energy demand through savings in efficiency, SUSI launched its first 10-year energy efficiency fund in 2013. The SUSI Energy Efficiency Fund obtained €250 million (\$284 million), and its successor SUSI Energy Efficiency Fund II launched fundraising in October 2018 with a €300 million target.

These debt funds take on counterparty risk for energy efficiency projects for transactions involving energy service companies and their customers, and so back projects without impacting customer balance sheets.

SUSI calls this tri-partite transaction structuring: "Investors participate in the energy cost savings created for several years and benefit from attractive and stable annual returns. Infrastructure owners realize energy, emissions and financial savings without the need to commit their own capital. Technology partners benefit from additional orders that would not have been possible otherwise." SUSI also launched its SUSI Energy Storage Fund I in 2016, with a target of €250 million. The platform, which reached final close in June 2018, seeks to invest in projects in OECD countries.

New fundtiers

Most of the new infra funds have a UK focus (with the exception of Whitehelm's smart cities fund and SEEIT), and are launching within several months of each other, begging the question – why now?

One fund manager cited a variety of factors including more robust pipelines, right interest from counterparties, and right risk profiles appearing for these asset classes. Europe being at the forefront of sustainability, development, and management has also been advanced as reasons for the rise of these opportunities.

Another fund manager admitted that the proposition to investors is complicated, owing to its inherent newness, but expected fundraising to continue growing as the story is communicated.

The first of the new funds, Gresham House's Energy storage fund launched with an IPO at the start of October 2018, targeting £200 million (\$256 million) with an expected 7% yield. It expects to capitalise on the increasing reliance on renewables, and the attendant insecurity in energy supply, by investing in energy storage projects.

These projects are able to address frequency variations in the grid by importing and exporting power through firm frequency response, thereby generating revenue streams. Frequency variations are expected to increase with the greater uptake of renewable energy. In addition, it hopes to buy and sell electricity in order to capture a spread between the high and low electricity prices on any given day.

UK INFRASTRUCTURE FUNDS

This fund has adopted a listed strategy; a source close to the fund explained the choice based on the evidence of success in the listed model, pointing to Greencoat Renewables, TRIG, and the Bluefield Solar Income Fund. Gresham House eventually raised just £100 million for the fund. One of the main excuses given for the fundraising shortfall were the concurrent rival fundraises by INPP and JLEN. It is understood the fund will return to market in 2019.

Whitehelm's Smart Cities Fund (SCIF) followed in November 2018, announcing it had raised €250 million from a single LP, APG. Whitehelm had been exploring the launch of a smart cities vehicle for some time and it claims to be the world's first smart cities fund.

In this time, Whitehelm forged links with US-based technology conglomerate Cisco to assist in sourcing deals. The vehicle's strategy is to forge bilateral deals with municipalities. For the time being, Whitehelm will be targeting smaller cities with a more streamlined approval process.

A single LP model presents unique advantages such as flexibility of fund life, deployment, and return targets. This last item, returns, may be the crucial factor as the untested opportunity may have teething problems. A source close to fund suggested that funding such a new opportunity is a harder role for traditional LPs and public markets to play.

Whitehelm is convinced that the tech and benefits in smart cities are proven, and sees the scalability of projects in this space as an attractive feature. However, procurement regulations stipulating choosing the lowest upfront costs, and political and security issues may make this area challenging for some time to come.

SDCL's SEEIT launched its IPO in November 2018 with a target of £150 million. Its results were released on 7 December 2018 revealing it had raised £100 million, a third shy of its target. As mentioned, SDCL has a long history of fundraising and investing in energy efficiency projects, having managed closed vehicles and platforms in the UK, the US, and Asia since 2012. SEEIT, however, is a listed strategy, and like Gresham House wants to establish energy efficiency projects within the listed asset class, and hopes to take advantage of its first mover advantage.

The two funds yet to launch both cover EV infrastructure. Quercus is due to launch its EV infra fund in Q1 2019 with a £500 million target. The equity fund will offer high single digit returns to its institutional investor and family office backers.

The UK government is also launching an EV infrastructure fund, having opened bidding for the vehicle in the summer, though rumours suggest two bidders will be selected. It will aim to accelerate the construction of EV charging points after a projected close in 2019, beginning to deploy capital soon thereafter.



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DEAL ANALYSIS: BNP Paribas was sole underwriter on the new debt after getting in on the deal early. By Alexandra Dockreay.

Cory Riverside refi, UK

In the recent auction of UK energyfrom-waste (EfW) plant operator Cory Riverside Energy, BNP Paribas offered to provide a substantial debt underwrite for the Dalmore Capital-led consortium that ultimately emerged victorious. Four months later, the bank closed the syndication of a £554 million (\$718.8 million) debt package, bringing banks and institutions into the deal.

BNP Paribas made the offer to fully underwrite a refi of all of Cory's debt while Dalmore and its partners were still engaged in the bidding process to acquire the company. *IJGlobal*'s sources with the buyers at the time said that they expected a 20-year tenor on the debt, and pricing in the region of 200bp above Libor.

The buyers ultimately took BNP Paribas up on its offer, after acquiring Cory on 28 June 2018 for a roughly £1.6 billion enterprise value from a club of former creditors led by Strategic Value Partners.

IJGlobal reported a couple of months later in August that BNP Paribas had initiated the debt syndication and was seeking lender commitments in mid-September.

Former debt

When Dalmore's consortium acquired Cory for around £1.6 billion, *IJGlobal* understands equity came to around £1.1 billion. The enterprise valuation was as much as 21x Cory's £76 million 2017 EBITDA. The assumed debt is understood to have comprised roughly £413 million outstanding senior debt at the Riverside plant operating company level raised in 2017 from banks and institutions, along with roughly £98 million of mezzanine debt.

The company's debt had last been refinanced in March 2017. Pricing on the seven-year senior bank term loan started in the low-200s, rising to the high-200s. Meanwhile, the pricing on the 13-year institutional senior loan was around 250bp.

New debt package

The £554 million debt settled on 22 October 2018, *IJGlobal* understands, after pricing on 18 October. The new package breaks down as: £337 million amortising 20-year institutional term facility, fixed rate, priced at around 180bp; £167 million amortising 12-year term facility, priced at 140bp; and £50 million revolving capital expenditure facility.

The term loans have a five-year amortisation holiday initially. There are no step-ups in pricing.

A hedge is in place to fix the interest on the 12-year commercial bank term facility. There is £70 million of 20-year RPI revenue swap.

There are five to six lenders on the commercial bank debt, *IJGlobal* understands, including BNP Paribas, Crédit Agricole, HSBC, Santander and Siemens Bank.

Lenders on the institutional tranche are understood to include Aviva Investors, Samsung Life and Sun Life.

The business

A source told *IJGlobal* that potential growth projects for the Cory Riverside Energy business were not part of the refinancing model for the creditors' base case.

The business' primary asset is the Riverside Resource Recovery Plant on the banks of the River Thames in east London. It can produce 66MW of energy and treat 750,000 tonnes of residual, landfilldiverted waste.

Public consultations for the Riverside Energy Park took place in July-September 2018, and the development consent order application was submitted to the Planning Inspectorate on 16 November.

Equity

Shareholders of Cory Riverside Energy since June 2018 are: Dalmore Capital, through Dalmore Capital Fund 3, alongside co-investors from the UK and South Korea (53%); Semperian Capital Management, on behalf of Semperian PPP Investment Partners and TfL Pension Fund (23%); Fiera Infrastructure, through Eaglecrest fund (13%); and Swiss Life Asset Managers, through fund Swiss Life Funds (Lux) Global Infrastructure Opportunities II (11%).

Advisers

Advisers on the refinancing were Rothschild (financial), Ashurst (sponsor's legal) and Herbert Smith Freehills (lenders' legal).

Timeline



Middle East & Africa

INSIDE

Sakaka solar PV, Saudi Arabia

A race to 2022 and beyond

Offsetting the offtakers

Pipeline & procurement deals Others Oman 8 projects 11 projects 46 UAE Kuwait 8 projects DEALS 3 projects Algeria 4 projects Egypt 6 projects Saudi Arabia 6 projects

Closed deal values by sector

Oil & Gas: \$7.67 billion

Water: \$1.65 billion

Renewables: \$395 million

Projects with recent tender updates

Al-Khairan IWPP Al Dur 2 IWPP Cairo Metro Line 1 Rehabilitation Dumat Al Jandal Wind Farm Az Zour North IWPP Phase II Privatisation of Oman Electricity Transmission Hassyan Coal-Fired IPP Phase III Noor Midelt CSP-PV Complex I

Closed deals by country

Oman	\$7.20 billion 2
Egypt	\$1.36 billion 4
Saudi Arabia	\$986 million 2
Tunisia	\$88 million 1
United Arab Emirates	\$75 million 1



Source: IJGlobal, from 1 October 2018 to 31 December 2018.

DEAL ANALYSIS: An oversupply of solar panels and cheap debt contributed to the record-low tariff bids for this project. By James Hebert.

Sakaka solar PV, Saudi Arabia

The competitive bidding process for the 300MW Sakaka solar PV project demonstrated strong investor appetite for Saudi's nascent solar market, but despite attracting two record-low tariff bids, Saudi Arabia's first major solar project did not progress entirely smoothly.

An ACWA Power-led consortium was named preferred bidder at the start of last year and soon signed on a \$240 million debt package for the project. Financial close was not to follow until November 2018, however, with land issues blamed for the delay.

Record-breaking bids

The project was first announced in February 2017 by the newly formed Renewable Energy Project Development Office (REPDO).

REPDO pre-qualified 27 companies for Sakaka, having issued the RFQ in April 2017 attracting 128 responses.

The project progressed quickly in its early stages, and a preliminary RFP was issued in July 2017. REPDO opened eight commercial and technical bids on 2 October 2017 with the three lowest bids being: SR0.6697736 (\$0.01786063) per kWh by Masdar and EDF; SR0.87815 per kWh by ACWA Power and AlGihaz Holding Company; and SR0.9976 per kWh for 310MW by Marubeni.

The Masdar/EDF consortium became the first to ever bid under \$0.02 per kWh for a solar project anywhere in the world. The first runner-up bid, though somewhat higher, was also lower than any seen before.

However, if the price offered by Masdar/EDF shocked the market, REPDO's response was equally surprising when it advanced only ACWA Power/AlGihaz and Marubeni to the final RFP stage.

The official reason for disqualifying Masdar/EDF was the technology put forward in the bid. The consortium is understood to have included bifacial solar modules, a relatively new technology, in its proposal.

Advancing ACWA Power/AlGihaz over Masdar/EDF was also politically sensitive. ACWA Power has a strong record of winning power mandates across the region, but as a Saudi firm, partowned by the Public Investment Fund and Public Pension Agency, the decision risked looking like favouritism.

The sponsors

The ACWA Power/AlGihaz team was ultimately chosen as preferred bidder in January 2018. One month later, it signed a 25-year PPA with SEC subsidiary Saudi Power Procurement Company as offtaker. SEC has a sovereign guarantee from the state, unless its credit rating dips below BBB.

ACWA Power owns 70% of the project company Sakaka Solar Energy Company, while AlGihaz owns 30%.

A consortium of Mahindra Susten and Chint was awarded the EPC contract for the project. Meanwhile, an O&M contract was signed with Diaa Sakaka Operation and Maintenance Company, a subsidiary of NOMAC which in turn is wholly owned by ACWA Power. Sakaka is expected to start operations in Q4 2019.

Financing

The project's total cost is \$320 million with the sponsors achieving a debt-to-equity ratio of 75:25.

Financial close was initially scheduled for 28 February 2018. However, the deal was held up by land issues surrounding the chosen 6km² site, several sources told *IJGlobal*.

Natixis, which led the financing on ACWA Power's behalf, has fully underwritten the entire \$240 million debt package, structured as a 20-25 year soft mini-perm, with the intention of syndicating part of loan soon. A source told *IJGlobal* that a number of banks have already been lined up to join the deal.

The debt carries an initial pricing of 130bp above Libor, which rises to 260bp over the life of the loan.

Arab National Bank is understood to have participated in the deal, providing an equity bride loan, though details have not been disclosed.

Advisers

HSBC was financial adviser to SEC, while REPDO was advised by SMBC (financial), DLA Piper (legal) and Fichtner (technical). Covington and Hogan Lovell were legal advisers to ACWA Power and the lenders, respectively.

Timeline



ijglobal.com

DATA ANALYSIS: The public sector seems likely to foot the bill for Qatar's 2022 World Cup infrastructure prep. By Sophia Radeva and Lyudmila Zlateva.

A race to 2022 and beyond

In September 2018, Qatar's Minister of Municipality and Environment HE Mohammed bin Abdullah al Rumaihi unveiled the Gulf state's plans to set aside around QR20 billion (\$5.49 billion) in 2019 for the ongoing revamp of Doha's infrastructure in the run-up to the 2022 FIFA World Cup.

IJGlobal data shows that there has been a sustained growing trend in terms of road infrastructure and Qatar's public works authority Ashghal has even more projects planned by the end of the decade.

Having undertaken restoration and construction of major highways outside of the capital, Qatar is now moving on with phase two of its plans. This will see major works conducted on Doha's road network.

Ashghal is taking integrated approach, tackling major renovation of entire areas of the capital city. Projects are often aimed at solving multiple issues at once, such as the improvement of sewage and landscaping along the roads being constructed or overhauled – as is the case of the Greater Doha Zone 1-68 phase 2 and phase 3.

The 2022 FIFA World Cup has set a mid-term deadline for a number of high-profile projects, including the Ras Abu Aboud Stadium and surrounding infrastructure. There are also a number of transport modernisation projects in progress, such as the Red and Green lines of Doha's future metro and the Lusalil LRT, which should begin operations in 2020.

Qatari infrastructure remains largely funded by the government, with PPPs a rarity. What is more, as shown by *IJGlobal* data, infrastructure projects are more often than not awarded to local EPC contractors, or to Qatari-international joint ventures.

Attracting foreign investment would seem like a viable option but deteriorating





relations with regional powers, in particular Saudi Arabia, could be prohibitive.

The government seems keen to attract more outside funding, and like other Gulf states has put forward PPP legislation to facilitate this. Any progress made on prospective PPP projects is, for now, less clear however.

Over the short-to-medium term, the burden of developing capex-heavy infrastructure looks likely to continue to rest upon the shoulders of Ashghal. **NEWS ANALYSIS:** The 2018 revision of South Africa's energy strategy could give rise to an increased demand for corporate PPAs. By James Hebert.

Offsetting the offtakers

South African developer eThala Power Systems is progressing a project it believes will be a "pathfinder" for the country's power market. The 10MW Harding biomass-to-power project in the KwaZulu Region will not be the first to make use of corporate power purchase agreements, but it could set a precedent for developers looking to avoid signing offtake agreements with South African state-owned Eskom.

And the most recent of update of the South African government's long-term energy strategy could advance other power projects backed by corporate PPAs.

Kieran Whyte, partner at Baker McKenzie and Johannesburg head of energy, mining and infrastructure, and Amanda Scribante, associate at Baker McKenzie, told *IJGlobal* that they "suspect that once the Integrated Resource Plan (IRP) has been finalised, there will be a regeneration of corporate PPAs in South Africa."

The draft IRP 2018, released by the government in August 2018, already shows a positive indication for corporate PPAs due to a possible revision of the existing 200MW cap on embedded generation capacity.

One local view from Business Unity South Africa (BUSA) is that there is "no rational basis for the IRP allocating only 200MW a year" and that this "will be looked at in the final plan".

This limit is one reason why corporate PPAs are a rarity in South Africa. eThala's chief operating officer Pita Jabulani Mbatha told *IJGlobal*: "We know of only one other [corporate PPA]."

That PPA was signed for Bio2Watt's 4.6MW Bronkhorstspruit waste-to-energy plant in Tshwane Metropolitan area. Sean Thomas, Bio2Watt's founder, confirmed: "We may be the only one in the country at this point in time."

Bronkhorstspruit reached financial close in March 2014, and is four years into a 10-year contract with a BMW car factory as offtaker.

The utility offtake

Eskom is the primary offtaker of power in South Africa. It is no secret, however, that the troubled electricity utility has dragged its feet in the past over signing PPAs with independent power producers.

This includes its reluctance to connect the 27 projects awarded under the fourth round of South Africa's renewable IPP programme (REIPPP) to the grid.

Despite the country's Department of Energy (DoE) having announced preferred bidders for the projects in 2015, Eskom announced in early 2016 that it would not sign any more PPAs, citing a surplus of generating capacity and concerns over their costs.

Mbatha makes reference to bidder fatigue: "Eskom buys power from IPPs via a long bidding process [but] there is no guarantee for IPPs of getting the PPAs from Eskom."

The utility eventually agreed to sign PPAs for all 27 projects in April 2018, after concerns about currency fluctuations, costs and feared coal-sector job losses.

Underscoring Eskom's obstructive role in the procurement process, the REIPPP round four projects are understood to have reached financial close in July, just three months after the signing of the offtake agreements.

The corporate offtake

Mbatha believes that there is appetite for corporate PPAs in South Africa: "The level of interest exceeds eThala's capacity to supply." It is also the view of Whyte and Scribante that there is a growing market interest, especially from "small to medium businesses."

The process to gain the necessary regulatory approvals may deter many, however.

Any developer looking to sign a corporate PPA must still negotiate with Eskom and the local municipality for wheeling agreements, permits and municipal licences. In Bio2Watt's case, this was a four-year process with the wheeling agreement being "quite lengthy and unnecessarily expensive."

Scribante and Whyte add that "even if the final IRP lifts the 200MW limit on embedded generation, more clarity will need to be given on the licencing regime" which, if unclear, could add "to another licencing backlog at the National Energy Regulator of South Africa (NERSA)."

Consent must also be obtained at the ministerial level. In this instance, Bio2Watt credits the DoE with its support for Bronkhorstspruit, notably its assistance in acquiring a generation licence from NERSA. This license is overarching and extended to matters normally belonging to other governmental departments, such as a water use licence.

Mbatha also raised feedstock concerns for other biomass projects which may erase the potential for low tariffs, however, both Bio2Watt and eThala have circumvented this through waste-to-energy power generation where supply is either procured on-site (Bronkhorstspruit) or from other internal operations (Harding).

There is no word yet on when the final IRP is likely to be completed, but eThala told *IJGlobal* that it is working to a Q4 2019 financial close.

North America

INSIDE

I-75 Michigan, US

Royal Inland Hospital, Canada

Howard County Courthouse, US



Transport: \$2.99 billion

Mining: \$2 million

Projects with recent tender updates

Sale of a Stake in EDPR's US Wind Portfolio Honolulu Rapid Transit PPP Sale of Goreway Gas-Fired Power Plant Oregon Energy Center Palen Solar Facility LSSU Student Residence Facilities PPP Sale of Emera's New England CCGT Portfolio

Capital Dynamics Tenaska US Solar Portfolio

Closed deals by country



Transactions that reached financial close



Source: IJGlobal, from 1 October 2018 to 31 December 2018.

DEAL ANALYSIS: This road P3 featured an accelerated timeline and private activity bond financing. By Ila Patel.

I-75 segment 3, US

Michigan closed on its second P3 deal in November 2018, and the project had a financing structure unique to the US market – private activity bonds. It had an accelerated timeline, going from preferred bidder to financial close in just under three months with four local civil contractors on board having achieved investment grade ratings from Moody's and Kroll.

The DBFM project itself involves the modernisation of segment 3 – stretching 8.6 miles – along the Interstate 75 (I-75) in the metro region from north of 13 Mile Road to north of Coolidge Road. The project is located across Oakland County in the cities of Troy and Madison Heights. It has a 30-year concession with Michigan Department of Transportation (MDOT) making availability payments on a quarterly basis.

Work has already started on the project and is expected to conclude in August 2023.

Procurement

MDOT issued an RFQ for the project in October 2017 with bids submitted in December of the same year. Four teams were then shortlisted in January 2018. The teams were:

Modernisation Partners comprising Vinci Concessions (equity), Star America Fund GP (equity), Granite Construction Company (lead contractor), Vinci Construction Grands Projects (lead contractor), and HNTB Michigan (lead engineer). Walsh-Meridiam I-75 Partners including Meridiam (equity), Meridiam Infrastructure North America III Limited Partnerships (financially responsible party), Walsh Investor (equity), Walsh Construction Company II (lead contractor), Walsh Construction Group (financially responsible party), and Parsons Transportation (lead designer). **Mobility Solutions** consisting of ACS Infrastructure Development (equity), Astaldi (equity), Dragados USA (lead contractor), Amico Infrastructures (lead contractor), and Jacobs Engineering Group (lead engineer).

Oakland County Partners comprising AECOM Capital (equity), John Laing Investments (equity/lead contractor), Dan's Excavating (equity/lead contractor), Ajax Paving Industries (equity/lead contractor), Jay Dee Contractors (equity/lead contractor), CA Hull (lead contractor), and AECOM Great Lakes (lead engineer).

A fifth group responded to MDOT's RFQ but did not make the shortlist.

Final proposals were submitted in late August and the Oakland County Partners consortium was selected as preferred bidder in September. Commercial close took place in October with financial close following a month later.

Advisers to the public sector comprised: KPMG (financial); Nossaman (legal); WSP (technical); Wade Trim Associates (engineering and planning); Somat Engineering (engineering and planning); Access Engineering (engineering and planning); Surveying Solutions; and Northwest Consultants.

Meanwhile, advisers to the concessionaire were: BMO Capital Markets (financial); Davies Ward Phillips & Vineberg (legal); Louis Berger (technical); WT Partnership (technical); and Marsh (insurance).

Corey Boock, partner at Nossaman, who acted as commercial adviser to MDOT, said: "To ensure the timeline was met, a dedicated group of MDOT staff and officials made decisions relatively quickly to allow the wider team to move forward. The project also had the support from former governor Rick Snyder who was leaving office at year end to make way for his successor."

Financing

The total cost of the project is estimated at \$828.5 million, and this amount includes debt, equity and maintenance costs. Private activity bonds amounting to \$610 million will cover the cost of the construction period.

Wells Fargo and Bank of America Merrill Lynch were underwriters of the bonds, and Michigan Strategic Fund issued the series 2018 bonds.

The scheduled payment of principal and interest on the series 2018 bonds are:

- \$33.5 million to mature 30 June 2035, with an interest rate of 4.125% and yield of 4.260%
- \$87 million to mature 31 December 2038, with an interest rate of 4.250% and yield of 4.400%

Timeline


- \$153 million to mature 31 December 2043, with an interest rate of 5.000% and yield of 4.420%
- \$96 million to mature 30 June 2048, with an interest rate of 5.000% and yield of 4.480%
- \$70 million to mature 30 June 2048, with an interest rate of 4.500% and yield of 4.570%

Dykema Gossett provided bond counsel to the underwriters, while Greenberg Traurig acted as special counsel.

Moody's rated the bonds Baa2 and Kroll Bond Rating Agency rated them BBB, both with a stable outlook. This was the first P3 transaction that Kroll rated.

Other advisers to the underwriters were Aon (insurance), WT Partnership (technical), and Mazars (model auditor and tax).

Total equity stands at \$44.1 million and is split as follows: John Laing – \$19.6 million; AECOM Capital – \$14.7 million; Jay Dee Contractors – \$4.9 million; Ajax Paving Industries – \$4.9 million; and Dan's Excavating – \$4.9 million.

Boock said: "I think this has to be one of the smoothest closings of a P3 transaction that I have been a part of in recent history. Both the winning consortium and MDOT were very motivated and collaborative. The team involved on the deal was extremely lucky in that there was an orderly process with no requirement to renegotiate terms of the deal post-selection."

There was no TIFIA loan due to the accelerated timetable and the inability to get it approved in time.

Conclusion

The first P3 deal that Michigan closed was MDOT's freeway lighting DBFOM project at a cost of \$175 million in August 2015. The concessionaires on the 15-year contract were Star America Fund GP (85% equity partner) and Aldridge Electric Company (15% equity partner).

Allianz Life Insurance of North America – a Blackrock Capital entity – provided capital market financing of \$44 million with \$5 million provided in equity from the sponsors.

While the ability to do a P3 generally exists under Michigan law, Michigan does not have express P3-focused legislation in place. The former Rick Snyder administration did attempt to advance P3 legislation but was not successful. The lack of it meant that the I-75 project was heavily scrutinised by the agency, proposers, lenders and rating agencie.

Current governor Gretchen Whitmer, as part of her campaign during elections, stated: "To grow our economy and make Michigan a state that businesses move to and can grow in, we must invest in our roads, bridges, water systems, broadband, and electrical grid. Good roads are good for Michigan families and businesses and infrastructure investment is economic development."

Given this statement, it is hoped that Whitmer will advance P3 legislation during her time in power.



DEAL ANALYSIS: This deal featured the first internationally accredited green bond on the Canadian P3 market. By Ila Patel.

Royal Inland Hospital, Canada

A consortium led by EllisDon is developing the Royal Inland Hospital Patient Care Tower project, which is set to deliver a state-of-the-art facility that will improve patient care for the city of Kamloops and the surrounding region of British Colombia.

The project will take place in two phases. Phase 1 comprises the design and construction of the patient care tower to bring the Royal Inland Hospital up to current standards of care. The facility will improve working conditions, infection control and prevention measures.

Phase 2 involves significant renovation and expansion to the emergency department, paediatrics, postanaesthetic recovery and morgue. New parking stalls will also be added to the site.

The sponsors reached financial close on the project on 16 November 2018. Work has started and the first phase is expected to be open for patients in early 2022, with phase 2 following in 2024.

Procurement

The province of British Columbia's Health Ministry gave the go-ahead to advance the DBFM (and renovation) project in February 2017 with an RFQ issued in May 2017.

A shortlist was then announced in October 2017 comprising three bidding teams.

Inter-River Healthcare Partners included: equity providers Concert Infrastructure, Brookfield Financial Securities and Bird Capital; designbuild contractor Bird Design-Build Construction; architect Perkins + Will and Kirsten Reite Architecture; and service provider BGIS Brookfield Global Integrated Solutions Canada.

Plenary PCL Health comprised: equity providers Plenary Group (Canada) and PCL Investment Canada; design-build contractor PCL Constructors Westcoast; architects HDR and CEI Architecture Associates; and service provider Johnson Controls Canada.

EllisDon Infrastructure Healthcare consisted of: team lead and equity provider EllisDon Capital; designbuild contractor EllisDon Design Build; architects Kaisan Architecture Interior Design and Planning and Parkin Architects Western; and service provider EllisDon Facilities Services.

The EllisDon Infrastructure Healthcare consortium was selected as preferred bidder in September 2018.

Bonds on the deal priced on 14 November with financial close reached two days later (16 November).

Advisers to Partnerships BC were: Boughton Law Corporation; John Singleton QC; PwC; LTA Consultants; Fasken Martineau DuMoulin; and IBI Group and subcontractors WSP Group, CWMM Consulting Engineers, GUNN Consulting, RWDI Air and Singleton Urquhart.

Financing

HSBC was sole underwriter and bookrunner on the C\$153 million (\$115

million) bond financing.

It was split between two tranches: C\$64 million in series A bonds with a coupon of 3.930%, maturity of 31 October 2038, and pricing of 144.7bp above the Government of Canada benchmark; and C\$89 million in series B bonds with a coupon of 4.148%, maturity of 30 November 2051, and pricing of 165.1bp above the Government of Canada benchmark.

The bonds obtained a second party opinion confirming their alignment with the International Capital Markets Association (ICMA) – Green Bond Principles 2018.

They were then sold to a select group of institutional investors, and in another first, a UK investor.

Green bonds ensure that new and existing projects are provided with environmental benefits at the point when financing is being raised. It also enables the transition to a sustainable global economy.

They are still subject to the same capital market and financial regulation as other types of financing.

EllisDon was sole equity provider, injecting C\$14.3 million in equity which is backed by a letter of credit.

Moody's rated the bonds A3 on 26 October and reaffirmed at the time of bond pricing.

The Interior Health Authority is expected to pay 43% of capital costs, amounting to around C\$124.5 million in construction milestone payments.



DATA ANALYSIS: US sees China's Belt & Road and raises it \$60 billion and a new development finance agency. By Yavor Guerdjikov.

Upping the ante

The US Senate passed President Trump's BUILD Act in early October 2018, aiming to facilitate the investment of \$60 billion in developing countries through a newly formed US International Development Finance Corporation (USIDFC).

It's an ambitious target spurred on by the US government's desire to counter China's large and growing influence in emerging markets, bought through significant investment in development projects over recent years.

The USIDFC will incorporate the Overseas Private Investment Corporation (OPIC), which has so far been the US' main institution for providing overseas development loans. Contrary to OPIC's current practice, the new agency will invest equity in projects; something contemporary financial institutions, from China and elsewhere, already do.

IJGlobal data shows that OPIC has predominately lent to the renewables sector over the last five years. It has provided over \$3.2 billion (almost half of its lending) to 48 projects over that





period. Meanwhile, the power sector was the second biggest recipient of OPIC debt, comprising roughly \$1.15 billion, with all other sectors receiving far less in funding.

According to *IJGlobal* data, OPIC has concentrated its infrastructure lending in Sub-Saharan Africa and Latin America. Between 2013 and 2018, the development finance agency disbursed almost \$1.9 billion in debt for 28 projects in Sub-Saharan Africa and over \$2 billion across 22 projects in Latin America.

Comparatively, Chinese state-owned banks and institutions provided around \$22.4 billion in debt to projects in Sub-Saharan Africa and participated in 50 deals in 2013 to 2018.

These Chinese lenders include Bank of China, Central Bank of China, China Construction Bank, China Development Bank, China Exim Bank (contributed roughly 3/4 of the debt), government of China, Industrial and Commercial Bank of China, and ICBC.

IJGlobal data shows that Chinese loans in Sub-Saharan Africa's power sector

over the period totalled over \$13.9 billion, compared to OPIC's \$695 million. The US development bank, however, was more active in the renewables sector, providing over \$1.2 billion debt compared to \$374 million from the Chinese institutions.

Among the large renewables projects in Africa supported by OPIC are the 310MW Lake Turkana wind farm in Kenya and, more recently, the 158MW Taiba N'Diaye wind farm in Senegal.

USIDFC is likely to remain a significant lender in Sub-Saharan Africa and Latin America, but other regions may also benefit from the BUILD Act. OPIC loans have declined in Asia Pacific over the past two years: from \$936 million in 2016 to around \$60 million in 2017, and with no loans to date in 2018.

USIDFC's budget of \$60 billion will more than double the lending cap of OPIC. With China committing \$60 billion of investment into Africa alone in September 2018, development funds should not be in short supply over the next few years. **DEAL ANALYSIS:** This hybrid BDFOM project set a new benchmark for speedy P3 procurement. By Ila Patel.

Howard County Courthouse, US

It is almost unheard of in the US for a P3 project to go from procurement to financial close in just under a year. However, this is exactly what happened with the \$150 million Howard County Circuit Courthouse P3 in Maryland, which reached financial close in October 2018.

The new court house will replace the Thomas Dorsey Building, which has stood on the site for 174 years. Howard County expects the new courthouse to be in use in summer 2021.

It will be durable with high-quality systems to ensure its useful life extends well beyond the 30-year contract.

Procurement

The project was approved by the Howard County Council in March 2017 with a request for expressions of interest issued in September. This saw nine teams submitting qualification statements, with three teams selected by Howard County in December to progress to the next phase.

These final three teams were: Edgemoor-Star America Judicial Partners with HOK and Clark; Howard County Justice Partners – Forum Equity with Hensel Phelps and Fentress; and Howard Judicial Partners – Skanska Infrastructure with Fengate and Heery.

The Edgemoor-Star America Judicial Partners consortium was selected as preferred bidder in June 2018. Its members comprised Edgemoor Infrastructure and Real Estate (co-developer/equity), Star America Fund GP (co-developer/equity), HOK (architect), Clark Construction Group (design-build contractor), Harkins Builders (associate design-build contractor), and Johnson Controls (operator).

Howard County's advisory team included: IMG Rebel (financial); Hawkins Delafield & Wood (legal); a JV of Arcadis and Ricci Greene Architechts / Grimm + Parker (technical); Chartwell Enterprises and subcontractors (including Cushman & Wakefield and Jones Lang LaSalle Securities); and Fentress.

Advisers to the consortium were Project Finance Advisory (financial), Bracewell (legal), Mazars Global Infrastructure (model auditor), and Willis Towers Watson (insurance).

The project reached commercial and financial close on 16 October 2018. The period of construction will run from June 2019 through to June 2021.

Financing

The financing package was provided by three banks and one institutional investor: CIBC Capital, ING Capital, SMBC, and MetLife Investment Management (note purchaser).

Advisers to the lenders were Thompson Coburn (legal) and Turner & Townsend (technical).

The county will provide \$75 million financed by general obligation bonds to the project company when the new courthouse is ready for occupancy. The county will also provide an annual service payment of around \$10 million beginning in fiscal year 2022, with annual adjustments for inflation thereafter.

The market speaks...

Brian Dugan, managing director at Edgemoor Infrastructure & Real Estate, said: "Howard County set the benchmark for how a P3 project should be determined and procured. It ran a very efficient process that allowed it to stick to an aggressive schedule, which saw the deal go from RFP to financial close in the span of 10-11 months. Enabling this compact timeline was the County's organization prior to issuing the RFQ. A year before the RFQ was issued, it brought on advisers that helped analyze a variety of project delivery models including DBB, DBOM and DBFOM, before settling on a bit of a hybrid DBFOM. It also obtained key preliminary approvals from Council pre-RFQ."

The county liked the idea of a hybrid DBFOM model where the private developer finances the entire capital budget but the county takes out a portion of that private financing at occupancy with a large milestone payment, in this case \$75 million.

Dugan adds: "This enabled the county to lower the interest costs for the project while still realizing the long-term risk transfer to the private sector that attracted it to the performance-based availabilitypayment DBFOM structure. Additionally, the county also set an affordability limit which helped direct the shortlisted teams and assured a cost-effective financing structure to meet the limit."

Timeline



Latin America

INSIDE

Years of plenty

Privatisations are go

Allure of the 'free' market

The more renewables, the better



Closed deal values by sector

Mining: \$4.32 billion

Renewables: \$3.22 billion

Oil & Gas: \$2.58 billion

Transport: \$2.02 billion

Power: \$630 million

Water: \$70 million

Projects with recent tender updates

Belo Monte Transmission Line 2 BR-101/290/386/448 Toll Road

Sale of Renova Energia's Brazilian Wind Assets

Sale of San Cristobal Tunnel & Vespucio Norte

Ituango Hydropower Plant

Mexicali-Hermosillo Transmission Line

Porto do Acu III CCGT Power Plant

Vale Azul II Gas-Fired Power Plant

Closed deals by country

Chile	\$4.63 billion	3
Peru	\$2.54 billion	6
Mexico	\$2.11 billion	8
Colombia	\$1.33 billion	3
Brazil	\$1.03 billion	19
Argentina	\$464 million	5
Ecuador	\$447 million	2
El Salvador	\$1 <mark>43 million</mark>	1
Uruguay	\$121 million	1
Honduras	\$115 million	1
Bolivia	\$78 <mark>m</mark> illion	1



Source: IJGlobal, from 1 October 2018 to 31 December 2018.

NEWS ANALYSIS: Regulatory failures have both created overcapacity in Peru's power market and may prohibit much-needed new development. By Juliana Ennes.

Years of plenty

Despite being a steadily growing investment grade economy with a relatively stable currency and consolidated rule of law, Peru has in recent times not received as much attention from international energy developers and investors as some of its LatAm peers. And this has much to do with the sense that Peru has overbuilt its power market.

Technology-specific power auctions used to be the main driver for new projects with the government in 2008 establishing auctions to contract on-grid renewables capacity every two years. Peru has so far held four renewable energy auctions, awarding 64 projects.

However, the last auction was back in 2015. The country's Energy and Mining Ministry (MINEM) cancelled the next one originally scheduled for 2017. Some government officials then announced that procurement would happen in late 2018, and now the market is hoping for an auction this year... though there is no guarantee that this will actually happen.

Slowing down

Peru's GDP growth has been slowing down since 2008 when it reached over 9%. According to World Bank data, annual GDP growth in 2017 was 2.527% compared to 6.14% in 2012. Meanwhile, the country's power demand grew by a staggering 90% from 2005 to 2015.

A slower economy, coupled with a large number of projects already contracted for the long-term, has led Peru to its current state where projects awarded PPAs were never built.

But if already-awarded projects are not advanced, surely there is no need for the government to launch new power capacity auctions?

Efficient generation

If only it were that simple. Firstly, many market watchers believe that this overcapacity will only last until 2021. The clock is ticking for Peru to increase its power capacity or risk struggling with supply... and pricing.

Members of the renewable energy industry maintain that only renewables projects (mostly solar, wind, geothermal and biomass) could be brought online in time, since more traditional options (such as gas-fired and hydropower) have longer construction periods.

And Peru's energy mix could do with some diversification. In 2016, 46.6% of electricity came from gas-fired units, while 39.8% was derived from large hydropower plants. Biomass, wind, solar and small hydro projects were responsible for 10.8% of electricity, with the rest made up of units powered by coal, oil and diesel.

The technology debate

The question of subsidies are also part of the debate surrounding Peru's next power auction. Besides having a technologyspecific auction system, the country also offers priority dispatch and accelerated depreciation for renewable energy projects.

But fossil fuels also receive incentives. The Camisea gas project has been selling natural gas to power plants under a long-term contract for a stable price since 2004, which is even lower than Henry Hub prices following developments in the US fracking industry.

This creates two problems. One is that the controlled gas prices have a deadline of 2023. The other is the instability it creates on the spot market; if an issue arises with the gas pipeline, prices could increase twentyfold in just a few hours. Peru tried to address the latter problem through the Gasoducto Sur Peruano (GSP) project, a \$7 billion pipeline to transport natural gas 1,000km from the Camisea deposit near the Urubamba River in central Peru to the Pacific coast. Construction was cancelled in early 2017 as a result of the corruption scandals involving the concessionaire, Odebrecht.

Now, the future of the GSP pipeline looks far from certain. The government initially favoured a new auction, while many people in the industry suggest a different approach, such as using Peru's solar and wind resources to produce power locally even in the country's most remote areas.

Calls for regulation

The fragility of the spot market leaves the door open not only for a 2019 power auction, but for private deals to be made. Large energy consumers have been cited as interested in closing bilateral private PPAs directly with power producers.

This could create an opportunity for renewables projects. But current legislation demands that all projects declare their firm capacity.

And regulatory distortion attributes to renewables, which are intermittent sources of power, null-capacity. This ultimately forces renewable energy projects to either sign private offtake agreements or go merchant and sell power on the spot market.

Peru's renewable energy sector has called for the firm capacity requirement to be revised while it waits for a new power auction. Without both in place, it seems unlikely that the country will see a huge influx of investors in the energy sector over the next few years.

DATA ANALYSIS: Investors, please take your seats. A new round of airport privatisations is ready for take-off. By Sophia Radeva.

Privatisations are go

In November 2018, the Brazilian government announced the launch of its fifth round of airport privatisations, which are to be granted in 2019. The drive to bring private capital into Brazil's state-dominated airport sector has been constant in recent years, despite political volatility that has slowed down the process.

The country's airports currently operate beyond their capacity. For example, Guarulhos, Sao Paulo's primary international airport, was designed for nearly 29 million passengers but handled 39 million passengers in 2018.

This over-crowding has affected airports across the country. The situation was even graver back in 2011 when air traffic was booming in the foreglow of the 2014 FIFA World Cup and 2016 Summer Olympics.

In order to meet rising demand, Brazil launched its airport concessions programme in 2011 with the tender of Sao Goncalo do Amarante Airport. A 2012 concession round followed, involving the Guarulhos, Viracopos and Brasilia international airports.

The bids submitted surpassed the government's expectations, collectively totalling R\$24.5 billion (\$14.3 billion) as compared to the meagre R\$5.4 billion minimum target set by the government.

Another two rounds of auctions ensued. 2013 marked the concessions of Rio de Janeiro-Galeao International Airport and Tancredo Neves International Airport (Confins), while Salvador, Florianopolis, Fortaleza and Porto Alegre followed down the same path four years later (2017).

However, air traffic tailed off in 2015, as the country faced both economic recession and a stark political crisis. Passenger traffic peaked at 102 million in



2015 before falling 7.7% to 94.1 million in 2016, according to the World Bank data.

At this point, many of the concessionaires had invested heavily in expanding and ameliorating the airports' infrastructure, as expected by the Brazilian government, which remained a stakeholder in the airports.

IJGlobal data show an overall investment of roughly \$7 billion after the privatisations, with an all-time high concessionaires' commitment in the second round, prior to the Rio Olympics.

However, the slump in passenger traffic led to the accumulation of debt by the private parties. As a result ANAC (National Civil Aviation Agency of Brazil) sought to restructure payments for the Brasilia and Sao Paulo Guarulhos concessions, while in July 2017 the investors in Viracopos airport voted to return the airport to the regulator after sustaining significant financial losses.

To make things worse, national airport authority Infraero, which holds

a 49% share in all concessions, started falling behind on its payment obligations. In December 2018, newly elected President Jair Bolsonaro outlined his plans to terminate Infraero and have all airports privatised entirely in the coming years.

The forthcoming privatisation round in 2019 could be an important milestone in the President's agenda. It will include 12 airports, organised as regional clusters, where a profitable capital city airport is being grouped with underperforming regional airports in need of investment to become profitable.

Concession plans include the expansion, maintenance and exploration of the infrastructure. The new concessions to the private initiative will have a term of between 25 and 30 years. The estimated investments with the concession of the airports is R\$3.52 billion.

President Bolsonaro is reported to be drafting plans for the concession of six additional regional blocks of airports, 44 in total, to be awarded by 2022.



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NEWS ANALYSIS: Private power purchase agreements are on the rise as large consumers migrate to the ACL market. By Juliana Ennes.

Allure of the 'free' market

Brazilian power consumers are increasingly turning to the 'free' market of the Ambiente de Contratação Livre (ACL) in search of more favourable pricing. ACL is a market for buying and selling electricity via freely negotiated bilateral contracts, rather than through set-price auctions run by power regulator Aneel.

While the regulated market still accounts for the vast majority of power purchases, the ACL had by mid-2018 facilitated the sale of roughly 30% of the power consumed in the country (18,046MW). Some observers believe that this ratio could even invert in the next decade or so, with the ACL representing 70% of the market.

There are, however, challenges to the Brazilian power market, which make agreeing private PPAs challenging for financiers and developers.

Brazil-specific challenges

Prices – Aneel approved on 13 November 2018 new rules for pricing the electricity sold on the free market, removing a significant obstacle to the growth of the ACL. Today, prices are set on a weekly basis and, starting in January 2020, they will be calculated on an hourly basis, better reflecting fluctuations in demand. **Grid connection** – Several people close to this market have told *IJGlobal* that many power producers try to participate in government-led auctions with a small percentage of the project, selling the rest on the free market.

As auction-winners are given priority in connecting their projects to the grid, producers guarantee transmission capacity along with better prices by having both auction-won power and private PPAs. **Tenor –** Banks looking to finance power projects in Brazil find it especially difficult to support assets with shorter-term contracts. The ACL on average offers contracts of 4-5 years, while PPAs with Aneel tend to last 20-30 years depending on the technology.

Offtaker and sponsor risk – Most financing transactions in Brazil require guarantees, which may be provided by multilaterals, or (as is more common) corporate guarantees are put in place... even if the debt is on project level.

As such, for a project meant to sell power on the free market, banks need to consider the risk profiles of both the project and sponsor; the latter usually overlooked as a risk for projects contracted at Aneel's auctions. This has a direct impact on financing costs.

Regulated vs free

After introducing power marker reforms in 2004, the Brazilian government has organized yearly power auctions (through the CCEE and Aneel) to supply a host of distributors. This has become a very stable and internationally recognized model, giving renewables the chance to increase its share in the country's total electricity mix and to compete with other power sources on an equal footing.

The stable cash flow from long-term PPAs attracted international companies to participating in Brazil's power auction, transforming the country's energy mix.

In the early 2000s, hydropower plants accounted for approximately 95% of the electricity produced in the country. Now, it is around 60%, with gas-fired power plants and renewables, especially wind farms, taking up a larger chunk of the mix.

However, electricity prices in Brazil have increased drastically in recent years, especially after 2015 when the government ended some subsidies provided three years earlier.

From 2008 to 2017, average local power prices escalated 85%, resulting in one of the most expensive tariffs in the world due to a combination of taxes, phasing out of subsidies, auction fees, delays on approvals for new projects and the need to compensate for droughts hitting Brazil's hydro resources with more expensive technologies.

So large power consumers ended up migrating to the ACL to reduce costs. Associations representing Brazilian power producers estimate that the free market may reach as much as 70% of the total power produced in the country by 2030.

One transaction highlighting this trend is the Cemig auctions, the first of its kind in Brazil. The company, which is 50% owned by Minas Gerais state, acquired a combined 583MW of wind and solar across two different auctions that selected private contracts directly with the producers, to replace the hydro generation it lost due to the concessions with private platers. Cemig's main goal is to attend the demand on the ACL.

Some of the largest energy consumers on the free market are Albras, Braskem, ArcelorMittal, Vale and CSN.

The future

Specialists expect the share of financing going to the capital markets to grow under Jair Bolsonaro's government. Bankers have told *IJGlobal* that there is appetite for lending to projects on the ACL, especially with first-class offtakers such as Vale.

It seems to be the consensus that the free market will be the future of power commercialization in Brazil, with all parties trying to understand their bargain capacity. **DATA ANALYSIS:** Successful energy auctions have boosted Mexico's renewables markets. By Lyudmila Zlateva and Katerina Ilieva.

The more renewables, the better

Mexico has seen a rapid rise in renewables development over the last five years, with Sener in October 2018 reporting a 35% increase in installed renewable energy capacity.

The Mexican government helped to accelerate the adoption of renewable power through the introduction of energy reforms in 2013 under President Enrique Pena Nieto. The unbundling of staterun CFE and partial liberalisation of the market, along with the introduction of competitive tenders for renewable energy capacities, green certificates and other trading instruments, have all contributed to the recent spike in Mexican renewables.

IJGlobal data shows that Mexico's renewables capacity, excluding hydropower, stands at roughly 6,600MW divided between some 3,700MW wind, 1,200MW solar PV and 1,752MW biogas, biomass and geothermal.

According to the latest data released by Sener in June 2017, renewables (including hydro) accounted for 25% of Mexico's total installed capacity of around





7,500MW. Sener expects it to reach 30% by 2021.

The future is green

Mexico has an ambitious target of having 50% of its installed energy capacity covered by renewables by the year 2050.

According to *IJGlobal* data, nearly 2GW of solar and 3.8GW of wind are expected to come online this year alone, following the successful energy auctions held in November 2015, April 2016 and April 2017. PPAs and green certificate trading also helped to seal these deals. According to the Mexican government, the average price achieved in its third long-term auction of 2017 was \$20.57 per MWh.

These tenders have attracted a number of major international developers of utility-scale projects.

According to *IJGlobal* data, the largest renewable energy owners by installed capacity are Spanish majors Acciona and Iberdrola, France's EDF, Italy's Enel and Portugal's EDP, alongside the CKD Infraestructura consortium of Mexican pension funds (CKD IM). At the start of 2017, Acciona Energia announced the start of the construction of the 317.5MW Puerto Libertad PV complex, developed in a 50:50 JV with Biofields Group's Tuto Energy, in the state of Sonora. The project was awarded in the second energy auction in 2016.

Meanwhile, Italian energy giant Enel in September 2018 reached financial close on two solar projects in Mexico: the 828MW Villanueva located in the north western state of Coahuila and 260MW Don Jose located in the state of Guanajuato.

Enel in October 2018 sold a majority stake in a portfolio of eight Mexican solar and wind assets, including the Villanueva and Don Jose solar farms, to CDPQ and CKD IM for \$1.4 billion. CDPQ and CKD IM acquired an 80% shareholding in the portfolio shortly after the primary financing reached financial close.

Mexico's short-term pipeline of projects also includes the 100MW Tepezala II and 41MW Rumorosa PV plants. Both are expected to be operational in H1 2019.

Asia-Pacific

Java 1, Indonesia Coc San hydro divestment Kwinana EfW, Australia Build, Build, Build



Projects with recent tender updates

Chonburi Gas-Fired Thermal Power Plant Melbourne Airport Rail Link Snowy Hydro Power Plant Expansion Melbourne North & South Roads Upgrade Long Phu 1 Thermal Power Plant Matiari-Lahore HVDC Transmission Line Bhogapuram International Airport Phase 1 Acquisition of IL&FS Indian Road Assets

Closed deal values by sector

Transport: \$4.50 billion

Renewables: \$4.18 billion

Power: \$2.78 billion

Oil & Gas: \$2.17 billion

Social & Defence: \$590 million

Water: \$156 million

Countries with highest closed deal values

Australia	5.51 billion	17
India	2.52 billion	9
Japan	1.99 billion	4
Philippines	1.90 billion	
Indonesia	1.77 billion	1
Nepal	191 million	1
Thailand	153 million	1
Singapore	152 million	2
Vietnam	83 million	2
Malaysia	48 million	1
Tajikistan	41 million	1



Source: IJGlobal, from 1 October 2018 to 31 December 2018.

DEAL ANALYSIS: With a tender launched back in 2015, financial close on this project was a long time coming. By Mia Tahara-Stubbs.

Java 1, Indonesia

Under pressure from foreign investors and lenders to conduct procurement more transparently, state-owned PLN invited bids for a combined gas-fired and floating storage and regasification unit (FSRU)on Java island in June 2015. The deal drew additional attention because it was the first IPP project in Indonesia not to have a government guarantee for PLN's obligations.

After several delays, the tender for the 1,760MW Java 1 power plant was relaunched in mid-2016.

The bidders objected repeatedly to the risk allocation in the original bidding documents and forced PLN to push back the bid submission deadline several times.

One major stumbling block was PLN's decision to change the tariff currency for the draft PPA to Indonesian rupiahs, if indexed to USD. In the original draft bid documents, the PPA tariff was in USD, sources told *IJGlobal*.

Another was PLN's failure to provide a termination agreement in USD.

Neither of the original issues, nor the arguably larger issue of LNG procurement risk allocation, had been fully resolved when PLN ploughed ahead with the tender process.

By late July 2016, four bidders had emerged and PLN closed the bid submissions on 25 August without resolving the outstanding issues.

A consortium of Marubeni, Pertamina and Sojitz was subsequently named preferred bidder in November of that year.

Post-tender negotiations

The PPA signed in February 2017, giving the sponsors one year to achieve financial close. However, PLN's decision to take on LNG procurement for the plant led to a series of delays as the sponsors and their advisers undertook additional due diligence.

The LNG procurement issue triggered a series of grace periods on the financial close deadline, according to sources who worked on the transaction.

As 2017 wore on, ADB and JBIC came on board and the commercial bank loan went to market.

In the meantime, PLN reversed course on its procurement strategy in mid-2017. Going forward, developers would be expected to submit unsolicited proposals after forming 51:49 joint ventures with PLN subsidiary Indonesia Power.

Loan details

Commercial and multilateral bank loans were eventually signed in late October 2018, and financial close was achieved on 5 December.

The roughly \$1.3 billion debt financing for the 25-year BOOT project is split between three tranches: \$604 million provided by JBIC; \$400 million provided by a syndicate of banks insured by NEXI and \$300 million provided by ADB.

The lenders in the bank syndicate, each provided \$80 million tickets. All are equal mandated lead arrangers and comprise Crédit Agricole, Mizuho Bank, MUFG Bank, OCBC Bank and Société Générale. The 21-year senior amortised loan priced at around 125bp above Libor.

Shareholders

Jawa Satu Power (JSP) and Jawa Satu Regas (JSR) – collectively called Jawa Satu (JS) – are the SPVs created for Java 1's CCGT and FSRU components.

Shareholders in JSR and JSP differ. JSP is backed by a group consisting of Marubeni, Mitsui OSK Lines, Pertamina and Sojitz.

Meanwhile, a member of JS indicated that assigning the some \$250 million in equity was "more complicated as we have two separate project companies for power and FSRU", interest can for ease of reference be split as Marubeni (40%), Pertamina (40%) and Sojitz (20%).

JS will also construct a 52km, 500kV transmission line connecting the plant to the Java's power grid, as well as for procuring the gas for the project.

The CCGT's \$900 million EPC contract went to a group consisting of GE, Meindo Elang Indah and Samsung C&T.

Java 1 is anticipated to start operations in mid-2021.

Advisers

Advisers to JS included ING Bank (financial), Shearman & Sterling (legal) and Poyry (technical), while other advisory roles included EY as adviser to PLN and Allen & Overy as adviser to the commercial bank lenders.

Timeline



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DEAL ANALYSIS: InfraCo Asia has sold down its remaining stake in the hydro asset six years after swooping in to save it. By Jon Whiteaker.

Coc San hydro divestment

InfraCo Asia became a sponsor of the 29.7MW Coc San run-of-river hydro plant in Vietnam at a time when the project was at risk of being abandoned.

Six years later and the Private Infrastructure Development Group (PIDG) company has successfully restructured the project, persuaded the Vietnam government to abandon legislation which would have made it unbankable, brought it to financial close and commercial operations, and has now successfully sold down its equity stake.

On 9 November 2018, InfraCo Asia completed the sale of its 33.4% interest in the operational hydro plant to Japanese utility Tokyo Electric Power Company (TEPCO).

The deal achieves the company's objective of injecting early stage capital into challenged projects, bringing them online, before exiting at a profit.

It is the company's first complete exit from a utility-scale renewables project in Vietnam, and its second ever complete exit following its sale of stakes in the Metro and Gul Ahmed wind farms to Daelim Energy in 2017.

TEPCO owns and operates over 160 hydropower plants in Japan with a combined generation capacity of 8.5GW, but this represents its first investment in the hydro sector in Vietnam.

The sale price has not been disclosed though it is understood that InfraCo Asia has achieved a roughly 2x multiple on its original investment.

Project history

Asiatic Group subsidiary Colben Energy was the original lead sponsor of the project, with Vietnamese companies Vietnam Infrastructure Development and Finance Investment Company (VIDIFI) and HVD Construction taking minority stakes.

InfraCo Asia became involved in the project in 2012, when Vietnam was in the midst of a steep economic downturn. Project implementation had halted in 2011 at a relatively early stage due to the original sponsors exhausting all initial capital and failing to raise longterm financing.

InfraCo Asia took a roughly 61.1% effective equity interest in the project, and brought Singapore-based Nexif in as developer before successfully bringing the project to financial close in 2014. It had identified the need to completely restructure the EPC contract, and put together a robust financing plan.

Saigon Hanoi Commercial Bank was the only commercial lender on the 2014 deal, providing a loan of \$23 million. The equity sponsors provided \$21.9 million, supported by \$5 million in viability gap funding from InfraCo's parent company PIDG's Technical Assistance Facility (TAF), and a \$10 million loan from InfraCo Asia Investments.

The TAF also funded an environmental impact assessment that the sponsor carried out with ERM at an early stage of its involvement. The assessment identified that local farmers could be displaced from the surrounding area due to the project, so InfraCo Asia also had to put together a relocation plan ahead of financial close. Ultimately no resettlement was necessary, though compensation was offered to farmers who provided land.

Protecting CPI link

The project benefits from a 50-year land rights contract and 20-year power purchase agreement with Vietnam's state utility Vietnam Electricity (EVN).

In mid-2014, as the project was nearing financial close, EVN produced a draft proposal to sever tariff payment's CPI link for any hydro project under 30MW that had not yet begun operations.

The sponsor knew that if enacted the rule change would have made the project unbankable, as lenders and investors would not be able to get comfortable with a flat tariff for 20 years. InfraCo Asia managed to engage the government in negotiations, however, and get the proposal scrapped.

Nexif Energy became the majority shareholder in the project in 2016 by taking out Colben and one of the local sponsors. InfraCo Asia retained a 33.4% shareholding, via holding company Viet Hydro registered in Singapore, with local firm VIDIFI holding roughly 8%.

Joint stock companies in Vietnam must have at least three shareholders, with a requirement for local ownership. This makes VIDIFI's minority position important,

Timeline



ijglobal.com

VIETNAMESE HYDRO



Coc San hydropower plant

though it does not have a board vote.

Exit plan

The project reached commercial operations in 2016, and InfraCo Asia quickly completed a refinancing while retaining the same local lender.

Pricing on the original financing was above 10% in Vietnamese Dong, which the sponsor was able to reduce by around 150bp.

With the refinancing complete, InfraCo Asia then went to market to dispose of its remaining equity.

The sponsor ran a two-stage process, with more than 10 investors entering indicative bids at the prequalification stage. Five parties entered final bids in August 2018, with four of these undertaking site visits.

Alongside eventual winner TEPCO, a family office, a private equity investor, and another utility were all in the running for the asset.

The team advising InfraCo Asia on the project have included Reed Smith as legal adviser, Capital Partners Group as financial adviser, SMEC as technical adviser and ERM as environmental adviser.

InfraCo Asia is a subsidiary company of multilateral organisation PIDG, which is funded by the World Bank and the following seven countries:

- Australia
- Germany

Source: InfraCo Asia

- The Netherlands
- Norway
- Sweden
- Switzerland
- UK

InfraCo Asia is specifically funded by Australia, Switzerland, and the UK. It is headquartered in Singapore and aims to stimulate private sector investment into infrastructure projects in South East Asia.

It has several other investments in Vietnam, including a 168MW solar project in Ninh Thuan province that it is developing in a joint venture with Sunseap. The sponsors are funding the first stage of development through equity but are in discussion with several lenders for a long-term financing. **DEAL ANALYSIS:** The success of this deal may open the door to the financing of more large-scale EfW projects in Australia. By Alexandra Dockreay.

Kwinana EfW, Australia

The 36MW Kwinana energy-from-waste (EfW) plant in Western Australia is the first large-scale thermal EfW project to be financed in the country. The local Australian sponsor Phoenix Energy drew on the experience of co-sponsor Macquarie in Europe and European contractors to obtain a A\$400 million (\$285 million), five-year debt package with competitive pricing, banked against a predominantly merchant offtake structure.

The sponsors

The Kwinana project was initially a local council driven project, put out to tender by the Rivers Regional Council. Phoenix bid for and won the right to develop the project, which will be located on land on long-term lease from Western Australia agency LandCorp.

As Phoenix (founded by Peter Dyson and initially largely a one-man enterprise) was seeking the financial backing necessary for the project, potential partners came and went.

In 2015, Australia's own Macquarie Group stepped in as financial adviser. Then in December 2016, Macquarie became an equity partner and co-developer.

Macquarie Capital has an established EfW offering in Europe – especially after acquiring UK state lender Green Investment Bank in 2017 and rolling it into Macquarie Capital as the Green Investment Group (GIG).

Macquarie then brought on board Spanish infrastructure developer Acciona as EPC contractor, with its partner Keppel Seghers for the moving grate equipment to produce the steam.

A source said that generally the potential providers for the EPC and technology were coming from Europe and the US.

A further equity raise saw the entry of another European player: Netherlandsheadquartered infrastructure fund manager DIF.

The financing

Financial close was on 18 October 2018, with A\$698 million debt, equity and grants.

The equity investors provided A\$275 million in total. Macquarie Capital provided 40%, while DIF 60% through its DIF Infrastructure IV and DIF Infrastructure V funds.

The sponsors raised a A\$400 million senior debt from a combination of international banks, debt funds and the state lender Australia's Clean Energy Finance Corporation (CEFC). Debt has a five-year tenor, with bullet maturity.

The CEFC's tranche is separate and fixed rate, with break fees. The size of the tranche is A\$90 million.

Meanwhile, the A\$310 million floating rate tranche has priced at 300bp over BBSY, with no step-ups. The lenders on this tranche are IFM Investors (debt fund), Investec, Metrics Credit Partners (debt fund), Siemens Bank and SMBC.

The financing package is rounded off with a A\$23 million grant to the

project from the Australian Renewable Energy Agency (ARENA).

The construction period is due to be three years, with operations due to start before the end of 2021.

The waste supply

Kwinana EfW plant does not feature a sorting facility. The residual waste for the plant is collected only from residents' main bins. The councils supply other bins for residents' recycling.

The plant is due to have capacity to receive and process up to 400,000 tonnes residual waste per year.

A number of signed agreements underpin Kwinana's waste supply, including a 20-year contract with Rivers Regional Council (representing seven local government authorities including Canning City), a 20-year contract with City of Kwinana, a five-year contract with Veolia and contracts with two regional councils in the Perth region.

Veolia is also the O&M contractor, with a 25-year, A\$450 million contract.

The contracted gate fee for the plant is around \$120 per tonne of residual waste. Compared to the landfill fees of around \$150-200 per tonne, including a landfill levy of \$70 per tonne, the Kwinana plant offers a material saving for the councils.

The landfill levy in Western Australia has escalated from \$28 to \$70 since 2014. The levy started in 1998 at \$3 per tonne initially.

Still, a significant amount of the

Timeline



AUSTRALIAN ENERGY-FROM-WASTE

plant's treatment capacity is not yet contracted. A source said a number of other smaller, sub-investment grade counterparties are expressing interest in supplying waste and there are likely to negotiate some contracts as a result.

The power offtake

The plant's power production capacity is due to be around 36MW (net) to be exported to the grid as baseload power. There is a small degree of the offtake which is take-or-pay, but the project has been banked on a predominantly merchant basis.

Western Australia Local Government Association (WALGA) appointed the project the preferred supplier of baseload renewable energy. The councils are able to purchase the baseload energy generated from their own specific municipal waste.

The plant also will produce ash by-products to be used for construction materials and recover and recycle metallic materials.

The project currently does not have a PPA in place, but has had interest from various parties. This includes the Rivers Regional Council, which has indicated interest in entering a 5MW PPA with the project.

One source pointed out that with power prices relatively flat and cheap at the moment, locking in a PPA right now would not have realised best value.

IJGlobal understands the plant's life is expected to be around 30-35 years.

Australia's EfW pipeline

There are a number of large-scale EfW plant projects in Australia with the potential to advance.

Allens partner Rob Watt said: "There is an expectation in the market of a pipeline of deals to follow. The Kwinana facility will have capacity to treat around a quarter of Perth's non-recyclable waste, so there is significant uncontracted capacity. Eastern Metropolitan Regional Council ran a tender for a rival waste-to-energy project in the Perth area, and there was



Artist's impression of the Kwinana EfW plant

Source: Macquarie Capital

a bit of a race between the two to reach close and contract additional capacity." The race was against the East

Rockingham facility, another Perth project.

Other Australian EfW projects in development include New Energy Corporation, Hitachi Zosen and Tribe Infrastructure Group's A\$400 million, 29MW project in East Rockingham, Perth area, awarded waste supply contracts by Eastern Metropolitan Regional Council and City of Cockburn; and Remondis' proposed A\$400 million, 50MW plant at Swanbank near Brisbane, Queensland.

Meanwhile, Victoria and New South Wales are understood to be looking at the technology, but are not quite there yet. Victoria's topics of debate include whether EfW plants should include sorting facilities, which would add significant expense and complication.

Ashurst partner Richard Guit said: "The drivers in Australia are different to Europe, where there has been more uptake. In Europe, due to the EU landfill directive, councils were effectively charged financial penalties for landfill. In Australia, there is space everywhere for landfill... As with the European projects, what made this project make sense is the cost to these councils of the plant taking the waste is cheaper than landfill... Landfill levies are forecast to go up, which helps the project. We have achieved this without the overarching framework that exists in Europe."

However, the technology does have its critics in Australia, with the National Toxics Network of Australia's zero waste coordinator Jane Bremmer commenting that the project is "more polluting than coal and gas" and adding that the Western Australian community has rejected the project."

Guit said: "Australia does not have a regulatory emissions framework for this type of infrastructure. For this project the emissions controls standards are benchmarked to the European Directive, meaning very high standards the plant must meet."

Advisers

Key advisers on the Kwinana deal were Ashurst (legal to Phoenix), Allens (legal to Macquarie, financing), Norton Rose Fulbright (legal to DIF), Macquarie Capital (financial), Ramboll (engineering), SLR (waste forecasting) and EY (accounting, tax, electricity modelling).



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DATA ANALYSIS: Despite President Duterte's ambitious building programme, projects have been slow to get off the ground. By Sophia Radeva.

Build, Build, Build

Having defied historical sluggishness to become one of the fastest growing nations in South East Asia, the Philippines still suffers high levels of unemployment and poverty... and its infrastructure is crumbling.

The government's answer to was to unveil in April 2017 the ambitious \$180 billion "Build Build Build" (BBB) programme. The National Economic and Development Authority (NEDA) has identified 75 flagship projects under the scheme, of which 42 relate to transport infrastructure and carry a total estimated cost of \$25 billion.

President Rodrigo Duterte's administration has chosen three modes of financing to fund these projects: inter-governmental agreements, public expenditure and private sector participation.

Official development assistance has been the main financing mode for the BBB initiative. So far, China tops the list with \$7.3 billion, up from the previously pledged \$3 billion; followed by Japan's \$6 billion and South Korea's \$1 billion.

In addition, the ADB has significantly strengthened its support for infrastructure in the Philippines, allocating it 40% of its \$3.68 billion sovereign loan package for the years 2018-20. In September 2018, the Manila-based multilateral announced that would double its annual lending to the country to \$2 billion between 2018 and 2021.

According to data compiled by *IJGlobal*, 67% of the priority transport projects stands to be implemented through official development assistance, while 26% will be procured as PPPs and the rest funded by the government under the General Appropriations Act.

The highly anticipated \$6.7 billion Metro Manila Subway project is the most



expensive, and NEDA's timetable slates it to be partially opened by 2022. Other pricey projects are the \$2.8 billion PNR North 2 Railway and the \$5.2 billion North-South Commuter Railway. The rail projects are under procurement and due to



start construction by this year.

However, only two years into the programme and many of its major projects have already fallen behind schedule. According to NEDA, nearly half of the 75 flagship projects were due to start construction in 2018, but only seven have done so. Many projects are delayed due to the Department of Public Works and Highways' inability to utilise approved loans, leading to a growing pile of incurred bank fees. Projects have also faced permit issues, weather challenges and inadequate planning.

Serious concerns have also been raised about the social costs of some projects, such as the North-South Commuter Railway, and in particular the adequacy of the conducted feasibility studies. Estimates suggest that the construction works needed for North Luzon Expressway-South Luzon Expressway Connector and the North-South Commuter Railway could cause the demolition of the houses in 38 communities in Metro Manila, resulting in the economic and physical displacement.



2019 Calendar

March 11th	REFFLatAm	Miami
March 12-13th	IJLatAm	Miami
March 13th	IJGlobal Awards: Middle East	Dubai
March 14th	IJGIobal Awards: Americas	New York
March 21st	IJGIobal Awards: Europe & Africa	London
March 28-29th	OGFAmsterdam	Amsterdam
March 28th	IJAsia	Singapore
March 28th	IJGIobal Awards: Asia	Singapore
April 8th	REFFEurope Council	Oxford
May 8th	IJChile	Santiago
June 18-19th	REFFWallStreet	New York
June	REFFEurope	TBC
June	IJMexico	Mexico City
June	IJArgentina	Buenos Aires
July 10-11th	IJCanada	Whistler
September	World Energy & Infrastructure Summit	Amsterdam
September	IJNorth America	New York
November	IJBrazil	São Paulo
December	CARIF 2019	Jamaica

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