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ANNUAL **ESG** REPORT INSIDE

IJInvestor Awards special

This year's roll-call of the victorious for deals closed in 2020

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Let me start with an **unashamed apology**

If there's one thing that drives people insane, it's an excess of awards. At *IJ*, we pride ourselves on keeping numbers to a humble minimum (kind of). When it comes to the *IJGlobal* Awards that are presented across four regions, we dole out about 125. Granted, a bulk of those trophies find new homes at the New York (45) and London (36) events, but that's no too bad given it reflects a whole year of global greenfield activity.

We keep the numbers down because we've all been at those awards nights… maybe you're thinking of an annual ceremony hosted by a rival infra title… when midnight sails past and guests (winners and losers alike) have been sidling self-consciously out of the banqueting hall for the past hour and more.

IJ never wants to be that title… even virtually.

We have never fallen into that trap when hosting physical events. This was primarily bred into us from the early days because the Natural History Museum would have hoofed us out the door had it run on. Bosh, bang, wallop. Keep feeding the sausage machine and leave time for "networking" at the end. Anyone who has the temerity to step up to the microphone will be roundly abused as they return to their seats.

So, here goes for the apology.

As you wade through this bumper issue of the *IJGlobal* Magazine – open access and all online as we're unable to print due to the ongoing coronavirus pandemic – you will be horrified to note that we're doling out 63 trophies in the *IJInvestor* Awards 2020.

This is all the more horrific as this event is in its second year… and in 2019 we only presented 25 or so.

Well, we have an excuse. No, we have a really good excuse.

Let's face it, 2020 – while it's been an alarmingly busy year for M&A and fund activity – has been pretty damned grim for most of us, and our thinking was that it would be nice to give the infra community something to celebrate. A positive to take from Annus Covid Horribilis.

We reached out to lots of folk in the M&A and funds world, encouraging them to submit and pulled in more than 250 entries for our efforts. As we sliced and diced submissions, it soon became apparent we could credibly open up sectors and, in some cases, regions for awards.

Checking with the independent judging team that we weren't scampering too far off reservation, the consensus was that – yes, why not… let's give the industry something to celebrate. A silver lining to a very dark cloud. A positive marketing message to lighten the daily newsfeed of gloom.

So we opened it up – but only where we had at least three rival entries. There are a couple of individual awards where we (*IJ* and the judges) were sufficiently impressed by the submission that we awarded it without competition, but only two.

And so we welcome you to the Winter Issue of *IJGlobal* Magazine with an enormous awards section and an ESG focus (kindly sponsored by BBVA) in the hope that you enjoy the fruits of our labour.

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To find out more about *IJGlobal* and the services we offer, contact us at: **helpdesk@ijglobal.com**

One Search is the leading search firm in the Infrastructure & Energy financing and investment space, with offices in London and New York. Here four of their regional specialists talk through some of the key moves this quarter

EMEA Equity
Liam Dunne


Liam Dunne

Our highlighted EMEA equity move of the quarter is the appointment of Andrew Liau at HIG Capital in London.

Andrew joins from Ardian Infrastructure's London office where he was senior managing director. His new role will be co-leading HIG Capital's recently launched infrastructure strategy alongside Ed Pallesen. New entrants continuously spark a high level of interest across the market, and Andrew's appointment has most certainly led to HIG coming under the spotlight as 2020 draws to a close.

This strategy will focus on value-add/core plus investments in the less competitive mid-market, utilising the operational private equity capabilities of the broader HIG platform to drive value creation.

With a top calibre investment team already established and in place, the market will have high expectations. Andrew's strong reputation and wealth of experience from his days at Ardian will inevitably bolster the team's fundraising and origination capabilities globally. With everything pointing towards the team pushing the boundaries of traditional infrastructure, we believe this strategy an exciting one to watch closely in the coming months and beyond.

Americas Credit
Giuseppina Abbate


Giuseppina Abbate

The Infra & Energy credit market here in the US has been hot all year and shows no sign of cooling down in Q4. One Search is proud to have been involved in helping James Wright make the move to CIBC where he has set about building a market-leading project finance franchise on the renewables side. One of the first additions to the platform is Edwin Stone, who joins from Mizuho at director level, and there will be a further announcement next quarter on other new joiners.

Paul Colatrella, who departed from Capital Dynamics earlier this year, has joined Fiera Capital along with his former colleagues Katherine McElroy (director) and Will Kim (associate). The new infrastructure credit team at Fiera will be based in NY and looking to grow the infrastructure debt platform alongside their two colleagues in Toronto.

Newly established as global head of infra debt at AMP Capital, Patrick Trears has bolstered his team at associate level in New York, hiring Blaire Ma from Natixis. Meanwhile on the West Coast, leading energy project finance franchise CIT hired Sixto Castillo as an associate from JP Morgan.

EMEA Credit
Nameesha Sharma


Nameesha Sharma

After a tremendously busy Q3 for the EMEA credit practice at One Search, no momentum has been lost in Q4 with several individuals starting new roles across the EMEA region. In Vienna, KommunalKredit have enjoyed continued growth, with One Search contributing another new joiner – Ben Clay - to their ever-expanding team. Joining at director level from Credit Agricole, Ben brings significant project bond experience to the origination team.

More action in Luxembourg this quarter too, with CIBC strengthening its new operation in the Grand Duchy with the addition of Olivier Van Swaay at director level. Back in Lockdown London, other moves include Alastair Shields switching Banco's from Sabadell to Santander, to join Bart White's new look line-up as head of digital, and yet another departure from HSBC – this time AD Jean-Charles Jarry leaving to join SocGen.

The institutional investors and asset managers have continued to strengthen their infra debt platforms throughout the year, and in Q4 we see a statement of intent from Edmond de Rothschild in the hiring of two new associate directors. Charilaos Fragkoulidis (from Vantage Infrastructure) and Jonathan Ainsworth (from Generali Global Infrastructure) will join JF Dusch's growing business as it moves towards final close on its much larger latest vintage.

Americas Equity
Patrick Reyes


Patrick Reyes

Power, renewables and energy transition have been the focus of US Private Equity hiring in Q4, with 40% of movers stepping into specialized investment seats in that space. The most notable move has been Will Demas, stepping away from his role as associate partner at Copenhagen Infrastructure Partners to join Stonepeak Infrastructure Partners as a managing director in November.

Andrew Dete, former Goldman Sachs project finance banker, made his move to New Fortress Energy as a managing director to increase its origination capabilities which, following their latest acquisition, highlights the growing market interest in green hydrogen technology.

The broader world of sustainable and environmental infrastructure also saw a number of senior moves. Caleb Powers left his VP post at Carlyle to re-join some of his former Global Infrastructure Partners colleagues at first-time fund Ember Infrastructure as a principal. Fellow sustainability-driven, first-time fund Spring Lane Capital has onboarded Ann Leng as their CFO and COO.

Telecommunications and digital infrastructure continue to grow at pace with opportunities in plentiful supply, especially for junior talent. GI Partners picked up Charlotte Zhu and Grace Pan as associates, while Digital Colony has brought on Daniel Castillo, Korey Finn and Haroldo Ale Filho at the same level.

Developer

John Laing

Susan Shehata exited her role as managing director of infrastructure and real estate finance at HSBC to join John Laing as a senior adviser to the investment committee. The role is part-time and she will advise the investment committee on John Laing's investment pipeline.

Siemens Gamesa

Marc Becker will in February 2021 return to Siemens Gamesa as chief executive of its offshore business. Becker was previously MD for Germany and head of offshore sales and projects before leaving in early 2020. He replaces Andreas Nauen who was promoted to chief executive in June.


Marc Becker

Atria Energia

Peruvian power supplier Atria Energia has hired Mauricio Caamaño as managing director in Chile. He joins from Valgesta Energia where he originated M&A opportunities in the power sector as director of BD.

Burns & McDonnell

American construction and engineering firm Burns & McDonnell launched its European Mission Critical data centre practice in London, led by industry veteran Mike Starbuck. The London team will support its design and consultancy services and other mission-critical facilities across Europe.

Enercon

German wind turbine manufacturer Enercon appointed Momme Janssen as chief executive, replacing Hans-Dieter Kettwig who retires after 33 years in the company. Janssen is currently acting as MD, leading the HR, communications, marketing and IT departments.


Momme Janssen

Northland Power

Sergio Song joined the London office of Canadian utility Northland Power as director to source and execute M&A opportunities in energy, with a primary focus on renewables. Song joined from Ørsted where he was senior director and head of global M&A activities in onshore renewables.

Ørsted

David Hardy was appointed chief exec of Ørsted Offshore North America, replacing Thomas Brostrøm who joins Shell next year. Hardy, who joined Ørsted in March as president and COO in Boston, will oversee the development and operations of the company's US offshore wind portfolio.

BayWa re

German utility BayWa re appointed Stefan Tait to head its energy storage and power-to-X business, which is focused on the UK market. Tait will head the team out of the Munich office, where he was previously strategy manager.

Globeleq

Africa-focused power developer Globeleq hired Gionata Visconti to be its next chief operating officer, a role which has been held by chief executive Mike Scholey in the interim. Visconti starts in January 2021 and will be based in Cape Town. He will be responsible for all aspects of Globeleq's operations and provide support for in-country governance work and asset management.

SNC-Lavalin

Dale Clarke was promoted to the role of president of infrastructure services at SNC-Lavalin in Canada. Operating out of the Toronto office, Clarke reports to Ian Edwards, president and chief executive.


Dale Clarke

Transurban

Tom McKay was named mid-October as interim chief financial officer for Transurban, a role that started on 13 November after the exit of then CFO Adam Watson who left for a new role as CFO of Australian gas networks operator and power producer APA Group.

Suzlon

Ashwani Kumar started in October as chief executive at Suzlon, in a bid to turn around India's largest wind energy company. He replaces JP Chalasani who resigned in July, following the company's lacklustre results last fiscal year.

AP Moller Holding

Henrik Poulsen joined Danish shipping giant AP Moller Holding as senior adviser and member of its investment committee to advise on acquiring companies that have a positive social impact. The former Ørsted chief exec will work closely with the team on strategy, execution, portfolio and ownership matters.


Henrik Poulsen

Boralex

Canadian power producer Boralex in October named its replacement for president and chief executive Patrick Lemaire, who retires at the end of this year. Patrick Decostre – who was Boralex's first employee in Europe – is taking over the role.

Engie

French power developer Engie named Gillian-Alexandre Huart as chief exec of its Africa-focused Engie Energy Access business – which rolls out solar home systems and mini-grids in Sub-Saharan Africa. He will operate out of Brussels.

Veolia North America

Matt Madeksza was in October appointed president and chief executive of Veolia North America, having joined the organisation in late September. He operates out of the Boston office.

Atria Energia

Lima-based renewables developer Atria Energia promoted Fernando Vega to executive director to work alongside Guillermo Cox who has held the same position since 2019. Vega joined Atria in early 2018, after 6 years at Peruvian power firm GCZ Energia.

Mayflower Wind Energy

Justin Johns joined Mayflower Wind Energy, the offshore wind JV between Shell New Energies US and EDPR Offshore North America, as CFO. He had been at Shell for more than a decade, and took on the role in November.

Alstom

French rolling stock manufacturer Alstom made Mama Sougoufara managing director of its MENA branch, based in Dubai. He joined the company in February 2008 and had been Alstom VP for infra for Africa, the Middle East, and Central Asia as well as MD for its Turkey branch.


Mama Sougoufara

Apex Clean Energy

Penn Cox joined Apex Clean Energy in September as a VP, bringing 25 years of experience in project development and capital raising. His last job was director of BD at Ferrovial Agroman, where he worked on the Spanish construction company's entry into the US energy market.

Google X

Audrey Zibelman left her role as chief exec of Australian Energy Market Operator to take up a new position as head of Google X in December. She is relocating to San Francisco, having been based in Melbourne with AEMO since 2017, playing a key role in Australian renewables.

Engie

Catherine MacGregor is to take over as chief exec of Engie in 2021, replacing Isabelle Kocher who left in February. She previously worked at energy services company Schlumberger, joining Engie after a short stint running O&G engineering firm Technip Energies.


Catherine MacGregor

Starwood Property Trust

SPT promoted Sean Murdock, former head of US credit trading at Merrill Lynch and then RBS, to run Starwood Infrastructure Finance alongside existing co-president Denise Tait. Murdock joined Starwood in January 2019 and retains his previous role of chief risk officer.

Avangrid Renewables

Bill White joined as head of Avangrid Renewables' offshore wind team, joining it from EnBW. Based out of the Boston HQ, he oversees the 5GW development pipeline. He had been president and chief executive of EnBW North America, the US offshore wind subsidiary of the German utility.

Algonquin

Arthur Kacprzak stepped up from deputy CFO of Algonquin Power & Utilities Corp to take over from CFO David Bronichesky on his retirement. Kacprzak joined Algonquin in 2012 and led its treasury function since then.

InoBat Auto

Faysal Sohail in late September joined InoBat Auto as executive chair having been a Silicon Valley executive and venture capitalist. He is based out of Slovakia and will build the world's first AI-driven R&D battery centre in Central Europe.

CenterPoint Energy

Jason Wells left his position as CFO of PG&E Corp at the end of September to join CenterPoint Energy as CFO, based in Texas. He reports to president and chief executive Dave Lesar.

Axpo

Axpo opened a new branch in Singapore with the appointment of Sophie Ducoloner as managing director. The Swiss utility is seeking to strengthen its presence in the Asian LNG market to meet growing demand. Ducoloner had been at JERA Global Markets where she was general manager of LNG origination.

Sophie Ducoloner

Catalyze

Kenton Harder exited Quinbrook Infrastructure Partners to join Boulder-based, Colorado, Catalyze which is backed by energy-focused fund managers EnCap Investments and Yorktown Partners. He joins Catalyze as a VP to ramp up acquisitions.

Equity

DIF Capital

Caine Bouwmeester left Macquarie's Green Investment Group to join DIF as MD in London. He bolsters DIF's renewable energy business, having been with Macquarie for 10 years prior to its acquisition of the Green Investment Bank in 2017.

Caine Bouwmeester

Zouk Capital

Zouk Capital has appointed Lord Paul Myners to its board. Lord Myners is experienced in policy-making, fund management and business as an investor. He is largely being brought on board to boost its ESG profile.

Stonepeak

Stonepeak Infrastructure Partners hired William Gerald Demas as managing director for renewables in New York. He joined from Copenhagen Infrastructure Partners, where he had been for 3 years as an associate partner focused on renewables and energy.

EIP

Energy Impact Partners hired former Goldman Sachs banker David Berv as a principal in its New York office. He was previously a VP in the natural resources group at Goldman Sachs and before that worked in the power and renewables team at Credit Suisse.

CIP

Copenhagen Infrastructure Partners hired Denmark-based Michael Voigt Valdorf-Hansen as a VP to its asset management team. He joined from Orsted where he was head of operations strategy and BD. Prior to that, he worked in EY's M&A advisory team.

QIC

Peter Siapikoudis joined QIC as a portfolio manager reporting to global infra head Ross Israel and deputy head Matina Papathanasiou. Siapikoudis previously worked at Australian asset consultants Frontier Advisors.

First Sentier Investors

First Sentier Investors has promoted several members on its infra team. New York-based John Ma is now partner and continues to head North American infra. London-based Marcus Ayre is now head of Europe. He was previously co-head of Europe with Niall Mills, who was promoted global head of infrastructure in May. In Sydney, Danny Latham and Chris McArthur remain co-heads of Australia and New Zealand. Other senior appointments in the team include: Nick Grant, Gregor Kurth, Hamish Lea-Wilson made partners; Gavin Kerr is head of transactions, Australia and NZ; Daniel Timms is head of asset management, Australia and NZ.

John Ma

USS

Sunil Malhotra returned from New York to London to take up a role as investment director at the Universities Superannuation Scheme in the UK. He was formerly a VP at MIDIS and exited at the same time as Adam Larkin, who has since turned up at GIP.

People moves sponsored by: ONE SEARCH

Ember Infrastructure

Caleb Powers joined New York-based Ember Infrastructure as a principal from Carlyle Group, where he was a VP. At Carlyle, he led investment activities in the water and waste sectors, as well as working on energy and agriculture transactions for Carlyle's Global Infrastructure Opportunity Fund.

Caleb Powers

EQT

David Forde and Frank Heckes exited Australian private equity firm Archer Capital to join EQT in Australia. They will co-lead the private equity team for Australia and New Zealand and be based in EQT's Sydney offices.

LightsourceBP

Craig Love exited his role as London-based MD of PF at NatWest – formerly RBS – to start in November at LightsourceBP, serving as its global head of structured finance. Love has an established relationship with Lightsource working on solar deals across Europe and the US.

Craig Love

Stonepeak

Trent Kososki, who had been a partner at Energy Capital Partners, in September joined Stonepeak Infrastructure Partners as a managing director in Houston. He left ECP in August after 15 years.

Fiera

Paul Colatrella, who departed Capital Dynamics earlier this year, started a new role originating infra debt investments at Fiera Private Debt in New York. He joined as an MD in October and brought former colleague Katherine McElroy as a director.

Quantum Energy Partners

Jeff Muir started in October at Houston-based 547 Energy – the clean energy investment portfolio company of Quantum Energy Partners – as a VP of M&A and BD, joining from Macquarie Capital. He had been at Macquarie for 7 years and recently worked as a VP of M&A at its US solar and storage subsidiary Savion.

Jeff Muir

DBSA

The Development Bank of South Africa named Mohale Rakgate group executive of its $5.7 billion infrastructure viability gap fund, a new collaboration between the DFI and the government of South Africa. Rakgate is setting up the fund through a DBSA-hosted unit.

Quinbrook

Dawn Turner joined the Quinbrook Infrastructure Partners investment manager advisory board to build out its ESG offering. She is the former chief exec of the Brunel Pension Partnership, a £30 billion government pension scheme pool formed from 10 UK local government pension schemes.

Dawn Turner

Allianz GI

Matt Christensen took on the role of global head of sustainable and impact investing at Allianz GI, based in Paris. He replaces Beatrix Anton-Groenemeyer who retired, and joined in December from Axa Investment Managers.

Tages Capital

Daniele Spada joined Italian asset manager Tages Capital as its new general manager, working alongside Tages chair and investment manager Umberto Quadrino. He is responsible for marketing within Investcorp-Tages, a JV working in liquid alternative products and impact investing, and joined from Lyxor Asset Management in Paris.

Ares Management

US-based Ares Management hired John Knox, former chief executive of Credit Suisse Australia, as Australia and New Zealand chairman for Ares SSG – an alternative investment manager focusing on the APAC region. He operates out of Sydney.

KGAL

German investor KGAL Investment Management has appointed 2 new members to grows out its energy transition investment team. Thomas Engelmann joined as head of energy transition infra, and Carsten Haubner as portfolio manager. Both are located in Bavaria.

Ardian

Joseba Echave joined Ardian Infrastructure as head of financing, a newly-created role in Luxembourg. He will look after securing debt financing solutions for Ardian's infra platforms in Europe and North America, and joined from Cintra.


Joseba Echave

Ontario Teachers'

Ontario Teachers' Pension Plan Board opened a new office in Singapore to target investments in India, Australia and New Zealand, and the 12 ASEAN markets. Managing director Bruce Crane leads the APAC infrastructure and natural resources team from Singapore, reporting to Ben Chan, regional managing director of Asia, and INR senior managing director Dale Burgess in Toronto.

Daiwa International Capital Partners

Gregor Jackson exited Dalmore Capital in London where he was an investment director to set up Daiwa International Capital Partners. The new independent fund manager is launched in partnership with Daiwa, the Japanese financial firm.

Alpha Real Capital

Roger Mountford joined investment group Alpha Real Capital as senior pensions officer to oversee activity in private assets, including infrastructure, social housing and private equity. He was chair of the trustee of Lafarge UK Pension Plan and is a government-appointed director on HS2 Limited.


Roger Mountford

IFM Investors

Rishi Mistry joined the London team of IFM as an associate director of infrastructure debt. He joined IFM from Woori Bank where he had briefly been VP of infra and energy for the EMEA region, following a 10-year stint at CBA.

PGGM

Dutch pension fund PGGM appointed Geraldine Leegwater as chief of investment management to its executive committee. She started on 1 November and operates out of the HQ in Zeist, Netherlands. She left ABP and replaces Eloy Lindeijer, who was exiting the organisation.


Geraldine Leegwater

Lender

East West Bank

East West Bank hired Peter Marquis to act as a senior project finance originator in Dallas. He will work closely with Chris Simeone's project finance team in New York. Marquis is a veteran of Morgan Stanley, Lazard, GE Energy Financial Services and SunTrust Robinson Humphrey.

NAB

National Australian Bank concluded a restructure that resulted in the high-profile departure of Tylor Hartwell who joined NAB in February 2019 as general manager for client coverage and corporate finance, Europe.

Bank Mandiri

Indonesia's Bank Mandiri appointed Darmawan Junaidi as president director, succeeding Royke Tumilaar. The appointment followed Tumilaar's move to the Bank of Indonesia as president director. Junaidi served as Bank Mandiri's director of treasury, international banking and special asset management since 2017.

Canada Infrastructure Bank

The CIB named ex Infrastructure Ontario boss Ehren Cory as its new chief executive, effective from 9 November. He replaced Pierre Lavallée who exited the organization in spring 2020. Back at IO, Cory was replaced by Michael Lindsay.

First Horizon Bank

Municipal bond veterans Evan Levine and Crystal Mullins were in October hired into the First Horizon Bank division FHN Financial, in New York. Both are focused on infra transport. Levine was most recently a VP to concessionaire, Itinera, a division of Halmar International; while Mullins joined from JP Morgan's Asset Management Group.

Natixis

Natixis promoted Anne-Christine Champion to the role of co-head of its corporate and investment banking division in November. She has been Natixis' European head of PF focusing on infra, power, natural resources and telecoms since 2008; and stepped up in 2016 to global head of distribution and portfolio management in charge of bank strategy across Europe.

Anne-Christine Champion


Societe Generale

Yasmine Djeddai was appointed to the newly-created role of Asia Pacific head of sustainable finance at Societe Generale. Based out of Hong Kong, she reports to Stephen Swift, head of APAC global banking and advisory, and Hacina Py, head of sustainable and positive impact finance solutions.

Yasmine Djeddai


Santander

Alastair Shields in October joined Santander CIB as head of infra and TMT finance, based in London. He was brought on to lead the Spanish bank's project and acquisition finance business for infra and TMT across Europe (ex-Spain).

USTDA

The US Trade and Development Agency opened its latest overseas office in Nairobi, Kenya, its fourth branch in Sub-Saharan Africa. The expansion is part of the US government's Prosper Africa initiative. It also has offices in Accra, Ghana; Johannesburg, South Africa; and Lagos, Nigeria.

Afreximbank

The African Export-Import Bank promoted head of syndicated loans Constantin von Moltke to assume the role of director of syndications and agency, based out of Cairo. He has some 20 years' experience (15 of which were focused on syndicated lending), covering the energy and infrastructure sectors.

Constantin von Moltke


TDB

The Eastern and Southern African Trade and Development Bank (TDB) has appointed Tim Turner as senior adviser to chief executive Admassu Tadesse and the executive team. Turner was previously at the African Development Bank.

Advisers

Tribe Infrastructure

Australian firm Tribe Infrastructure Group hired Elie Obeid as senior adviser based at its MENA regional office in Abu Dhabi. This is Obeid's first role since August when he departed Samsung C&T where he was head for Middle East, Africa and Turkey.

McDermott

John Bridge was made up to partner in McDermott Will & Emery's energy practice, operating out of the Los Angeles office. He focuses on debt project financing, representing lenders, sponsors and investors in solar, wind and fuel-cell deals.

John Bridge


Cantor Fitzgerald

Mathieu Laurens joined Cantor Fitzgerald's power, energy and infra group as a director to lead its telecoms and digital infrastructure work. Laurens, based in London, joins from Perella Weinberg Partners where his primary focus was telecoms.

Energy Estate

Hydrogen specialist Kevin Peakman and engineer Angus Tulloch started at specialist advisory firm Energy Estate. Peakman operates out of Sydney and previously worked for BOC as the head of engineering in the alternative energy sector; while Tulloch is Adelaide-based and was last with Sundrop Farms.

Latham & Watkins

A US-based project finance attorney at Latham & Watkins was made up to partner and another to counsel in its latest round of promotions. Kelly Cataldo has been with the firm for 4 years and works out of the New York office. The new counsel, Seth Richardson, has been with Latham for 7 years.

Jarden

Catherine McCormack left her MD role at Goldman Sachs in New York to join New Zealand boutique investment and advisory group Jarden. She is leading the firm's investment banking division and will be a part of Jarden's Australian team having recently expanded into the Oz market.


Catherine McCormack

Jefferies

Joel Chalhoub was in November reported to be leaving Lazard where he is a VP to join the Australian arm of Jefferies at director level. He will continue to be based out of Sydney.

Cranmore Partners

Emre Bildirici joined Cranmore Partners as an associate director at the firm's Istanbul office. Bildirici is a corporate finance specialist and left Turkish energy company Enerjisa Üretim after a short stint. He previously worked for Garanti BBVA as a corporate finance manager.

Pollination Group

Gavin Templeton left his role as head of sustainable finance at Green Investment Group to join Pollination Group as partner. At GIG, Templeton led the climate finance advisory function, working with government, public bodies, multilateral organisations and development finance institutions.


Gavin Templeton

Norton Rose Fulbright

Utku Ünver was hired by Norton Rose Fulbright as a project finance partner to the firm's associative practice in Istanbul, Inal Ünver Attorney Partnership. He joined from Allen & Overy where he had been a senior associate since 2013.


Utku Ünver

Green Giraffe

In October, Green Giraffe opened an office in Singapore taking its renewable energy advisory experience to a new market. Matthew Taylor leads the new office moving from the London office, while Marion Collette joins it from the GG Paris team.

Gowling WLG

Gowling WLG partner Jonathan Brufal relocated to Dubai in October to lead the firm's projects practice for MENA and Sub-Saharan Africa. He works on energy and infra projects and was already co-head of the firm's Africa Group.


Jonathan Brufal

Kochhar & Co

New Delhi-headquartered law firm Kochhar & Co hired in two project-finance partners. Pradeep Ratnam joined as senior partner and chair of the infra, banking and finance practice, while Parul Verma came on board as a partner. Both are based in New Delhi. Both joined from Krishnamurthy & Co – also known as K Law.

White & Case

Two US attorneys in the White & Case global project development and finance practice were made up to partner. They are: Hamad Al-Hoshan in New York, who covers O&G, infra and power; and Christopher Peponis in Houston, whose remit is O&G with a focus on LNG and offshore energy.

Osborne Clarke

Legal infrastructure veteran Omar Al-Nuaimi will be Osborne Clarke's international chief executive, effective July 2021. London-based Al-Nuaimi – currently head the firm's infra finance group – takes over from Simon Beswick at the end of his term.


Omar Al-Nuaimi

Pinsent Masons

Melanie Grimmitt was named global head of the Pinsent Masons energy practice, operating out of the Leeds office in the UK. She replaced Paul Rice who is now leading the law firm's climate change mitigation sustainability platform.


Melanie Grimmitt

McCabe Curwood

Jason Lambeth, head of corporate and M&A at DWF Australia, exited the law firm in September to join McCabe Curwood, based out of the Sydney office. He was previously a partner at Gilbert + Tobin and Ashurst.

Deloitte

Tara Rogers has joined Deloitte as director of infra and capital projects in the Vancouver office. She started in October from AECOM and her mandate is to grow the capital projects practice in British Columbia.


Tara Rogers

EY

Isaac Bromley was in October made up to partner in the EY strategy and transactions department, based out of the Sydney office. He joined EY in 2009 as a director and was previously at Grant Thornton in London.

Ashurst

Bree Miechel in November joined the Sydney office of Ashurst, relocating there from Singapore where she had been a partner on the Reed Smith projects and construction team. She has previously worked on energy and infrastructure projects in Asia, the Middle East and Australia. She was also part of a team that worked to develop a standardised suite of documents to de-risk and decrease project and transaction costs to accelerate the development of solar PV projects globally.

Mayer Brown

China-based Boya Shen was made up to partner in the Mayer Brown Beijing banking and finance practice. Shen focuses primarily on power, energy, manufacturing facilities and infrastructure projects and joined the firm in 2018 having previously been at White & Case for 4 years.


Boya Shen

Mott MacDonald

Jean-Pierre Bernardus Labuschagne joined MottMac as a principal technical adviser in Dubai from Advisian which he left in February. He spent more than 25 years working in Africa, including spells at Deloitte in South Africa and Kenya.

Operis

Jerome Foucaud joined Operis in London as a director of advisory focused on digital infra and energy transition. He was previously an MD at fund manager TradeRisks prior to that having been a VP of infra and project finance at RBS.


Jerome Foucaud

IJInvestor Awards 2020

This year – the second time we have staged *IJInvestor Awards* – we have gone all-out to give the market something to celebrate in a year that has been remarkable for having little to put a smile on faces.

Congratulations to all the winners!

IJInvestor Awards 2020 The Winners

When the *IJInvestor* team launched submissions, we made it clear that – for this year only – we were looking to slice and dice the market to find as much to celebrate as humanly possible… while also maintaining an element of competition.

Our international panel of independent judges drawn from around the industry had full oversight of the categories and were able to input and steer our enthusiasm so that the end result was credible and reflected market activity and the direction it is heading.

However, in spite of the coronavirus pandemic the market has been curiously buoyant making a mockery of doomsday predictions as the industry bunkered down at home to rely on Teams and Zoom to bring international transactions to successful conclusions.

As is repeated throughout the following winner write-ups the judging period for these awards reflects developments that occurred from the start of April 2019 through to end of March 2020.

We received a fantastic response from the industry with more than 250 submissions and a bunch that have been held over for next year's awards (closed after 31 March 2020).

Here follows the line-up of winners (in the order they will appear in the coming pages). Congratulations to them all and thank you to all for taking the time to submit and make this grim year a little bit less awesomely awful by allowing us to salute the industry for some amazing achievements.

Individual Awards

- Steven Sonnenstein, Digital Colony – Outstanding Individual
- Jemima Atkins, Allianz GI – Rising Star

Acquisition Awards

Digital Infrastructure:

- Digital Infra, Overall Winner – Zayo Group acquisition
- Telecoms Towers – Vertical Bridge stake
- Data Centres – Digital Bridge acquisition
- Fibre – Zayo Group acquisition

Renewables:

- Renewables, Overall Winner – East Anglia One
- Solar – Project Arcadia
- Offshore Wind – East Anglia One
- Onshore Wind – Orites Wind Farm
- Developer M&A – BluEarth Renewables
- Broadly Renewables – HS Orka

Power & Utilities:

- Power & Utilities, Overall Winner – Vicinity Energy
- OFTO – SteelRiver Infrastructure Fund North America's Sale of Trans Bay Cable
- Broadly Power – Project Biscay – Bizkaia Energia
- Individual Award: Power & Utilities, Energy & Telecoms – EWE AG

Social Infrastructure / Transport:

- Social Infrastructure, Overall Winner – Project Epione (acquisition of Ionisos)
- Transport, Overall Winner – Genesee & Wyoming
- Airports – Farnborough Airport
- Roads – Cikopo-Palimanan (Cipali) toll road acquisition
- Rail – Genesee & Wyoming
- Rolling Stock – Alpha Trains
- Logistics – Constellation Cold Logistics
- Ports – DP World Chile stake

Oil & Gas:

- O&G, Overall Winner – Marguerite II SCSp - Marguerite JV with Italgas for the methanisation of Sardinia
- LNG & Midstream – Marguerite II SCSp - Marguerite JV with Italgas for the methanisation of Sardinia
- Upstream – Sabine Oil & Gas acquisition

Refinancing:

- Refinancing, Overall Winner – Coriance
- Transport – Ermewa Group
- Social Infrastructure – Royal North Shore Hospital
- Wind – Beatrice Offshore Wind
- Solar – Grupo T-Solar
- Power & Utilities – Coriance
- Broadly Renewables – HS Orka

Restructuring:

- Restructuring, Overall Winner – Weatherford
- Oil & Gas – Weatherford
- Renewables – Artvin Hydro Electric

Organisation Awards

Asset Performance:

- Asset Performance, Overall Winner – TerraForm Power
- Energy – TerraForm Power
- Infrastructure – Lyntia

Fund Managers:

- Debt Fund Manager – AMP Capital
- Direct Investor, Debt – MetLife Investment Management
- Direct Investor, Equity – CDPQ
- Equity Fund Manager, Overall Winner – Brookfield Asset Management
- Equity Fund Manager, Europe – EQT Infrastructure
- Equity Fund Manager, North America – BlackRock
- Equity Fund Manager, Global Exposure – EQT Infrastructure

Advisory:

- Financial Adviser, Energy – Cantor Fitzgerald
- Financial Adviser, Infrastructure – Rothschild & Co
- Legal Adviser, M&A – Linklaters
- Legal Adviser, Fundraising – Goodwin
- Legal Adviser, Overall Winner – Weil Gotshal & Manges
- Investment Consultant – bfinance
- Model / Project Audit – Operis
- Placement Agent – Campbell Lutyens
- Ratings Agency – Moody's Investors Service
- Technical Consultant – Arup
- Individual award: Legal Adviser, Tax Equity – Akin Gump

Performance Awards:

- Re-defining Infrastructure, Overall Winner – Infracapital
- Fund Performance – Antin Infrastructure Partners
- Market Innovation – Amber Infrastructure
- Re-defining Infrastructure, Europe – Arcus Infrastructure Partners
- Re-defining Infrastructure, North America – Digital Colony / Colony Capital

Outstanding Individual
Steven Sonnenstein, Digital Colony

Voted Outstanding Individual in the *IJInvestor* Awards 2020, *IJGlobal* editorial director **Angus Leslie Melville** speaks to Steven Sonnenstein about his career and digital infrastructure…

Anybody who knows digital infrastructure luminary Steven Sonnenstein will nod sagely as they learn he has been voted Outstanding Individual in the *IJInvestor* Awards 2020 for his achievements at the bleeding edge of Core+ infrastructure investment.

The judging team for this individual award – sponsored by infra/energy recruitment specialist One Search – was won over by the deals he worked on… but primarily for the role he played championing an emerging asset class in the digital infrastructure arena.

Judges describe Steven as "a force of nature" and "an infrastructure professional with the vision to identify new sectors, but – more importantly – the courage to pursue them relentlessly". Another went as far as to say: "Steven has forged a path that others will follow, carving out new markets and myriad opportunities. People will continue to follow his lead for years to come."

It's been a long path to bring Steven by the age of 45 to win such a prestigious, international award that recognises his achievements in a sector that has attracted some of the sharpest minds in the financing community.

The early years

Having started his working life as a chartered accountant in the Big 4 in 1996, it was not long before he stood out from the crowd. Two minutes in his company and you know you're talking to a family man who knows exactly what he wants out of working life as he radiates laser-precision focus.

His career saw an early start in EY and PwC before going to Brookfield Asset Management in 2006, joining the bridge lending and special situations group before swiftly – in the first few weeks – being drafted on to the infra team.

"It was a matter of happenstance," says Steven. "I started at Brookfield when it had just acquired the national transmissions grid in Chile – a company called Transelec – which they bought in partnership with PSP Investments, CPPIB and British Columbia Pension Fund.


Steven Sonnenstein

"I was in charge of 30 people and a treasury department managing $100 million of cash. It was a great time and I spent four good years at Brookfield."

"I was in the office and somebody comes to see me, someone I had heard of, but had never met. He says to me: 'Hey, your name's Sonnenstein, right?' I admitted it and he says: 'I hear you speak Spanish…'"

And so began his first big adventure in infrastructure… from ascertaining his language skills on the Friday of the July 4th long weekend in 2006, bags were packed and by Tuesday he was in Santiago on a two-week mission that would last for the best part of a year.

"It was a series of work that needed to be accomplished and I integrated well with the team," says Steven. "After a couple of weeks, I was told they needed an interim CFO and – guess what – I'm staying in Chile.

"This was arguably one of the best experiences of the early part of my career. I was literally thrown into the deep end. I woke up one morning in Santiago, looked in the mirror and said: 'Oh my god, what have I done? How did I end up here?'"

He promptly launched into a series of refinancings, raising debt in the public markets, while also spearheading M&A activity and big-growth projects.

"It was a tremendous experience," says Steven. "I was in charge of 30 people and a treasury department managing $100 million of cash. It was a great time and I spent four good years at Brookfield progressively involved in more infrastructure projects."

This was followed by a brief stint in industry before returning to the fold.

The PSP years

Steven returned to the infrastructure investment community in 2012 as a senior director at PSP Investments where he worked until 2018 under Montreal-based chief executive Gordon Fyfe.

"Gordon took PSP from nothing to around $100 billion under management," says Steven. "It was a great place, really entrepreneurial – the sort of place where someone could spread their wings and pursue unique ideas.

"You join an infrastructure team and you have people doing energy, transport, renewables – which I did… but I quickly realised that if I wanted to differentiate myself, I had to come up with a unique idea. I woke up one day having spent some time looking around and speaking to a few of our partners and said: 'Why aren't we doing telecom infra?'"

It was at this point that Steven launched himself on the path that would bring him to Digital Colony and establish him as an industry pioneer, building a reputation as one of the most impactful investors in the digital infra arena.

"I'll never forget this," says Steven. "I went to Jean Daigneault and Patrick Samson – two lead MDs at PSP – and asked them what they thought about tower infrastructure."

It took some quick talking, but Steven won them round… even though it did earn him a caution that simply tagging the word "infrastructure" after something he wants to invest in does not automatically qualify it. And so he became an evangelist for digital infra in his bid to bring it into the fold.

"I made my case and in 2013 I started looking at TDF in partnership with APG, competing bidders against Digital Bridge led by Marc Ganzi and Ben Jenkins," says Steven. "Marc and Ben got exclusivity on the asset first, then lost it.

"I stayed close and swooped in. I called in Brookfield and we formed a consortium – APG, Brookfield and PSP – and we acquired the asset, signing on 6 November 2014, closing March 2015.

"It was PSP's first telecom infra asset investment and it was not without a lot of resistance internally, facing a lot of challenges going through various committees and the board."

Steven recalls with a grimace: "I'll never forget that board meeting where the investment committee absolutely grilled me – why towers, is it infra, is it not private equity? And then there was the question over streamlining the head count, which is never going to be easy in France."

It was then that PSP bought into Steven's vision and promoted him to head of digital infrastructure and telecom infra. This was also when he solidified his friendship with Marc Ganzi – now his boss at Digital Colony – who, having lost out to him on TDF, picked up the phone to salute the victory, saying they should work together on future deals.

"After that call we started looking at deals together," says Steven. "In total, we looked at a couple of billion dollars' worth of transactions with me on the PSP side and him on Digital Bridge's side. We went pretty far on a few deals, but the one deal that we closed together was Vantage Datacenters which signed in January 2017."

PSP committed to 45% of the equity in partnership with TIAA CREF and Digital Bridge, on a deal that ended up each party holding almost equal three-way ownership.

Steven recalls: "This was PSP's first data centre deal. Again this was met with tremendous challenge and adversity. I still have lashes on my back from the grilling I got.

"Everyone was insisting it was real estate, but the real estate guys didn't agree. Private equity said it fell in their bucket, but the returns were too low and they don't get out of bed for less than 20%, and the infrastructure team said it wasn't infra.

"This is where I pushed the envelope and made the case internally saying it doesn't matter where it fits – it's a good deal and a good asset. I said we would earn a mid-teen return on Vantage and it's good for the fund, it's not too big and there's huge growth potential.

"Daniel Garant, the CIO of PSP – a great man for whom I have a tremendous amount of respect and who is now at British Columbia Investment Management Corporation – said we would put it in the CIO's portfolio and not allocate it to an asset class. Fast forward a year or so and he put it into infrastructure."

PSP exited Vantage this year at north of 30% IRR.

"This was a series of deals," says Steven. "I put well over $1 billion, probably $1.5 billion, into this sector and having negotiated a shareholder's agreement against Marc Ganzi, he said – and I quote – 'I will not go through that again, we should talk about how we can join forces'."

This discussion was nicely timed as PSP was undergoing a transition with Gordon Fyfe leaving the firm and its adoption of a more passive role… which was never going to suit Steven's nature.

And so began his journey with Florida-based Digital Bridge – the predecessor company to Digital Colony – which he joined in spring 2018.

Digital Holdings / Digital Colony

"I like to think that I'm a bit of a fore-thinker, an idea-generator, an entrepreneur… and where better to do that than with the guy who is the leading digital infrastructure idea generator in the world," says Steven. "Marc Ganzi is a legend in his own right and to be able to join his team and partner with him is a perfect fit.

"Here at Digital Colony, no idea is a bad idea. It is never about the no, it's always about the how. And that's my philosophy too."

Steven adds: "We have done a lot of great things. We have raised our inaugural fund and I have deployed well over a third of it into five platform investments, doing a lot of different things that I would never have been able to do at PSP.

"We created a Brazilian tower platform from scratch; invested in Canadian dense urban metro fibre, and merged it with another company that we acquired. These are pretty edgy and there's a lot of risk involved – but what better place to do this than where you have the resources and the team, and the ability to bring your own ideas to fruition.

"However, the most exciting thing we have accomplished over the past year is creating a new sub-investment class in infra – outdoor media infrastructure."

The *IJInvestor* Awards committee heartily agree with this statement and awarded Digital Colony the trophy for Re-defining Infrastructure category for North America for this innovation.

"This was almost two years in the making," says Steven. "The infrastructure that supports billboards is something that has always attracted my attention. Marc Ganzi had invested in billboards in the early 2000s in Brazil, as well as in the US in the mid-2000s. But that was investing in the billboard business."

Steven had a different slant on billboards: "I look at the infrastructure and I look at the land. There are hundreds of these on the sides of highways and buildings. Why can't you own just that? Why do you have to own the advertising company and be in the advertising business?

"I put a team together internally and we spent almost a year researching it, looking at it globally, in North America, LatAm, and in Europe… and we landed on Europe as the best place to start.

"We found a management team, spent time getting to know them and build the relationship, acquired the management team and – having scoped out the market – we found a series of assets we could roll up.

"We closed our first portfolio on 31 January 2020… and just a short time later London entered lockdown due to coronavirus and we were all sitting around here saying: 'Oh my word, what have we done?'"

Covid-19 concerns aside, Digital Colony has absolute faith in this sector as an evolving sub-sector and the asset – Wildstone – had at launch slightly fewer than 2,000 panels in play.

"What we do is we acquire the physical structure of the billboard and the land,"

"Here at Digital Colony, no idea is a bad idea. It is never about the no, it's always about the how. And that's my philosophy too."

says Steven. "These are long-term contracted assets with good quality credit counterparties on 20-25-year lease terms with inflation escalators.

"If that's not the definition of an infrastructure asset, I don't know what is!

"There are high barriers to entry as it is difficult to replicate. You can't just wake up one morning and say you're going to roll out 2,000 billboard towers – it is not something you can do overnight."

But owning the assets is just the first step: "We then undertake a programmatic digitisation of the portfolio with our clients. This is the digital infrastructure aspect.

"You go to Clear Channel or JCDecaux and tell them you're managing 500 of their sites that are all paper and paste… why don't I digitize them? I underwrite the digitization and put up the screens. Then we enter into a contracted rental uplift with them, right at the outset. We agree it is going to go from X to Y and, sure enough, you are increasing your yields six to seven fold.

"Your traditional paper-and-paste billboards fetch a fairly low annual rent. Once you digitize it, your clients – the large media tenants – are able to sell six to ten adverts per minute… instead of one for a four-week period. Even better, you don't need to send someone out with a roller to take down the old poster to replace it with another."

And that's not the end of the benefits: "You connect each of the billboards with fibre so you can now attach a radio antenna on these physical structures which are all along highly-travelled corridors or high-traffic areas and with the advent of 5G and the tremendous need for network densification – what better location to do it?"

Having started with fewer than 2,000 sites, the team is on target to have grown to 3,000 by the end of this calendar year.

"We have almost doubled the billboard cash flows of the business," says Steven. "We measure this in BCF. In towers, it is TCF, but we coined the phrase Billboard Cash Flow and it is really exciting."

As to the impact of Covid, this was negligible as clients continued to pay for an infrastructure asset that is core to their businesses.

"Without us, there is no ad business," says Steven. "There is a symbiotic relationship between us and the media tenants. They rely on us and we rely on them. Added to that, demand is so high that if they were to shut their business, there are so many people behind who are interested to get into it.

"If you look at outdoor advertising, it fragments into three sub-sectors. You have roadside – which is what we invested in – and you have indoor which is shopping/ convention centre, and then you have transport, which is anything from rail through to buses.

"We specifically chose roadside for the simple reason that it has demonstrated tremendous resiliency over the last 60 years, it continues to grow – with little hiccups along the way – but it continues to grow.

"Even as people move to mobile and get away from traditional paper – newspaper, and even television, is suffering – people continue to walk outside and commute from Point A to Point B. People remain mobile. So, unless you are one of those people who walk along the street with your nose buried in your phone, you will be looking around as you walk along the street and your eye will be drawn to these panels which are pretty much everywhere.

Outstanding Individual sponsored by: ONE SEARCH

Dan McCarthy – the New York-based chief executive of infrastructure and energy placement specialist One Search – explains why he thinks Steven Sonnenstein is a worthy winner of the *IJInvestor* 2020 Outstanding Individual

Knowing Steven Sonnenstein as I do, nothing about the panel's decision to name him 2020's Outstanding Individual surprises me. He is a force of nature; a man with a competitive spirit and desire to win that I have seldom seem matched in this industry, yet at the same time a man of principle, a family man who operates with fairness and decency. He operates at a pace and bandwidth which most normal people could find slightly intimidating – yet in the words of one of his senior colleagues (who wished to remain nameless!) "Steven's hard work, passion and charm resonate with sellers, bankers and colleagues alike". I can think of a handful of people who possess all of these characteristics. But only one of them has positioned themselves so uniquely to take advantage of – and indeed lead – the breathtaking pile-in that we have witnessed when it comes to infrastructure funds and digital assets. I can also think of only one infra investor who can lay claim to the development of a whole new subsector in 2020 – digital billboards in the UK with the Wildstone aggregation.

Speak to anyone at the firm and they will tell you how Steven takes the time to teach and mentor junior staff and be a culture carrier for the firm. He also sits on Digital Colony's investment and ESG committees and has been a champion for diversity throughout the firm and across the industry. I know from personal experience that when Digital Colony came on board the One Search YWIF scholarship programme, it happened as a result of Steven's persistence, because he believes so passionately in what we are seeking to achieve and he is prepared to find time to invest in helping us get there.

Congratulations to Steven on this recognition from his peers in the industry – it is well deserved, and just the latest in a very long line of achievements and accolades as his career goes from strength to strength. ■


Steven Sonnenstein

"I am not one of these investors that shows up four times a year to a board meeting."

Message to the **reader**

When asked what message he would give to an infrastructure professional, Steven doesn't hesitate: "Do not be afraid to take risks – both career-wise and in your job." He clarifies: "By that, I mean don't be afraid to take a chance on an idea and always drive towards your ambitions.

"I always had the ambition to lead transactions, to be involved on the front lines of a deal. There is no bigger high than being in the boardroom, sitting across the table from a seller or a buyer, trying to hash out a deal. It's a lot of fun.

"But it's not a race to the bottom, it is a marathon. Buying these businesses and acquiring these assets is just Step 1. The end game is integrating them into a platform and a strategy – and executing that."

Steven adds: "Have conviction around your decisions in life… and always follow through on them. There are too many examples of people who just have ideas. Don't be that person."

"The UK has a strong, regimented framework which means you cannot throw up a billboard anywhere. You have to go through a planning authority. You have to do it right. And you have to know how to do this. That was part of the selection of the right team.

"Having invested in a business led by a veteran like Damian Cox, this allowed us to capitalise on an opportunity that I believe is like a tower company. It looks and feels like a tower company. Will it trade at a 30x multiple like the most recent towerco deal in Ireland? I certainly hope so."

While Wildstone is one of the jewels in the crown of Steven's achievements at Digital Colony, it is far from alone. He sits on the board of the Andean telecom partner business which has towers in Colombia, Chile and Peru.

"It continues to grow and I am working closely with the management team," says Steven. "It is the same story with the Brazilian tower platform. I have been looking at Brazil for years. The people we work with there I have known since my PSP days.

"By happenstance, the CEO of Highline – Fernando Viotti – bumped into my colleague Cecilia Reissmeier at a conference a couple of years ago and after some conversation she said he had to meet me. He immediately replied that he knew me.

"We started talking and – fast forward one year, having built a relationship and getting comfortable with each other – we were able to invest in the platform of fewer than 300 towers. Today, after a series of tuck-in M&A and BTS awards, we are on track for over 4,000 towers having created the largest independent Towerco in Brazil."

As you will have realised by now, relationships are key to Steven's approach and central to the way he conducts business.

"I am not one of these investors that shows up four times a year to a board meeting," says Steven. "That is not the way we do it. It's not the way I do it. I spend a lot of time talking with my management teams. I speak to my CEOs multiple times a week – constantly talking to them strategically and operationally. We are looking at performance of the business and figuring out a way to support them.

"That is what I love. I love the ops. I love talking to the management teams. It is not just looking at what the numbers say and comparing that with what it says on the spreadsheet. It is more a focus on how we are going to hit the metrics. What are we going to do? What are the next steps we are going to take? What are the programmes we're going to put in place? What is our go-to-market strategy? I will even work with the management teams to develop relationships with key customers. I meet the MNO CEOs and spend a lot of time with them to build trust in that relationship.

"If you want to summarise me and how we do business at Digital Colony – that would be it."

There's more to life than work…

Steven is happily married to Leslie who patiently endures his arduous travel agenda that sees him away from home on average (in a normal year) 140 nights per annum. They complete the family with two children – daughter Katie aged 13 and son Jack, 11.

He does have interests outside of work, admitting: "The nature of the work we do is – without exaggeration – a 24/7 commitment. It just doesn't stop. But in between that and sleeping, I spend as much time as I can with the family.

"My son is an avid swimmer and he is on the swim team, while my daughter plays tennis and is a keen horseback rider. So I am either poolside, courtside or at the barn spending time with them."

As to his own interests – beyond a keen fascination in finer things Bordeaux – Steven says: "I enjoy skiing and scuba diving. And I love doing these things with my family."

Rising Star
Jemima Atkins, AllianzGI

AllianzGI assistant vice-president Jemima Atkins is a Rising Star according to the *IJInvestor* Awards judging committee. *IJGlobal* reporter **Sophie Mellor** finds out just how fast she ascends…

At a time when ESG is at the forefront of every infrastructure professional's mind, it comes as little surprise that Jemima Atkins – whose entire career has been moulded by the topic – should win this year's *IJInvestor* Rising Star Award.

The judging team for this individual award – sponsored by infra/energy recruitment specialist One Search – was hugely impressed by Jemima's collegiality and dedication to ESG principles.

Judges praised Jemima as a "clear rising star in the world of infrastructure debt" and that she is "someone who sets a benchmark in performance that her peers should aspire to". Another said: "Jemima's ability to step back and recognise when an asset is not meeting a client's mandate throughout lengthy negotiations processes puts her at a level far beyond her years."

For Jemima, who was brought up in the countryside and later studied natural sciences at university, sustainability and conservation seems to frame her mathematical way of thinking. And that's precisely why at 26, she's so good at infrastructure debt financing and a highly-regarded AVP on the Allianz Global Investors team.

Jemima has two primary passions: sustainability and finance. And according to her, there's huge comparability between the study and management of both.

She explains: "It's the same idea: in conservation, you have a set perimeter of factors in order to optimally manage a population of animals, whether those factors are birth rate, food, disease or predators. You're building quite a complicated model to understand how they work together and then you're changing the inputs and seeing what happens. That's exactly what I do right now in finance, but the parameters are in terms of cash flow rather than number of animals."

Her mind works in a calculative manner, which is in perfect symmetry with the work she does in AllianzGI's infrastructure debt team where she has helped to analyse, originate and execute deals across the entire infrastructure core and core-plus spectrum. She has also worked to structure subordinated, speculative-grade debt secured on minority holdings in core infrastructure.


Jemima Atkins

"The approach I am going for is that it's more important to look at everything you do through an ESG and sustainability lens."

More recently, she has been assisting with the expansion of AllianzGI's emerging market and blended finance initiatives, working with development finance institutions to blend private sector capital with government funding to accelerate investments in growing economies that the private investment industry has traditionally found difficult to access efficiently.

Recent infrastructure deals on which she has played a major role include the investment-grade debut bond issued by Dublin Port Company in 2019 where investors managed by AllianzGI were the sole subscribers. She worked with the issuer and advisers to design a financing platform that could accommodate future debt issuance, intended to support the issuer's "masterplan" for the growth of Ireland's principal maritime port.

She executed the €300 million financing of a Scandinavian DSO and district heating company within a timeframe that was too pacey for other investors to keep up. She helped to invest around €100 million in secured debt for one of the world's leading salmon well-boat owner/operators at a time when the world's demand for protein is at its highest and the impact of farmed salmon has never been under greater scrutiny.

In the last year, she also closed a £90 million debt investment in a UK motorway service area operator, €65 million in holdco debt financing for a gas distribution business in Southern Europe, and €300 million term and capex facilities for an energy generation company looking to transition from carbon-intensive fuels.

An all-rounder

According to Jemima, she enjoys the wide scope of her role but refuses to be pigeonholed into the niche of pure sustainability and ESG activity, fearing this would lead to her missing out on broader market movements.

"The approach I am going for is that it's more important to look at everything you do through an ESG and sustainability lens, therefore you're asking the applicable questions on every deal. Otherwise, if the specialised ESG person isn't leading the investments, it might be difficult for them to capture all the ESG risk detail."

Jemima wants to be – and subsequently is – an infrastructure debt person with a strong focus on sustainability, rather than the other way around.

She is seemingly able to navigate her career with ease, because she is a can-do person. She uses absolute statements like: "Nothing frustrates me more than people having great ideas and then not following through. I like action and being entrepreneurial. I like getting things done, progressing and seeing results."

And action she has taken. After leaving school in the countryside, she spent a year as an intern at Rothschild & Co. From that early stage in her life, she forged her own path: "I'm not one of those people who wanted to be a banker from the age of 12."

Instead she wanted to work in an industry that challenges her intellectually, one where she would find herself working with high-achievers. She wanted to "work in a room where people are having a discussion, and there's a tangible outcome to that discussion".

At Rothschild she found herself working closely with the energy and power team, which proved a nice fit with her interest in climate change and energy transition.

Her further education took her on to study natural sciences at Durham University, a mix of evolutionary and conservation biology as well as economics. The degree was very mathematical in nature and focused on examining population dynamics and modelling animal behaviour.

While at university, Jemima served as co-president of the Finance Society, was active in the Women In Business group and was a regular player on the university rugby team. She also interned at Credit Suisse and Bank of America Merrill Lynch.

Her final thesis saw her travel to South Africa and study the effects of different conservation management techniques on antelope, wildebeest and zebra on a game reserve where they lived in an enclosed, natural environment but existed in the absence of a natural predator.

Infra beginnings

Following university, she was offered a job from her summer internship on the debt capital markets team at Bank of America Merrill Lynch. There, she honed skills that would later serve as foundations for her fearless, quick-witted negotiating style.

One of the best pieces of advice Jemima picked up in the graduate role was the importance of understanding finance documentation. Tasked with combing through hundreds of pages of agreements and legal documentation, she leveraged this talent to negotiate with managing directors and senior counterparties on an equal basis.

Jemima says of her negotiating skills: "If you put in the preparation, I find that you often understand the documentation equally well, if not better, than the people you're negotiating against." She adds: "I enjoy it because it's maths with words, everything is very logical and if you read the clauses and find the right argument, you can always find a way to argue your point by seeing how the clauses fit together. I find it very satisfying."

Her mathematical way of thinking has framed the way she thinks ESG due diligence should be conducted. She believes there is a lack of standardised reporting and data across infrastructure debt, which is a fundamental problem.

And she understands there is a lot to do. A conversation she often runs through is: "People consistently ask how we can make infrastructure more sustainable. How do you do that? We measure. Where are the numbers? We don't have them."

The potential for ESG data standardisation for Jemima is immensely exciting, but it will require a lot of work and the involvement of many international players. Despite this, she also knows it will inevitably get there at some point – because it has to. "We're not going to get to net zero by 2050 if we don't work together. It's just not going to happen," she says without a tinge of doubt.

Beyond working her way up the ranks of infrastructure debt financing, climbing Mount Kilimanjaro, doing the Three Peaks Challenge in the UK, fishing, hiking, playing tag rugby, she is also mentoring students through several charities to encourage them to explore corporate careers and take maths at school.

Always insurmountably excited by the next challenge she's faced with, Jemima will no doubt continue this trajectory. We can only watch in anticipation what she will do next.

Whatever it is, the independent panel of *IJInvestor* Awards judges – all of them industry professionals of many years standing – are convinced… it's going to be impressive.

Rising Star sponsored by: ONE SEARCH

Dan McCarthy – the New York-based chief executive of infrastructure and energy placement specialist One Search – explains why he thinks Jemima Atkins is a worthy winner of the *IJInvestor* 2020 Rising Star

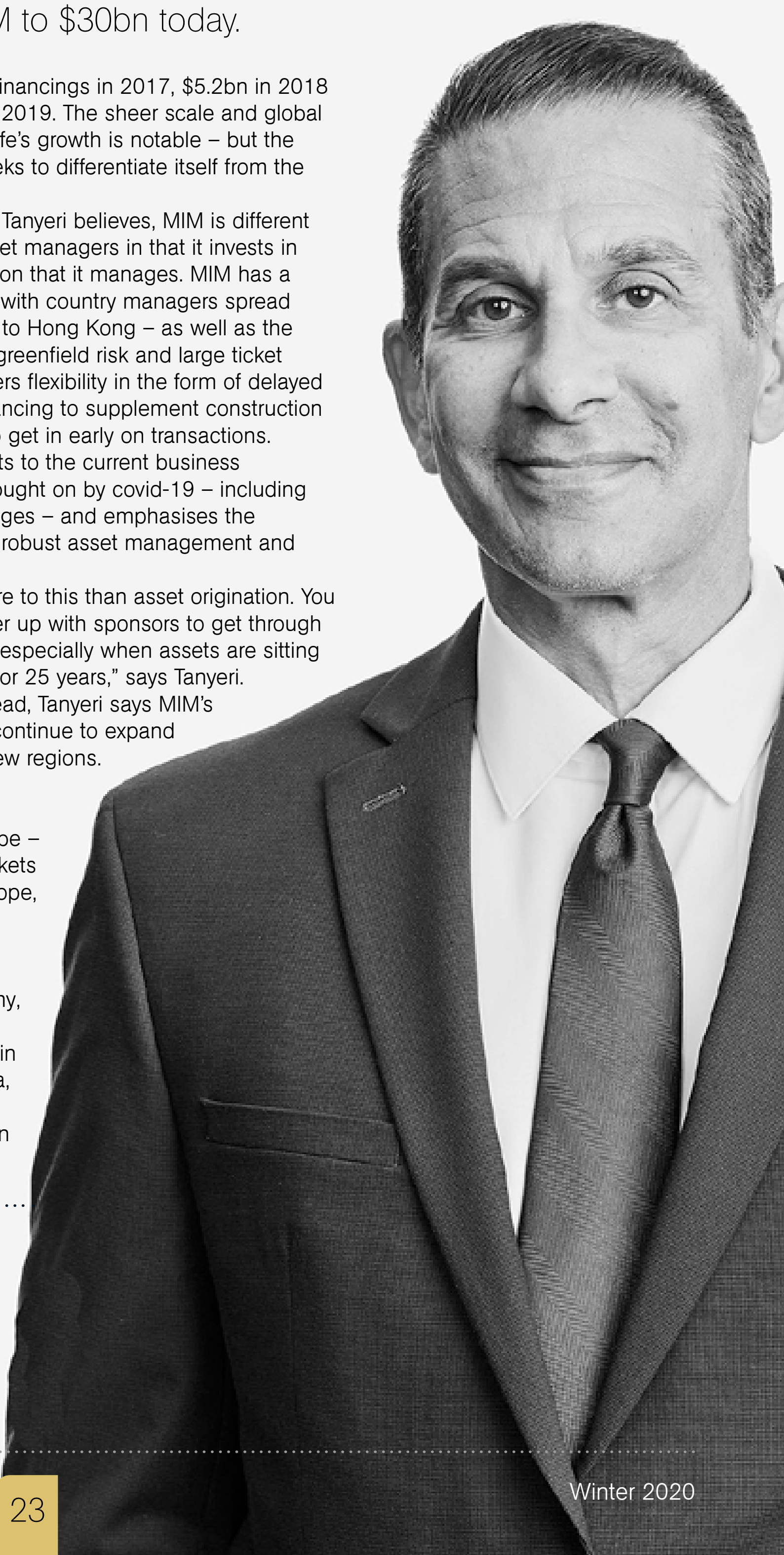
Every now and then, one of my clients hires a junior team member and knows within a very short period of time that they have a great future leader on their hands. This was definitely the case with One Search's introduction of Jemima to AllianzGI where, within a few weeks of her starting, I was hearing from a number of their senior team what a great first impression she had made.

When you bear in mind that she had joined what in my view is one of the most talent-rich infra debt teams in the EMEA market – itself containing other notable candidates for 2020 Rising Star including the top-rated Harshil Shah – you are reminded how brightly Jemima's star has been shining. At work, she shows a tenacity, a thirst for knowledge, a desire to make things happen that is refreshing to behold. Her colleagues tell me about her work ethic, her passion for ESG, the way she organizes herself with such ruthless efficiency that she always seems to make time to help on the AllianzGI private credit intern programme (which she helped set up in the first place), or the work experience programme.

On a personal note, I want to thank Jemima for the excellent work she is doing on the One Search YWIF scholarship program. She has been an absolute rock for us, not only mentoring three of our students herself, but also accompanying us to schools all over London to get young women interested in a career in finance. I have personally witnessed these 16 year-olds sit up and take notice when Jemima speaks about the possibilities that this career presents, and I'm delighted to see Jemima getting some industry recognition now for all that she contributes. This is just the beginning for Jemima – mark my words – in the blink of an eye she will be a leader at the very forefront of this industry.

MetLife – scaling up a long-term portfolio with skin in the game

While MetLife Investment Management (MIM) has been in the project finance market for 20 years, the story of its massive scale-up began in 2009. From that time, the investor has grown its infrastructure debt portfolio from $2bn AUM to $30bn today.



With the financial crisis under way in 2009, MIM sought to increase its real assets business and spotted an opportunity in the infrastructure market: the fundamental mismatch in how long-term infrastructure assets were being financed by short-term bank loans. At the time, equity investors were also facing liquidity shortages and potential ratings downgrades.

"That really allowed us in 2009 to break into the market. at that point there were not many institutional investors really going into the infrastructure space," says John Tanyeri, Head of Infrastructure and Project Finance for MetLife Investment Management (MIM).

After completing initial financings under the new strategy, Tanyeri's team was soon being approached by other investors and project owners seeking to replicate the model offered by MetLife.

"We really saw this opportunity grow," says Tanyeri.

The market continued to develop, and in 2013 Tanyeri moved from the US to London for three years to build up the infrastructure team and start growing the MetLife's asset management business. In addition to investing in the group's own account, MetLife began providing asset management services to smaller institutional investors and pension funds that were looking for access to infrastructure but were still new to the market.

With an initial focus on the US and UK, MIM then began expanding its global reach to Europe, Canada, and in recent years to Latin America and Australia. Whereas the US project finance market was traditionally dominated by energy assets such as gas-fired power and LNG, international markets offered a broader scope of opportunities – in transmission assets, ports, airports and other sectors.

With approximately $30bn portfolio as of September 2020, MIM originated $4.8bn in infrastructure financings in 2017, $5.2bn in 2018 and $7.1bn in 2019. The sheer scale and global reach of MetLife's growth is notable – but the group also seeks to differentiate itself from the competition.

Importantly, Tanyeri believes, MIM is different from other asset managers in that it invests in every transaction that it manages. MIM has a global team – with country managers spread from Santiago to Hong Kong – as well as the ability to take greenfield risk and large ticket sizes. MIM offers flexibility in the form of delayed drawdown financing to supplement construction and it's able to get in early on transactions.

Tanyeri points to the current business challenges brought on by covid-19 – including liquidity shortages – and emphasises the importance of robust asset management and partnerships.

"There's more to this than asset origination. You need to partner up with sponsors to get through difficult times, especially when assets are sitting on the books for 25 years," says Tanyeri.

Looking ahead, Tanyeri says MIM's strategy is to continue to expand its model in new regions.

He notes opportunities across the globe – untapped markets in Eastern Europe, Australia's transition from a commodity-based economy, energy and transportation in Southeast Asia, and a flurry of opportunities in Latin America.

"You need to partner up with sponsors to get through difficult times, especially when assets are sitting on the books for 25 years."

John Tanyeri, Head of Infrastructure and Project Finance for MetLife Investment Management

IJInvestor Awards – The Moody's Interview

Moody's Investors Service won the *IJInvestor* Award for Best Ratings Agency. Here key players talk to *IJGlobal* Americas editor **Ila Patel** about key deals and ESG

For the first time this year, *IJInvestor* opened up an awards category to recognise the efforts of ratings agencies across infrastructure and energy M&A and fund activity – with Moody's Investors Service winning.

Moody's is known globally for providing data, analytical solutions and insights that empower organisations to make better business decisions. It has rated more than $1.7 trillion of project and infrastructure finance (PIF) debt covering more than 1,000 publicly-rated companies and transactions (as of 31 March 2020).

During the judging period for *IJInvestor* Awards 2020, Moody's rated 463 PIF deals, representing more than $193 billion public debt issued by PIF issuers globally. This accounted for 86% of total rated debt issued.

Stand-out public ratings that Moody's provided which ensured its selection as the winner of the Best Ratings Agency trophy by an independent judging panel were:

- Acorn Project Two (Kenya)
- Botswana Power Corporation (BPC)
- $1.4 billion deal by Calpine Corp (USA)
- $500 million deal by Chugoku Electric Power Co (Japan)
- $500 million deal by PSA Treasury Pte (Singapore)
- $400 million deal by Orsted Wind Power TW Holding A/S (Denmark)
- $676 million deal by Adif Alta Velocidad (Spain)

But it was a combination of three components that really interested the judging panel, the ratings provided for Acorn Project Two and Botswana Power Corporation and Moody's work with ESG.

Acorn and BPC

Moody's has a strong focus on emerging and developing markets where there is a demand for investment in infrastructure. Despite more challenging markets, multilateral agencies and development banks play a critical role in providing credit enhancement for the capital structure of a project in order to entice private sector investors to deploy capital.

Doug Segars

"Over the last few years we have made a concerted effort to expand into emerging markets."

Foreign exchange exposure is particularly challenging so there is now an evolution of domestic capital markets as a source of funding that mitigates some of that exposure. Companies are borrowing in local currency and being paid in the same.

Moody's is seeing a lot of initiatives and efforts to deploy capital in emerging markets to meet demand which inherently involves governmental enterprises.

Doug Segars, managing director at Moody's, says: "Over the last few years we have made a concerted effort to expand into emerging markets, some of this is around developing local capital markets and some of it is around attracting international capital into those areas. The two relatively recent ratings – Acorn and BPC – are great examples of the two ends of that spectrum."

In August 2019, Moody's assigned a B1 rating to a 5 billion Kenyan Shilling (circa £750 million) senior secured MTN programme set up by Acorn to part-fund a student accommodation project in Nairobi.

This was one of a very small number of PPP-style project financings in Africa and represented an important milestone in the development of the local capital markets for the private financing of infrastructure in Kenya. The issuer was rated solely by Moody's and it was one of the first project bonds with a deferred drawdown structure.

The notes issued by Acorn have a bullet maturity of five years, are governed by Kenyan Law and benefit from an English Law partial guarantee of principal and interest, provided by GuarantCo. The partial guarantee is unconditional and irrevocable and provides for recovery on up 50% of principal and interest payment shortfalls in the event of default.

Segars says the Acorn project is clearly aimed at helping develop local capital markets: "What was interesting about the Acorn project from the capital markets perspective is that the notes were listed on the London Stock Exchange as well as the Nairobi Stock Exchange. That was as a result of direct efforts by both the UK government through DIFID and LSE as well as the Kenyan Finance Ministry."

It was also the first ever Kenyan green bond to be listed in the UK.

Another prime example of investors who are seeking to find a place to allocate capital is BPC which has no significant institutional money within Botswana.

On 10 January 2020 Moody's assigned a Baa2 long-term issuer rating to BPC, the national energy company in Botswana, responsible for electricity production, transmission, distribution and supply. It is 100% owned by the Government of Botswana.

Segars says: "BPC is looking at generating its own power generation capacity and wants to bring investors in to develop power projects. BPC will then purchase that power for which they need a rating to convince investors that they are a creditworthy counterparty."

This is the first time that BPC has had a credit rating, again rated solely by Moody's.

According to the Moody's submission, BPC has said that one of the major risks facing Botswana Power Corporation is the inability to access alternative source of funding. "To mitigate this risk, the Masa Strategy recognised acquiring a credit rating as a possible way of making the corporation attractive to corporate lenders."

ESG

In September this year, Moody's announced the formation of an Environmental, Social and Governance (ESG) Solutions Group to serve the growing global demand for ESG insights, leveraging Moody's data and expertise across ESG, climate risk, and sustainable finance.

Over the course of the judging period, Moody's expanded its involvement in this space, recognising that ESG considerations were increasingly relevant to issuers, investors, counterparties and others; and that stakeholders require clear, objective, transparent and globally-consistent standards for understanding and measuring these factors.

Moody's enhanced its ESG capabilities through three acquisitions.

In April 2019 Moody's acquired a majority stake in Vigeo Eiris, a global leader in ESG research, data and assessments. Vigeo Eiris offers products and capabilities based on ESG assessments and an extensive ESG database, as well as specialised research and decision-making tools for sustainable and ethical investments including second party opinions.

Then in July 2019 Moody's acquired a majority stake in Four Twenty Seven, a leading provider of data, intelligence, and analysis related to physical climate risks. Four Twenty Seven is unique in incorporating physical climate scenarios into credit ratings analysis.

Finally, in November 2019 Moody's acquired a minority stake in SynTao Green Finance (STGF), a leading provider of ESG data and analytics based in and serving China. The investment in STGF aligns with Moody's ongoing global commitment to promoting transparent standards for evaluating ESG risks. Locally, the investment strengthens Moody's presence and engagement in China and its financial markets, with a focus on supporting long-term, sustainable growth and contributing to the healthy development of ESG markets.

Walter Winrow, group managing director for global project and infrastructure finance at Moody's, says that ESG and sustainable finance continues to be of growing interest to investors and to companies that are trying to be responsive to investors.

Winrow says: "Reflective of that interest level, last quarter we saw north of $125 billion of green and social sustainable bonds and that amount is around 30% higher then what we saw in the preceding quarter. So we continue to see interest on the investor side to deploy capital aligned with ESG principles. We are also seeing ESG-aligned funds that are looking to invest."

That nexus between infrastructure and ESG investing objectives continues to expand.

Winrow adds: "For Moody's, as we look at our ability to further inform and create transparency around ESG impacts to credit worthiness of entities, we've made investments that have been very important to our ability to do that."

IJInvestor Awards – The Digital Colony Interview

IJGlobal editorial director **Angus Leslie Melville** talks to Colony Capital chief executive Marc Ganzi about a stellar year of performance that was crowned by repeated success

Digital Colony is riding high on the back of numerous achievements in the last year, rounding off a host of accomplishments by scooping a total of five key *IJInvestor* Awards in recognition of this success.

In the pages that follow, Digital Colony is repeatedly singled out for praise by *IJInvestor*'s independent panel of judges – all established industry experts – with awards for:

- Re-defining Infrastructure in the Americas category
- Best Digital Infrastructure Acquisitions in the Data Centre category – the Digital Bridge deal (including Vantage Data Centers and DataBank)
- Overall global Best Digital Infrastructure Acquisition – Zayo Group Holdings
- Best Digital Infrastructure Acquisition for Fibre – Zayo Group Holdings
- Outstanding Individual Award for 2020 – Steven Sonnenstein

During the judging period, Digital Colony achieved final close on its inaugural fund – Digital Colony Partners – at $4.05 billion, a key component of Colony Capital's pivot to digital infrastructure. A reflection of the success of this vehicle is that it is already 70% deployed.

Among its key portfolio investments is the take-private of Zayo Group by affiliates of Digital Colony Partners and the EQT Infrastructure IV fund. This transaction's closing was announced in March 2020 and valued at $14.3 billion, representing the largest syndicated private equity investment, the fifth-largest media and communications LBO and the second-largest LBO overall since 2008.

The fund is led by Marc Ganzi – president and chief executive of Colony Capital, also CEO of Digital Colony – who founded Digital Bridge Holdings, a leading global investor and owner of mobile and internet infrastructure. Digital Bridge was acquired by Colony Capital in July 2019 as part of Colony's transformation to become the premier platform for digital infra and real estate investment.

Marc is very much a "people person" and – as is always the case – he hires in his own image, giving him a team with strong communication skills, which he believes is central to the fund's success to date and forms the basis for future achievements.

"Having been a deal-maker in the digital infrastructure space for the last 26 years, the consistent theme across almost 80% of our deals is… relationships," says Marc. "It is centred on long-lived, trusted relationships with counterparties and customers and – ultimately – as we look back on the last year, a lot of those deals were curated because of pre-existing relationships and trust.

"Trust among all parties is key because you can't just turn networks over to somebody who lacks experience, you have to have people who have been there and done that. This is where we differentiate ourselves as a firm.

"Having been an operator for the last 26 years, we are trusted. When the time comes to choose a party to interact with, people don't spend a lot of time thinking about our operational credentials. They know them."

However, having carved its niche in the Americas and across Europe, the time has arrived for the Colony team to tackle fresh markets.

Asia Pacific

"There's a lot happening in that part of the world, as relates to infrastructure," says Marc. "Migration to cloud is a big trend in Asia and a lot of significant new workloads are happening across the region.

"We are really excited about following some of our customers to that hemisphere and thinking about ways we can help them. There is a really good opportunity to roll up the tower industry which has been highly fragmented in this region for the last 15 years. We can bring the techniques we have used in the US, LatAm and Europe to bear in Asia. Edge computing is also a big opportunity in Asia."

Marc recognises that many of the trends he and his team have been hunting in the


Marc Ganzi

"Having been an operator for the last 26 years, we are trusted. When the time comes to choose a party to interact with, people don't spend a lot of time thinking about our operational credentials. They know them."

Americas and across Europe are starting to manifest in Asia, and he already has a five-strong team in Singapore to spearhead those efforts.

Digital infra all the way

Like most people established in the digital infrastructure world, Marc is keeping a close eye on 5G and its migration as the velocity of capex spend gathers pace.

"Our belief is that this will be a seven-year investment cycle," says Marc. "This will probably be pretty heavy in 2021-through-23, and then start to taper off a bit. We are starting in the US and the Nordics as the first places we have seen 5G deployments. The same goes for Korea and Japan. Europe will come later this year / next year, and in 2022-23 you will begin to see 5G roll out across Latin America.

"The impact for towers should be strong and there should be a lot of investment into existing tower infrastructure – which will be great for the tower operators and the carriers as they roll out new technologies.

"We are excited about this and the team is spending a lot of time with our customers thinking about how we deploy 5G networks, reduce costs and look for new ways to create efficiencies in the RAN architecture."

The tower sector is rapidly evolving to a place where it is no longer simply a case of installing gear on a tower and renting space as cloud radio access network (C-RAN) establishes itself in the infra lexicon.

"If you're going to be a next-generation tower owner, you need to understand the fabric of what is driving network architecture – how to deploy cloud radio access networks and how fibre interacts with the tower," says Marc.

"Just renting space from a mobile operator is not adding a lot of value. You have to be thinking about other ways you can bring value to the customer from 5G."

> *"We are excited about this and the team is spending a lot of time with our customers thinking about how we deploy 5G networks, reduce costs and look for new ways to create efficiencies in the RAN architecture."*
>
> **Marc Ganzi, chief executive, Colony Capital**

As C-RAN gathers impetus, it is going to see a massive switch (no pun intended) from traditional methods to cloud-based, virtual switch technology that will involve significant investment into the aggregation of radios into a hub that feeds into a cloud data centre.

"This is a great opportunity for our mobile customers to save money," says Marc. "And that is why we are spending so much time on C-RAN and edge computing – because that's the future of networks."

The internet of things (IoT) is roughly seven years out and will require massive investment over that period. Currently – in 2020 – there are 20 billion devices connected to the IoT, with this expected to rise to 80 billion in 2025, and on to 500 billion in 2030.

Just taking that snapshot at a glance, you cannot help but think that Digital Colony is in a good place where it will benefit from first-mover advantages, tack record and established relationships… not to mention their first fund is almost fully-deployed… and doubtless another one is in the brewing.

The Ermewa interview

David Zindo, CEO

Ermewa Group chief executive David Zindo talks to *IJInvestor* about winning the Transport Refinancing Award for 2020

Ermewa Group has been voted the *IJGlobal* Transport Refinancing of the Year, recognising its positioning as a core transport infrastructure asset. Ermewa Group is one of the leading players in the railcar and tank container leasing industries, managing more than 100,000 assets worldwide (owned at 95%).

David Zindo, chief executive of Ermewa Group, says: "We are the #2 player in freight railcar leasing in Europe and #1 in France with a managed fleet of more than 40k and the #1 player in the worldwide tank containers market, with a strong positioning in the specialized and gas tank container, through Eurotainer and Raffles lease, with a managed fleet of more than 60k."

With favourable outlooks regarding intermodal shifts to rail and containerization, a diversified fleet and constrained supply for alternatives, Ermewa Group provides an essential service with robust infrastructure characteristics. Furthering this, Ermewa Group decided to transform its financing and migrate it to an infrastructure style corporate platform that allows it to support the business over the long-term.

David Zindo

"We believe that our business is a core infrastructure business and that infrastructure lenders would also see it in this way."

David says: "We believe that our business is a core infrastructure business and that infrastructure lenders would also see it in this way. We also believe our 2 core activities are complementary to each other with different underlying markets, but both with a strong outlook." He adds: "The mix of these two businesses benefited the refinancing both in terms of pricing and maturities and the currency we raised the debt in."

David continues: "Our railcars are an essential infrastructure to the European economy and to several specific industries and even critical for the supply chain of industries providing core materials/products for which there is no viable alternative due to quantities transported and nature. Our tank containers are also crucial for the shipping of hazardous and non-hazardous chemicals around the world which is vital for the global chemical industry."

Ermewa benefits from a highly diversified and resilient portfolio of operators, forwarders, and industrial customers (around 1.2k customers), with very stable and high utilization rate, providing to Ermewa stable

Ermewa Group railcars are an essential infrastructure to the European economy

All recycled steel from the railcars and tank containers can be reused for other purposes

long-term cash flows. As David says: “This aspect has been further reinforced by the current Covid-19 crisis, as the group will meet its EBITDA objective for 2020.”

Ermewa’s full ownership model requires investment to maintain and grow the fleet with limited capacity of manufacturing for the railcars. Both business segments provide an operating “wet” lease business model with full services provided by highly-skilled employees.

“This provides strong barriers to entry for these businesses,” according to David and “makes Ermewa an unavoidable and vital player in this market.” He adds: “The group is also involved in workshops and depots to secure the whole cycle of services from purchasing to maintenance, storage and recycling.”

The Refi

Ermewa launched in 2019 a global refinancing project. “Our primary objective was to set up a long-term, flexible, investment-grade financing platform that can support the business in delivering the business plan as well as optimising pricing and securing long-term EUR and USD debt,” says David.

“To fulfil this, we had to change our asset-based mindset and put in place a corporate-style infrastructure financing that would appeal to both the infra bank and private placement market. It was also important for us that the new financing platform was portable to allow new equity entrants and with the flexibility to incorporate potential new strategies on leverage, for example.”

David is gearing up for increased activity due the sustainability and climate change agenda “Ermewa is proud of the role it has and plays in supporting the transition to a low-carbon economy.”

As part of its sustainability and financing strategy, Ermewa went a step further in green finance and issued a Green Financing Framework to define more deeply its strategy. As David says: “A large part of our refinancing is green.”

David adds: “Intermodal and rail transportation is a fundamental building block for the modern, greener, and more efficient logistics for the future. Our well-positioned and diversified portfolio includes wagons transporting in the most efficient way possible the necessary supply of goods of all the industry that makes our economy what it is today. One freight train has a load capacity that can replace up to 52 trucks, while consuming far less fossil fuel.”

All recycled steel from the railcars and tank containers can be then reused for other purposes. David is also convinced that the combat against global pollution is also fought on the side of the plastic consumption and that tank containers have a key role to play.

“Flexibags used to be the standard to transport large quantities of liquid and weight almost 40kg of plastics (7,000 plastic bags), with no proof of efficient recycling and high probability that eventually those bags are released into the nature. Tank container appears to be by far the best alternative and the only sustainable answer to this problem by doing five round trips of the earth a year on average over a 24 years lifetime; this is the equivalent of more than one hundred flexibags or half a million plastic bags.”

Following this, 2021 is already shaping up to be a busy year for the firm.

"Intermodal and rail transportation is a fundamental building block for the modern, greener, and more efficient logistics for the future."

David Zindo, chief executive, Ermewa Group

One freight train has a load capacity that can replace up to 52 trucks

Digital infrastructure

Best Digital Infrastructure Acquisition – Fibre ▪ Digital Infrastructure – Overall

Acquisition of Zayo Group Holdings

The judging panel for the *IJInvestor* Awards 2020 picked the acquisition of Zayo Group Holdings by Digital Colony Partners and EQT Infrastructure Partners as the winner of the Best Digital Infrastructure - Fibre category and the winner of the Digital Infrastructure – Overall category.

Digital Colony Partners and EQT paid $14.3 billion to take Zayo private, having recognised its growth potential, strong customer base and fibre infrastructure assets. Total debt for the transaction stood at $5.9 billion and total equity invested was $8.2 billion. Zayo shareholders received $35.00 in cash per share of Zayo's common stock.

A judge said of the acquisition: “this transaction represents the largest syndicated private equity investment.”

Zayo was founded in 2007 and has since amassed a portfolio of 45 acquisitions to become the leading independent provider of communications infrastructure with a network of 133,000-miles across the US, Canada and Western Europe. The company went public in 2014.

Jan Vesely, partner at EQT said of the win: “The acquisition of Zayo was a landmark transaction for EQT, representing the firm’s largest to date across all the business segments as well as being the largest syndicated private equity investment since 2008.

“The deal is also a reflection of EQT’s unique expertise and experience in the digital infrastructure sector; we started reviewing this space over a decade ago and today, through investments such as Zayo, Segra and Deutsche Glasfaser, EQT is one of the largest digital infrastructure investors globally.”

> *"The demand for fiber connectivity continues to grow, driven by secular trends associated with fundamental shifts in both consumer and enterprise behaviors."*
>
> **Jan Vesely, partner at EQT**

Vesely added: “The demand for fiber connectivity continues to grow, driven by secular trends associated with fundamental shifts in both consumer and enterprise behaviors. Zayo is poised to benefit from these trends and, in line with EQT’s firm-wide focus on sustainability, is well-positioned to have a positive impact on society."

The transaction closed on 9 March 2020 and since the acquisition, Zayo has continued to expand its services and capabilities during the global pandemic to meet growing connectivity demands as a result of remote working and a more digitally-driven global community.

Zayo Group advisers:

- Goldman Sachs – financial
- JP Morgan – financial
- Skadden Arps – legal

Digital Colony and EQT Infrastructure Partners advisers:

- Morgan Stanley – financial
- Deutsche Bank – financial
- Simpson Thacher – legal

The deal is also a reflection of EQT’s unique expertise and experience in the digital infrastructure sector

Best Digital Infrastructure Acquisition – Towers

Acquisition of a 30% stake in Vertical Bridge

CDPQ's acquisition of a 30% stake in the main operating subsidiary of Vertical Bridge Holdings, the largest private owner and operator of communications infrastructure in the US was picked by the *IJInvestor* Awards 2020 judging panel as the winner in the Digital infrastructure – Towers category.

As one judge said: "CDPQ has expanded its exposure to the telecoms sector with this acquisition, it is already one of the largest operators of communications infrastructure in the US." Another judge said: "This is a smart move from CDPQ as Vertical Bridge is strategically positioned in the market given its portfolio of digital infra assets that range from towers to wireless infrastructure."

Vertical Bridge was founded in 2014 and has since completed more than 250 acquisitions and grown its portfolio to over 288,000 sites, including more than 16,000 owned and master-leased towers, as well as America's largest and tallest private portfolio of broadcast towers. Its portfolio includes towers, small cells, real estate and other wireless infrastructure assets.

> *"CDPQ was able to invest in a quality asset in an attractive sector where connectivity needs have been growing."*
>
> **Olivier Renault, managing director, infrastructure, North America at CDPQ**

The acquisition places CDPQ in a strong position as the sector has huge growth potential, ahead of the deployment of 5G technology. It also has a low carbon footprint which ties in with CDPQ's sustainable investment priorities.

Olivier Renault, managing director, infrastructure, North America at CDPQ, said: "This transaction is important in many ways: CDPQ was able to invest in a quality asset in an attractive sector where connectivity needs have been growing – even more so in recent months – and it allowed us to build a lasting partnership with Vertical Bridge, a first-class operator that brings a wealth of industry knowledge to the table."

Post the judging period – 1 April 2019 to 31 March 2020 – Vertical Bridge has used the investment, to continue expanding its portfolio of broadband and broadcast towers, small cells, real estate and other wireless infrastructure assets.

The transaction closed on 13 June 2019.

CDPQ advisers:

- Credit Suisse – financial
- Altman Vilandrie – consultant
- Hogan Lovells – legal

Best Digital Infrastructure Acquisition – Data Centres

Colony Capital's acquisition of Digital Bridge Holdings

The judging panel for the *IJInvestor* Awards 2020 picked Colony Capital's acquisition of Digital Bridge Holdings as its winner in the Digital infrastructure – Data Centres category from the judging period of 1 April 2019 to 31 March 2020.

This $325 million acquisition in July 2019, impressed judges because of Colony Capital's strategic evolution into the leading owner and investment manager of assets, businesses, and investment management products in which the digital and real estate frontiers intersect.

A judge said of the acquisition "Colony Capital understands that there are opportunities to be had in the global digital infrastructure sector given the increased reliance on networks. It is impressive how it is continually looking to grow in this area."

The acquisition builds on Colony's strategy of developing leading investment management platforms with a strong focus on assets and businesses that benefit increasingly from digital infrastructure.

Digital Bridge's world-class team of investment professionals and management of the Digital Bridge portfolio of high performing assets all come under the Colony umbrella following the acquisition.

Since the acquisition, Colony Capital in Q2 2020 changed its strategy to accelerate towards a digitally-focused approach in order to better position the company for growth. This will require it to rotate non-digital assets into digital-focused investments.

It has already worked on seven proprietary, digital infrastructure transformative deals deploying nearly $20 billion and closing six financings accessing $12 billion in credit during the global pandemic.

The transaction reached financial close on 25 October 2019.

Prior to the acquisition of Digital Bridge Holdings, Colony Capital reached financial close on Digital Colony Partners in May 2019, a $4.05 billion fund sponsored by Colony and Digital Bridge.

Digital Bridge advisers:

- DBO Partners – financial
- Kleinbard – legal

Colony Capital and Digital Bridge advisers:

- Clifford Chance – legal
- Morgan, Lewis & Bockius – legal

Renewables

Renewables – Overall Winner · Best Renewables Acquisition - Offshore wind

East Anglia One

The judging panel for the *IJInvestor* Awards 2020 selected Green Investment Group's (GIG) $1.63billion acquisition of a 40% stake in East Anglia One offshore wind farm from Iberdrola as winner in the Renewables – Offshore Wind and Renewables – Overall categories.

A judge said of the winning project: "This deal used an innovative financing structure – one that has perhaps not been seen before."

East Anglia One – located 43km off the UK's Suffolk coast – is not yet fully operational but will comprise 102 Siemens Gamesa 7MW wind turbines, expected to produce enough green electricity to power the equivalent of over 600,000 homes annually.

The financing structure comprises a minority-stake dividend financing with lenders Goldman Sachs, Lloyds, Santander, ING Groep, MUFG and SMBC having no security at the project level. This structure was particularly unusual for them because the wind farm still carries elements of greenfield/construction risk given that it is not fully operational.

"To our knowledge this is the first use of a dividend-financing to acquire a partially greenfield wind farm and the first use of a finco structure of this nature to address CPI-hedging issues."

Transaction advisor

Another notable aspect of the deal was the lending of the main term loan facility through an orphan finco lending structure to mitigate the need to account for mark-to-market movements on its CPI-linked hedging where the borrower is not the operating company.

Of the numerous advisers involved, one said: "To our knowledge this is the first use of a dividend-financing to acquire a partially greenfield wind farm and the first use of a finco structure of this nature to address CPI-hedging issues. The deal involved coordinating a number of different aspects in a competitive acquisition bid time frame: project and structured finance, hedging, construction and project due diligence and advising MLAs on the joint venture and shareholder arrangements."

Iberdrola retains a majority 60% stake in the wind farm. The transaction closed on 29 August 2019 within the judging period for the *IJInvestor* Awards 2020.

Advisers to Iberdrola:

- Clifford Chance – legal
- Latham & Watkins – legal

Advisers to GIG:

- Macquarie – financial
- Linklaters – legal
- Allen & Overy – legal

Best Renewables Acquisition – Solar

Project Arcadia

The $720 million acquisition by TerraForm of a high-quality, unlevered distributed generation platform with 322MW capacity in the US from subsidiaries of AltaGas was selected as the winner of the Renewables – Solar category by the judging panel for the *IJInvestor* Awards 2020.

Terraform Power is a global owner and operator of 3,700MW of renewable power assets and the acquisition was made through TerraForm Arcadia Holdings.

One judge said of the acquisition: "TerraForm acquired a diverse portfolio across a number of markets, this will boost its investment portfolio." Another judge commented: "TerraForm now owns one of the largest portfolios of distributed generation in the US."

The transaction closed on 26 September 2019 within the judging period for the *IJInvestor* Awards 2020.

The portfolio that TerraForm has acquired has assets in 20 states and comprises:

- 291MW of DG solar
- 10MW of fuel cell assets
- 21MW of residential solar

The portfolio has contracted PPAs with an average remaining life of about 17.6 years for the DG portfolio and 14.1 years for the residential portfolio. The investment grade for DG offtakers averages at A2/A+ and creditworthy counterparties for the residential portfolio all within rating agency guidelines for investment grade facilities.

All the assets also have renewable energy certificates (RECs), some contracted and others subject to prevailing rates.

The financing for the acquisition comprised a $475 million non-recourse holdco term loan secured by all of the assets and capital stock held by TerraForm with a 364-day maturity (with an option to extend for up to 12 months) and $245 million in expected proceeds from the sale of minority interests in certain wind assets in North America. The lenders on the deal were HSBC, Natixis, RBC and SMBC.

Following the acquisition, John Stinebaugh, CEO of TerraForm Power, said: "The acquisition will increase TerraForm Power's average contract duration to 14 years and enhance its resource diversity.

"Furthermore, this demonstrates our strategy of recycling capital from stabilized assets with limited opportunities for further value creation into newly acquired assets that meet our return targets and have commercial and operational upside that we can extract through our integrated operating platform."

AltGas decided to sell off assets after reaching financial close on the acquisition of gas utility holdings company WGL Holdings in June 2018 for around $9 billion. Once it sold a non-core gas gathering system for $280 million, it auctioned off the 322MW portfolio of distributed generation assets.

Advisers to AltGas:

- Scotiabank – financial
- Nomura Greentech – financial
- Skadden – legal

Lenders counsel:

- Milbank

Best Renewables Acquisition – Onshore wind

Orites Wind Farm

Ancala Partners' acquisition of Orites Wind Farm in Cyprus was selected as the winner of the Renewables – Onshore wind farm category by the judging panel for the *IJInvestor* Awards 2020.

In a deal valued at €120 million, the wind farm – considered one of the largest in Cyprus with a capacity of 82MW – was purchased on behalf of funds managed by Ancala Partners from Platina Energy Partners and a local entrepreneur as their fund's term was reaching an end. Ancala considered the scale and quality of the wind farm an important diversifier for its funds.

One judge commented: "This deal highlights Ancala's expertise in identifying and realising attractive investment opportunities in niche and overlooked renewables markets like Cyprus."

Another judge said: "It is unusual to see a deal of this calibre in Cyprus. Ancala had to have done its due diligence to successfully close a transaction in unfamiliar territory."

Orites comprises 41 Vestas V90-2MW wind turbines and has been operational since 2011. It produces around 5% of Cyprus's entire electricity generation capacity which is then exported to the grid through a long-term PPA with the Electricity Authority of Cyprus. It also has a fixed tariff with the Cypriot government until 2031.

> *"This acquisition required successful cooperation with a local partner, the regulator and local authorities swiftly, efficiently and diligently."*
>
> **Michael Papaiacovou, vice president at Ancala**

As for Cyprus' sustainable goals, it is lagging behind every other European Union country when it comes to transitioning its energy infrastructure from fossil fuels to renewables. Only 9-10% of Cyprus's energy is sourced from renewables – 20% behind its target.

Ancala plans to expand Orites and launch other projects – in a bid to help reduce the use of imported oil by Cyprus and help its economy drive down the price of energy and increase self-sufficiency.

Michael Papaiacovou, vice president at Ancala said: "This transaction highlights Ancala's expertise in identifying and realising overlooked investment opportunities across Europe. Ancala had to research the market from scratch, familiarising itself with the market's nuances including its subsidy system and projected electricity needs. This acquisition required successful cooperation with a local partner, the regulator and local authorities swiftly, efficiently and diligently."

The transaction closed on 12 March within the judging period for the *IJInvestor* Awards 2020.

Adviser to Ancala:
- Travers Smith – legal

Adviser to Platina Energy Partners:
- DLA Piper – legal

Renewables – Best Developer M&A
BluEarth Renewables

The judging panel for the *IJInvestor* Awards 2020 selected the acquisition by DIF V of 100% equity in Canadian independent renewable energy company BluEarth Renewables as the winner of the Renewables – Developer M&**A** category.

BluEarth is widely regarded as a leading renewable energy full lifecycle developer and operator of hydro, wind and solar facilities. Since its inception in 2010, BluEarth has developed and acquired 19 hydro, wind and solar projects in the US and Canada.

A judge said of the acquisition: "This strategic move from DIF will give it more reach in the North American renewable energy development market."

DIF acquired the business from Ontario Teachers' Pension Plan (OTPP) for $440 million. It is also inheriting BluEarth's development pipeline comprised of around 2GW of projects in various stages of development.

"BluEarth is an attractive investment that will provide attractive returns and stable cash flows to our investors."

Paul Huebener, partner and head of DIF Americas

Paul Huebener, partner and head of DIF Americas, said of the acquisition: "BluEarth is an attractive investment that will provide attractive returns and stable cash flows to our investors. As we've been working together over the last several months, we also see strong growth potential ahead for BluEarth – particularly in the US market."

DIF financed the acquisition with debt provided by BMO, Desjardins, and National Bank and closed the transaction on 20 November 2019 within the *IJInvestor* Awards judging period.

The Canadian company has 23 personnel focused on development and construction, giving it the ability to deliver growth through value-add acquisition activities. Operational and asset management capabilities are performed in-house across all operating assets through BluEarth Asset Management (BEAM), improving operational performance and cost containment.

Advisers to DIF V:
- Baker McKenzie – legal
- BMO Capital Markets – financial
- Agentis Capital – financial
- KPMG – financial

Adviser to OTPP:
- CIBC World Markets – financial

Best Alternative Renewables Acquisition – hydro, WTE, geothermal
HS Orka

Ancala Partner's acquisition – via Ancala Infrastructure Fund II – of Iceland's leading private energy business HS Orka was selected by the *IJInvestor* Awards 2020 judging panel as the winner of the Renewables Alternative category.

HS Orka owns and operates two geothermal assets with a combined capacity of 174MW, 100MW in Reykjanes and 74MW in Svartsengi. It also has a deal pipeline of over 200MW. Listed Canadian renewable energy fund Innergex decided to sell its 54% interest in HS Orka in H1 2019.

A judge said of the deal: "Ancala used an innovative solution to complete this acquisition in a non-traditional geography." Another said: "It was one of Europe's most notable renewable energy transactions in 2019."

In order to get a competitive advantage and gain a unique insight into the business, Ancala partnered with Jarðvarmi, a consortium of 14 Icelandic pension plans. Ancala closed the $304.8 million deal using a complex structure which included two separate acquisitions and a sale within one $500m transaction to ensure the deal did not run into any legal or strategic hurdles. Subsequently, the deal has been transformed into a leading European pure-play renewables platform with a focus on a rare renewable technology (geothermal).

Lee Mellor, partner at Ancala said of the win: "We are delighted the acquisition of HS Orka has been recognised. It was a complex execution involving two separate acquisitions to consolidate 100% ownership of HS Orka in partnership with 14 Icelandic pension plans, together with a sale of the company's interest in the Blue Lagoon tourism complex. The transaction transformed HS Orka into a pure play renewable energy platform."

Challenges Ancala faced and dealt with which demonstrated its unparalleled approach to transforming an opportunity and ability to deploy an innovative solution to a highly complex situation included:
- only 54% of shares were for sale – Jarðvarmi and Innergex (two pension plan consortia) held the remaining amount but operated under a disjointed ownership structure. Ancala ensured the partnership became aligned
- established governance rights and created a platform to deliver growth opportunities
- refocused HS Orka as a pure-play renewables and utility platform by divesting its 30% stake in the Blue Lagoon Geothermal Spa and Resort – Iceland's leading tourist attraction which limited the transaction's overall attractiveness to investors

The transaction closed on 22 May 2019 within the judging period for the *IJInvestor* Awards 2020.

Adviser to HS Orka
- Evercore – financial

Power & Utilities

Best Power & Utilities Acquisition – Overall Winner ▪ Power & Utilities – District Heating

Vicinity Energy (Veolia US District Energy Networks)

The Antin Infrastructure Partners Fund IV $1.25 billion acquisition of Veolia's District Energy Networks business in December 2019 was selected as the Power & Utilities – Overall Winner and Power & Utilities – District Heating categories by the *IJInvestor* Awards 2020 independent judging panel.

Veolia Environnement was the divestor and judges said this was "the first real district heating deal in the US" with one judge commenting: "I like the innovative hybrid financing structure and the fact this is one the largest district heating platforms in the US which is a market we have not yet seen open up for infra like everyone thinks it could."

The business comprises 13 district heating/cooling systems across 10 cities, including strategic positions in Boston/Cambridge, Philadelphia and Baltimore with circa 80% revenues. A wide range of customers are supplied district heating and cooling systems including commercial premises, government, universities, hospitals, hotels and manufacturing facilities.

The company employs more than 400 people and generated revenues of around $400 million in 2019.

Vicinity Energy is Antin's second major investment in the district energy sector. In 2018 it acquired French company Idex, an integrated operator of energy infrastructure assets, operating 41 district heating and cooling networks (including the Paris La Défense network), 13 energy-from-waste facilities and a large portfolio of energy services contracts for a wide variety of counterparties.

This acquisition is Antin's first deal in the energy sector in the US and second overall deal in the region. It is also the first deal from Fund IV. It identified the opportunity to acquire Vicinity Energy over a year ago and built a strong relationship with the Veolia senior management team.

The 7-year $770 million debt package comprised a $625 million term loan A, $80 million capex facility and a $65 million revolver. The loan was priced at Libor +175bp with step-ups and lenders earning a 50bp fee. Lenders on the deal were BNP Paribas, Crédit Agricole, Bank of Montréal, MUFG, Natixis, Société Générale and SMBC.

Antin in its submission says the Vicinity Energy transaction was a "highly complex portfolio carve-out transaction from corporate seller Veolia which involved an innovative non-recourse financing structure raised to support the acquisition, combining both corporate and project finance elements."

It is the perfect fit for Antin's mandate of defensive and stable infrastructure platforms with potential for value creation. It was exactly the sort of transaction that Antin envisioned when it decided to expand the Antin footprint to the US.

Antin senior partner Kevin Genieser, said of the win: "This is exactly the sort of transaction we envisioned when deciding to expand the Antin footprint to the US. We leveraged our European network to secure an excellent platform business in the US with tremendous growth potential. We are very pleased to have been awarded best district heating acquisition as Vicinity Energy is recognised as a classic Antin deal by investors."

The deal closed on 30 December 2019 within the judging parameters for the *IJInvestor* Awards 2020. ■

Advisers to Antin:
- RBC – financial
- Messier Maris & Associés – financial
- Philippe Villin Conseil – financial
- White & Case – legal

Advisers to Veolia:
- BAML – financial
- Orrick – legal

Best Power & Utilities Acquisition – OFTO

SteelRiver Infrastructure Fund North America's Sale of Trans Bay Cable

SteelRiver Infrastructure Fund North America's sale of Trans Bay Cable to NextEra Energy Transmission (a subsidiary of NextEra Energy) was selected as the winner of the Power & Utilities – OFTO category by the *IJInvestor* Awards 2020 judging panel.

The sale of Trans Bay Cable as constitutes one of the largest power deals of 2019 costing around $1 billion, including the assumption of debt.

Judges called the transaction "high-profile" and "NextEra has added a high-quality regulated asset to its portfolio."

Trans Bay Cable is a 53-mile, 40MW, high-voltage direct current underwater transmission cable system with utility rates set by the Federal Energy Regulatory Commission (FERC) and revenues paid by the California Independent System Operator (CAISO).

The cable system extends from Pittsburgh, California, to San Francisco, California, and provides around 40% of the electrical power used on a daily basis in San Francisco and its surrounding areas. The system was developed and approved in response to a 1998 blackout in the Bay Area, demonstrating a need for greater resiliency of the electric grid in the region.

Due to its status as a public utility, the transfer of ownership of Trans Bay Cable required CPUC approval under state law. The CPUC issued a decision approving the transfer of ownership in July 2019 which allowed for the deal to reach financial close straight after. ■

Advisers to NextEra Energy Transmission:
- Pillsbury Winthrop Shaw Pittman – legal
- Ellison Schneider Harris & Donlan – regulatory counsel
- Wells Fargo Securities – financial
- RBC Capital Markets – financial

Advisers to SteelRiver Infrastructure Fund North America
- Winston & Strawn – legal
- RBC Capital Markets – financial

Best Power & Utilities Acquisition – Alternative

Project Biscay – Bizkaia Energia

The independent judging panel for the *IJInvestor* Awards 2020 selected the acquisition by Castleton Commodities International and White Summit Capital of the entirety of Bizkaia Energia, the 100% owner of the 786MW Amorebieta CCGT plant located in the Basque region of Spain, from Arclight Capital Partners as the winner of the Power & Utilities – Alternative category.

One judge said the deal was "an innovative transaction due to the merchant risk element."

The deal highlights that investor appetite for merchant power in Europe remains strong for the right assets in the right location, provided the correct education is built for the asset.

At transaction close in January 2020, Bizkaia had seven months remaining on its tolling agreement, allowing Castleton to implement its own merchant strategy. Prior to this, Arclight and Cantor Fitzgerald implemented a holdco financing of the asset, which allowed them to create an attractive capital structure ahead of the sale.

The acquisition has aided in repositioning Spain as a destination for merchant power investment and setting the benchmark for future transactions. It took place at a critical juncture as Spanish power prices were beginning to show signs of recovery but CCGT overcapacity meant many gas-fired plants were unprofitable, especially given the government's failure to clarify intentions around capacity payments.

The deal also showcases a successful sponsor exit in a complicated power market environment.

At the time of the acquisition, Arie Pilo, head of CCI's European power investments business, said: "The Amorebieta acquisition builds on our strategy to increase exposure to the European energy markets and marks our entry into the rapidly changing Iberian hub where we see enormous potential."

"The Amorebieta acquisition builds on our strategy to increase exposure to the European energy markets and marks our entry into the rapidly changing Iberian hub where we see enormous potential."

Arie Pilo, head of CCI's European power investments business

Best Power & Utilities Acquisition – Energy & Utilities (individual award)

EWE AG

Ardian's acquisition – through its Ardian Infrastructure Fund V – of a 26% stake in Germany-based energy, telecoms and IT business EWE Aktiengesellschaft was singled out for an individual award by the judging panel for the *IJInvestor* Awards 2020 in the Power & Utilities – Energy & Utilities category.

There was a competitive bidding process to acquire a minority stake in the company from Ems-Weser-Elbe Versorgungs- und Entsorgungsverband (EWE-Verband) with a number of companies participating. Ardian eventually emerged as the winner, paying €1.4 billion for the stake.

In 2018, EWE AG reported revenues of €5.7bn and an EBIT of €363.3 million. EWE supplies 1.4 million people with electricity and around 1.8 million people with natural gas through its 207,000km energy distribution and supply networks.

The transaction was subject to approval from the German Federal Cartel Office, which it received at the end of December 2019. The transaction closed in February 2020.

Of the €1.4 billion total value, debt stood at €680 million provided by Barings, BNP Paribas, Santander and IMI - Intesa Sanpaolo. Total equity was €720 million.

The remaining 74% is held by an alliance formed of 21 cities and districts in the Ems/Weser/Elbe region.

According to the submission: "The transaction demonstrates the key role private capital can play in helping to accelerate growth in strategic areas – including renewables, networks, telecoms and mobility – critical to the delivery and updating of regional infrastructure.

Stefan Dohler, CEO of EWE AG, said of the acquisition: "With Ardian, we will have a strategic growth partner with extensive experience in the pan-European infrastructure sector with thinking just as long-term, prudent and sustainable as ours. It was important to us that the new investor supports EWE's strategic goals and helps us on our path of change and growth with opportunities from its investment portfolio.

"We know where we intend to go. We continue to make progress with our move towards becoming an innovative solution provider, offering integrated services and products for energy, communication, networked data and mobility. We want to play an active role in shaping the climate-friendly and digitalised future of energy and communications, and set positive standards based on a position of regional strength. With its entrepreneurial approach to this path, Ardian is the strong partner we have been looking for."

Stefan Dohler

"With Ardian, we will have a strategic growth partner with extensive experience in the pan-European infrastructure sector."

Advisers to Ardian Infrastructure Fund V:
- Allen & Overy – legal

Advisers to EWE AG:
- White & Case – legal

Advisers to lenders:
- Clifford Change – legal

Social Infrastructure/Transport

Best Transport Acquisition – Overall Winner • Transport – Rail

Genesee & Wyoming

Brookfield Asset Management and GIC's $7.9 billion Genesee & Wyoming won *IJInvestor* Awards for the Transport – Overall and Transport – Rail categories

The independent panel of judges was won over by this submission based, as one judge put it, on it being a "large and complex P2P in a new sector for infrastructure". Another judge said that this is a growing sector of interest for infrastructure funds in the US "with the likes of 3i and First State (First Sentier) also having recently invested in the US short-line rail industry. Interestingly, Brookfield has also invested in last mile utility networks in the UK through Brookfield Utilities."

The Brookfield-led investor group acquired 100% of the outstanding shares of G&W through a take-private with a total value of $7.9 billion – $5.2 billion in equity and $2.7 billion in asset-level debt. The deal closed in July 2019.

This was a rare opportunity to acquire a rail infrastructure network of scale in North America for good risk-adjusted returns. G&W is a significant addition to the global rail platform and expands Brookfield's presence in this sector to four continents.

G&W operates an irreplaceable transport infrastructure network comprising 116 short-line railroads with over 22,000km of track across North America and the UK. It is the largest short haul operator in North America with a resilient business model across 14 major commodity groups. Most revenues are generated from hauling freight and providing freight-related services. It provides critical transport services to more than 2,800 customers, and its cash flows have proven to be resilient over many years.

"G&W is a significant addition to the global rail platform and expands Brookfield's presence in this sector to four continents."

Brookfield is well suited to work with the company to continue to improve the business, given its significant experience owning and operating rail, ports and other large-scale transport assets.

This acquisition was a significant opportunity to surface the majority of value through operational improvement with modest growth through volume and pricing increases. More specifically, its focus will be on driving margin improvements. It will also be looking to expand opportunistically via M&A, with strategic tuck-in opportunities whereby operational synergies can be achieved.

Advisers to the consortium:

- Citigroup financial markets – financial
- White & Case – lead legal
- McCarthy Tétrault – legal
- Gilbert + Tobin – legal
- Steptoe & Johnson – legal

Brookfield adviser:

- Torys – legal

GIC adviser:

- Sidley Austin – legal

G&W advisers:

- BAML – financial
- Morgan Stanley – financial
- Simpson Thacher & Bartlett – legal
- Addleshaw Goddard – legal
- Allens – legal
- Clark Hill – legal
- Macfarlanes – legal
- Stikeman Elliot – legal

G&W operates an irreplaceable transport infrastructure network comprising 116 short-line railroads

Best Transport Acquisition – Airports

Farnborough Airport

Macquarie Infrastructure and Real Assets acquisition of Farnborough Airport from TAG Group through its Macquarie European Infrastructure Fund 6 (MEIF6) was selected as the judges winner of the Transport – Airport category for the *IJInvestor* Awards 2020.

The acquisition is a strong fit for MEIF6's mandate due to its resilient business model, underpinned by its strategic importance in the London airports system and full flexibility over the charging structure.

A judge said of the deal: "This is the first business aviation airport transaction in Europe involving an infrastructure fund."

The transaction took a year to complete with MIRA taking part in bilateral discussions with the vendors in September 2018 and reaching price alignment in September 2019. Farnborough Airport was acquired from TAG Group and a number of high net worth individuals who had owned the asset for more than a decade.

According to MIRA's submission "the innovative transaction is the very first of this type in Europe, and has opened up a new sub-sector within the transport market."

The airport has been around since 1908 and was the UK's first airfield and the site of the country's first powered flight. It is a dedicated business aviation airport located in the South of England with easy access to major road and rail links – and has carbon neutral status from Airports Council International. The airport also has state-of-the-art facilities designed specifically to maximise travel efficiency and reliability, as well as customer experience.

Farnborough Airport handles around a third of the London airports system's business aviation traffic and this looks set to increase as other London airports become increasingly capacity constrained with commercial traffic.

John Bruen, senior managing director at MIRA, said: "Our successful acquisition of Farnborough Airport was the product of deep knowledge of the airport sector and a year-long bilateral process with a consortium of private investors who had owned the business for more than a decade. Our strong track record was key to gaining exclusivity and played an important role in securing the vendor's confidence that we were the right owner to shape the next chapter of Farnborough Airport's development.

"At a time when the broader aviation sector is experiencing considerable uncertainty as a result of Covid-19, we have been pleased to see our investment thesis for Farnborough Airport vindicated. With its strategic location, state-of-the-art facilities, and loyal customer base, Farnborough Airport has demonstrated its resilience through the pandemic and is cementing its position as the UK's leading business aviation airport."

Adviser to MIRA:

- Shearman & Sterling – legal

Advisers to TAG Group and investors:

- JP Morgan Securities – financial
- PwC – financial
- Cleary Gottlieb Steen & Hamilton – legal
- Towers & Hamlins – legal

Best Transport Acquisition – Roads

Cikopo-Palimanan (Cipali) toll road acquisition

The *IJInvestor* Awards 2020 judging panel selected the Canadian Pension Plan Investment Board's (CPPIB) acquisition of a 55% stake in PT Lintas Marga Sedaya (LMS), the concession holder and operator of the Cikopo-Palimanan (Cipali) toll road in Indonesia as the winner in the Transport – Roads category.

CPPIB formed a partnership with PT Baskhara Utama Sedaya (BUS), a wholly-owned subsidiary of PT Astra Tol Nusantara (Astra Infra) to acquire the stake held by PLUS Expressways International Berhad, a subsidiary of the UEM Group. CPPIB acquired a 45% stake. BUS is an existing owner of 45% of LMS and increases its stake to 55%.

One judge said the infrastructure acquisition was: "high-profile and high-value with multi-jurisdictional and multi-governing law elements."

The deal marks CPPIB's first Indonesian infrastructure investment and closed on 28 November 2019, within the judging period for the *IJInvestor* Awards 2020.

Suyi Kim, senior managing director and head of Asia Pacific at CPPIB, said at the time of the acqusition: "As CPPIB's first infrastructure investment in Indonesia, this deepens the fund's commitment to the Asia-Pacific region as well as our focus on investments in new markets with attractive return and risk characteristics."

The Cipali toll road is one of the longest operational toll roads in Indonesia with a total length of 117km. It is a critical link in the transport network of the island of Java, as part of the Trans Java Toll Road network. The highway project was awarded to the UEM Group in 2006 and was completed in 2015.

Adviser to PLUS Expressways:

- Herbert Smith Freehills

Best Social infrastructure Acquisition – overall winner

Project Epione

3i Infrastructure's acquisition of fast-growing French sterilisation specialist Ionisos, a leading owner and operator of cold sterilisation facilities servicing the medical, pharmaceutical and cosmetics industries was singled out by the judging panel to win the *IJInvestor* trophy for Social Infrastructure – overall winner.

Ardian Infrastructure's fourth expansion fund sold the business to 3i for €365 million.

Judges called the deal "unique" with one judge commenting: "3i is moving away from traditional infrastructure sectors and diversifying into newer sub-sectors."

Ionisos was established in 1993 in Civrieux, France and is now the third largest cold sterilisation provider. It operates a network of 11 facilities in Europe with market leading positions in France and Spain and 3i's growth plans for it include continuing to make bolt-on acquisitions across Europe.

The French cold sterilisation specialist delivers services that are an essential component of the manufacturing process and typically applied to single-use products that would be damaged by the heat and/or humidity of hot sterilisation methods.

"Ionisos represents a great opportunity for 3i Infrastructure to diversify its sector exposure and increase its presence in the French market."

Richard Laing, non-executive chairman of 3i Infrastructure

In its submission, Richard Laing (non-executive chairman of 3i Infrastructure) said: "Ionisos represents a great opportunity for 3i Infrastructure to diversify its sector exposure and increase its presence in the French market. It is a resilient business providing essential infrastructure to sectors with attractive long-term fundamentals".

The transaction was funded through 3i's acquisition facility, capex, revolving credit facility and 3i also invested €220 million. MLAs on the deal were RBC and NatWest and financial close was reached on 25 September 2019, well within the judging period for the *IJInvestor* Awards 2020.

Following the win, Phil White, managing partner and head of infrastructure, at 3i Investments, said: "Ionisos, which operates in a fast-growing market and is led by a strong management team, is a great addition to 3i Infrastructure's portfolio. The company provides essential infrastructure to the health care industry and its resilience has been confirmed during the Covid-19 pandemic which saw increased demand for high-quality sterilisation services.

"We look forward to continuing to grow Ionisos into a pan-European player through the extension of its existing sites as well as market consolidation and greenfield development."

Advisers to 3i:

- Allen & Overy – legal
- Lazard – M&A
- Roland Berger – strategic
- PwC – financial due diligence

Best Transport Acquisition – Rolling Stock

Alpha Trains

The independent judging panel for the *IJInvestor* Awards 2020 selected the acquisition of a 41.1% stake in Alpha Trains by APG as the winner of the Transport – Rolling Stock category.

Judges said that APG had gone for "an attractive investment" with one judge commenting: "Alpha Trains is a market leader among the privately-owned rolling stock lessors, I'm sure APG will continue to support its growth."

APG acquired the stake in the Luxembourg-based passenger (mostly electric) train and locomotive leasing company from Arcus European Infrastructure Fund 1 (AEIF1). Alpha Trains has 110 employees from 11 countries working in offices in Luxembourg, Antwerp, Cologne, Madrid and Paris.

As the owner of 432 passenger trains and 363 locomotives, the company offers tailor-made leasing solutions, comprehensive knowledge in maintenance and vehicle repairs as well as long-term experience in the financing of new build projects.

The company promotes sustainable, low carbon mass transport within Europe with its mostly electric fleet.

"The investment in Alpha Trains Group perfectly fits our investment strategy."

Peter Branner, CIO of APG

At the time of the acquisition, Peter Branner, CIO of APG, said: "As a long-term responsible pension investor, we are continuously looking for attractive investments that help us realise stable returns for ABP and the other pension fund clients we work for, while at the same time contributing to a sustainable world.

"The investment in Alpha Trains Group perfectly fits our investment strategy: Alpha Trains' fleet of mostly electric trains and locomotives promotes sustainable, low carbon mass transport within Europe while also offering access to a long-term business model with strong growth and resilient cash flows."

Branner added: "We look forward to supporting the Alpha Trains management team in growing the business. We are excited to be part of the ongoing European rail liberalisation process, where significant investment is required for new vehicles to increase rail's share of the European transportation market and the replacement of aging infrastructure to contribute to Europe's greenhouse gas reduction targets."

Simon Gray, Arcus co-managing partner, said that it was an appropriate time for AEIF1 to exit its interest in Alpha Trains and believes that APG, via its indirect holding, "will be an excellent partner, continuing to support Alpha Trains' growth."

The transaction closed on 20 December 2019 within the judging period for the *IJInvestor* Awards 2020.

Advisers to APG:

- Deutsche Bank – financial
- Allen & Overy – legal

Advisers to Arcus Infrastructure Partners:

- Clifford Chance – legal

Best Transport Acquisition - Logistics

Constellation Cold Logistics

Arcus Infrastructure Partners clearly acquisition of majority stakes in three industrial-scale cold storage companies in Belgium was singled out as the winner of the Transport – Logistics category by the *IJInvestor* judging panel.

One judge said: "This is was an interesting transaction, as it establishes a new sector as value-add infrastructure." Another commented that it was a "creative identification of a new sector and a buy and build."

Arcus acquired stakes in Belgium's Stockhabo, (40%), the Netherlands Lintelo, (75%) and Norway's Glacio (90%) and established a platform, Constellation Cold Logistics. The total investment was €65 million which was equity-funded by Arcus' second Fund, Arcus European Infrastructure Fund 2 SCSp and closed on 27 January 2020.

Constellation Cold Logistics is only the second investment in cold storage by an infrastructure investor and the first in Europe. Arcus conducted in-depth research and investment target profiling given the fragmented cold storage sector in Europe, before acquiring the stakes in the three businesses.

Going forward, Arcus' strategy for Constellation involves the acquisition of several market-leading cold chain infrastructure businesses within Europe to create "a leading European network in the cold storage and logistics market," according to its submission.

The cold storage companies play a critical role in the journey between the production of food and its consumption and work with food producers such as Unilever as well as wholesalers and retailers. All the facilities are located in strategic locations with captive catchment areas like food production factories or at ports, usually one of several barriers to entry for competitors.

"Constellation represents the first investment in cold storage and logistics by a European infrastructure fund."

While Constellation offers value-add services such as blast freezing and thawing, storage is the core of its business.

The combination of the three companies makes it the fifth biggest cold storage player in Europe by area with around 1.6 million cubic metres of storage capacity across its eight facilities.

Arcus decided to pursue an investment in the cold storage space because of its positive experience in holding port assets, namely Forth Ports in the UK and Euroports in the Netherlands, both of which had well-performing cold storage facilities within their port estate infrastructure.

After in-depth research, Arcus concluded that cold storage facilities are essentially food ports and are especially important as they are often located in key transport corridors and have clear infrastructure-like characteristics.

According to its submission "cold storage is a new emerging area of investment for Infrastructure with characteristics that could clearly lead to it be considered core infrastructure in the future. There is other evidence of infrastructure funds looking at the European cold storage sector, but creating a Europe-wide platform could be a challenge for many of them as family-owned target companies are often reluctant to sell."

Jordan Cott, Arcus partner and asset manager for Constellation, said: "Constellation represents the first investment in cold storage and logistics by a European infrastructure fund. This sector has grown its following significantly in recent years, and we were able to leverage off our past experiences in the ports sector, as well as years of research on the cold storage sector itself, to develop the best possible investment approach so that we could execute quickly and bilaterally."

Cott added: "Constellation has a unique offering as a consolidator in the cold storage and logistics industry, as the platform is seeking to balance the benefits of a coordinated, Europe-wide approach with the entrepreneurial spirit and operational autonomy that has served these businesses so well for decades.

"Launching a consolidator platform of this nature, alongside several partners, placed significant pressure on the acquisition processes. At one point, Arcus was in the process of closing one acquisition with two others in exclusivity and advanced stages of due diligence. In addition to that, with so many stakeholders, maintaining confidentiality was critical. Working alongside professional advisers, as well as senior industry experts who were "inside the tent", helped us to collectively launch Constellation without kicking up too much dust.

Best Transport Acquisition – ports

CDPQ acquisition of stake in DP World

The independent judging panel for the *IJInvestor* Awards 2020 voted to award a trophy to CDPQ's acquisition of a 45% stake in DP World Chile in the Transport – Ports category.

Judges said the deal: "represented the Canadian institutional investor's first infrastructure acquisition in Chile."

CDPQ acquired the stake via its investment platform with DP World, having partnered with the Emirati logistics company in 2016 to create a $3.2 billion platform to invest in ports and terminals globally. Currently, DP World holds 55% of the platform and CDPQ holds the remaining 45%.

DP World Chile operates terminals in Puerto Central in San Antonio and Puerto Lirquen in Gran Concepción. The terminals serve Chile's main consumption and industrial centres, making them key freight transport corridors in Chile.

In April 2019, DP World acquired 99.2% of the issued share capital of DP World Chile via a tender offer process and this investment was then integrated to its platform with CDPQ. The platform already has an existing portfolio of ports including terminals in Vancouver and Prince Rupert in Canada. The two new terminals have been added to this portfolio, an important step in the growth of the platform and solidifying its geographic diversification objective. CDPQ's profile has also been boosted in the field of transport with the acquisition.

Since the acquisition, the CDPQ and DP World platform have a new investment target of US$8.2 billion and will continue to target assets globally as well broadening its footprint in existing geographies.

Oil & Gas

Best Oil & Gas Acquisition – LNG + Midstream ▪ Oil & Gas - Overall winner

Marguerite II SCSp - Marguerite Joint venture with Italgas for the methanisation of Sardinia

The JV of European infra fund Marguerite II SCSp and Italgas to build a gas distribution network and develop a lead gas marketing business in Sardinia won over the *IJInvestor* judging panel as for the Oil & Gas – LNG + Midstream category. and overall winner for O&G.

Sardinia lacks a gas network so this JV will open a market and open up natural gas supplies ahead of more polluting sources like diesel.

Marguerite acquired a 48.15% stake in Medea and Medea Newco (now Gaxa) from Italgas. Both companies operate in the distribution and supply of LPG in Sardinia. Medea supplies LPG to 45,000 customers and developed a gas pipeline in 10 out of 19 concessionary basins.

One judge said of the €91.8 million deal: “This transaction will provide huge social and economic development benefits to the region.” Another judge said: “This project will allow Sardinia to think more sustainably about the delivery of natural gas.”

Marguerite’s Infrastructure fund II was through this JV able to invest in the gas distribution sector for the first time. The JV complies with its institutional mission to encourage the infra development of new infrastructure in European countries.

The JV said of the win: "Marguerite and Italgas are proud of this recognition for a partnership creating a modern and native digital gas distribution network that will make it progressively possible to replace the most polluting energy sources currently in use in Sardinia with natural gas. A next generation infrastructure which, in addition to environmental protection, guarantees significant cost savings for the final customers and paves the way to a future use of renewable gas like biomethane and hydrogen.”

Lorenzo Parola, partner at Herbert Smith Freehills, said: "We are excited to have assisted Marguerite Infrastructure on their first deal in the gas distribution sector; this will have an immediate impact on the long-awaited methanisation of Sardinia and it will be a driver for both the island economy and the development of synergetic small scale LNG regas plants."

Marguerite II was launched in 2017 and has participation from the EIB, Italian Cassa Depositi e Prestiti, Caisse des Dépôts Group, BGK, KfW and ICO. Its aim is to support the development of projects in the energy, renewables, transport and digital infrastructure sectors while also implementing the main EU policies of climate change, energy security and trans-European networks.

Italgas has a €500 million investment plan for Sardinia by 2025, which will see Medea lay around 200km of pipelines. The transaction reached financial close on 1 December 2019. ■

Advisers to Marguerite
- Herbert Smith Freehills – legal
- Santander – financial
- Afry – technical
- Brattle – regulatory
- PwC – financial and tax
- WTW – insurance

Advisers to Italgas
- Gatti Pavesi Bianchi

Best Oil & Gas Acquisition – Upstream

Osaka Gas Acquisition of Sabine Oil & Gas

The judging panel for the *IJInvestor* Awards 2020 selected Osaka Gas’ acquisition of 100% of the outstanding shares in its subsidiary Sabine Oil & Gas Corporation as the winner in the Oil & Gas – Upstream category.

A judge said of the acquisition: “this is the first time that a Japanese company has purchased a US based shale gas developer.”

Osaka Gas has also taken on operations of the upstream business through this $610 million acquisition which will enhance the efficiency and sustainability of the company's US upstream business growth.

Osaka Gas’ energy business portfolio in North America has been bolstered with the necessary governmental permits acquired for the transaction. The company intends to continue developing its three US core businesses comprising Freeport LNG liquefaction project, IPP projects and Sabine’s shale gas project. The transaction close on 2 December 2019.

Shay Kuperman, lead Vinson & Elkins partner on the deal, said of the win: “An interesting feature to this transaction is that it involved the acquisition of a US operator of oil and gas assets by a foreign company. There have been many joint venture-type deals where foreign investors acquire non-operating minority interests in oil and gas properties that continue to be operated by a US operator.

“However, in the Osaka/Sabine deal, Osaka acquired all of the equity of Sabine and this is much less common. Therefore, we needed to consider significant amounts of additional issues in this type of transaction in comparison to a more typical joint venture-type of transaction, such as various employment, tax, financial, and shareholder-related matters.”

At the time of closing, Osaka Gas president Takehiro Honjo said: "While Osaka Gas has participated in the Freeport LNG liquefaction project and IPP projects in the United States, we intend to expand our US upstream business by enhancing our capabilities with Sabine Corp's excellent operatorship.”

Osaka Gas acquired a 35% working interest in the east half of the entire asset area being developed by Sabine in July 2018. Since then, the wells have been producing more than the expected volumes, generating stable cash flow. The acquisition of the outstanding shares has given Osaka Gas the entire acreage position of Sabine.

Sabine’s acreage totals 175,000 net acres in East Texas, producing shale gas in the amount of 210 MMcfed with around 1,200 wells at present. ■

Advisers to Osaka Gas
- Vinson & Elkins – Legal
- Sumitomo Mitsui Financial Group – financial
- Moelis & Company – financial

Advisers to Sabine
- Hunton Andrews Kurth – legal
- Barclays – financial

Refinancing

Best Refinancing Award – Overall Winner ▪ Refinancing Award – Power & Utilities

Coriance

The €100 million refinance of French district heating business Coriance was crowned the Overall Winner of the Refinancing category in the *IJInvestor* Awards 2020 – proving that big deals do not always win the day.

This award reflects market activity from the start of April 2019 through to the end of March 2020, allowing this refi to squeak in at the end of the judging period, having closed on 23 March 2020.

The judges were won over by the refi of this asset by First Sentier Investors based on its "courage in approaching the market at a tough time" and "blending in an interesting element of sustainable finance".

Coriance is jointly held by First Sentier vehicles European Diversified Infrastructure Fund I and European Diversified Infrastructure Fund II (EDIF I & II) and earlier this year it entered into an innovative sustainable finance structure.

Coriance secured €100 million across both capital expenditure and term debt facilities. The sustainability-linked loan will be used to pursue growth projects, acquisitions and for general corporate purposes.

This is the first financing for Coriance which encourages and rewards its sustainability activities, and raising it was challenging given the Covid-19 market volatility and bank costs of funding increasing significantly.

Coriance chose to utilise sustainable finance to align its sustainability objectives and link ongoing sustainability performance with their cost of funds. Both the term loan and capex facility are structured as Sustainability Improvement Facilities with a discount on margins should a certain number of sustainability KPIs be met.

These KPIs were developed to meet ambitious environmental and sustainability targets and are linked to: increasing its proportion of renewable energy generation; reducing CO2 emissions intensity; reducing accident frequency rates.

Environmental KPIs are structured to be consistent with the EU Paris Agreement and aim to reach net zero emission by 2050, with the final KPI consistent with Coriance's focus on improving employee safety.

The framework was drafted in such way that it can be used for future financings which will automatically qualify as "green" should a third-party reviewer confirm that the investments contemplated are eligible.

Niall Mills, global head of infrastructure at First Sentier, says: "We are delighted to have won these award categories in what has been an incredibly challenging time for finance raising.

"We'd like to highlight – in particular – the innovative sustainable finance structure one of our assets entered into this year. Coriance successfully secured its first ever sustainability-linked loan amid a highly volatile market environment in order to pursue future growth projects, which is something to be very proud of." ■

Best Refinancing – Transport

Ermewa Group

The *IJInvestor* Award for Best Refinancing in Transport goes to Ermewa Group's €1.6 billion corporate financing – a deal that allowed the business to transition from a restrictive asset-backed structure to standalone flexible corporate financing.

Ermewa Group, a France-based provider of railcar and tank container leasing and services, refinanced its group-level debt in December 2019.

The company was previously financed with a mixture of shareholder loans and a series of short-term asset-backed facilities at the subsidiary and group level. This resulted in a limited ability to grow the business and provided terms that did not reflect the underlying credit strength of the group. The company also needed to shore up its debt ahead of an expected shareholder exit by SNCF.

Ermewa Group secured a highly competitive €1.6 billion refinancing package, with its key features including:

- multi-creditor corporate platform, incorporating both bank and institutional lenders across Europe and the US
- A significantly extended and diversified bullet maturity profile, with maturities of 7, 10, 12 and 15-year tenors in both EUR and USD
- significant covenant and operational flexibility to support business growth
- a reduction in the overall cost of debt, despite a longer average tenor
- green accreditation, independently verified by Sustainalytics and a Climate Bond Certification for the facilities

The deal had a significant sustainability component, making Ermewa the first railcar operator to secure green accreditation and green financing. As global freight transport relies heavily on fossil fuel propulsion – whether by air, land or sea – rail appears to be a good alternative for decarbonising the freight transport sector.

The debt package includes €623 million of green loans and private placement debt secured against Ermewa's eligible green fleet.

DC Advisory acted as financial adviser on the financing.

In 2019, the Ermewa Group generated turnover of €486 million and EBITDA of €258 million. It manages 42,000 railcars and 59,000 tank containers.

While having clear infrastructure characteristics, the railcar and tank container markets have been less known asset class due to shorter contract tenors and relatively inexpensive assets values relative to passenger trains and freight locomotives. ■

Best Refinancing – Social Infrastructure

Royal North Shore Hospital

The Royal North Shore Hospital and Community Health Service PPP has won the *IJInvestor* Award for best social infrastructure refinancing.

AMP Capital acquired the project in 2015, the latest major event in the hospital's long history. Established in 1885, the Royal North Shore Hospital (RNSH) and its associated health services delivers health care to Sydney's lower north shore as well as a state-wide trauma centre for New South Wales.

RNSH is also a major public teaching hospital and serves as an educational facility for Sydney Medical School at the University of Sydney.

In 2008, the RNSH PPP – valued at A$1.1 billion – was awarded to a consortium comprising ABN AMRO (then RBS), Thiess, ISS and Wilson Parking to design, finance, build, and maintain one of Sydney's principal tertiary hospitals.

It involved the redevelopment of the site to consolidate and replace more than

50 outdated buildings and replace them with purpose-built facilities with the latest technology with a capacity of about 700 beds. The concession runs until 2036.

As part of the acquisition, AMP Capital restructured A$934.2 million of debt incurred by the project, with a club of lenders including Australia and New Zealand Banking Group, MUFG Bank, Natixis, Norinchukin and Sumitomo Mitsui Trust Bank and Westpac Banking.

Julie-Anne Mizzi, partner and global co-head of infrastructure health said of the win: "We are delighted to receive recognition for the effort in re-establishing a productive and successful partnership with NSW Health since our acquisition in 2015 which enabled us to achieve a highly competitive refinancing outcome for the benefit of CommIF investors.

"AMP Capital Debt Advisory implemented an innovative refinancing structure that included fully amortising 7-year and 17-year loan facilities, terming out around half the outstanding debt, significantly reducing the refinancing risk of the project and demonstrating the resilience of social infrastructure assets during Covid-19."

Best Refinancing – Renewables

Beatrice Offshore Wind

The £4.2 billion refinance and equity release on the UK's Beatrice Offshore Wind Farm was a worthy winner of the *IJInvestor* Awards 2020 for the Best Refinancing in the Renewables category.

The judges were particularly impressed with this refi admiring its "complexity, involving a number of different facilities and the combination of commercial bank debt and fixed-rate institutional debt".

Primary financing for the wind farm – located 13km off the Caithness coast, Scotland – reached financial close in May 2016, and it is (at the time of writing) the fourth largest offshore wind farm in the country. Its refi/equity release saw advisers field 29 commercial and institutional lenders and 24 hedging banks.

Drawing on a number of recent market precedents and the original financing, it was one of the first instances where lender selection process was managed using full form documentation rather than a term sheet, which increased the complexity of managing such a large lender group.

The hedging was carried over from the original financing, novated to the new hedging banks and extended to match the new debt tenor. This presented a number of challenges in terms of documentation and managing both outgoing and incoming

hedge providers, along with parties involved on both sides of the equation.

Financial close was a particular challenge, given the number of participants and the challenges of removing the existing financing while also managing a variety of other third parties in the context of direct agreements and other approvals required.

Norton Rose Fulbright implemented and refined the Workshare Transact transaction management platform to achieve efficiencies in the financial close process. It was new to many in the lender group, but the online platform worked well and greatly assisted in the coordination of a huge number of conditions precedent, which needed to be monitored by a large number of parties.

The move to full form documentation streamlined the negotiation process, but necessitated careful management and close engagement with lenders during the selection process. While it provided detailed commentary on documentation and certain risks, it nevertheless was a departure from what is considered "market standard", so its introduction involved a considerable amount of guidance.

Norton Rose Fulbright partner Rob Marsh says: "The Beatrice offshore wind project continues to be a flagship project for the energy sector. The success of this refinancing demonstrates the appetite in the lending sector for UK offshore wind and its importance as part of the UK energy mix."

Advisers:
- Santander
- Baringa Partners
- Ernst & Young
- Norton Rose Fulbright
- Burness Paull
- Linklaters
- Wood Group
- Benatar & Co

Best Refinancing – Solar

Grupo T-Solar

I Squared Capital wins the *IJInvestor* Award for Best Refinancing in the Solar category for its achievements with Grupo T-Solar in Spain.

The €567.8 million refi – which closed at the start of January 2020 – caught the eye of the independent panel of judges for being the first Spanish renewables company to approach debt capital markets following the new regulatory framework.

It was also singled out for the award based on it raising unprecedented capital in a "creative and innovative refinancing transaction", according to one of the judges.

The T-Solar refi involved €567.8 million of debt, including €34 million senior secured class A1 bonds, €234.1 million senior secured class A2 bonds (both due June 2038), and a 10-year €299.7 million bank loan.

The issuance lowered the interest rate while improving the commercial terms and the proceeds were used to refinance 23 solar PV projects with a combined installed capacity of 127MW across Spain.

T-Solar generated €48 million in dividends, which – combined with previous distributions – will result in more than $149.8 million to investors, equivalent to 74.4% of the initial purchase price.

This is the latest positive development for I Squared Capital's active asset management strategy that focuses on cost reduction, operational de-risking, capital optimization, portfolio rationalization and pipeline development.

Since acquisition in December 2016, T-Solar strengthened its management team and renegotiated O&M contracts across its global portfolio with direct savings and margin improvements. The company added more than 105MW of regulated operational capacity with three acquisitions in Spain.

To position the company for its next phase, T-Solar developed a greenfield pipeline of over 1.2GW in Spain and Italy. It also refocused its operations towards southern Europe with the divestment of three, non-core facilities in Japan, the US and Peru.

Mohamed El Gazzar, partner at I Squared Capital, says: "We are delighted by this outcome, which is a great recognition of I Squared Capital and T-Solar joint efforts, all the more so as it is T-Solar's first Green Bond since this financing package obtained a Green Evaluation by Standard and Poor's, achieving a very strong E1/80 score, the highest granted by the agency, due to the transaction's robust environmental impact mitigation, governance and transparency."

At the time of financial close, Grupo T-Solar chief executive Marta Martinez said of the market response: "We have seen very strong interest in our first green financing among leading banks and institutional investors. This transaction enables investors that share our vision of a more sustainable future to partner with T-Solar in reducing carbon emissions for future generations."

Best Refinancing – Renewables (alternative)

HS Orka

The *IJInvestor* Award for Best Refinancing in the alternative category for Renewables has been won by a particularly interesting transaction led by Ancala Partners.

HS Orka – the Icelandic geothermal renewable energy and utility company – was refinanced in February this year with a $210 million financing package, less than a year after Ancala Partners entered its shareholding.

The company, owned by a 50:50 joint venture between Ancala Partners and Jarðvarmi, a consortium of 14 Icelandic pension funds, refinanced its existing loan with a term loan, capex facility and a revolving credit facility.

The sponsors initiated plans to refinance the firm's existing facilities just after Ancala Partners bought into the shareholding of the firm in May 2019.

The main objective in refinancing the existing debt, which was tied to an Icelandic bank, was to support HS Orka's long-term growth plans. The new debt needed to be able to be raised in USD-denominated debt, implement a cost-efficient capital structure, and include a revolving credit facility to support future growth.

"We are delighted the acquisition of HS Orka has been recognised. It was a complex execution."

Lee Mellor, partner, Ancala

The newly-entered Ancala Partners assisted in the refinancing and provided debt advisory towards the structuring of a flexible financing platform.

The sponsors managed to structure a bespoke multi creditor platform, which increases flexibility for current and future lenders while also allowing HS Orka to raise debt over the long-term as it develops new projects.

The sponsors are also understood to have refinanced the utility with debt provided by three European banks with a five-year tenor, priced competitively rising from Libor +150bp.

HS Orka intends to use the new debt to pursue fresh development projects and strengthen its position as an Icelandic IPP. It currently owns and operates over 174MW of geothermal power production capacity in addition to a 10MW hydro plant that was recently commissioned.

Ancala partner Lee Mellor says: "We are delighted the acquisition of HS Orka has been recognised. It was a complex execution involving two separate acquisitions to consolidate 100% ownership of HS Orka in partnership with 14 Icelandic pension plans, together with a sale of the company's interest in the Blue Lagoon tourism complex. The transaction transformed HS Orka into a pure play renewable energy platform."

Advisers:

- DC Advisory
- Latham & Watkins
- Logos
- Shearman & Sterling

Restructuring

Best Restructuring – Overall
Weatherford

Described by one of the *IJInvestor* Awards judging panel as a "remarkably complex, cross-border restructuring", the $8.6 billion Weatherford deal is a worthy winner of the Best Restructuring trophy across two categories – oil and gas and the overall international winner.

Another of the independent panel of judges saluted the restructure of one of the world's largest oil and natural gas service companies as "a credit to all parties involved to have achieved such an impressive restructure in a tough market".

Billed as the largest US O&G bankruptcy by liabilities in 2019, Weatherford involved a massive restructure in its Chapter 11 case involving more than $8.6 billion in debt with collateral spanning the globe.

Restructuring various tranches of debt poses a challenge under any circumstance, however Weatherford's corporate structure made these challenges unique.

It had 255 direct and indirect subsidiaries, of which 41 were liable on their debt obligations located in 25 different foreign jurisdictions. Moreover, many of these jurisdictions do not have restructuring laws similar to the US, but instead are focused on liquidations.

Faced with the maturity of more than $2 billion of debt in 2020, Weatherford retained a host of advisers to guide the company's restructuring.

Because of public filing requirements and its international footprint, Weatherford needed swiftly to develop business and restructuring plans and engage with multiple groups of debtholders – both secured and unsecured, domestic and foreign.

Latham & Watkins orchestrated the restructure through a two-month, pre-packaged insolvency filed in Houston, followed by proceedings in Ireland and Bermuda. It structured the deal such that only Weatherford's parent entities filed in Delaware, Ireland, and Bermuda, leaving all other entities in the client's corporate structure unaffected with operations around the world running smoothly.

The reorganization plan eliminated about $5.85 billion in debt, allowing bondholders to recover some 63% of what they were owed.

George Davis, partner and global chair of Latham & Watkins' restructuring and special situations practice, says: "This matter was extremely challenging as it incorporated multiple entities across several jurisdictions around the world.

"We were able to tap Latham's global platform to form an exceptional team of experienced and resourceful lawyers that collaborated seamlessly across numerous practice areas and countries to bring this restructuring to an efficient conclusion."

Parties:

- Weatherford International
- Latham & Watkins
- Matheson
- Hunton Andrews Kurth
- Lazard Freres & Co
- Alvarez & Marsal
- Conyers Dill & Pearman

Best Restructure – Renewables
Artvin HEPP

The restructure of Artvin Hydroelectric Power Plant in Turkey won over the *IJInvestor* Awards panel of judges to take the Best Restructure trophy in the Renewable Energy category.

One of the judges – all of whom are established industry experts – applauded it for being a "complex Turkish restructuring" with another lauding it for closing in a "difficult market to restructure". A third judge added: "It was impressive to see a significant shift in the leverage from 11 down to eight times."

Artvin HEPP has a total capacity of 332MW, an average annual production of 1 billion kWh, and is located at Artvin, north east Turkey. The project was financed in 2011 by Garanti Bank, alongside Is Bank, Yapi Kredi and Vakifbank, arranging a loan of $540 million.

In 2015, owing to a cost overrun stemming from numerous issues –

including relocation of roads, electrical and mechanical, and earth works – an additional $170 million equivalent of Euro loan had been granted with a five-year tenor.

This additional facility is covered by a corporate guarantee from Dogus Holding and is treated as quasi corporate loan.

The project partly started operations in December 2015 with one turbine online, generating 166MW. The second turbine (also 166MW) became operational in February 2016.

This brought the total investment cost of the project to $934 million – $540 million in debt and $394 million in equity and the restructure concluded mid-June 2019, within the judging period which runs from start April 2019 to end March 2020.

The restructure allowed a significant deleverage of Artvin from around 11x level to about 8x as a result of transferring the Euro tranche to holding level. This will allow the project will reach the self-sustainable structure going forward.

The base case model shows that sufficient funds could be generated to fulfil the debt service payments within proposed maturity and the debt benefits from a long tail period.

The Euro denominated loan – which is not likely to be covered by the current valuation of Artvin – will benefit from the Dogus Holding cash flow and extensive security pool.

Asset Performance

Best Asset Performance – Overall Winner

Brookfield – TerraForm

Brookfield Asset Management was singled out by the *IJInvestor* Awards 2020 judging panel for taking total control of TerraForm Power to win the Best Asset Performance trophy in the Energy category.

Judges were impressed by "outstanding performance", lauding the fund manager for "creative thinking on an impressive scale" on a "key transaction that occurred during the judging period".

This achievement was the conclusion of a process that started in December 2017 when Brookfield, along with its institutional partners acquired 100% interest of TerraForm Global Inc, and a 51% interest in TerraForm Power (collectively TerraForm).

Terraform Power agreed in July 2019 to acquire a 322MW distributed generation solar portfolio in the US from subsidiaries of AltaGas for $720 million. Additionally, in January 2020, it announced a non-binding, all-share proposal to acquire the remaining shares of TerraForm Power.

These investments pull together a large-scale, globally-diversified portfolio of predominantly-contracted wind and solar assets in the US, Brazil, Canada, Spain, Portugal, and India. This includes 2,900MW of wind, 1,400MW of utility-scale solar, and 750MW of commercial and industrial solar distributed generation.

TerraForm's wind and solar power systems allow its customers to reduce carbon footprints by over 2.7 million tons of carbon dioxide emissions annually. These assets generate high-quality cash flows underpinned by long-term contracts with creditworthy off-takers.

Leveraging off Brookfield's global operating expertise, it created value for this renewable power portfolio by increasing operational efficiencies and streamlining operations; and advancing cost-saving initiatives, securing significant savings.

Brookfield outsourced O&M to de-risk portfolios owned by TerraForm Power, achieving savings of around $30 million while enhancing the capital structure through debt refinancing, lowering annual interest costs and extending maturities.

In its submission, Brookfield sates: "We believe this transaction will create significant value for investors in both companies by simplifying our corporate structure in an immediately accretive transaction which will further strengthen Brookfield's position as one of the largest, public pure-play renewable power companies in the world."

Brookfield advisers:

- BMO Capital Markets – financial
- Scotiabank – financial
- Cravath Swaine & Moore – legal
- Torys – legal

TerraForm advisers:

- Morgan Stanley – financial
- Greentech Capital Advisors – financial
- Kirkland & Ellis – legal
- Richard Layton & Finger – legal

Best Asset Performance – Infrastructure

Antin IP – Lyntia

Antin Infrastructure Partners was chosen by the *IJInvestor* Awards 2020 judging panel as the winner of the Best Asset Performance category for the Infrastructure category based on its involvement with Lyntia – the Spanish fibre network operator.

The independent panel of industry experts singled this asset out for praise, identifying it as a "solid investment with excellent potential" as well as having performed "exceptionally well" during the judging period. One judge pointed to it being a "good deal with Iberdrola".

During the judging period, Lyntia improved its organisation through a re-brand and continued work on company culture. Furthermore, it reinforced the management team, commercial and delivery capabilities.

In terms of value creation, Lyntia signed significant framework agreements and secured large contracts with key clients between the start of April 2019 and end March 2020. Following add-on acquisitions during the judging period, Lyntia is now the largest independent Spanish provider of dark and lit fibre.

Lyntia owns a long-haul network across Spain with unparalleled population reach and permeability as well as high capability in metro areas. It boasts 17,600km of fibre network (13,500km of long-haul and 4,100km of metro).

Antin's Fund III acquired the Spanish operations of Ufinet in July 2018 to establish Lyntia as a standalone business.

In 2019, Lyntia signed a strategic agreement with Iberdrola for the long-term exclusive right of use of its fibre network in Spain. This transaction significantly increases Lyntia's network footprint, as Iberdrola's fibre network is the third-longest dark fibre network in Spain – 15,100km of commercialised network against Lyntia's 19,200km as of December 2018.

The network is highly complementary to Lyntia with limited overlap between the two networks. It provides previously missing and/or improved coverage of key regions such as the Basque country, the Valencia region, Castile La Mancha and parts of Metropolitan Madrid.

Antin expects that Lyntia will capture incremental demand from the next generation of technologies with increasing data usage.

Advisers on the acquisition:

- Deutsche Bank – Antin financial
- Herbert Smith Freehills – Antin legal
- Hardiman – Antin technical
- Garrigues – Iberdrola legal

Fund Managers

Best Equity Fund Manager – Overall **Brookfield Asset Management**

It came as little surprise when the independent team of industry experts on the *IJInvestor* Awards panel chose Brookfield Asset Management for the overall winner in the Best Equity Fund Manager category given the success it has enjoyed of late.

Among comments from judges, one said: "You have to admire the sheer scale of what Brookfield does in one year – acquire Oaktree, raise $20 billion, launch a core fund. Very impressive." Another added that it "laid benchmarks for other fund managers to follow".

Brookfield achieved final close with $20 billion of capital commitments on Brookfield Infrastructure Fund IV (BIF IV) in February 2020, comfortably inside the judging period that runs from start April 2019 to end March 2020.

BIF IV is the firm's fourth flagship infrastructure-focused equity fund and surpassed its $17 billion fundraising target size thanks to strong investor interest from a diverse group of investors from across the globe.

During the judging period, BIF IV invested a total of $5.4 billion across 10 assets which includes deploying $1,921 million on Genesee & Wyoming, a predominantly North American rail business and winner of an *IJInvestor* acquisition award.

It has already invested $530 million on a renewables portfolio with solar PV assets across 10 different markets; $697 million in an APAC telecoms business; $490 million in a North American gas pipeline linking Texas and Mexico; $300 million in Wireless infrastructure Group, the UK telecoms tower business; and $251 million in a Chinese and Indian renewable energy portfolio.

During the judging period, BSIP – Brookfield's primary open-ended Infrastructure vehicle – was active raising $2.6 billion of capital commitments and deploying $1.6 billion to four investments since its inception in Q4 2018. Recent transactions include $744 million in Cove Point LNG in Maryland, and $333 million on a portfolio of four core infra assets in Spain.

Sam Pollock, chief executive of Brookfield Infrastructure Group, says: "We are very pleased with this recognition of the strength of our recent fundraising, investing, and realization activity on behalf of our clients.

"In 2020 we closed our $20 billion flagship global infrastructure fund, Brookfield Infrastructure Fund IV, and continued to raise capital for our open-ended super core vehicle and our mezzanine debt funds, reflecting both the growing global demand for compelling infrastructure investments and the quality of our proven track record.

"We have been actively investing, deploying approximately $10 billion in these strategies this year, while also monetizing a number of previous fund investments at attractive returns. Looking forward, we continue to see a strong investment environment."

Best Equity Fund Manager – Global ▪ Best Equity Fund Manager – Europe **EQT Infrastructure**

The *IJInvestor* Award for Best Equity Fund Manager – Global goes to EQT Infrastructure, which picks up the award for the second year on the trot… while also scooping a trophy for its activity in Europe.

The independent panel of judges was swayed by EQT's submission for activity in the judging period – from start April 2019 to end March 2020 – with one admiring the fund manager for having "successfully pivoted to a global franchise".

Another judge said: "EQT continues to drive innovation and creativity into capital deployment, pushing the boundaries into core plus investment. Furthermore, they are actively going through a digital transformation for themselves as a fund manager and their portfolio companies."

The award is well justified given EQT's performance over the judging period during which it enjoyed highlights like acquiring (in partnership with OMERS Infrastructure) and merging Deutsche Glasfaser and Inexio, Germany. This is a key transaction for the fund manager and points to its growing presence in the digital infrastructure space.

Germany – curiously – has one of the lowest fibre-to-the-home (FTTH) coverage ratios in Europe. EQT is trying to change that with this investment, particularly in rural regions. Through this transaction, it has already connected more than 12 million rural households across the country.

In November 2019, EQT Infrastructure announced the intended merger of IP-Only and GlobalConnect to cement its position as the leading Scandinavian owner of fiber infrastructure. The next month, EQT exited Contanda, a premier provider of liquid bulk storage solutions in North America, to institutional investors advised by JP Morgan Asset Management.

EQT Infrastructure had separately owned GlobalConnect but acquired IP-Only in the middle of the judging period. When the transaction closed, EQT merged IP-Only and GlobalConnect, creating a leading digital infrastructure provider to businesses, public institutions and consumers.

Following close of EQT Infrastructure IV in March 2019 and the announcement of its target fund size of €12.5 billion for EQT Infrastructure V, the fund manager has continued to deliver on its thematic investment strategy, identifying opportunities where EQT can transform companies using its growth-focused approach to build long-term sustainable value.

Sustainability is at the heart of EQT and the firm strives to lead sustainable innovation and digital transformation both within EQT and across its portfolio companies, in order to develop and future-proof businesses.

EQT also had a successful year as an investor and owner, preparing its portfolio companies for a downturn, having refinanced many of them by extending financing and removing as many covenants as possible.

Lennart Blecher, deputy managing partner and head of EQT Real Assets, says: "We are delighted to receive these awards and humble about the recognition of the work EQT Infrastructure is doing in future-proofing companies. And the momentum is great – since the start of 2019, we have acquired Zayo, EQT Infrastructure's largest-ever transaction, been very successful in fundraisings, and strengthened our local-with-locals presence with teams in EQT's new offices in Sydney and Paris."

He adds: "In addition, in line with EQT's firm-wide mission of having a positive impact with everything we do, we are making good progress with respect to sustainability within EQT Infrastructure. The recent launch of the ESG-linked bridge facility for the infrastructure business line is a concrete example of this and we are looking forward to both continuing to drive change across the industry and being a great owner of infrastructure companies to build a more inclusive and cleaner tomorrow."

Best Debt Fund Manager
AMP Capital

The independent panel of judges for *IJInvestor* Awards had little trouble identifying AMP Capital as its winner for the Best Debt Fund Manager for the second year on the trot, singling it out for praise as an "impressive player in this space".

The judging team, which met virtually in October, lauded AMP Capital for a "vigorous run of business" during the judging period, praising its strategy for "having a first-class team that is performing at optimum".

A highlight for AMP during the judging period – April 2019 to end March 2020 – was achieved in October 2019 with final close on Infrastructure Debt Fund IV which secured a total of $6.2 billion in fund commitments and co-investments.

IDF IV was a landmark close for AMP Capital and the asset class as it is believed to be the largest fundraise in the world for an infrastructure mezzanine debt strategy. The fundraising process was rapid, with the fund closing within a year.

Over the course of the judging period, AMP reached financial close on six debt investments globally.

In June 2019, it invested with a US gas compression company and a North American data center operator; and the following month AMP made a new investment with an existing sponsor client to fund a market-leading Nordic fibre merger.

Then in August 2019, AMP closed an investment with a major US towers business and funded construction of a natural gas power generating station in the Midwest.

This was followed in October when AMP Capital made its first investment in Taiwan with Swancor Renewable Energy and its Formosa 2 offshore windfarm.

This led AMP Capital to strengthen its Asia Pacific investment team with the addition of two senior investment professionals ahead of the launch of its Infrastructure Debt Asia capability.

AMP Capital's infrastructure debt team comprises 16 investment professionals located in London, New York, Singapore and Sydney. Since 2001 the team has invested more than $8.8 billion in 80 assets.

Emma Haight-Cheng, partner and head of infrastructure debt Europe at AMP Capital Investors, says: "Winning debt fund manager of the year for a second year running is a fantastic acknowledgement of our strategy and the hard work of our team.

"In a challenging year, subordinated infrastructure debt has demonstrated its ability to perform through a difficult market environment, and we've found many opportunities to invest despite headwinds. Our achievements this year reflect the ability of our subordinated debt strategy to deliver solutions for both clients and sponsors."

Best Direct Investor – Debt
MetLife IM

MetLife Investment Management

MetLife Investment Management has won the *IJInvestor* Award for the Best Direct Investor in the Debt category for its activity during the judging period that runs from the start of April 2019 to end March 2020.

The independent panel of judges – all of them established industry experts – singled out MetLife for praise with one lauding it for "excellence in origination" and another saying it "successfully executed a truly global strategy by investing in 19 countries across three continents". Another adds: "Their expertise in the sector enabled them to analyse and understand complex situations and find executable debt solutions."

Yet another says: "MetLife started with a very core approach, largely UK-oriented. During the last few years, they have diversified their investment universe sector-wise and geography-wise. In addition, it seems they are now ready to take a larger spectrum of risk profile and hence grew dramatically during the last few years with very large unitary ticket size."

During the judging period, MetLife achieved a record-breaking 12 months investing more than $7 billion across 19 countries covering the Americas, Europe and Australia.

> *"I want to take a moment to extend my sincere appreciation and thanks to IJInvestor for the selecting MetLife Investment Management as Direct Investor of the Year – Debt."*
>
> **John Tanyeri, global head of private infrastructure and energy finance at MetLife Private Capital Investors**

MetLife grew its overall infrastructure debt and project finance portfolio to roughly $30 billion, remaining at the forefront of the infrastructure market by investing in a wide range of sectors including non-traditional ones like data centres, fibre, and minority holdcos. It was also active in challenging locations like Italy, Catalonia, Colombia, Mexico and Peru.

It played a lead structuring role in numerous transactions as the anchor investor and was fundamental to the success of some of the more difficult transactions... one of which was Brebemi.

John Tanyeri, global head of private infrastructure and energy finance at MetLife Private Capital Investors, says: "I want to take a moment to extend my sincere appreciation and thanks to *IJInvestor* for the selecting MetLife Investment Management as Direct Investor of the Year – Debt. Receiving this award is a great honour.

"This award particularly recognizes the hard work and consistent performance of the infrastructure team at MetLife Investment Management and our growing asset management business. In 2019, the infrastructure team had a record year and invested over $7 billion in infrastructure debt and now has a portfolio AUM over $30 billion. We would also like to thank our equity sponsor and bank relationships for selecting MetLife Investment Management for their partnership."

Best Direct Investor – Equity

CDPQ

Caisse de dépôt et placement du Québec was chosen by the independent panel of judges on the *IJInvestor* Awards committee to win the Best Direct Investor trophy in the Equity category.

During the October online judging session, one of the international panel chose CDPQ "for the sheer breadth and depth of investment – be it geography, sub sector, greenfield or brownfield. This really demonstrates their wide impact and influence."

Another judge celebrated its "amazing switch from minority investor to major investor", which was supported by one panellist recognising the fund manager for being a "long-term, dedicated investor in this space".

Over the course of the judging period – beginning April 2019 to end March 2020 – CDPQ's infrastructure team completed transactions totalling nearly C$5 billion across a wide range of sectors and regions.

In the telecoms space, CDPQ acquired a 30% stake in Vertical Bridge, a leader in the US wireless communications towers business; while in Brazil it bought (in partnership with Engie) a 90% stake (31.5% to CDPQ) in Transportadora Associada de Gás, Brazil's largest natural gas transportation company.

Then in May 2019 CDPQ acquired a 45% stake in a number of DP World ports – including two in Chile, four in Australia and one in the Dominican Republic – through the $8.2 billion investment platform created with this port operator in 2016.

This was followed by acquiring a 24.9% stake for C$150 million in the PPP contract for trains, systems and O&M of the Sydney Metro, the largest public transport project in Australia. CDPQ also concluded a $75 million reinvestment in Azure Power Global, increasing its stake from 40.3% to 49.7% in leading Indian solar energy player.

CDPQ also announced the acquisition of Plenary Americas, a leading investor, developer and operator of public infrastructure in North America. With this investment, it acquired Plenary Americas' operating business, as well as a controlling stake in its existing PPP portfolio.

With 36 projects, Plenary Americas' leading collection of social and civil infrastructure assets is unique in both its geographic and sectoral diversification. In addition to this investment, CDPQ maintains its close relationship and 20% ownership interest in Plenary Asia Pacific.

Emmanuel Jaclot, executive VP and head of infrastructure at CDPQ, says: "At CDPQ, we strive to create value through our purposeful and patient investments. Our team is thankful to receive this award in recognition of our investment approach characterized by a well-diversified portfolio, innovative platforms and active asset management. We firmly believe that by continuing on this path we will succeed in delivering steady return to our clients while doubling the size of our portfolio to C$60 billion in the coming years."

Best Equity Fund Manager – North America

BlackRock

BlackRock has won the 2020 *IJInvestor* Award for Best Equity Fund Manager for North America, the first time this trophy has been judged and awarded on a regional basis.

IJInvestor Awards launched last year with an event in London to recognise developments on a global scale, but given the impressive response from the industry making more than 250 submissions, we were able to open certain categories on a sector and regional basis.

The independent panel of judges was consulted to determine that there was sufficient competition when this occurred and in each case – as with this one – there were at least three contenders.

In choosing BlackRock as the winner, one of the judges said "raising $5 billion for an energy and power fund is a truly remarkable achievement. Chapeau!" Another supported this view, admiring the fund manager's ability to "fundraise in a difficult market for energy".

During the judging period – beginning April 2019 to end March 2020 – the BlackRock Infrastructure platform continued its growth story by increasing AUM by around 20% across its infrastructure equity fund range.

The business achieved a key milestone by completing the final close for the third vintage of the Global Energy & Power Infrastructure Fund series – GEPIF III – with $5.1 billion in capital commitments.

This represents BlackRock's largest illiquid alternative fundraise ever and reflects the firm's focus on alternatives, especially infrastructure.

The commitment to Real Assets is driven by a continued alternative investment focus by investors: BlackRock's annual rebalancing survey found that 55% of investors anticipate increasing their allocation to Real Assets, more than for any other alternative asset class. The platform also launched the third vintage of the Global Renewable Power Fund III – GRP III – with a first close of $1.2 billion in December 2019.

Both funds reflect the platform's focus on fast-rivers – sectors and regions undergoing a fundamental, irreversible change, such as the energy transition.

In aggregate, BlackRock deployed $3.5 billion in infrastructure assets across Europe, Asia Pacific, and North America over the judging period, including the GRP team acquiring a commercial and industrial solar developer in the US – GE Solar – thus gaining access to a portfolio of high-quality US C&I solar and storage assets.

During the same period, BlackRock's infrastructure platform realized $869 million of investments both to financial players as well as strategic investors.

"This award is a testament to BlackRock's focus on helping clients achieve better investment outcomes," says Edwin Conway, global head of BlackRock Alternative Investors.

Jim Barry, BlackRock's global head of real assets, adds: "Investors are looking to build resilience into their portfolios and increasing allocations to less correlated exposures in private markets, including increasing allocations to investments in infrastructure, renewable power and real estate."

Mark Florian, global head of GEPIF, says: "The fundraising success confirms that investors are searching for differentiated strategies and diversified returns in this yield-starved environment in order to meet their return objectives."

Advisory

Best Financial Adviser – Overall ▪ Best Financial Adviser – Infrastructure
Rothschild & Co

The *IJInvestor* Awards panel of industry experts selected Rothschild & Co as this year's winner of the trophy for Best Financial Adviser across two categories – Infrastructure and as the overall winner in this sector.

The judging team gave Rothschild the double honour based on its performance in the judging period that runs from the start of April 2019 to end March 2020.

The judges opted for Rothschild over rivals in this category with one raising a hat to it for an "impressive year with numerous successful transactions" while another said: "We are always impressed by Rothschild and it has been particularly impressive during the judging period."

Rothschild performed well in that time having completed more than 50 transactions in which it provided clients with independent and integrated M&A, strategic, debt, and derivatives advice.

This year, Rothschild acted on a range of transactions across industries from regulated utilities to core plus communications infrastructure via utilities, renewables, midstream, power and transport. As to geography, it was involved on deals in countries as diverse as the UK and the Nordics, Greece and Portugal.

Athens Airport concession extension

A key deal in that time was advising the buyers of Electricity North West which required its integrated M&A, debt, and strategic insight to assist with a compelling value proposition for the clients' first foray into UK regulated networks.

Its sellside advice in DWS' 25% stake sale of Peel Ports to Australian Super also demonstrated innovation, dealing with the political backdrop of the UK's trading relationship with the EU. The team also advised Athens Airport on financing its concession extension with the Greek government following complex negotiations with local and supranational lenders, and the government, highlighting its sovereign advisory credentials.

It also acted for CityFibre on implementing a £1.12 billion capex financing package, the largest dedicated fibre rollout facility in the UK, giving the business the funding and flexibility to implement its growth strategy.

Ali Kazmi, global co-head of transport and infrastructure at Rothschild & Co, says: "Considerable growth in the infrastructure investor base, and associated fundraising, has fuelled significant M&A activity in recent years. This has resulted in investor-driven deal flow across geographies and over a growing range of sub-sectors.

"Rothschild & Co's focus on long term relationships with infrastructure investors, our integrated business model and ability to advise clients on both traditional and new asset classes has allowed us to take advantage of these transaction volumes – with our expertise in debt advisory being particularly important to clients in what has been at times a challenging economic backdrop." ■

Legal Adviser – Global
Weil Gotshal & Manges

US-based M&A heavyweight Weil Gotschal & Manges won the overall *IJInvestor* Award for global activity for advising clients on infrastructure and energy acquisitions, fundraising and day-to-day fund operation.

The judges – an independent panel of industry experts – chose Weil as the winner for the over-arching prize with one saying: "Weil never ceases to impress in this sector. From fundraising through to M&A, this firm is internationally impressive."

Another added: "It lends confidence to a process when you see Weil at the table. You know that you are dealing with first-rate players at the top of their game."

Weil was judged against all other submissions across all awards categories for legal advisers and came out tops based on its submission for developments in the judging period that ran from the start of April 2019 through to the end of March 2020.

Across the review period, Weil acted on major mandates for 25% of the top 40 global infrastructure managers. The firm believes it represented more of the world's largest infrastructure managers than any other law firm in that time.

Weil acted on the second largest infrastructure fundraising ever – Brookfield Infrastructure Fund IV – and, at the other end of the spectrum, worked on fundraisings for new entrants to the infrastructure market like CapMan and Columbia Threadneedle.

In addition to the large number and variety of fundraising matters, a joint Weil funds and corporate team acted for InfraRed on the sale of 80% of its business to Sun Life Financial – a high-profile infrastructure GP sale – demonstrating its ability to execute complicated, multi-practice infrastructure funds related mandates.

This was a deal involving a North American institutional buyer of an infra-focused business with people in the UK, Europe, US, Asia and Australia. It also involved managing multiple unlisted and listed funds holding assets across the globe. Weil's ability to execute on it is testament to its global infrastructure funds and M&A capabilities.

James Sargent, partner in Weil's private funds group, says: "We are very proud to have received this recognition. We firmly believe that infrastructure as a stand-alone asset class will continue its rapid growth trajectory over the next decade, and have purpose built our transatlantic cross-practice infrastructure platform to service the increasingly complex and specialised fundraising, investment and financing requirements of infrastructure sponsors across the spectrum." ■

Financial Adviser – Power & Energy
Cantor Fitzgerald

Cantor Fitzgerald won the *IJInvestor* Awards global trophy for Financial Adviser in the Power & Energy category for activity concluded during the judging period – from the beginning of April 2019 to the end of March 2020.

The judges were impressed by the "market traction" Cantor Fitzgerald had built up in the short time that it has been active in the infra/energy space, saluting "outstanding performance from a very experienced team of specialists".

The judging period represents Cantor Fitzgerald's first full year of activity for the power, energy and infrastructure team. During this time it has established itself as a key independent power and infrastructure firm offering an M&A and capital markets product in North America, Europe, MENA and Asia across power, utility, energy and transport infrastructure.

And they had a busy first full year.

Cantor Fitzgerald advised Oaktree and minority investors in the $1.4 billion Spanish sale of Eolia Renovables to AIMCO. It also acted for Asterion Industrial Partners, EDF Invest and Swiss Life Asset Management on the acquisition of the UK's Energy Assets Group – a deal credited for reopening the UK utility infrastructure market for cross border investment post Brexit. It also advised Arclight Capital in the sale of Bizkaia Energia (Spain) to Castleton Commodities and White Summit Capital, a significant European merchant power M&A transaction. It also acted for Rockland Capital in the acquisition of Rolls Royce Power – a US/UK cross-border M&A investment in UK merchant power.

Cantor Fitzgerald advised Marubeni in its divestiture programme for coal-fired assets in Asia, including its positions in the Philippines and Cambodia. It also acted for Inframed in the sale of its interest in Jordan Wind Power Company; followed by working with Adenium Capital in the announced sale of its Jordan solar portfolio.

In Debt Capital Markets, Cantor Fitzgerald was the sole structuring adviser and joint placement agent for the $378 million project bond for Rockland Capital's Gridflex Generation portfolio.

It played a similar role in the $482 million refinancing of Middle River Power's High Desert and PJM Peaking portfolio in three transactions – the $262 million refinancing of High Desert CCGT; $165 million project bond for PJM Peakers; and $55 million holdco financing for the Jetpeak portfolio.

Meanwhile, it was sole adviser on the $224 million refinancing of Calpeak Power for Middle River Power, and the £121.9 million holdco financing for Green Investment Group's OSWCo.

"What characterises our business is our willingness to engage with challenging, complex transactions in M&A and financing."

Kevin Phillips, global co-head of power, energy and infrastructure

In Equity Capital Markets advisory, Cantor Fitzgerald was involved in the £75 million follow-on offering for Gresham House Energy Storage Fund plc, supporting the build-out of battery storage in the UK.

Kevin Phillips, global co-head of power, energy and infrastructure based in New York, says: "What characterises our business is our willingness to engage with challenging, complex transactions in M&A and financing, in order to deliver exceptional outcomes for our clients."

Hari Chandra, global co-head of power, energy and infrastructure, adds: "I am pleased with our team's global orientation and our ability to support our energy and power clients across geography, product and subsector. Our business continues to grow substantially."

Best Legal Adviser – M&A
Linklaters

The trophy for Best Legal Adviser for M&A activity across the global infrastructure and energy space was awarded by the *IJInvestor* Awards panel of independent industry experts to Linklaters.

This is the second success Linklaters has enjoyed in these awards having last year won for the global legal category – the only trophy presented to a law firm at the inaugural event.

At the October 2020 judging session, the firm was praised for having "concluded an impressive range of mandates" with another industry expert saying: "Linklaters brings a pragmatic approach and a wealth of experience in the sector to ensure that deals get done."

Throughout the judging period – from April 2019 to end March 2020 – Linklaters advised on 40 deals involving financial investors globally with a combined value of $26 billion, acting on two of the top five acquisitions by value in 2019.

Linklaters also positioned itself at the forefront of the digital infrastructure revolution having advised Arqiva on the sale of its telecoms division to Cellnex Telecom for £2 billion. This transaction covers 7,400 cellular sites, including masts, towers and urban rooftop sites, and the right to market further sites across the UK.

"We are grateful to our clients for continuing to seek our advice and support."

Jessamy Gallagher, global co-head of the infra practice

During the 12-month judging period, Linklaters worked with OMERS, Allianz and AXA on their acquisition of a stake in SFR FTTH (Altice's fibre to the home business). It also advised PSP and Macquarie Asia Infrastructure Fund on the $1.8 billion acquisition of data centre specialist AirTrunk; and acted for Vodafone on the £18 billion spin-off of it pan-European mast business, the largest telecoms deal ever in Europe.

Jessamy Gallagher, global co-head of the infra practice, says: "Investors can see good opportunities in core businesses which have been created largely by changes in valuations and exits by both financial sponsors and strategic owners.

"Given the solid asset pipeline, current investor sentiment and the substantial amount of dry powder in the market, we expect M&A in the infrastructure sector to continue this momentum and pick up throughout 2021 as well. This applies across all asset classes, including regulated utilities and of course digital infrastructure which continues to be highly attractive to infra funds."

She adds: "We are grateful to our clients for continuing to seek our advice and support on their most significant and challenging M&A opportunities and we are honoured that our efforts have been recognised in this award."

Best Legal Adviser – fundraising
Goodwin

The established private investment funds team at Goodwin won unanimous approval from the *IJInvestor* Awards judging team to scoop the Legal Advisory Fundraising category.

The judges singled out the law firm for "the range and breadth of Goodwin's fund formation activities during the judging period which continues to impress", with another describing it as the "stand-out leader in infra fund fundraising advisory".

Goodwin has long been highly regarded for its activity in fundraising advisory. The team has more than doubled since 2017, making it one of one of the largest groups of specialist investment fund formation lawyers in Europe, comprising over 50 lawyers handling more than €70 billion of fund formation mandates across all sectors.

Throughout the judging period – start April 2019 to end March 2020 – Goodwin partnered with clients to achieve record-setting fundraisings, dramatically exceeding initial projections, and overcame myriad challenges thrown up by the Covid-19 pandemic.

The private investment funds team worked with an array of leading infra fund managers including Macquarie Infrastructure and Real Assets, Antin, Capital Dynamics, Colonial First State, UBS, Meridiam, Denham, Pine Brook Partners and Glennmont Partners, to name a few.

"This prestigious award is great acknowledgement of the hard work carried out by our global team."

Michael Halford, partner in Goodwin's private equity group

Examples of its achievements include advising MIRA on structuring and fundraising for Macquarie European Infrastructure Fund 6 (MEIF 6) which exceeded its €5 billion target and closed at its hard cap of €6 billion.

It worked with Glennmont on the successful closing of its Fund III, which raised €850 million to invest in clean energy across Europe, the largest amount raised for a green energy only fund with a pan-European mandate.

The team also worked with Allianz Capital Partners and Allianz Global Investors on fundraising for Allianz European Infrastructure Fund (RAIF), which raised around €860 million of commitments in just nine months.

Another example of its work in the judging period is having acted for Antin alongside another firm on the closing of its fourth and largest fund to date – Antin IV – which opened in 2018 with a €5.5 billion target and closed in July 2020 (outside the judging period) with a total commitment of €6.5 billion. This made it one of the largest funds to have conducted final closing during the coronavirus pandemic.

Michael Halford, partner in Goodwin's private equity group and head of its PIF practice for Europe and Asia, says: "This award recognises our leading position as the 'go to' law firm for infrastructure funds, which is a core part of our private investment funds business and an area we continue to see increasing activity in, despite the challenging economic environment.

"Over the past 12 months our practice across the UK, France, Luxembourg, the US and Asia has raised over £10 billion for infrastructure and energy sponsors. This prestigious award is great acknowledgement of the hard work carried out by our global team, its collaboration with our expanding infra client base and reinforces Goodwin's position as market leader in the infrastructure fund formation space."

Best Legal Adviser – Tax Equity
Akin Gump Strauss Hauer & Feld

The *IJInvestor* Award for Best Legal Adviser in the Tax Equity category has been awarded to Akin Gump Strauss Hauer & Feld.

The US-based law firm was singled out for its activity during the judging period that runs from the start of April 2019 through to end March 2020, during which it advised on more than $113.5 billion in energy transactions alone.

Among the deals it closed during the judging period, Akin Gump represented SunTrust Bank in its tax equity investment in the Holstein solar project, a 200MW solar park located in Nolan County, Texas.

This was one of SunTrust's first tax equity investments and the first tax equity transaction on a solar hedge offtake in the market.

The project, which was completed in July 2020, was developed by 8minuteenergy and sold to Duke Energy Renewables simultaneous with the closing of the tax equity investment and a construction and term loan facility led by CIT Bank. This transaction, which closed in July 2019, involved a proxy revenue swap and is the first Duke Energy Renewables project to use such a hedge agreement.

Energy from the project, which required more than 709,000 solar panels across around 1,300 acres, was sold through a 12-year hedge agreement to a subsidiary of Goldman Sachs – J Aron & Co LLC.

John Marciano III, co-head of the global project finance practice at Akin Gump, says: "Our market is moving toward a more merchant norm. Gone are the days of 20-year utility offtake arrangements being the gold standard.

"As the real money moves into the market and the industry comes into its own, the players are unwilling to give up the potential upside that comes with a long-term, fixed-price offtake agreement. Holstein is a good example. A short-tenured hedge – the first large-scale hedge deal to be built Phoebe was the first to close financing, but Holstein beat it to operation.

"Similarly, on the other end of the project size spectrum, is community solar, which in most cases is almost entirely merchant. The

Holstein solar project

offtake for these projects is like Amazon, with just in time delivery of offtakers. This is a very dynamic time. We're happy to be involved in all these interesting deals."

Its core energy and global financial restructuring team routinely advises clients in some of the largest and highest-profile restructurings, recently including PG&E's $30+ billion, FirstEnergy Solution's $5 billion, Sanchez Energy's $2.3 billion, and Weatherford International's $8.34 billion Chapter 11 bankruptcies.

Best Investment Consultant

bfinance

For the second year in a row, bfinance has scooped the *IJInvestor* Award for Best Investment Consultant for activity during the judging period that runs from start April 2019 to end March 2020.

However, having picked up the award last year in person in the sumptuous surroundings of the Westminster Banqueting House, bfinance senior director for infrastructure Anish Butanithis year accepted it virtually.

Over the judging period, bfinance supported investors in making more than $3 billion of allocations to infrastructure. This activity spanned the full breadth of strategy types: unlisted and listed, equity and debt. While most of this activity was through external asset managers, the team is increasingly supporting direct and co-investment activity.

In many cases bfinance clients were making their first forays into infrastructure, bringing new capital into the space with education and analysis tailored to the client's needs.

There has been a significant expansion in the geographic reach of bfinance's infrastructure investment clientele during this period – witnessing the firm's first infra clients in Malaysia, South Africa and the USA.

bfinance also now supports a greater variety of clients. In addition to pension scheme client base it is increasingly working with insurers, corporate treasuries, financial institutions, gatekeepers/fiduciary managers.

The infrastructure research team, headed by Anish and Peter Hobbs (head of private markets and managing director) has also expanded, with the addition of two new infrastructure specialists – Jake Consiglio and Gerald Wu, both from Deloitte.

bfinance now monitors more than 200 managers as part of routine coverage and has researched over a hundred additional GP proposals through manager search activity in this period.

Anish says: "We are honoured to receive this recognition from *IJInvestor* and the panel comprising leading figures in the asset class, especially in a year when a pandemic has brought new challenges for us and for our clients.

"As the asset class has grown in popularity, so too have the variety of investment products and the sophistication of implementation options. It is exciting to see an increasingly diverse global mix of investors seeking to access infrastructure, as well as the growing variety of strategies receiving attention, with more focus during the last year on areas such as greenfield and Asian infrastructure debt."


Anish Butani

"We are honoured to receive this recognition from IJInvestor and the panel comprising leading figures in the asset class, especially in a year when a pandemic has brought new challenges for us and for our clients."

Best Model Auditor

Operis

The *IJInvestor* Award for excellence in model audit was this year picked up by Operis, a long-established player in the field with impressive experience across the sectors.

This award reflects Operis' strong geographical and sector reach within the judging period – start April 2019 to end March 2020.

The judges said of Operis that it "makes the model audit process more efficient where it is usually time-consuming". Another admires its "bottom-up approach to complement the standard top-down formal analysis to detect errors and reduce costs".

Another judge adds: "Operis stood out for the sheer breadth and complexity of transactions that it worked on during the judging period, not to mention the expansion of their geographic footprint."

Over the judging period, Operis reviewed financial models for transactions spanning numerous countries across Europe, Africa, the Middle East and North America as well as covering all main infrastructure sectors. Key deals identified in the submission include acting for Equitix on the Green Highland Renewables sale which saw Equitix and SIMEC Atlantis purchase a portfolio of hydroelectric plants in Scotland, from SIMEC.

"In the past year, Operis has undertaken around 200 assignments involving infrastructure financing around the world."

Henrietta Royle, Chief executive, Operis

Operis also acted on the sale of the Swansea University Student Accommodation PPP stake which changed hands from St Modwen Properties to UPP.

In May 2019, Operis played a role in "significantly less than its usual timeframe" on the Joulz Diensten sale which saw 3i Infrastructure acquire the Dutch smart metering business from infra and energy network operator Stedin Group for an enterprise value of €310.4 million.

Operis director Chris Aldred says: "2020 has demonstrated the resilience of the infrastructure market to economic stresses and has provided further impetus to the energy transition and digitalisation agendas.

"Operis has been pleased to support its clients get their projects through to successful completion even at times of the greatest financial market volatility in the first half of the year, with robust financial analysis and due diligence proving even more important than ever."

Chief executive Henrietta Royle says: "In the past year, Operis has undertaken around 200 assignments involving infrastructure financing around the world, nearly 30 of which involve infrastructure M&A, a number which has increased significantly, even over the last 2-3 years.

"We have also noticed an increase in the number of audits for internal purposes, suggesting a stronger implementation of best practice due diligence processes."

Best Placement Agent
Campbell Lutyens

The *IJInvestor* Award for Best Placement Agent was won for the second year running by Campbell Lutyens, once again winning over the independent panel of judges.

One judge singled it out for its "consistency and continued market leadership" while another lauded it for being "an early believer in the asset class, it has forged a central and leading role in attracting capital into the sector as it has matured".

Another judge adds: "They have been a strong supporter of the growth of diversity in the asset class promoting niche strategies and alternative structures. This allows the industry to meet a varied and growing level of investor needs."

Campbell Lutyens (CL) has grown to become the largest independent advisory firm of its type globally, with seven offices across North America, Europe and Asia and a team of more than 160 people.

Over the course of the judging period, CL was involved in the private infrastructure vertical across 11 infrastructure fundraises, with the aggregate target fund size coming in at more than $35 billion.

The firm continues to act for market-leading global and regional clients in the core, core+ and value-add space, and CL expects to continue its strong performance into 2021 with a similarly strong pipeline of infrastructure mandates.

CL advised GPs and LPs across a broad range of high-profile and innovative infrastructure secondary mandates, accounting for more than $10 billion of infrastructure secondaries volume for over 15 blue-chip clients.

One of its greatest achievements from during the judging period closed mid-April 2020, but all of CL's efforts were focused prior to the close date, and that was on Arcus European Infrastructure Fund II.

This primary raise was part of a long-term co-operation which started as a ground-breaking GP-led transaction that the CL team devised / executed for Arcus in 2016 to help extend the term of the firm's first fund. The transaction was, at that time, the largest infrastructure GP-Led deal ever completed.

Fund II reached final close during the peak of Covid-19 and at a time when equity markets had fallen 30% globally. Due to lockdowns, the final stage of the fundraising was conducted almost entirely virtually. The fund comprises 18 new investors representing €837 million, secured from a diverse set of geographies including Europe, Asia, Middle East and North America.

> *"The IJInvestor jury has now chosen Campbell Lutyens second time in a row. This is a huge recognition of our team's leadership in the face of the Covid crisis."*
>
> **Gordon Bajnai, chair of the CL global advisory board**

Gordon Bajnai, chair of the CL global advisory board, said: "The *IJInvestor* jury has now chosen Campbell Lutyens second time in a row. This is a huge recognition of our team's leadership in the face of the Covid crisis to place 11 funds, advise 15 secondaries clients and – most prominently – raise $6 billion for sustainability and impact in infrastructure during the year."

Best Ratings Agency

Moody's Investors Service

MOODY'S INVESTORS SERVICE

IJInvestor for the first time this year opened up an awards category to recognise the efforts of ratings agencies across infrastructure and energy M&A and fund activity – with Moody's Investors Service winning.

The independent panel of industry-expert judges recognised Moody's as a "leader in ESG publications" with another saying it deserved to win "for their recognition of ESG in rating decisions".

As with all awards, this reflects activity during the judging period which runs from the start of April 2019 to the end of March 2020.

As at 31 March 2020, Moody's had rated more than $1.7 trillion of project and infrastructure finance (PIF) debt covering more than 1,000 publicly-rated companies and transactions. During the period, it rated 463 PIF deals, representing over $193 billion public debt issued by PIF issuers globally that accounted for 86% of total rated debt issued. However, when it comes to M&A and infrastructure fund activity, it was the ESG component that was of greatest interest to the judging panel.

Over the course of the judging period, Moody's stepped up its involvement in this space, recognising that ESG considerations were increasingly relevant to issuers, investors, counterparties and others; and that stakeholders require clear, objective, transparent and globally-consistent standards for understanding and measuring these factors.

During the judging period, Moody's enhanced its ESG capabilities through three acquisitions.

Moody's – through Four Twenty Seven – is unique in incorporating physical climate scenarios into its credit ratings analysis. For example, in January 2020, it examined the main climate hazards that US regulated electric utilities face across their service territories, determined overall risk profiles for each and identified areas of highest risk by hazard. Vigeo Eiris offers products and capabilities based on ESG assessments and an extensive ESG database, as well as specialised research and decision-making tools for sustainable and ethical investments including second-party opinions.

Moody's investment in STGF aligns with its global commitment to promoting transparent standards for evaluating ESG risks. Locally, the investment strengthens the ratings agency's presence and engagement in China and its financial markets, with a focus on supporting long-term, sustainable growth and contributing to the healthy development of ESG markets.

Walter Winrow, global head of infrastructure at Moody's, says: "We are very pleased to receive this award in what has been an extraordinary year by any standard. Once again, infrastructure showed its resilience in adverse conditions with rated debt issuance at near-record levels, supported by solid credit performance across most sectors during the pandemic and ESG coming of age as a driver for investors."

Best Technical Adviser

Arup

As one of the independent panel of judges said of Arup at the virtual *IJInvestor* Awards 2020 Judgment Day, it is an "international leader in this space, and well deserves recognition".

Arup scooped the Best Technical Adviser award for industry activity across the judging period – start April 2019 to end March 2020 – with judges applauding its "stellar performance" and "clear leadership in the market".

One was particularly keen to single out its north European credentials, describing it as a "global consultant with in-depth expertise across various sectors, notably utilities in the Nordics."

During the judging period, Arup advised on some landmark transactions including the sale of Electricity Northwest in the UK which completed in December 2019, as well as a string of successful solar PV acquisitions in Poland.

These were shortly followed by the CapOmega gas pipeline sale which was relaunched in 2019, and the take-private of Buckeye Partners by IFM Investors, in a multi-billion dollar transaction in the US midstream sector.

Arup advised on £30 billion of closed transactions – around 30 deals – during the period, including Athens International Airport, Brotorp Windfarm acquisition, Conexus Baltic Grid and BRISA Auto-estradas de Portugal.

> *"The market is frothy but not dead and personally I look optimistically to a 2021 better than 2020, without forgetting to celebrate our successes in 2020."*
>
> **Filippo Gaddo, Arup business and investor advisory leader**

Outside Europe, Arup supported other significant transactions including advising on the Daesung Industrial Gases business in South Korea and AltaGas Canada. It played a significant role in the acquisition of Plenary Americas by CDPQ, and advised on the acquisition of Hobart International Airport in Australia.

Activity around terminal acquisitions globally has continued at pace with Arup advising on sales including Odfjell in North America, Vopack Terminals in Amsterdam, and Hamburg and Pin Oak Terminals in the US.

During the judging period Arup leveraged its global expertise to advise international institutions like Abertis, GIC, CPPIB and OTPP on significant platform investments in Mexico such as the acquisitions of Red de Carreteras de Occidente and Impulsora del Desarrollo y el Empleo en America Latina concession companies.

Filippo Gaddo, Arup business and investor advisory leader, says: "Giuseppe Tomasi di Lampedusa in the Gattopardo famously said If we want things to stay as they are, things will have to change, it feels that way in the world of infrastructure during the pandemic.

"The market is changing, some deals have been delayed or cancelled – mostly in transport – and new asset classes are emerging... mostly in the digital / telecoms sector."

Filippo adds: "We in Arup – as an adviser – have had to adapt to new ways of working and provide a new service offering. However, the need for investing in infrastructure as old ones age and are replaced and the need to shift to a low carbon world and build new assets, is still the same – we have not stopped and as we recover from the pandemic we will continue to see new deals emerging.

"The market is frothy but not dead and personally I look optimistically to a 2021 better than 2020, without forgetting to celebrate our successes in 2020."

Performance Awards

Re-defining Infrastructure, Overall Winner

Infracapital

The winner of the *IJInvestor* Award for Re-defining Infrastructure, Overall is Infracapital for two new investments it made through its brownfield fund, Infracapital Partners III.

Judges said Infracapital was an "early adopter in the fibre space" and that it has "significant experience in greenfield and brownfield telecoms infrastructure."

The fund saw strong deployment in 2019 and 2020 in the fibre space with the new investments, and continues to deliver value to LPs by targeting complex assets in the mid-market space.

Fibre is becoming a modern day essential with demand growing – more pronounced in rural communities – exponentially but investment needs are not being met. During the pandemic, this was exemplified where data usage surged and the need for full fibre became more apparent. Across both the UK and parts of Europe, there has been significant under investment in fibre infrastructure, resulting in challenges in addressing this increased demand for data.

In 2019, the fund acquired 50% of SSE Telecoms, one of the UK's leading connectivity suppliers with a growing 12,000km UK-wide fibre network. SSE has managed businesses throughout the UK and continental Europe, and focuses on delivering fibre networks to meet the increasing societal demands for high-speed internet access.

In December 2019, Infracapital launched a successor strategy for Infracapital Greenfield Partners I (IGP I) to continue to invest and deliver on the significant opportunity to build new infrastructure across Europe. It closed 80% of its target during its first close.

In 2020, Infracapital Partners III acquired 63% of BBV, a pure play German fibre-to-the-home (FTTH) business, with a strong track record and a focus on rolling out FTTH in rural and semi-rural areas, which are currently underserved and reliant on slow broadband speeds, primarily from copper networks.

Post the judging period for the IJInvestor Awards, Infracapital signed its first deal for the successor strategy, acquiring Fibrus, a fibre broadband network provider in Northern Ireland amidst challenging market conditions caused by Covid-19.

Fibrus plans to roll out fibre-to-the-premises (FTTP) to over 145,000 premises across Northern Ireland, underlining fibre's status as a modern day essential utility.

Fibrus will provide gigabit capable broadband to semi-rural and suburban towns suffering from low average broadband speeds.

Andy Matthews, managing director of Infracapital, says: "As one of the early adopters we can see real benefits being delivered in fibre connectivity. Broadband infrastructure is a critical component in building a more sustainable and resilient economy, particularly in the context of Covid-19, and I am proud of our continued commitment in making this accessible to all."

Best Fund Performance
Antin Infrastructure Partners Fund

The *IJInvestor* Awards independent panel of industry-expert judges was won over by the Antin Infrastructure Partners Fund submission, overwhelmingly voting in favour of it to win the Best Fund Performance category.

Judges were particularly impressed by the July 2019 sale of Euroports making Antin one of the first infrastructure managers to fully exit its fund. Antin Fund I returned a Gross IRR of 24.2% and it generated a gross multiple of 2.5x, paying a gross yield of 7.2%, which is thought to be one of the best of its vintage.

Returns for the majority of Fund I investments outperformed targets for gross IRR, gross yield, or both.

Where Antin experienced some challenges, its active asset management approach enabled it to preserve value. While there were inevitably both positive and negative surprises along the way, the lesson Antin learned is that its model works, proving resilient across the economic cycle. The firm's strict adherence to the Antin Infrastructure Test protected Fund I from downturns in GDP, due to Antin's focus on downside protection in any investment that it makes.

"This award acknowledges the talent and expertise of the Antin team we have built and further demonstrates our conviction that Fund I performance will rank at the top end of the range when compared to similar infrastructure funds from the 2008 vintage."

Mark Crosbie, managing partner at Antin Infrastructure Partners

In 2008, Antin set out to raise its first fund with a target size of €1 billion. After a successful fundraising in difficult market conditions, Fund I reached its final close oversubscribed at €1.1 billion with the backing of 35 investors.

One of the judges said of Antin's performance: "This is one fund manager that you know treats its due diligence and stewardship with the level of competence that is required." Meanwhile another judge added: "The world would be a better place if other fund managers took a leaf out of the Antin book."

Mark Crosbie, managing partner at Antin Infrastructure Partners, says: "We are honoured to be awarded Best Fund Performance.

"This award acknowledges the talent and expertise of the Antin team we have built and further demonstrates our conviction that Fund I performance will rank at the top end of the range when compared to similar infrastructure funds from the 2008 vintage."

Re-defining Infrastructure, Europe

Arcus Infrastructure Partners

The *IJInvestor* Award for Re-defining Infrastructure in Europe was won by Arcus Infrastructure Partners for its involvement in the cold storage sector.

This award recognises Arcus' innovation in late 2019 through to early 2020 – comfortably inside the judging period – when it acquired majority stakes in three industrial-scale European cold storage companies.

These are Stockhabo in Belgium (40% controlling stake acquired), Lintelo in the Netherlands (75% ownership stake) and Glacio in Norway (90% stake) and established a platform, Constellation Cold Logistics.

Constellation's strategy, developed with the help of specialist advisers, contemplates the aggregation of several market-leading cold chain infrastructure businesses within Europe. The total initial investment in Constellation is around €65 million and was funded entirely by equity from Arcus European Infrastructure Fund 2 SCSp.

The three companies work with food producers such as Unilever as well as wholesalers and retailers and act as critical nodes in the journey between the production of food and its consumption. The three deals were acquired on a purely bilateral off-market basis in some cases with years of relationship building before then.

Ian Harding

"Arcus has a long and successful history of investing in asset classes that were once not considered infrastructure but today are the bread and butter of the industry."

The facilities are built at "strategic locations with captive catchment areas", such as next to food production factories or at ports, one of several barriers to entry for competitors. Although Constellation offers value-add services such as blast freezing and thawing, storage is the core of its business.

Ian Harding, Arcus co-managing partner, says: "Arcus' investment strategy is focused on owning, managing and building the infrastructure of the future.

"Although we are proud to win the Redefining Infrastructure in Europe award, we believe that our new area of investment – cold storage logistics – has many clear infrastructure characteristics that will see it become the core infrastructure of the future, much like rolling stock, ports and towers became, after we acquired such assets in the late 2000s.

"Arcus has a long and successful history of investing in asset classes that were once not considered infrastructure but today are the bread and butter of the industry."

He adds: "Our partners have an average of more than 19 years of experience within the European infrastructure investing market, bringing specific insights to both origination and value creation opportunities.

"This critical insight enabled Arcus to identify telecom towers, ports and rolling stock subsectors early on and make investments in Shere, Forth Ports, Angel and Alpha. Since the initial investment into each of those businesses, their respective subsectors have experienced significant positive valuation re-ratings and are now considered to be mainstream core infrastructure for institutional capital."

Arcus acquired majority stakes in three industrial-scale European cold storage companies in late 2019 through to early 2020

Thank you

arcus
INFRASTRUCTURE PARTNERS

to our investors and stakeholders

We live in unprecedented times, but 2020 has been a milestone year for Arcus. Our proven, value-add approach will continue to focus on trends that drive real innovation and sustainable change in society: decarbonisation, changing demographics and data explosion.
We look forward to continuing the journey with you.

CONSTELLATION
COLD LOGISTICS

JANUARY

Businesses acquired and **platform established**.

APRIL

Final close of Arcus European Infrastructure Fund 2 (**AEIF 2**) at:

EUR 1.22 billion

Signatory of:
PRI Principles for Responsible Investment

AUGUST

Awarded full marks.

- **A+** Strategy & Governance
- **A+** for Infrastructure

Brisa

OCTOBER

Sale of Brisa, final asset in **AEIF1**.

GRESB
INFRASTRUCTURE
Sector Leader 2020

NOVEMBER

Awarded 3 Infrastructure Sector Leader Awards.

WINNER WINNER

DECEMBER

Winner of IJ Investor Awards

- Re-defining Infrastructure – Europe
- Best Transport Acquisition (Logistics)

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Market Innovation – Europe

Amber Infrastructure

The independent judging panel chose Amber Infrastructure as the winner in the Market Innovation category for Europe based on its activity between April 2019 and the end of March 2020.

Judges chose Amber ahead of rival submissions, based on how the fund manager "evolved in response to changing market conditions" while remaining consistently "focused on investment in essential infrastructure assets that provide robust cash flows and attractive risk-adjusted returns".

The Amber team is long-established having started investing together in 1998 in what was then an emerging asset class. In the judging period Amber marked numerous developments across its vehicles.

International Public Partnerships (INPP) was active investing additional risk capital into English schools PPP projects, completing its full acquisition of Cadent as part of the Quadgas consortium, and closing the innovative refi of an OFTO asset.

The National Digital Infrastructure Fund (NDIF) raised £75 million to fund initial full fibre broadband roll out to more than 100,000 premises by end 2021. Meanwhile, the Scottish Partnership for Regeneration in Urban Centres (SPRUCE) built a head of steam.

But when it came to innovation the judges were swayed by Amber's involvement with the Mayor of London's Energy Efficiency Fund (MEEF) for which the investment policy was extended to allow for the provision of finance to low emission vehicle schemes that benefit the public sector and SMEs.

They were also swayed by Three Seas Initiative Investment Fund (3SIIF) for which Amber was in February exclusive investment adviser and held a €520 million initial close, cornerstoned by regional government backed financial institutions.

3SIIF targets critical infrastructure investment in 11 countries in Central and Eastern Europe, focused on greenfield infra projects in energy, digital and transport. Its goal is to mobilise investment in essential infrastructure across the region, accelerating economic development, and improving connectivity and cooperation throughout the region.

It is the only fund focused on the Three Seas region and will be one of the first commercial infra funds to invest there uniquely. Although there are a few funds that have made infrastructure investments in the region, their mandates are much wider and investing in this geography is not a specific focus. Additionally, many of these peer funds will not invest in all the countries covered by the fund.

"Core to Amber's culture is our proven track record in identifying new sub sectors and asset classes within infrastructure."

Gain Tait, Group chief executive, Amber Infrastructure

Amber Infrastructure Group chief executive Gain Tait says: "Amber is very pleased to have won the Market Innovations category for Europe at the 2020 *IJInvestor* Awards. We are delighted that Amber's ability to consistently evolve in response to changing market conditions has been recognised – particularly in the challenging circumstances 2020 has presented.

"Core to Amber's culture is our proven track record in identifying new sub sectors and asset classes within infrastructure. We have successfully positioned ourselves as an early mover in areas ranging from European digital infrastructure to US progressive development."

Re-defining Infrastructure, Americas

Digital Colony / Colony Capital

Digital Colony and Colony Capital won the *IJInvestor* Award for Re-defining Infrastructure in the Americas for its pioneering work in the digital infra sector.

Judges identify Digital Colony as a "clear leader in the digital infrastructure space", recognising its success on closing its inaugural fund at $4.05 billion as a "demonstration of faith from the market".

The independent panel of judges chose Digital Colony for this award for having created the first dedicated digital infrastructure fund – Digital Colony Partners – and its partnering with companies that will provide the next generation of connectivity solutions.

Digital Colony Partners is more than 70% deployed, and it is a key component of Colony Capital's pivot to digital infrastructure.

In just a few months, amid the Covid-19 pandemic, Digital Colony and Colony Capital teams completed a number of complex and transformative transactions under Marc Ganzi's leadership, with the overarching goal of partnering with companies that will provide the next generation of connectivity solutions.

"From niche to mainstream, Digital Colony's executive team has been investing in digital infrastructure for over two decades and has led the path for others to follow."

Steven Sonnenstein, managing director at Digital Colony

Key among these was Vantage Data Centers, a global provider of hyperscale data centre campuses, announcing a definitive agreement to form a strategic partnership valued at $3.5 billion. A total of $200 million of the investment comes direct from Colony's balance sheet.

Steven Sonnenstein, managing director at Digital Colony, says: "From niche to mainstream, Digital Colony's executive team has been investing in digital infrastructure for over two decades and has led the path for others to follow.

"These investments have gone from venture capital-backed, to infrastructure-funded, to super core-funded because of the strong, stable, predictable, and high-quality counterparty nature of the asset class."

He adds: "Our operationally-focused investment strategy isn't just words on a page but also part of our DNA and mantra. We are entrepreneurial-based and involved in our portfolio companies' day-to-day operations, this allows us to be proactive, instead of reactive, to the needs of our investee companies.

"The basis of our success is rooted in our people and our teams. We recruit the best operators and investors in the industry. We focus on one sector and one sector only, allowing us to specialize and become the best at what we do. Focus equals excellence!"

IJGlobal

Project Finance & Infrastructure Journal

ESG Report 2020

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BBVA – extending sustainable finance beyond just dark green

BBVA, a pioneer of sustainable finance, has bolstered its track record with the launch of sustainability advisory services this year. The banking sector will be a crucial enabler for facilitating sustainability-linked goals, BBVA's heads of ESG and structured & project finance advisory tell *IJGlobal*.

A look at BBVA reveals a microcosm of how the world has changed over the last few decades. The bank boasts a number of pioneering achievements, not least becoming the first Spanish financial institution to adopt of the World Bank's Equator Principles in 2004.

"The Equator Principles were really the first step that the banks took towards sustainability. Today it's part of the day to day business of the banks," says Enrique Bofill, Head of Sustainability Advisory at BBVA Corporate & Investment Banking. "Banks can be an important part of the sustainability solution by channelling financial flows to the right companies and to the right projects."

Since the early days of the Equator Principles, BBVA has integrated sustainability into everything it does: from a net zero commitment within its own organisation, to innovation in all of its wholesale banking sustainable products, ranging from bonds to loans to a sustainable framework for its transaction banking solutions, as well as offering more specific products like green derivatives and green FX transactions.

BBVA has been a frontrunner in sustainability for a long time. In 2007, BBVA participated in the world's first green bond issuance. More recently, it provided the first green loan to a utility – a €500m debt facility for Iberdrola – and the first green loan to a corporate in Mexico. The bank was also among the first private lenders to issue its own social bond to alleviate the impact of the Covid-19 crisis, and it is well on track to achieving its pledge of mobilising €100 billion of sustainable finance by 2025. BBVA's aim is to have a sustainable alternative to all of its products in the next few years.

This year, BBVA set up its Global Sustainability Office and launched a specialised sustainability advisory service.

Enrique Bofill

"Banks can be an important part of the sustainability solution by channelling financial flows to the right companies and to the right projects."

The advisory service supports clients on ESG targets, benchmarking KPIs with peer companies, reporting transparency, sustainable finance products and other objectives. "Through the strategic dialogue with our clients, we want to help them improve their sustainability profile and propose clear roadmaps on how to do it," says Bofill.

If the Equator Principles marked the beginning of the sustainable finance journey, the tipping point was much more recent.

The United Nations Framework Convention on Climate Change has been around since 1988, but the inflection point of the sustainability movement didn't come until 2015 – with the launch of the Sustainable Development Goals and the Paris Agreement. At last, social demand, political sentiment and financial clout appeared to be aligned, giving ESG even more momentum.

In December 2018, BBVA joined 4 other international banks in the Katowice commitment – a joint effort to adapt lending portfolios to the Paris Agreement. In turn, the Katowice commitment helped inspire the Principles for Responsible Banking – this time signed by 132 banks – in September 2019.

"If we want to control climate change, then the 2020s will be critical," says Bofill. "Our stakeholders demand action – not only our clients, investors and regulators, but also ourselves as BBVA employees and the rest of the communities where we live."

In recent years, the energy transition has become a tangible part of the global economy, with fossil fuel energy players diversifying into renewables and industrial groups making net zero commitments. Meanwhile, a growing number of funds are integrating sustainability into their investment strategies.

On the financing side, the more rigorous ESG requirements set out by the financial community and regulators have made certain infrastructure and energy projects less eligible for financing – most obviously coal-fired power plants. This has disrupted the traditional business of a number of sponsors, but it is also a challenge for some developing countries that still need to develop reliable and cheap power generation into their energy mix.

But as some sectors are phased out, new opportunities emerge. BBVA's structured finance business has benefited from growing demand to introduce sustainability considerations in non-recourse financings. For financial advisers, alongside technical and environmental consultants, this also requires devoting more time to the preparation of ESG aspects in view of increasingly demanding lender due diligence processes.

"A relevant aspect in the credit chain and due diligence process with respect to ESG considerations, is still driven by the Equator Principles guidelines," says Javier Fidalgo, Head of Structured Finance & Project Finance Advisory.

"This has been getting more and more sophisticated since 2004. Today there are a number of additional considerations with respect to the Paris Agreement that are progressively being integrated, but right now in infrastructure financing this is the most demanding aspect in top of any institutional policy that may apply to some sectors (e.g. coal)."

From a corporate strategy and investor perspective, ESG is a risk management tool, and there is a growing body of research that finds ESG securities and indexes can outperform the market. While the jury is still out on this "greenium," it is easy to see the argument that proper ESG risk management helps future-proof a business.

Going forward, sustainability principles applied to structured financing solutions will also need to be extended beyond just the obvious sectors – and from green sectors to social sectors. "The starting point for sustainable finance was to focus on renewable energy projects, but BBVA is broadening its approach to public transport systems, hospitals and social infrastructure," says Fidalgo.

"We are currently running a social and green certification process under our advisory assignment for the refinancing of a hospital in Iberia," says Fidalgo. "And sustainability represents an increasing number of opportunities, with the market volume for sustainable-labelled structured bonds and loans only set to grow – not only in Europe, but globally as other countries catch up."

Javier Fidalgo

"Sustainability represents an increasing number of opportunities, with the market volume for sustainable-labelled structured bonds and loans only set to grow – not only in Europe, but globally as other countries catch up."

While BBVA's European clients tend to be more advanced in terms of ESG adoption – partly in anticipation of the implementation of the EU's sustainable finance regulations next year – the degree of sophistication in each region varies from company to company.

Outside of Europe, BBVA's core business includes Mexico, Turkey, the US, Colombia, Peru and Argentina. In Latin America, some of BBVA's clients are taking their first steps in ESG awareness, transparency and targets, while other clients – especially large multinationals that are already experts in ESG – are seeking to increase their use of sustainable finance products. Another regional difference is that there is more of a social angle to ESG initiatives in Mexico and South America, whereas Europe's focus tends to be on climate change.

"Our wholesale clients have varying levels of awareness and sophistication when it comes to sustainability. We want to partner with all of our clients in their transition towards a more sustainable future – not just the greener ones," says Bofill.

"Some clients are worried about what they are going to gain from these products. They are very focused on pricing and one of the things that we try to convince them of is that, while pricing is very important, it is not the only variable in decision-making because we think the use of sustainable finance should be coherent with your business strategy."

Looking to the future, BBVA emphasises the importance of transition strategies and – in addition to environmental concerns – the growing role of social matters. The bank anticipates more standardisation – in ratings, reporting and issuing principles – as well as the development of new types of ESG securities, such Green IPOs.

The future also holds a shift in focus from dark green investments to other colours. "We think the solution to the climate change problem comes from brown companies that are seeking to transition to a more sustainable economy," says Bofill.

We want to partner with all of our clients in their transition towards a more sustainable future

BBVA's ESG Track Record

- **2004** – first Spanish financial entity to sign Equator Principles
- **2006** – signed Principles for Responsible Investment
- **2014** – signed Green Bond Principles
- **2016** – led first green bond transaction for Iberdrola
- **2017** – signed first bilateral green loan for a utility globally with Iberdrola
- **2018** – among the first banks to publish sustainability pledge
- **2018** – BBVA joined 4 other international banks in the Katowice commitment
- **2019** – signed the Principles for Responsible Banking with 131 other banks
- **2020** – mobilised €40 billion of sustainable finance to date; adopted sustainability as one of the 6 strategic priorities of BBVA; committed to being carbon neutral at the end of this year; created a Global Sustainability Office
- **2025** – mobilising €100 billion of sustainable finance ■

The ESG policy tsunami – making landfall 2021

If sustainable investing reached a critical mass in 2020, then the movement shows no sign of slowing in 2021. Alongside growing investor enthusiasm, a new driving force will enter the picture next year – the EU's incoming sustainability reporting rules, writes *IJGlobal* Funds Editor **Ott Tammik**

Institutional investors – notably publicly-backed pension funds – are more vocal than ever before about their commitment to sustainability. And they are being heard – given the vast amounts of capital they supply to Wall Street and the City. Environmental, social and governance (ESG) issues have become a prerequisite for investing, and in no year has that been clearer than in 2020.

"In our experience, in terms of the intensity of interest from investors and also the requirement of investors to evidence ESG performance, I'd say 2020 bears no real comparison to 2019 or 2018," says Jonathan Maxwell, chief executive and founder of London-based Sustainable Development Capital LLP (SDCL).

"There would be plenty of investors with us that could not, and would not, have invested had it not been an ESG-compliant proposition. And that is completely different from the world two years ago."

While 2020 was also the year of Covid-19 and Black Lives Matter, the flow of sustainability-related business news has been hard to keep up with.

It's only scratching the surface to note GE's exit from the new-build coal-fired power plant market, Brookfield's appointment of former Bank of England governor Mark Carney as head of ESG, China's commitment to become net zero by 2060, Tesla's incredible stock price rally, and the record number of sustainability funds that have launched this year.

Looking ahead into the new year, having a Democrat in the White House is likely to bode well for the sustainability cause, perhaps bringing the US back to the Paris Agreement. This would stand in stark contrast with recent US policy positions – not least the Securities and Exchange Commission's rejection of formal ESG guidelines.

In the meantime, the EU has stepped in to become the global leader on sustainability, with far-reaching implications even for non-

EU companies and financial firms doing business in the EU. First outlined in 2018, the EU's Sustainable Finance Action Plan will require companies and fund managers to begin filing detailed disclosures, starting in 2021, about their business's impact on the environment.

Five years on from the Paris Agreement and the UN Sustainable Development Goals, it appears social, political and financial interests are broadly in alignment.

Whereas the 2010s were the decade of renewables, the 2020s are poised to see sustainability initiatives extended across a wide range of other sectors, such as electric vehicles, energy efficiency and hydrogen. And if one considers that after all the huge amounts of investment in renewables, wind and solar still only make up just 9% of global power generation – and moreover that power generation accounts for just a fraction of carbon emissions – then the incredible scale of this investment universe starts to become clear.

Legislating sustainability

The Sustainable Finance Action Plan, which currently consists of three major regulations, will require financial firms and corporations to submit regular reports about their impact on the environment and climate change.

The new EU rules are part of the union's strategy for achieving the UN Sustainable Development Goals and the Paris Agreement.

"Global emissions must drop by 50% over the next decade for the world to have a chance of staying at 1.5 degrees of global warming and thus avoid the most catastrophic consequences of climate change," EU documents say.

Under the new regulations, fund managers will need to begin making sustainability disclosures, annual reports, and both organizational and portfolio-level evaluations based on new ESG criteria called the EU taxonomy.

The core components of the Sustainable Finance Action Plan include:

- Sustainable Financial Disclosure Regulation (SFDR) – requires investment firms to disclose sustainability and risk aspects of their investments
- Non-Financial Reporting Directive (NFRD) – requires corporations to publish data about their impact on ESG factors
- Taxonomy Regulation – provides a sustainability classification system for investment firms
- additional reforms such as an EU Green Bond Standard and a Financial Services Ecolabel

Several years in the making, this huge regulatory undertaking will be rolled out over the course of 2021.

The disclosure regulation will be the first to be implemented, in March 2021. It will require fund managers to determine the extent to which sustainability objectives fit into their strategy. The more important sustainability is to a fund's strategy, the more thorough the disclosures need to be. Products specifically marketed as sustainable funds will face the strictest requirements.

"Fund and asset managers are busy recategorizing their products to determine which bucket each one falls into under the disclosure regulation," says Vanessa Havard-Williams, global head of environment and climate change at Linklaters.

The taxonomy rules, which are due to be implemented in late 2021, will also include sector-specific thresholds: for instance, sustainably produced power is defined as below 100 grams of emissions per kilowatt-hour, whereas in the transport sector it's 50 grams per passenger kilometer (reducing to zero by 2025). The detailed evaluations will even consider factors such as the rare earth metals that need to be mined for wind turbine manufacturing.

With the initial focus being environmental sustainability, in 2022 the EU will also introduce social and governance standards.

Ultimately, the aim of the regulations is to bring consistency to the ESG space – where hundreds of different methodologies have been developed in recent years – and to cut down on greenwashing.

Although the Sustainable Finance Action Plan will not force companies to become more sustainability-minded, it will introduce a whole new level of transparency, giving investors a much clearer picture of the companies and funds that they invest in.

The EU is not the first to adopt such measures – that honour goes to New Zealand – and others such as the UK and Canada are developing their own sustainable finance regulations. But given the EU's reputation as a regulatory superpower, its rules are bound to have global implications, as they have had for data privacy and telecoms standards.

Asset managers prepare for new era

A few years ago, it was not at all clear that the EU's new sustainability proposals would be successfully implemented. There have been disagreements over the pace of implementation, the complexity of the reporting requirements, and the classification of certain technologies, such as natural gas. Over 100 respondents to a EU policy consultation that is currently under way oppose a proposal to create a separate taxonomy for pollution-linked market activities.

But Europe's private sector appears, on the face of it, to be broadly supportive of the general thrust of the regulations.

This is reflected in the level of voluntary reporting that companies are undertaking and initiatives such as the Sustainable Development Investments Asset Owner Platform, which launched last year with the backing of pension fund managers APG, PGGM, AustralianSuper and BCIMC.

From its origins in morally-driven investment strategies that avoided "sin stocks", ESG has filtered into the more opaque private market, where ESG considerations are now seen as critical for mitigating risk and even boosting returns.

"If [private equity firms] haven't built environmental, social and governance standards into their investment strategies already, GPs are fielding uncomfortable calls from their limited partners and employees asking why not," a report by Bain says.

One organization involved in the expert committee helping to develop the new EU regulations is Principles for Responsible Investing, a UN-backed member and grant-funded organisation that represents more than 3,000 investors. Will Martindale, PRI's director of policy and research, says the investment industry has been receptive to the Sustainable Finance Action Plan.

"There is an acknowledgement within the investment industry that we do need to have a common language in how we understand what's environmentally-sustainable and what's not," says Martindale.

"If an investor is very new to the taxonomy process, I think it's understandable that they consider it to be somewhat complex, but a recent exercise by PRI signatories demonstrates that the taxonomy framework can be operationalised, and offer important insights for investors beginning their taxonomy preparation."

For investors, the implications of the regulation will vary greatly depending on a fund's size, portfolio diversity and objectives.

Yet even fund managers with sustainability objectives say they can no longer take investor demands for disclosures on ESG metrics for granted.

Infrastructure – a natural fit

"Infrastructure has probably the most direct impact on the environment, be it energy or highway or an airport," says Gordon Bajnai, the global head of infrastructure of Campbell Lutyens, a placement agent. "By its nature, it also always has some kind of cooperation with the public sector and typically services broad public demand."

Bajnai says that when Covid-19 hit global markets in early 2020, investors feared that ESG's significance could decline as businesses fight for survival and refocus priorities. But in a recent industry survey by Campbell Lutyens, 68% of limited partners said that their sustainable investing allocations would increase in the medium term – supporting the conclusion that the crisis has accelerated capital flows into ESG investments.

In the recent GRESB rankings, which evaluate real asset investors based on their ESG performance, Arcus Infrastructure Partners was the highest ranked fund manager in the infrastructure sector.

"Infrastructure is uniquely placed because it's at the heart of everyone's day-to-day

"If an investor is very new to the taxonomy process, I think it's understandable that they consider it to be somewhat complex."

Will Martindale, PRI's director of policy and research

life," says Neil Krawitz, a partner with Arcus Infrastructure Partners. "And because of the significant scale of the business, it's possible to deploy significant amounts of capital as a driver of sustainability. Not all forms of private equity have that ability to influence huge change."

Arcus' current investment portfolio includes fibre, smart meters, cold storage and logistics companies – all of which, the firm argues, have qualities that are essential to sustainability.

While the most straightforward green investment target is renewables – the "low-hanging fruit" of sustainable investing – the insatiable appetite for renewable energy assets will inevitably lead to prices overheating, several investors were quick to point out. But the sustainability mindset, including social and governance factors, needs to move beyond just the power sector, they say.

On the other end of the spectrum, those in the fossil fuel business face mounting pressure. Export finance agencies and commercial lenders are increasingly turning away from the oil and gas sector. New coal-fired power projects are dead in Europe. Some market participants are more keen than others to support natural gas – as a cheap and relatively clean transitional energy source.

"Clearly there are certain assets that could potentially deliver declining returns as we move forward and as trends evolve in the marketplace, you could get yourself invested into a stranded asset," says Ted Frith, COO of GLIL, an infrastructure investment platform created by the Greater Manchester Pension Fund and the London Pensions Fund Authority.

"So on one hand it's about avoiding negative impact on your returns and on the other hand it's also looking at it from a much more positive light and these trends that we're seeing in the world are providing new opportunities to pension funds and other investors. EV charging points or renewable energy – that just wasn't there 20 years ago. We are also concerned about making a positive contribution to the social fabric of the country as a whole." ■

The global **ESG scrabble**

The challenge of ESG and how the market is delivering change – *IJGlobal* Asia Pacific senior reporter **Dave Doré** delves into approaches being taken and how the process yields value

A survey released in January 2020 by Macquarie Infrastructure and Real Assets (MIRA) reveals that investors value the benefits of environmental, social and governance (ESG) integration in investment decision-making. Most aim to bring more resources to ESG.

Sustainability consultant ERM's survey of private equity investors, released in October 2020, also shows that ESG considerations offer value creation and investment opportunities during the next 3-5 years.

However, many institutional investors and asset managers wrestle with how to initiate and sustain an ESG programme in asset allocation, portfolio management and securities selection.

IJGlobal spoke with infrastructure investors about their ESG policies, strategies and practices in the investment cycle – from fund structuring to fundraising and acquisition to divestment.

Each has a responsible investment policy with a responsible investment team that interacts regularly with transaction and asset management teams. Each insists that incorporating sustainability into resource allocation and decision-making is a journey.

Self-reflection is a beautiful thing

Chris Leslie, MIRA's global head of sustainability and executive chair for MIRA Americas, draws on psychology's 4 stages of competence to frame the learning process about the skill and value of ESG integration.

"We take an integrated approach to ESG and sustainability," he says. "The first stage of ESG integration – unconscious incompetence – is when you don't know what you don't know and you wonder how it all works.

"Think of driving a car. We start out terrible yet we don't even know we're terrible. Compare that to the last stage – unconscious competence – where we get in the car and just drive, not really thinking about the clutch as we shift gears."

"We have a good sense of what we need to do and how to do it," confides MIRA's New York-based global head of sustainability. "But we know we are on a journey and haven't done it all yet. The task lies in continuing to educate our people on how to do things and the opportunities inherent in sustainability. We have been managing ESG risks for many years and it's through understanding the risks that these opportunities become clear."

Linking macro with micro

A trend among investors is to have responsible investment policies at the asset-class level, including public equities, passive investing and infrastructure. Infrastructure investors require processes to identify ESG trends at the sector (oil and gas, transport, power, water, etc) and geographical levels. The motivation is to assess the scale and scope of the ESG risks and opportunities for quicker, more effective decision-making. In turn, the evaluation of micro and macro ESG issues will drive the innovation of


Chris Leslie

"The first stage of ESG integration – unconscious incompetence – is when you don't know what you don't know and you wonder how it all works."

the investor's business model, product development and value proposition.

"At BlackRock Alternatives Investors – our alternatives platform – we continue to remain focused on developing ESG tools, processes and procedures to ensure our approach to

ESG integration is a journey in 4 stages:

Unconscious incompetence
- Mistaken intuition
- Question process of ESG integration and its value in investment decision-making

Conscious incompetence
- Mistaken analysis
- Appreciate the process of ESG integration and its value but just not skilled at it

Conscious incompetence
- Correct analysis
- Skilled integration of ESG in investing but requires high levels of concentration and effort

Unconscious incompetence
- Correct intuition
- ESG integration becomes second nature and can be performed while undertaking others task

ESG is embedded in our business and we have a strong governance framework around it," says Teresa O'Flynn, managing director and global head of sustainable investing for BlackRock Alternatives Investors.

When Jon Collinge joined alternative asset management HRL Morrison & Co in April 2018, the firm didn't have a dedicated sustainability team. While the firm had long been implicitly considering ESG issues in its investment decision-making, client expectations about ESG had matured such that the entire investment cycle was under scrutiny. The heightened scrutiny necessitated a more structured sustainability programme.

Twelve years at a Sydney-based real asset developer, including managing sustainability of the investment management business, taught the Morrison & Co sustainability director to envision fund-specific sustainability strategies. "The more generic you are with your sustainability ambitions, the less likely you will get engagement," says Collinge. "If I pitch a generic sustainability programme to fund managers, without even touching on their specific assets, the portfolio managers would eventually realise they don't have to commit to anything."

Collinge's most important early win with this approach was gaining approval in December 2018 by Utilities Trust of Australia (UTA) trustee board for its sustainability strategy, including goals, objectives and targets. He adds, "Nobody likes a target more than a fund manager, especially when we can use those targets in KPIs connected to remuneration."

In comparison, each investment strategy including infrastructure has its own ESG policy and integration statement at BlackRock, which has developed a comprehensive ESG toolkit, including detailed ESG due diligence questionnaires. A senior investment professional drives the ESG agenda within each business and ensures it is part of the investment approval.

O'Flynn adds: "We also include ESG risk dashboards in our portfolio reviews with our risk team and chief investment officer portfolio review process."

Filling the coffers

The dynamic between allocators and infrastructure investment managers has intensified during the past 5 to 10 years. Many pension funds in Australasia and Europe and some in the US and Asia have long been asking whether potential general partners considered ESG factors in investment decision-making. The manager, most times, would dutifully respond, "Yes, most definitely" and the ESG box would be ticked.


Teresa O'Flynn

"We also include ESG risk dashboards in our portfolio reviews with our risk team and chief investment officer portfolio review process."

"Now I'm having 2-hour deep dives to explain our approach," says Mary Nicholson of MIRA, which manages Macquarie Asia Infrastructure Fund 2 – the 2020 GRESB infrastructure leader of Asia and Oceania and Macquarie European Infrastructure Fund 4 – the most improved European fund. "There's been a steady evolution. This movement began in Europe and Australia, but we're seeing real change in Asia and the Americas as well."


Jon Collinge

"The more generic you are with your sustainability ambitions, the less likely you will get engagement."

MIRA's London-based head of responsible investment remarks: "Investors are increasingly interested in case studies about how project companies have implemented ESG strategies and improved their performance. What once used to be a quick validation that we considered ESG as part of our investment approach then evolved into questions about whether or not we participated in ESG benchmarks like GRESB. Now investors want us to walk them through the details of a GRESB report about a particular sector, which represents a huge change in the level of interest."

GRESB is an investor-led rating organisation specialising in real assets. It rates real estate and infrastructure funds and their underlying assets on ESG performance. GRESB management and Summit Partners announced in November (2020) that they were collaborating to acquire GRESB from its US parent Green Business Certification Incorporated (GBCI).

"Super funds and other institutional investors have even commented that in our fundraising pitch the ESG slides should be further forward in the slide deck," adds Collinge. "However, some LPs still don't consider [ESG] which is surprising."

Morrison & Co Growth Infrastructure Fund in August (2020) reached its third and final close with A$580 million ($416 million). "ESG was a hot topic [during the fundraising]," comments Collinge. LPs were concerned with climate change, health and safety, and diversity and inclusion, especially gender, notes the sustainability director.

Acquiring the asset

Infrastructure investors have evolved more sophistication in ESG screening and evaluating the opportunity set, conducting due diligence and closing the transaction.

Regardless of the asset class, discerning which ESG issues are material to an asset's value is more art than science today. A touchstone of ESG integration is standardising the collection, analysis and reporting of material ESG data. While initiatives to bring a consistent approach to ESG data have proliferated, infrastructure investors must prioritise some over others.

Investors are eyeing the Task Force on Climate-Related Financial Disclosures (TCFD), created in 2015 by the Financial Stability Board. TCFD is developing consistent climate-related financial risk disclosures for use by companies, banks and investors in providing information to stakeholders.

"Access to ESG data is often cited as a hurdle in private markets investing," says O'Flynn. "I think the issue is more ESG data has to be manufactured in private markets, including in infrastructure. It's an intensive raw data gathering exercise."

Morrison & Co's Collinge estimates that ESG integration in the infrastructure asset class is generally 5 to 7 years behind the use of ESG factors in real estate investment. He says part of the reason is that real estate across a limited number of subsectors, including industrial, office, commercial, residential and mixed, is much more comparable than infrastructure. "Your airport is not anywhere near the same as the airport next door," Collinge says.

He emphasizes Australia's history of sustainability ratings in real estate, dating back to the mid- to late-1990s. He credits the simple combination of sustainability ratings and rankings as instrumental to motivate decision-makers to change material business practices. As the early systems evolved, the "competitive spirit" of chief executives drove a desire to climb the rankings.

Jonathan Waite, responsible investment manager at APG Asset Management Asia, agrees that the real estate asset class offers a relatively easier pathway to ESG integration compared to infrastructure. The more homogenous nature of real estate assets and the large number of assets allows for more robust data analysis.

"While someone in the [real estate] industry would likely say the difference between a logistics centre, commercial mall and residential block complicates ESG integration," Hong Kong-based Waite says, "the ESG issues across those assets are quite similar."

The breadth of coverage by GRESB supports the notion that infrastructure generally lags real estate in its uptake on ESG. The investor-led ESG rating organisation specialising in real assets analysed responses from 118 infrastructure funds, 426 infrastructure assets and 1,354 facilities during its 2020 cycle. In comparison, GRESB assessed 1,229 portfolios worth more than $4.8 trillion assets under management.

Waite, however, emphasises the comparison with real estate can be overwrought. The amount of ESG data in infrastructure may never approach that of real estate. "Look around Hong Kong and count the number of buildings. Then think about the number of investable infrastructure assets in comparison."

Technology may help bridge aspirations with reality. "We believe that technology has an important role to play in helping extract and report ESG data in an efficient way for private markets including infrastructure investing," notes O'Flynn, who has been with BlackRock for nearly a decade. "This is something we are very focused on via our eFront platform."

Conducting due diligence

APG's responsible investment team has a role across the infrastructure investment cycle. Strategic and tactical discussions about ESG routinely happen between Hans-Martin Aerts, managing director and head of infrastructure investments for APG Asia Pacific, and APAC head of responsible investment and governance YK Park, along with Waite, who is responsible for private markets.

Broader ESG issues may weigh heavier early in the cycle as portfolio managers gather information about the investment landscape. As the deal team's pipeline narrows, a strategic conversation about climate change may evolve into a balanced discussion about the physical risks of climate change in a particular location and climate change's impact on a subsector's business model.

"What might the long-term impact of autonomous or electric vehicles be on toll ways?" asks Waite. "The new vehicles will still drive on the same road as today's cars."

While conducting due diligence on a potential investment, APG undertakes an ESG assessment. Waite notes 2 important decisions. First, the responsible investment team in coordination with the deal team determines the scope of the assessment. Not all ESG issues materially affect an infrastructure asset's long-term performance and valuation. Here materiality is the driving factor. Second, the team chooses whether to manage and execute the ESG study internally or externally.

Closing the deal

Valuation is the confluence of narratives and numbers. Sometimes buyers have heard the story and like what they hear – so much so that it sends a target company's offer price into the stratosphere. Infrastructure investors must decide the degree to which a target company's anticipated ESG performance is already embedded in the offer price. In many cases, strong ESG performers epitomise the canard that a great company isn't always a great investment.


Mary Nicholson

"There's been a steady evolution. This movement began in Europe and Australia, but we're seeing real change in Asia and the Americas as well."

A new climate change investment framework by Asian Infrastructure Investment Bank (AIIB) and Amundi allows investors to measure issuer performance against the Paris Agreement's 3 objectives. Investors can systematically acquire equity interest in A-list issuers, or those that are already performing well on all 3 objectives, and B-list issuers, or those that are moving in the right direction but are not yet A-list issuers. The framework encourages the integration of climate change risks and opportunities into business practices by targeting the engagement of B-List issuers to help them transition to A-List credentials.

APG's responsible investment team either approves or disapproves the investment. "We do have the power to disapprove if the investment doesn't meet our criteria," says Waite. The Dutch pension fund manager identifies conditions to close and recommendations to enhance ESG strategy, management and performance. Those conditions and recommendations form the tactical backbone of APG's monitoring of an engagement plan with the new portfolio company.

Being a good steward

Driven by demands of clients, general partners are increasingly requiring portfolio companies to collect and report on ESG strategy and performance.

BlackRock Alternative Investors embeds ESG data collection into the underlying asset management agreements to manage and track ESG performance. "ESG reporting is a key element of our onward reporting to our clients," remarks O'Flynn. "Overall, our approach can be broadly summarised under a 3-part framework: transparency; investment process or the how; and insights, that is ESG data or the what."

APG shares a similar approach with portfolio companies.

"ESG integration is not about making judgements across all infrastructure but about comparing the ESG risks and opportunities among comparable facilities or assets," says Waite. "The granular details matter and we're always looking at a comparison of investments we've already held, often using GRESB data."

He adds: "A cornerstone of our conditions is to get our portfolio companies to report their ESG strategy and performance or at least have a plan to report within 12 to 18 months."

Although infrastructure funds may hold securities at the corporate- and project company-level upwards of 10 or more years, responsible investment teams hit the ground running. Many have adopted the M&A industry's practice of developing 100-day implementation plans for portfolio companies.

Nicholson and her colleagues work with the new portfolio company, such as hyperscale data centre platform AirTrunk, to achieve early wins that are often identified during due diligence. Beyond this initial transition period, the responsible investment team works directly with portfolio companies to embed practice and share sustainability initiatives among peers.

MIRA's Leslie, who has been with Macquarie for nearly 3 decades, highlights the opportunity assets like data centres have to improve their performance on energy and water efficiency. "Many of our existing assets in the sector utilise renewable energy and deploy methods that massively reduce the amount of water in the cooling process," he says. "We share those technologies among our businesses."

The executive chairman of MIRA Americas also underscores the knowledge sharing that is occurring within the industry about the circular economy. Apple is working on better designing the iPhone's end-of-life. In a similar vein, MIRA portfolio companies in the roads subsector are drawing from experiences in India and France where other MIRA investments are recycling asphalt, says Leslie.

"We aim to become a lot more data driven about the physical risks of climate change and their impact on our current and future holdings."

Jonathan Waite, responsible investment manager at APG Asset Management Asia

Strategically, APG like many investors also has a series of evolving engagement themes across asset classes. Waite mentions working with portfolio companies to enhance their understanding and management of climate risk and ESG data collection, often advocating the deployment of an environmental and social management system at portfolio companies.

Goodbyes are never easy

A fortunate vendor works with a portfolio company to implement fully their ESG policies, strategies and plans. A buyer across the table values the target company's executed sustainability programme and assesses that either the growth of cash flow will accelerate, cost of capital will decrease or asset utilisation will improve. Since ESG initiatives may take years to achieve results, the target company normally has not fully executed its plans when it goes on the auction block.

Responsible investment teams are increasingly contributing to the target company's full potential plan. They can engage the board to approve the sustainability programme and implementation plan to attract investors that incorporate ESG considerations. Teams can help M&A advisers understand how to position target companies in terms of its ESG evolution and anticipated outperformance.

Brookfield owns Dalrymple Bay Infrastructure (DBI) – the world's largest metallurgical coal export terminal, handling 15% of global metallurgical coal in 2019. The Canadian asset manager raised A$656 million from an IPO in December (2020), valuing DBI at A$1.28 billion. Brookfield retained 49% of the company, which began trading on ASX from 10 December. The IPO prospectus includes a 7-page section on ESG. The section comprises DBI's ESG and governance frameworks, sustainability strategy, and performance measures about worker safety and greenhouse gas emissions.

"Although in many cases we may not have gone as far as we might have wanted to during our period of ownership, we are positioning assets for sale by highlighting ESG opportunities in progress that could be realised by the purchaser," says Leslie. "Often among those, for example, is a change in management culture. We need to educate potential purchasers on those types of value-add opportunities, which may not be immediately obvious to them."

Moving forward

ERM's recommendations for private equity investors to realise sustainability's potential are:

- setting a strategic vision and fostering a culture that sees ESG as a significant value creation opportunity
- moving due diligence from compliance to ESG best practice to generate superior returns
- ensuring companies become ESG strong during ownership to benefit from a higher exit multiple
- establishing the firm's ESG investment strategy and process for identifying ESG market trends

MIRA's Nicholson expects that, in addition to decarbonisation and the energy transition, the nexus between infrastructure and the Sustainable Development Goals (SDGs) will climb public and private sector agendas.

O'Flynn anticipates the standardisation of ESG information and disclosure in public and private markets to accelerate. The deadline is 31 December (2020) to respond to the IFRS Foundation's public consultation on the role it might play in the convergence of globally recognised sustainability reporting.

"In the meantime, we expect companies to accelerate their efforts to publish sustainability data and contextual information under existing frameworks and standards," says the BlackRock managing director.

Climate change will continue to be an important focus for APG. The investment team anticipates improving their analytical capacities of climate risk. Waite adds: "We aim to become a lot more data driven about the physical risks of climate change and their impact on our current and future holdings."

Infrastructure investors are also publicly consulting on TCFD until 27 January 2021. The task force aims to understand the forward-looking climate data that asset owners, investment managers, banks and other financial institutions disclose and use. ■

Energy Efficiency:
have your cake and eat it

IJGlobal funds reporter **Arran Brown** delves into the opportunity and challenges ahead for energy efficiency as it builds momentum as an asset class

Imagine extreme heatwaves at least once every 5 years blighting billions; severe drought and water scarcity threatening hundreds of millions more people; a 50% reduction in the geographic range of flora and fauna; fires, floods, extreme weather; two-thirds of the world's coastlines affected by elevated sea levels; oceanic dead zones unable to support life; hits to GDP, food security, and soaring disease rates…

Such is the legacy of failing to keep global temperature levels below 2 degrees according to the Intergovernmental Panel on Climate Change.

And yet there is unlikely salvation from all that catastrophe in the form of a lightbulb. Hyperbole aside, replacing traditional lightbulbs with efficient ones illustrates the outsized effectiveness energy efficiency (EE) measures can have: a 70-90% reduction in power consumption.

Energy efficiency is the Swiss Army Knife of the energy transition, the multitool to tackle climate catastrophe. There are myriad methods for achieving energy efficiency, but one vital result: a drop in CO_2, the gas responsible for rising temperatures.

Moreover, such measures can be implemented for profit. Investment in the sector to date has been the preserve of just a handful of dedicated players. To illustrate, the energy efficiency fund universe saw a proportionally-significant expansion with the launch of 2 new strategies in November 2020.

Still rather few considering the opportunity is enormous. A sleeping great, green giant with an appetite for many billions of investment every year.

Projections by the International Energy Agency show that capital backing energy efficiency will match then overtake renewables spending by 2030. Almost $1 trillion is forecast for the sector by 2040, supporting almost 60 million jobs.

Returns on energy efficiency projects are in line with renewables investments – high single-digits are achievable.

Managers and institutional investors have the opportunity to ride the wave of a significant decade of focus in this field. Respectable returns and a boost to ESG credentials are the prize for partnering to address the deficiency in energy efficiency.

Applications

With energy efficiency, more is less – energy efficiency measures allow for the same or better performance with less energy consumption.

It is for that reason that the International Energy Agency described gains in energy efficiency as the 'first fuel' of a sustainable global energy system, i.e. as source of energy in its own right.

Another critical advantage of such measures is that the reduction in net energy consumption allows for an increase in the proportion of energy supplied by renewable energy sources and storage systems, further eliminating recourse to carbon-intensive energy.

Measures also benefits energy security. Jonathan Maxwell, chief executive and founder of Sustainable Development Capital, says: "We keep getting close to the maximum levels of generation to meet supply in the UK, but there is grid instability. The increasing penetration of renewables, which we all celebrate, creates a degree of volatility of supply on the grid. So resilience becomes a bigger topic."

Consumers of energy, be they businesses or households, also benefit from implementing EE technologies through reductions in overall energy bills.

What, then, constitutes an energy efficiency measure?

There are numerous technologies and techniques that address energy consumption where there is excess energy waste whether at the point of production or consumption.

Buildings account for 40% of primary energy consumption in the EU and US, and as such are major targets for reducing consumption and emissions.

Heating and cooling structures will be a significant area of efficiency drives as billions more in emerging and developing economies increase demand for indoor climate control.

Improvements to building envelopes (walls, roof, windows e.g.) can be made and include the addition of insulating materials, and 'tightening' to reduce air inflows and outflows, thereby lowering heating and cooling costs.

Heat pumps may be installed – these are an alternative heating method which works by transferring heat from cooler to warmer environments with a far higher degree of efficiency to electric resistance heating.

These form part of wider opportunities across mechanical systems in buildings: the installation of efficient heating, ventilating, and air condition (HVAC) systems by retrofit or at the point of construction.

Buildings can benefit in other ways. Lighting is a favourite example: a simple exchange of incandescent bulbs for LED lamps can reduce energy consumption enormously. Outdoor lighting can benefit too.

In industrial, business, and healthcare settings, implementation of cogeneration or combined heat and power engines can provide heat and power simultaneously on-site. Trigeneration models provide cooling in addition.

Such a measure is an example of decentralised energy, an essential component of the energy efficiency strategy. Some fuels in centralised power stations produce efficiency as low as 31% (average world average efficiency for coal-fired stations according to Energie-Fakten).

Moreover, the transmission and distribution of power from centralised power sources leads to energy losses in the single digits (one estimate is 6% and 4% respectively lost through heat).

Decentralised energy, then, can reduce wastage by producing energy needs on site with cleaner fuels such as gas or biomass, and use waste heat from power generation for heating.

Another decentralised energy technique is the installation of solar panels on rooftops wherefrom energy can supply the building.


Franco Hauri

"Building a pipeline really comes down to selecting and building relationships with partners."

Heat networks such as district heating and cooling are another effective method of boosting efficiency, particularly when combined with power generation with high levels of heat wastage.

Efficiency in transport following the anticipated growth of electric vehicle adoption and wider electrification of transport and hydrogen fuels produced through renewables will be key themes in years to come.

It is patent from the wide range of energy efficiency options that to implement them all would be costly. Homeowners, businesses, and other entities can scarcely countenance even one. It is here the investment opportunity lies.

Players

There are two principal strategies for investment in energy efficiency: acquisition and refinancing of existing, yielding assets and financing of new efficiency projects backed by long-term contracts.

This, along with the diversity of energy efficiency technologies, creates scope for a varied ecosystem of strategies.

To date there are two LSE listed vehicles: the SDCL Energy Efficiency Trust (SEEIT) launched in 2018, and the Triple Point Energy Efficiency Infrastructure Company which launched in November 2020.

The private fund side is dispersed across Europe.

Since 2011, the European Energy Efficiency Fund (EEEF) has fostered energy efficiency and renewables through public-private partnerships within the EU with large sponsors like the EIB, European Commission and Cassa Depositi e Prestiti (CDP). It has provided debt and equity, to municipal, regional, and private partners such as utilities and energy service companies (ESCOs), and has committed €200 million since inception.

In 2012, Sustainable Development Capital (SDCL) launched the UK Energy Efficiency Investments Fund, a private equity infrastructure fund backed by the UK Government and EIB. It launched a listed vehicle, SDCL Energy Efficiency Income Trust (SEEIT), in 2018.

Amber Infrastructure has two UK Government-backed vehicles: the London Energy Efficiency Fund (LEEF) which dates from 2011 and the Mayor of London's Energy Efficiency Fund (MEEF).

SUSI Partners has two dedicated energy efficiency funds – SUSI Energy Efficiency Fund I and II – which launched fundraising in 2013 and 2018 respectively, but it has decided to continue EE activity as part of its SUSI Global Energy Transition Fund, which incorporates renewable generation and storage into the strategy.

In Spain, Suma Capital has also launched two strategies. Suma Capital Energy and Environment Fund I (SCEEF I) launched in 2014 and the second iteration in 2017 (SCEEF II).

Fondo Italiano per l'Efficienza Energetica launched in 2014 as the first such Italian vehicle. It held a first close on its second vehicle in August 2020 with €127.5 million of a €175 million target.

The latest entrant to the private European fund space is Aquila Capital, known already for its renewable investment activity, which announced its maiden investment through the Aquila Capital Energy Efficiency Strategy in November 2020.

There is another major contingent to the players in this space: energy service companies (ESCOs) and technology companies. All investment houses involved in energy efficiency agree that strong relationships with these entities is essential.

Franco Hauri, senior investment manager within the Aquila Capital energy efficiency team, explains what they are and why these relationships are the lifeblood of EE vehicles.

"Building a pipeline really comes down to selecting and building relationships with partners. Fundamentally there are two types: energy service companies, they are in the hundreds in European countries and an important source of deals; technology suppliers are also important.

"Historically they have focused on selling products, but there is a trend among these suppliers to transform the product into a service. The trend is to support product sales through a financing solution and position their products as a service (light, heat e.g.). It's possible to forge right of first refusal agreements with some of these companies."

This service can include connecting a client of an ESCO with a fund manager with deeper pockets than they have, an important strategy for some investors in the space.

Clients form the wide base of the triangle, the multitudes of residences, businesses, industrial actors, state institutions in health and education, municipalities and other government bodies that benefit financially and existentially from energy efficiency upgrades.

Strategies

The variety of energy efficiency fund strategies is a pleasing parallel to the variety of efficiency measures available. There are listed and unlisted players, hyper-local and global target areas, 'greenfield' and 'brownfield'.

One common deal model for developers of projects involves a fund providing capital to an ESCO to implement an energy efficiency measure on behalf of a counterparty seeking cost reduction. Yield is generated through long-tenor agreements connected to supply of energy, heating, lighting for example.

The share of savings can be fixed and defined upfront – paid, for example, on a quarterly basis or in a variable way, or as a PPA (i.e. selling to a client who pays a defined price across the duration of the contract).

SUSI Partners describes this as the "off-balance sheet contracting model" or "tri-partite transaction structuring". The fund takes on project risk for transactions involving energy service companies and their customers, thereby funding projects without impacting customer balance sheets.

This is an attractive proposition for investors. As Joanne Patrick, director of Amber's London Energy Efficiency Fund (LEEF) and Mayor of London Energy Efficiency Fund (MEEF), explains: "Investors can leverage off the upfront scoping and due diligence work that we as the fund manager do. We do a lot of the heavy lifting that they would otherwise have to do in house."

These two funds exemplify hyper local fund styles, though such a description ought not lead one to doubt the opportunities afforded by such vehicles. The model largely provides debt to public sector counterparties (local authorities, education, health, not for profits) with some allowance for SMEs and ESCOs (30%).

LEEF was established in 2011 through the European Commission's Joint European Support for Sustainable Investment in City Areas (JESSICA) initiative to stimulate investment in underserved segments of the energy efficiency and low carbon sectors. At the end of its investment period, the fund had invested c.£90 million by 2018 in 13 projects.

It focuses on energy efficiency retrofit to existing buildings, building controls, communal and district heating and cooling, and small-scale renewable energy in Greater London.

Peter Radford, investment director at the Amber evokes the entrepreneurial spirit Amber's strategy necessitated as newcomers to the field in the early 2010s: "As well as approaching ESCOs that were active at the time in energy efficiency we went direct to a lot of the largest estate holders in London."

"One of the things we did back then was look at a full building retrofit rather than specific technology like LEDs. That did give you a slightly different payback profile. Back in 2011 this was stepping into a new world for some because they hadn't looked at their building stock and energy bills in that way."

The award of the MEEF mandate to Amber in 2018 has subsequently brought an expansion of its low carbon remit to include alternative fuel charging infrastructure, e-mobility, and street lighting. It was also designed as a 20-year fund for extended project payback periods so that it could fund longer term projects such as district heating.

On the strategy's geographical remit and potential for replication, Patrick says: "Some may argue it is a constraint, because people want this kind of investment all over the country. However, having already allocated nearly all of the initial public sector funding two years into a five-year investment period, demand in London is clearly there. The distinguishing feature of our MEEF fund is the blending of public sector funding with private capital to bring about as much investment in the sector as quickly as possible. I see a lot of interest from cities up and down the UK in this type of model."

Triple Point's recently listed offering launched in November 2020, and takes the UK as its investment domain. The company, which has wider investment interests in housing and energy, won a Europe-wide competitive process in 2018 to set up the process for projects to apply for grants toward soft loan finance for heat network development in the UK. It developed its strategy with this expertise under its belt, and 10 years managing investments


Jonathan Parr

"We see quite a lot of existing operational projects as well as exciting new-build opportunities."

in solar, hydro, CHP, gas peakers, and anaerobic digestion.

The fund is looking for operational projects predominately (75%) in low carbon heat such as combined heat and power and heat networks – heat accounts for a third of all UK carbon emissions – social housing retrofit and industrial energy efficiency, and distributed generation.

Jonathan Parr, partner and head of energy at Triple Point, describes the UK pipeline: "We see quite a lot of existing operational projects as well as exciting new-build opportunities. In the pipeline there's a good mix of projects across assets like heat networks, combined heat and power plants held by investors seeking an exit, and opportunities to acquire existing energy efficiency projects aggregated by a developer looking for a refinance before going to secure additional assets."

The fund will use savings-based contracts to allow end users to replace equipment, again without having to pay the cost up front. Instead, it will recoup the cost from a portion of the savings from the energy bill.

Availability contracts are offered by Triple Point too; an example is a tomato growing business to which it provides heat, energy, and CO2. Off-take agreements for generated energy also form part of the strategy.

Triple Point plans to distinguish itself through deal flow sourced from strong relationships with local authorities which may yield sponsored heat networks, housing associations in need of retrofit, which in itself would be a substantial portfolio.

Aquila Capital's vehicle, which aims to back projects to the tune of €50-70 million per annum during the investment phase, has a pan-European remit. It plans to address the built environment, transport, and industry with energy efficiency measures and decentralised power generation.

Alex Betts, senior investment manager at Aquila, is confident that many commercial and industrial clients are now amenable to energy efficiency projects.

"Company boards have a focus on reaching net zero as part of their strategy, and you can't get to that point without an energy efficiency strategy. You improve your productivity and savings. The question is do you provide that capital yourself or seek third party capital."

Colleague Franco Hauri explains how Aquila will differentiate itself with those companies in mind: "We have a truly pan-European focus and are willing to finance smaller opportunities – 80% of projects in the non-residential space require investment between €100,000 and €3 million. The opportunity with this geography and segment is enormous."

Listed entity SEEIT has the broadest reach to date, having struck deals in North America, Europe, and its first in Asia this year.

Chief executive Jonathan Maxwell explains why the company chose a listed product having managed a private EE fund: "Private markets in general are very good at building things whereas public markets are extremely good at owning infrastructure. Having stable, predictable revenues is what you need as a public vehicle. They're two quite different markets. In the private markets you can focus on the shorter term, higher risk part of the project lifecycle, whereas in the public markets you can take a much more efficient, longer-term view to owning the operational cash flows."

Roughly 75% of the portfolio benefits from availability (light or energy as a service), regulated or fixed payments. The remainder is capacity-based contracts, and a small amount from ancillary services.

Existing renewable energy funds, provided they can make the connections, may implement energy efficiency and renewable strategies concurrently as SUSI has done with its Global Energy Transition Fund.

Challenges

EE investing isn't as easy as renewables investing, perhaps part of the explanation why there are so few funds comparatively speaking. Part of the difficulty is the nature of striking deals in energy efficiency.

All the managers spoken to acknowledge greater complexity in negotiating to meet the requirements of at least three counterparties.


Alex Betts

"Company boards have a focus on reaching net zero as part of their strategy, and you can't get to that point without an energy efficiency strategy."

Beyond that "Each project is unique and it is necessary to fit the solution to the requirement specific to that building or heat network," says Peter Radford.

The greater deal volume with smaller payback in EE compared to energy efficiency adds to the idea that the area is a challenge.

Aquila's Alex Betts agrees, but nevertheless highlights advantages: "What is interesting about this area is that individual projects, while they're being done for the largest corporates in the world, can be relatively small. That's part of the reason this segment has taken longer to get going. We are not moving large amounts of money in individual projects, but there is a great deal of value in aggregate.

"The returns have similar risk/reward characteristics to renewable projects. Arguably some of these projects are lower risk because there isn't the same exposure to commodity prices. They are resilient and reliable. You're delivering a saving irrespective of the weather!"

Visibility is often cited as an issue for the sector, and arguably one of the reasons for the failure of the European Union to meet its 20% improvement energy efficiency target this year, though it will meet greenhouse gas and renewable ones.

Renewable generation was the focus of the previous decade, but, as Triple Point puts it, the greenest energy is that which is never used. Investors are comfortable with owning physical assets, but owning a contract can feel synthetic.

Jonathan Parr elaborates and also sees advantage where others do not: "Energy efficiency, which is all about reducing energy use, is not as easy a concept to understand as renewable energy generation, which essentially involves putting more power onto the grid. I would say that energy efficiency is in the same space that renewables was in in the UK about 10-12 years ago. There was little penetration for solar in the UK, but the feed in tariff changed everything.

"We can deliver all of our energy needs in the UK through reducing the waste. There has been a great rejection of single-use plastics; people have become aware of what gets sent to landfill and what impacts society more generally. I think the same is true of energy, but because it is largely invisible it's more difficult to see. Precisely because it has been underserved in the last decade, means there is a good opportunity in the space."

An evolving sector

The field is a lot more disaggregated. One can put a great deal of money into an offshore wind array quite quickly. The market is still being established for EE, and the opportunities are getting larger. Driving significant value through aggregating portfolios of assets, and driving it further through that portfolio effect will be the mission of EE fund managers.

At any rate, several events are certain to make the space more visible in the next 10 years, including the election of Joe Biden as a US president sympathetic to green causes.

'Policy earthquake' the Renovation Wave from the EU will deliver refurbished and improved building stock in the EU as part of its European Green Deal with billions earmarked for the space. About 75% of buildings in the EU are energy inefficient at present. It marks a fundamental acceptance that EE offers the best means of reducing emissions.

This may go some way to cracking the domestic retrofit nut, which is yet to be cracked by an investment fund.

The EU has now set a 32.5% improvement in EE compared to business as usual by 2030, and managers surveyed are optimistic the target can be reached.

With growing political support, additional managers launching vehicles, and consciousness of the sector developing among institutional investors the energy efficiency green giant is stirring. ■

Relentless rise of **green bonds**

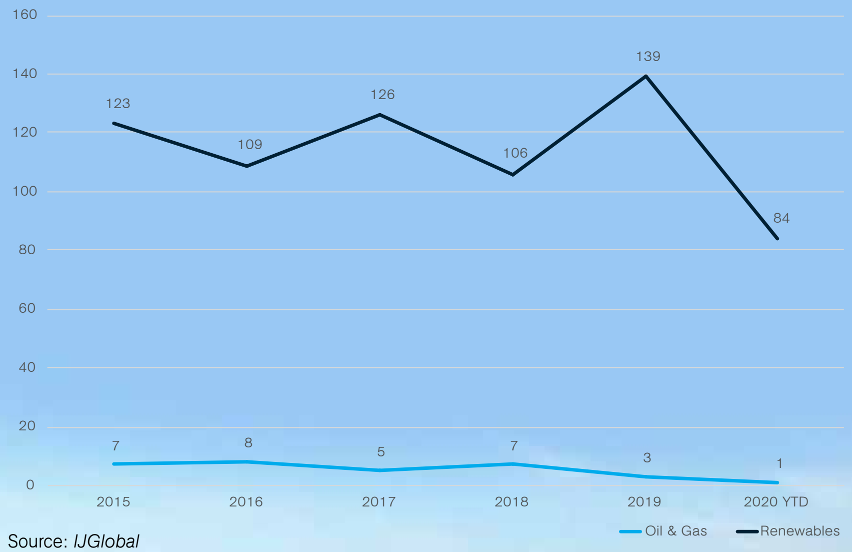
The *IJGlobal* data team tracks the last five years of activity in the European O&G sector, contrasting that with the growing popularity of renewables… matched only by the rise in green bonds

Over recent years, there has been a marked decline in European oil and gas financing, a steady downward trend that is matched by the relentless rise in popularity of renewable energy, matched only by the upsurge in popularity of green bonds.

IJGlobal data indicates an overall decrease in terms of O&G project finance deal volume, with 2020 (year to date) having the lowest results for the last five years. It has been a period of much more modest results for the sector with only 31 completed project finance deals. However, there were three outstanding deals: $30.2 billion Yamal LNG development in Russia, the $13.5 billion Johan Sverdrup Oil Field in Norway and Quad Gas Group's $7.3 billion acquisition of 61% in National Grid's UK gas distribution assets.

It comes as no surprise that since 2015, the top three countries with the most O&G deals to reach financial close are Russia with 6, Norway on 5 and the UK with 3.

Number of PF primary financings in Europe



Source: *IJGlobal*

The only closed O&G deal in Europe in 2020 so far is the $1.52 billion Polimery Police project in Poland, majority owned by Grupa Azoty, and was financed by seven local banks, joined by Santander, BNP Paribas, EBRD and ICBC.

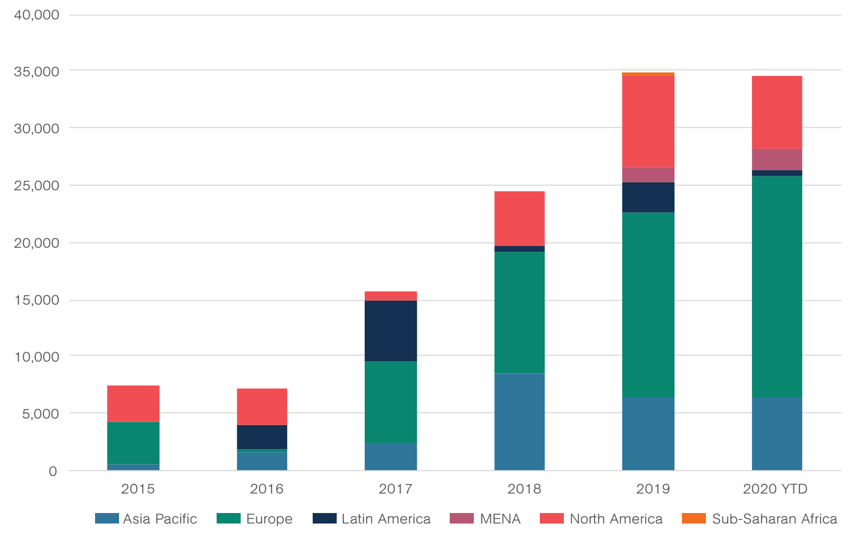
IJGlobal data also suggests that there are currently only four active deals in the European O&G sector. Furthermore, in April 2020 it became clear that sponsor Novatek will delay its final investment decision on the biggest project in the region – Arctic 2 LNG – which involves the construction of three liquefaction trains of roughly 6.6 million tons per annum each on Gydan Peninsula in the north of Siberia, Russia.

However, over the same time period – the past five years – European renewable energy activity has been dominated by onshore wind (55%) and solar PV (22%) deals, according to *IJGlobal*'s transaction database.

The UK has most closed deals with 136, followed by France (87), Spain (71), Germany (69), Ireland (48), Italy (47) and the Netherlands (47). When it comes to renewable energy transactions closed in 2020 alone, Spain holds first place with 14, while the UK comes next with 11.

Since 2015, a single biomass project made it into the top 30 renewables deals by transaction value, while all the rest are offshore wind developments. Most of the high-value renewables transactions in the period are in the UK, France and Germany, with the biggest one being the first two stages of the 3.6GW Dogger Bank wind farm off the Yorkshire coast, which closed at the end of November 2020. With its $10.5 billion price tag, this is the world's largest wind farm and it is owned by SSE Renewables and Equinor. Debt was provided by three export credit agencies and 28 commercial lenders.

Green Bonds by Region 2015-2020 YTD



Source: *IJGlobal*

Earlier this year, another massive project achieved financial close – the 1.14GW Seagreen Alpha and Bravo Offshore wind farms. SSE completed the financing in June 2020, while simultaneously selling down a 51% equity stake to Total.

Other large-scale projects in the 5-year period are:

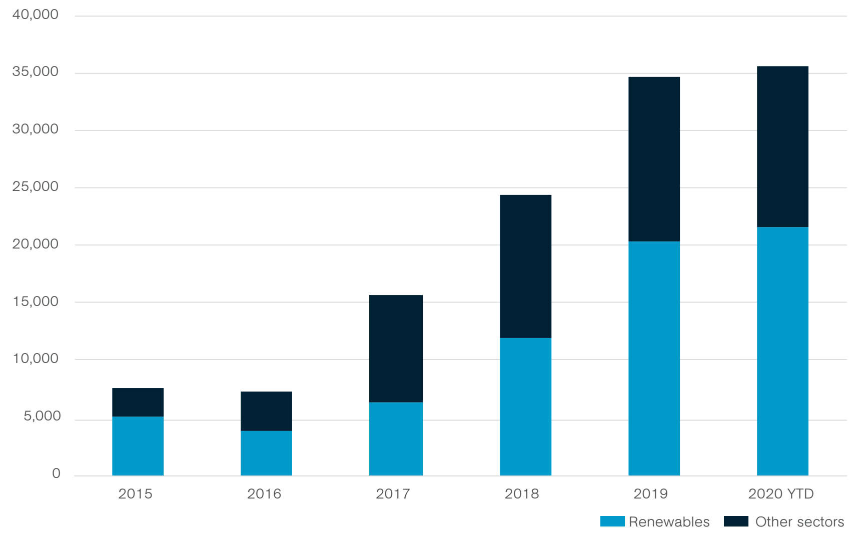
Offshore wind

- GIP's acquisition of 50% in Hornsea I Offshore Wind Complex (1200MW) – funded through a multi-tranche, limited-recourse debt package of senior bank loans, a mezzanine facility, and bonds
- Beatrice Offshore Wind Farm (588MW) – developed by SSE Renewables (40%), SDIC Power of China (25%), Copenhagen Infrastructure I and II (35%) and financed by a group of international lenders
- East Anglia One Offshore Wind Farm (714MW) – a $3.5 billion project sponsored by ScottishPower

Other renewables

- Tees CHP Biomass Plant (299MW) – developed by a JV between Macquarie and MGT Power and financed with term loans, revolvers, fixed-rate notes and CPI-linked notes
- Efeler Geothermal Project (170MW) – located in Turkey, owned by Gurmat Electrik and funded by the EBRD, Isbank, TSKB and Black Sea Trade and Development Bank

Global Green Bonds Renewables vs Other sectors

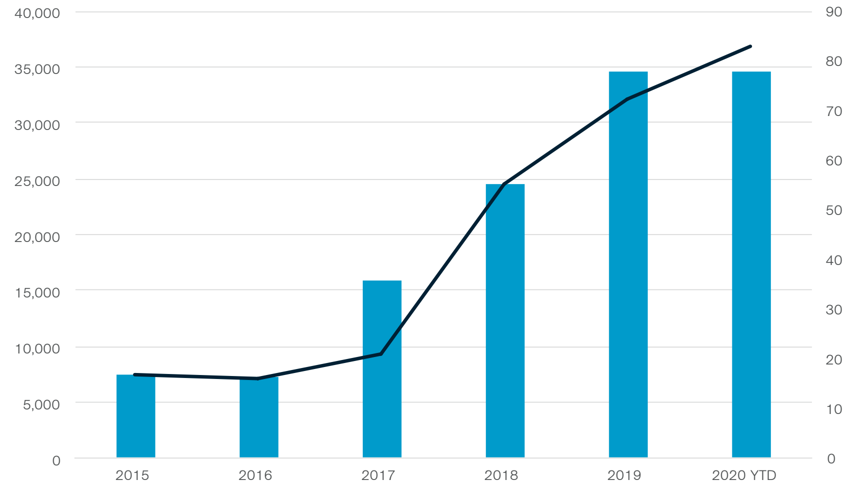


Source: *IJGlobal*

Sponsored by: BBVA Corporate & Investment Banking

- Cobra Spanish Solar PV Portfolio (864MW) – which includes 18 projects; sponsor is Cobra Instalaciones y Servicios (subsidiary of ACS) and lenders are European commercial banks
- Ostwind 1 and 2 Offshore Grid Links – Eurogrid's Baltic Sea project, financed with a €750 million 12-year green bond

Global Green Bonds 2015-2020 YTD



Source: *IJGlobal*

The €750 million green bond financing for Ostwind 1 and 2 is not an isolated case when it comes to sustainable investments in the region. Europe has dominated infrastructure with Green Bonds for the past 3 years*, with a value of $16.2 billion in 2019 and reaching $19.5 billion in 2020 so far.

**IJGlobal* data enables a more focused view of the green bonds market by showing financings related to infrastructure projects within the *IJGlobal* scope.

Green bonds are viewed as the perfect financing tool for large-scale sustainability projects worldwide – mainly wind farms and solar parks – as such developments require investment ahead of revenues and the revenues are modest over a longer investment horizon.

2020 data shows 60% of all green bonds are being deployed on renewable energy, a trend that is also valid for previous periods. It seems clear from the green bonds trend line drawn using *IJGlobal* data that sustainable investments have been thrown into the spotlight.

IJGlobal data suggests that throughout 2020 European power majors have embraced the green bond. In January, Germany-based E.ON issued a triple tranche bond offering amounting to €2.25 billion for eligible green projects. Meanwhile in July and September French energy giant EDF issued €2.4 billion, and Dutch Tennet placed €1 billion in green bonds geared at connecting large-scale offshore wind projects to the onshore electricity grid, as well as towards financing transmission capacity upgrades.

Lenders, much like project sponsors, have been eager to offer financing compliant to modern sustainability standards. In September (2020) Allied Irish Bank (AIB) – an active lender on the local and international wind energy scene – raised €1 billion in a green bond issuance to finance or refinance renewable energy projects. The bond is priced at 330bp over the mid-swap, a minimal new issue premium. The issuance was over-subscribed, with the book peaking over €2.5 billion.

AIB followed in the steps of German banking group Commerzbank which issued €500 million in green bonds to refinance loans for onshore and offshore wind and solar projects primarily in Germany, but also in other European countries and North America. The non-preferred senior bond saw a volume of more than €4 billion seeking to subscribe, making the final issuance eight times oversubscribed.

The 2015-20 steady growth of investment, raising funds for a cleaner environment, might not seem that surprising, however the rise of green bonds sets a new path and is becoming one of the hottest trends in fixed income investment. ■

The 1.14GW Seagreen Alpha and Bravo Offshore achieved financial close this year

Hydrogen Technologies

Hydrogen has been all the rage for more than two decades, yet little-to-no private, large-scale investment had been made into the sector until more recent times. *IJGlobal* reporter **Sophie Mellor** delves into technology developments keeping pace with the revolution…

Hydrogen is to the energy and infra world what a black turtleneck is to struggling artists, or truffle oil to a moderately-regarded London restaurant. It provides an answer to everything, we just don't really understand how yet.

Hydrogen is heralded these days as the panacea for many energy woes… and it's clean.

It lends hope to many energy importing countries that one day they can make the switch to exporting, while also being touted as a solution to grid intermittency issues caused by renewable energy, and even re-purposes oil and gas majors.

Hydrogen has been given as a one-word answer to many of the questions posed about what the energy make-up will look like in 2050.

Yet despite the blind trust the industry seems now to have in the most abundant element in the universe, what technologies exist this time around to make the hydrogen revolution any different to what it was expected to be two decades ago?

While the motivation to lower emissions and curb global warming has increased in urgency, has the efficiency of technology advanced with it?

This question is all the more pressing given that hydrogen is now considered along every step of energy usage. From its production to its use in households, new hydrogen technologies are emerging to fill gaps left by CO2 emitting combustion technologies.

Bridging the storage gap

With many developers planning to attach an electrolyser onto large renewable projects, on paper the hydrogen produced can have numerous applications.

Countries have begun injecting hydrogen directly into the grid and combining it with carbon dioxide to create other liquid fuels. The most commonly discussed technology is storing the hydrogen to use in place of a battery solution and converting it back to energy, without combustion, through an electrochemical process. This is storing energy in fuel cells.

However, in these cases end-to-end efficiency of electrolysis-based hydrogen energy storage is typically half that achieved by a lithium ion battery.

Hydrogen is heralded these days as the panacea for many energy woes… and it's clean

Technology being developed by HyTech in Redmond, Washington, is attempting to close the gap. It has built its Scaleable Energy Storage product to compete with big batteries and fuel resources. The technology is being retrofitted to different modes of transport but can also be used in homes and businesses and even grid-scale storage systems.

The Scaleable Energy Storage (SES) system stores hydrogen weakly bonded to metals as hydrides in an inert, non-pressurized liquid solution. In order to store this solution, the bond must be weak enough to be broken without extra energy.

The solution HyTech has identified is increasing the power-to-weight ratio high enough to beat lithium-ion batteries and make the hydride bond weak enough so that it can be broken using only the redirected waste heat from the engine with no added heat or pressure required.

SES lasts longer than a battery through more than 10,000 charge-and-discharge cycles – compared with around 1,000 for a lithium-ion battery – making its lifespan closer to that of a typical solar panel. It can be fully charged or discharged unlike a battery for fear of degradation and once it is worn out, SES is entirely recyclable. The metals are melted down, reground, and reused; the water is redistilled.

Lastly, the hydride solution can be stored indefinitely without maintenance or loss of potential, making it a great candidate for long-term energy storage.

While some are calling for complete electrification and others are hellbent on turning everything into hydrogen fuel cells, there is a number of lobby groups calling for hydrogen and batteries to work in tandem.

A New Zealand energy advisory firms believes that electric vehicles should be used in towns and city centers for short distance transport applications, while hydrogen fuel cells have an important role in long distance transport, like freight trains, heavy goods vehicles and airplanes.

Hydrogen fuel cells could also be brought in to extend the life of carbon emitting industrial regions, allowing them to stay open with little to no emissions or waste.

Decarbonising industrial clusters

In many OECD countries, energy utilities and other industrial groups are deploying capital to decarbonise industrial clusters by building offshore CO2 transport and storage infrastructure. The Northern Endurance Partnership in the UK is hoping to secure funding to build the infrastructure around the Net Zero Teesside and Zero Carbon Humber projects, while the Netherlands is looking to decarbonise Groningen.

Meanwhile, the Tomokomai test site in Japan has shown unusual promise in CCS by burying CO2 emissions below the seabed off Hokkaido Island. The project is owned by Japan CCS – a consortium of Japan Petroleum Exploration, Mitsubishi Crop, JXTG Holdings and 30 other companies – which claims to have cut energy costs by two-thirds at the plant.

At Tomokomai, the captured by-product gas is piped from the Idemitsu Kosan refinery and CO2 is pulled out as it passes through an amine solution. By using the remaining gas to generate power and recycling heat, energy costs are cut by one-third to one-half of a typical extraction plant.

Many developers are trying to increase the technical and financial efficiency of producing green or blue hydrogen by using excess heat and power in the electrolysis or capturing process.

Converting the grid

On the end user side, technology keeps advancing to be integrated into daily lives. High-volume hydrogen gas turbines are being developed, looking to replace the ubiquitous natural gas fueled units.

Upgrades are essential as hydrogen blends lead to combustion temperatures that are too high for conventional gas turbines. It is also highly reactive and has a high laminar burning velocity.

The volumetric energy density of hydrogen is a third less than methane or natural gas. Therefore, it takes 3x more volume flow of hydrogen to provide the same energy input as the alternative.

This is why hydrogen is currently blended with slower burning fuels to allow it to extend flammability limits and enhance flame propagation.

As a result, operating a gas turbine requires a fuel accessory system configured to adjust the fuel system accommodating the increased flow. Many companies are committing R&D efforts to use blends of hydrogen without further capital investment as retrofitting hydrogen-friendly turbines is not cost effective.

GE, using a number of new technologies, is promoting its ability to handle 90% hydrogen by volume in its operating pipelines. Its DLN2.6e combustion system, which was developed as part of a US Department of Energy programme to make gas turbines capable of burning high concentrations of hydrogen, will be able to sustain a larger hydrogen percentage for when tides shift towards different fuels.

GE's new combustion system uses small scale jet-in-crossflow mixing of the fuel and air streams. The miniaturized tubes function as fast mixers, enabling premixed combustion for gaseous fuels with higher reactivity.

As the share of hydrogen is increased in the gas pipelines, industry professionals may have more ease of mind when investing in large- or small-scale, gas-fired plants if they can take the increased percentage of hydrogen.

Transport Solution

On the road, new technologies are being accelerated in the automotive industry. Advancements in fuel cell technology are progressing at pace as years of R&D pay off. However, even if hydrogen vehicles were to be deployed at scale, a hydrogen fuel network must be developed first… a similar issue faced by EV charging.

New technology developed by the EPFL Swiss Federal Institute of Technology is planning to establish small hydrogen fueling stations in private households to facilitate the establishment of a comprehensive hydrogen fuel network.

EPFL has developed a hydrogen compressor with a metal hydride ZrMn1.5. The material can store hydrogen without requiring energy and can release the gas when heated in a liquid state to be used for fuel.

GE's new combustion system uses small scale jet-in-crossflow mixing of the fuel and air streams

EPFL has developed a hydrogen compressor with a metal hydride ZrMn1.5.

Being able to compress hydrogen in households would allow for private hydrogen fueling stations, which could then be shared with others, creating a hydrogen fueling network.

Meanwhile, a strong push from China's Sinopec – the world's largest oil refiner which emits more than a quarter of the world's carbon dioxide – saw it announce a reallocation of resources along the hydrogen chain, from its production through to refueling stations.

Sinopec last year teamed up with France's Air Liquide to open two hydrogen stations in Shanghai, which combined commercial gas and hydrogen fuel services. The gas stations have two gasoline tanks, two diesel tanks and four hydrogen tanks combining the two fuels and recycling the former gas station to create a secondary energy complex.

The current plan in Shanghai is to have 1,000 hydrogen filling stations and one million hydrogen-powered vehicles by 2030.

China is looking to convert to grow out its fuel cell technology for the benefits it has over other technologies. It is also better for the environment compared with its electric battery counterpart, as hydrogen fuel cells require less charging and do not contain heavy metals which can cause environmental contamination if not managed properly.

The use of hydrogen fuel cells in longer and heavier modes of transport are abundant. There are limitations to the capacity to electrify trucks, trains and aircrafts, leaving hydrogen fuel cells as one of the key means for decarbonization.

The potential for hydrogen is seemingly endless and answers many questions of what our world may look like without burning fossil fuels. For now hopes centre on the hype lasting long enough to effect change. ■

Solar Power – Top Trumps

IJGlobal reporter **Elliot Hayes** turns the Top Trumps focus on solar panels, identifying some of the market leading units and mapping out strategies favoured by the manufacturers…

With the cost of solar power reaching historic lows paired with the relative ease of construction and production stability, solar power is one of the safest bets for renewables investment. The International Energy Agency takes it one step further, stating that solar power is "the cheapest electricity in history".

IEA chief Dr Fatih Birol anoints solar as the clear leader of future energy markets saying: "I see solar becoming the new king of the world's electricity markets."

However, the technology behind solar power runs a poor second to wind energy when it comes to PR. The likes of Vestas and Siemens Gamesa have become household names when the same cannot be said of solar power players, unless you buy into Tesla's (genius) solar roofing solution… which has yet to come to market properly.

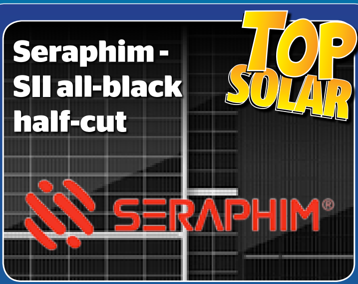
This general perception is beginning to change with record low prices being achieved and a shift in direction for panel

IEA chief Dr Fatih Birol

"I see solar becoming the new king of the world's electricity markets."

manufacturers heralding a sexier future on the horizon for solar energy.

In the past, most improvements to panel performance came from efficiency gains due to advances in solar cell technology. While that is partly a driver behind the massive jump in panel wattage, the main factor is new larger cell sizes being developed together with a greater number of cells per panel.

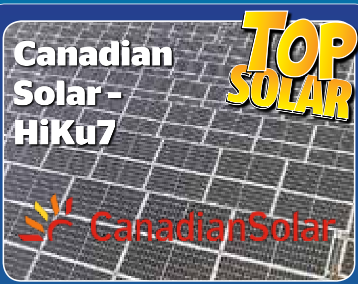


Power:	**530W**
Cell Size:	**210mm**
Cell Type:	**P-Type HC Mono PERC**
Efficiency:	**20.3%**
Available:	**Q1 2021**
Dimensions:	**2,115x1,052**

The multi-busbar improves the power generation performance of the cells, and the half-cell technology reduces losses caused by ribbon resistance

Solar efficiency has been at the forefront of developers' minds in the lead-up to 2020. This year we have seen a shift in focus from increasing the efficiency of the panel to boosting net power. Since early summer many industry leaders have been announcing panels of 500W and more, but in July Trina Solar was the first to break into the next bracket launching its 600MW model called Vertex. It also claims to be close to having a fully-developed 660W panel to bring to market.

Zhang Yingbin, head of product strategy for Trina Solar, says: "The Vertex ultra-high power module is based on the brand new 210/M12 cell technology, combining Trina's more than 20 years of technological experience and innovation, excellent R&D team and first-class domestic intelligent manufacturing base.



Power:	**655W**
Cell Size:	**182mm**
Cell Type:	**P-Type HC Mono PERC**
Efficiency:	**21.4%**
Available:	**Q3 2021**
Dimensions:	**2,384mm x 1,303mm**

The HiKU 7 comes in both bifacial and monofacial with the modules featuring 132 monocrystalline half cells. The panel has an anodized aluminum frame and 3.2mm of tempered glass

"This combination makes the Vertex series modules quickly become the new benchmark in the industry. At the same time as technological innovation, Trina Solar has been cooperating with third-party organisations to jointly explore the testing methods and evaluation standards for the long-term reliability of modules."

However, its lead on power output did not last for long and the following month (August) Jinko Solar announced its 610MW Tiger Pro 78TR panel at the SNEC PV Power Expo in China.

Dr Jin Hao, CTO of JinkoSolar, comments: "Reducing costs and increasing efficiency is the goal that the industry has always been striving for. JinkoSolar has always been committed to providing global customers

Dr Shawn Qu

"Following the launch of our 500 W+ modules, I am excited to introduce our 600+ W modules, which marks another milestone for Canadian Solar."

with high-efficiency, top quality, and extremely reliable solar modules.

"We will increase our investment in R&D to ensure constant innovation in our technology, improve our products' performance, and ensure the highest system compatibility. This will allow us to fulfill our commitment to offer the best service to our global customers and to allow the application of our solar modules in a variety of scenarios, further empowering the solar PV industry and achieving grid parity."

Also in August, Canadian Solar started talking about its HiKu 7 650W model. It is not yet clear when the module will be on the market, but it appears to be the most powerful that will come to market soonest.

Dr Shawn Qu, chair and chief executive of Canadian Solar, remarks: "Following the launch of our 500 W+ modules, I am excited to introduce our 600+ W modules, which marks another milestone for Canadian Solar as the leader in solar PV cell and module technologies."

He adds: "As always, the design of our new Series 7 modules puts our customer needs at heart. Our focus is not only to increase power wattage but – more importantly – to reduce LCOE, improve product reliability and increase energy yield. These product and technological innovations will continue to boost solar project returns, further improve solar energy's competitiveness and accelerate the global clean energy transition."

The panel will come in both bifacial (BiHiKu 7) and monofacial (HiKu) models, giving clients the option to choose between the two technologies.

Power:	**540W**
Cell Size:	**182mm**
Cell Type:	**P-Type HC Mono PERC**
Efficiency:	**21%**
Available:	**Q2 2020**
Dimensions:	**2,256×1,133mm**

The modules adopt "smart soldering" using integrated soldering ribbons that maximize light capture and connect cells with reduced gap distance and reduce the tensile stress of the cell

Bifacial versus Monofacial

The technology behind bifacial solar panels has been around for quite some time – since the 1960s – but it has taken time to gather momentum due to its higher cost in comparison to monofacial units.

However, as prices started to drop and further advancement on technology and knowledge on how to measure accurately the cost of bifacial plant – as well as how to accurately predict the power production with all of the variables accounted for – bifacial looks set to become the industry standard.

If adopted, bifacial modules can produce additional power of 10-20% over monofacial panels. If conditions are optimised and single-axis trackers used, that additional power can be as much as 30-40%.

"Bifacial modules are the future of the industry," said Hongbin Fang, technical director of LONGi Solar. "It inherited all the advantages of mono PERC modules: high power density resulting in significant BOS savings, high energy yield with better low-light performance and lower temperature coefficient.

"In addition, bifacial PERC modules also harvest energy from the rear side, demonstrating higher energy yield. We


Hongbin Fang

"Bifacial PERC modules also harvest energy from the rear side, demonstrating higher energy yield."

think bifacial PERC modules are the best approach to realize lower LCOE."

Talking about predicting how much energy the module would produce, a solar source says: "The challenge with bifacial is predicting the power output from the bottom panel as it is dependent on whatever is underneath the panel and how good that is at reflecting onto the panel."

Power:	**605W**
Cell Size:	**210mm**
Cell Type:	**P-Type 1/3-cut Mono PERC**
Efficiency:	**21.3%**
Available:	**Unknown**
Dimensions:	**Unknown**

It is not yet known when the HIPower Ultra will be ready for release, but what we do know is that this series has half-cut cells, multi-busbar, and bifacial technologies

The industry source adds: "Until this can be properly forecasted, lenders will continue to feel uncertain about using this type of module."

Wood Mackenzie anticipates that bifacial solar will by 2024 account for more than 17% of global installations. By 2030, Bloomberg New Energy Finance believes bifacial will account for 35% of the market share among all silicon PV modules.

But there's a lot more to panels and their performance and one of the key elements is how they are fixed to the ground, with significant technological advancements logged in the last couple of years.

Power:	**610W**
Cell Size:	**182mm**
Cell Type:	**N-Type HC TOPCon**
Efficiency:	**22.3%**
Available:	**Q1 2021**
Dimensions:	**2,411mm x 1,134mm**

The Tiger Pro models comes in bifacial and monofacial and include the combination of Tiling Ribbon technology, 9-MBB and half-cut cell technologies, on M10 large-area (182mm x 182mm)

Solar Tracking

Fixed-tilt solar panels on utility-scale projects are a thing of the past. It is understood that around 80% of solar farms in the world now use some form of solar tracking. Not only is this more efficient, but it also increases net power by around 30%.

However, it also comes at a price. Trackers only really make financial sense when the yield gain over fixed-tilt is more than the capital expenditure of the system itself.

Single-axis solar trackers follow the course of the sun east to west, rotating on a single point, moving either in unison, by panel row or by section. Dual-axis trackers rotate on both the X and Y axes, making panels track the sun directly.

Solar trackers have quickly become the go-to technology to mount panels to the foundations. Much like with the panels themselves, cost and space have been a huge benefit for single axis trackers, costing less and taking up less space.

"Trackers will be instrumental to the continued wide scale adoption of solar energy products around the world," said Jeff Krantz, chief commercial officer of Array Technologies.

"The combination of weather data and machine learning algorithms allow us to identify the optimal position for a solar array in real time, generating up to 25% more energy than "fixed tilt" or non-rotating panels.

"This increased energy output makes solar a more attractive and cost competitive energy solution and represents a significant value to the customer. We are confident that the increasing use of trackers will continue to accelerate the adoption of utility-scale solar projects well into the future."

Furthermore maintenance and its related costs on the dual axis are a big deterrent for the technology but, developer confidence is growing in these mechanisms and – more importantly – bankers are increasingly comfortable lending against this technology.

What's next?

Some are pointing towards floating solar energy as the future for the industry. Virtually untapped, the first solar farm to be floated was in 2007 at a Californian vineyard. Since then only another 350 have been built, equating to some 2.6GW, with significant advancements expected in this space across Asia in coming years.

Power:	600W
Cell Size:	210mm
Cell Type:	N-Type 1/3-cut TOPCon
Efficiency:	21%
Available:	Q1 2021
Dimensions:	2,176 × 1,098

Based on silicon wafer and monocrystalline PERC cell, the Vertex comes with several innovative design features allowing for its high power output

"Floating solar technology has huge advantages for countries where land is at a premium or where electricity grids are weak," says Riccardo Puliti, senior director for energy and extractives at the World Bank.

> *"Floating solar technology has huge advantages for countries where land is at a premium or where electricity grids are weak."*
>
> **Riccardo Puliti, senior director for energy and extractives at the World Bank**

"Governments and investors are waking up to these advantages, and we are starting to see interest from a wide range of countries in Africa, Asia and Latin America."

Obviously, developers are looking at more powerful panels. This, however, does often mean larger panels as was seen with the JA Solar announcement for an 800W solar panel… appropriately called Jumbo. The panel stand 2.2 meter high by 1.75 meter long, making it less practical for utility-scale use.

But the fact remains that the price of solar energy continues to drop and the technology continues to improve, so whatever shape and size panels come in, the outlook of solar is… sunny. ■

Q&A: Brazil's energy minister, **Bento Albuquerque**

In an exclusive interview with Bento Albuquerque, Brazil's minister of mines and energy, *IJGlobal* Americas senior reporter **Juliana Ennes** is brought up-to-date on big plans to use the energy sector as a propellant for economic recovery

While financial markets are still reacting to news of a vaccine to the novel Coronavirus, several emerging market countries plan not to wait for the return to normal before launching strategies for economic recovery, promising great competition for long-term capital willing to invest in riskier markets.

Brazil is well aware of the risks it is facing, given that projections anticipate its economy shrinking to a point that could push it out of the 10 largest economies in the world in 2021 – having held the sixth position just 4 years ago.

The government's plan is to use the infrastructure sector to attract both local and international investors. And the area best positioned for boosting investments is the power sector, with its solid history of 20 years of auctions and a stable regulatory framework – a stark contrast to other sectors in the country that are still trying to establish private investment as a rule, such as sanitation and airports.

Bento Albuquerque has high expectations for the transmission lines' auction scheduled for 17 December. He believes that the energy sector is "an essential element" of Brazil's economic recovery, and says auctions to purchase electricity will resume in 2021.

The government is working on the forecast of an average annual growth to the electricity matrix of 3.3% for the next 10 years, which will require investments of around R456 billion ($85 billion). That covers all types of technology, with the last frontier being hydrogen, offshore wind and light fuel cell vehicles with ethanol, passing through natural gas, biofuels, distributed energy and storage resources, and electric cars.

Bento Albuquerque talked to *IJGlobal* after a roadshow with international investors organized by the country's export agency Apex-Brasil.

Expectations are high for the transmission lines auction scheduled for December

Juliana Ennes – What are the expectations for the transmission lines auction scheduled for December?

Bento Albuquerque – Expectations are positive. In a recent event for attracting investors organized by Apex-Brasil and ANEEL, in partnership with the Ministry, we had around 580 subscribers, 28 countries (primarily Brazil, China, US, Spain and France), 147 CEOs and directors of several international companies. In the last transmission auction, we also had the presence of foreign companies, strong competition and discounts (on the tariff offered). Brazil is on investors' radar. Approximately 35% of total foreign direct investments in Brazil in 2019 were concentrated in mining and energy projects.

JE – How much competition is expected?

BA – A level of competition is expected similar to that of the Transmission Auction held in December 2019, which ended with the highest record average of fees discount since 1999, of approximately 60.3%.

JE – What types of investors have already demonstrated interest in bidding?

BA – In addition to traditional investors and the most diverse regions of the world, we currently have the participation of different investment funds and pension funds.

JE – How does this bidding round differ from the previous ones? How has the pandemic impacted the round (there were fewer projects than originally expected)?

BA – The Covid-19 pandemic implied, at first, the suspension of all tenders scheduled for 2020 (generation and transmission). We then consulted with the agency that represents power concessionaires – Concessionárias de Serviço Público de Distribuição de Energia Elétrica – about the interest in maintaining the transmission facilities previously planned for bidding in 2020. We also discussed which would be integrated into their respective distribution systems, as well as contributions presented by EPE and ONS (the power planner and operator, respectively). As a result, the 2 transmission auctions planned for 2020 were combined into a single bidding process scheduled for December 2020, with a more adjusted scope of works. In the same scope of bid planning, ordinance 279/2020 was published, indicating the multi-annual calendar of the transmission segment until 2022.

JE – Some transmission lines in the country have faced challenges in terms of environmental licenses... such as Engie's Gralha Azul project, in the state of Parana. How can the government provide security for future investors to minimize the risk of similar issues?

BA – The Brazilian government works with a focus on good governance, strengthening legal and regulatory security, respecting contracts and ensuring predictability and transparency for investors. The undertakings are monitored by the Electric Sector Monitoring Committee (CMSE) and by a governance dedicated to supporting the designers in the Electric Energy Secretariat (through the Electric Sector Expansion Monitoring Department – DMSE), as well as the Special Advisory of the Environment, both from MME. Also, it has the support of the Secretariat of Support for Environmental Licensing and Land Affairs in the Ministry of Economy.

JE – What role will the power sector play in the post-pandemic economic recovery?

BA – Energy is an input for growth and, today, an essential element for economic recovery. In the 10-year planning of energy expansion, the electrification of the Brazilian matrix is expected for the next 10 years, with an average growth of 3.3% per year and a clear sign of the presence of renewables, especially wind and solar. In order to cope with this challenge of expanding and providing energy security, investments to the order of R456 billion ($85 billion) will be necessary, of which R300 billion will be for centralized generation, R100 billion will be for electricity transmission and another R56 billion for distributed generation.

In addition to analyzing recovery through indicators such as consumption and payment defaults, which are already at levels similar to that of 2019, we have certain macro and micro economic parameters that show the path that the Brazilian government is taking towards the construction of a favorable business environment.

The Ministry of Economy has just published data on the macroeconomic situation that indicate a strong recovery for the economy, consolidating in the third quarter of 2020, based on the positive performance of productive sectors. Indicators show business and consumer confidence – which demonstrate a more generalized climate of optimism – in addition to high-frequency indicators, which verify an increase in retail sales through credit cards and energy consumption.

The industrial sector already operates at levels of capacity utilization similar to what occurred before the health crisis. The total collection in August also exceeded market estimates, reaching R124.505 billion, which demonstrates a possible faster recovery in economic activity than anticipated by the market. The Brazilian government has had a strong pro-market performance, demonstrated by fiscal rigor, the privatization agenda, low interest rates and favorable exchange rates, in addition to aspects such as a thriving consumer market and high energy and mineral potential.

JE – Which technologies will have a more important role and how does the government plan to incentive them?

BA – When we look at our planning studies – the Decennial Energy Plan and the National Energy Plan, the latter covering a horizon of 30 years ahead – we realize that Brazil is a privileged country in terms of abundance of energy sources and alternatives for the development and implementation of new technologies. The last 20 years have been very important for us, as a country, to realize that the best way we have to foster the development of new sources of energy and technologies is to enable a predictable investment environment, with adequate incentive structures and that protect competition and investors.

The Brazilian state is concentrating its resources on policy areas where private resources are much scarcer. Therefore, the work to encourage new technologies takes place through the regulatory reforms that we are undertaking in the energy and gas industries, which will enable a more competitive environment, where those who do not innovate may lose competitiveness and fall behind. We also see space in the development of markets related to the reduction of GHG emissions, as is the case with RenovaBio.

However, in terms of technical development, what we see through our planning studies is that, in Brazil – a country whose energy consumption is still growing to accommodate a continuous improvement of livelihoods – there is room for all kinds of new technologies, the last frontier being hydrogen, offshore wind and light fuel cell vehicles with ethanol, passing through natural gas, biofuels, distributed energy and storage resources and electric cars, for example.

The economy and the energy sector are undergoing a digital revolution, combining state strategies and market forces, expanding connectivity and introducing applications of artificial intelligence and other technologies. There is potential for high-efficiency and competitiveness gains, as well as changes in the labor market, and cybersecurity will be an increasingly relevant issue. The electricity sector has a great propensity for digitalization to profoundly modify its market structure and transactions, the way in which the infrastructure is used and the relationship between consumers and this system.

Ultimately, such a digital revolution will lead to the creation, in the electricity sector, of smart grids that will allow greater capacity for observation, better control of assets and their performance, analysis of data from the operation of the system and greater price responsiveness. Allied to the so-called distributed energy resources, the implementation of smart meters, by providing a bidirectional flow of energy, better management of the consumption profile and enabling demand response, is one of the key variables for the decentralization of the operation of the electrical system and for the creation of new retail energy business opportunities. This vision of the future is already becoming a reality in several countries and will reach Brazil at a greater or lesser pace depending on the policies formulated, the regulatory environment and the income profile of consumers. It is necessary to recognize the countless benefits of digitalization, but also the high investment costs required, bringing to the agenda the discussion of who assumes such costs and how to share the benefits fairly.

Bento Albuquerque

"We realize that Brazil is a privileged country in terms of abundance of energy sources and alternatives for the development and implementation of new technologies."

JE – How much impact on the electricity demand is expected for the next few years?

BA – The effect of the pandemic is identified in the planning studies within the scope of the Ten Year Energy Expansion Plan shifting the demand curve for a few years ahead, the actions and reflexes in greater detail will be known and presented in the Ten Year Energy Expansion Plan 2030. In terms of electricity consumption, however, Brazil has already returned to levels prior to the pandemic. Consumer defaults have also been recovered over the past 4 months.

For the next 10 years, the expectation is that the number of residential consumers will grow 1.6% per year and, consequently, demand for electricity will grow 2.5% in the first 5-year period and 3.3% in the second 5-year period.

JE – How can this affect future power auctions?

BA – The auction calendar has already been revised and market studies have been constantly revised so that the bids are adequately sized for national needs. This is a planned process that allows the demand curve to be followed and reflected in the sector's expansion planning. The 10-year planning instrument is a central element in the assessment of this recovery path.

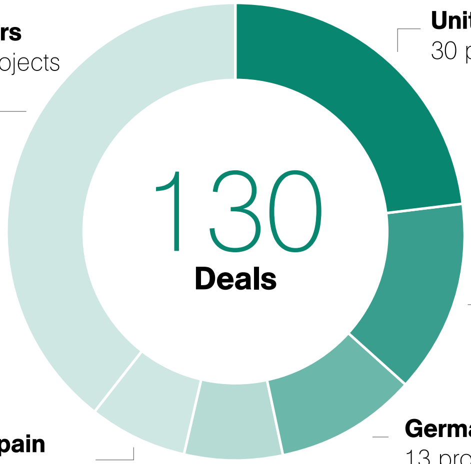
JE – What can we expect for future power auctions? The long-term bidding rounds have been postponed. Is there an expectation of when they will resume and what the demand will look like?

BA – The auction calendar, as per Ordinance 279/2020 has been revised and market studies have been constantly revised so that the bids are adequately sized for national needs.

We should expect to have 2 auctions per year for 2021 and 2022 for the transmission segment, an annual auction for isolated systems and the ordinary auctions for the purchase of new energy A-4 (plants that enter into commercial operation in up to four years) and A-6 (plants that go into commercial operation within six years) in 2021. ■

Europe

Tenders launched



Closed deal values by sector

Sector	Transaction count	Value ($m)
Mining	1	$275
Oil & Gas	8	$5,847
Power	12	$8,896
Renewables	81	$6,408
Social & Defence	15	$285
Telecoms	22	$7,632
Transport	8	$6,627
Power, Social & Defence	2	$3,406

Projects with recent tender updates

1	Ravenna Offshore Wind Farm (450MW)
2	Larnaca Port and Marina Area Redevelopment PPP
3	Uskmouth EfW Plant (220MW)
4	B247 Muhlhausen - Bad Langensalza Section (24.2KM) PPP
5	Altitude French FTTH Portfolio
6	Wales 21st Century Schools Programme Band B PPP
7	Acquisition of a Stake in Elsan
8	Cukurova Regional Airport PPP

Closed deals by country

	Transaction Country	Value ($m)	Count
1	**United Kingdom**	9,566	32
2	**France**	7,076	17
3	**Italy**	3,921	10
4	**Portugal**	3,763	2
5	**Denmark**	3,495	3
6	**Spain**	2,649	29
7	**Germany**	2,482	12
8	**Austria**	1,498	2
9	**Turkey**	1,361	2
10	**Norway**	1,250	1
11	**Ireland, United Kingdom**	437	1
12	**Netherlands**	350	5
13	**Greece**	341	4
14	**Russia**	275	1
15	**Ireland**	178	4
16	**Poland**	153	4
17	**Sweden**	129	3
18	**France, Germany, Spain**	126	1
19	**Bulgaria**	118	2
20	**Finland**	118	4
21	**Lithuania**	53	1
22	**Moldova**	24	1
23	**Croatia**	12	1
24	**Romania**	N/A	2
25	**Belgium**	N/A	1
26	**Belgium, France, Spain**	N/A	1
27	**Denmark, Norway, Sweden**	N/A	1
28	**Latvia**	N/A	1
29	**Switzerland**	N/A	1

Transactions that reached financial close

- 7 Aug — Granollers Court PPP
- 19 Aug — Acquisition of 54% in 4th Utility
- 31Aug — Acquisition of Radius and City Light
- 9 Sept — Helios Towers Refinancing 2020
- 15 Sept — Ecoener Wind and Hydro Portfolio Refinancing 2020
- 7 Oct — Kozani Solar PV Portfolio (204MW)
- 7 Oct — Acquisition of Sorgenia
- 29 Oct — A465 Road Section 5 and 6 Expansion (17.7KM) PPP

Germany's hydrogen plan – willing change

Germany is setting the standard for hydrogen projects in Europe at the moment, but a lagging regulatory framework for its use is being felt by the industry, as *IJGlobal* assistant editor **Anna Cole-Bailey** reports.

Germany is frequently lauded in the global hydrogen industry for playing a leading role in the planned adoption of the clean fuel source, as well as the evolution of its technology. National energy giants have – particularly in the past year – invested massively in R&D and testing electrolysers.

At the time of going to press, *IJGlobal* identified 4 hydrogen electrolysers in the planning:

- BP and Ørsted's Lingen green hydrogen project
- Siemens Silyzer 300 hydrogen plant
- Westküste100 offshore wind-to-green hydrogen project
- Thyssenkrupp steel mine plant

The newest hydrogen venture to be announced this year – in November – is a joint project by BP and Ørsted to develop a "potentially large-scale" green hydrogen project at BP's Lingen Refinery in Emsland, north-west Germany.

The Lingen green hydrogen plant will consist of a 50MW hydrogen electrolyser system which will be powered by an undisclosed Ørsted North Sea offshore wind farm and is expected to generate one tonne of green hydrogen an hour and 9,000 tonnes a year.

The companies have said that this level of generation will be sufficient to replace roughly 20% of the refinery's current grey hydrogen consumption – avoiding around 80,000 tonnes of carbon dioxide equivalent emissions a year.

The plant is slated for operation in 2024, while the duo has longer-term ambitions to build out more than 500MW of hydrogen electrolysis capacity at Lingen, potentially enabling the plant to produce all the refinery's hydrogen demand and provide feedstock for future synthetic fuel production.

Ørsted and BP have applied for funding from the EU Innovation Fund to support the project.

Lingen Refinery in Emsland

Siemens Silyzer

Siemens in September this year said it will build "one of the largest" green hydrogen plants in Germany. The 6MW Siemens Silyzer 300 (pictured) in Wunsiedel, Bavaria, is being installed by Siemens Smart Infrastructure in partnership with WUN H2 GmbH.

Siemens Silyzer 300

Hydrogen fuel produced at the plant will be used in the mobility and industrial sectors with hopes that it will help ease grid bottlenecks and allow for more flexibility in the grid.

Construction of the plant – slated for operation from the end of 2021 – will begin at the end of this year.

Siemens Silyzer will have:

- 6MW in the development phase
- capacity to produce 900 tonnes of hydrogen per year in the first phase
- capacity to produce 22,000 tonnes of hydrogen once fully operational

This year has been a year of hydrogen-focused collaborations for Siemens. It already set the wheels in motion in 2019 when it signed an MoU with German research company Fraunhofer-Gesellschaft to set up a laboratory and research centre looking at hydrogen storage capabilities on the site of Siemens' Görlitz plant in Saxony, eastern Germany.

The duo agreed to contribute €30 million ($35.5m) in total to accelerate hydrogen projects and support decarbonisation efforts in the Lusatia region as part of Germany's phase-out of coal-fired power.

Raffinerie Heide

"Hydrogen is just made for companies like Siemens," says Peter Conway, director of energy advisory consultancy Energy Estate. "German manufacturers have a good track record of working closely and well together."

Elsewhere, Siemens and German energy company Uniper in April formed a joint venture to decarbonise Uniper's gas-fired power plants and gas storage facilities using green hydrogen.

The collaboration followed Uniper's pledge at the start of the year to close or convert all of its coal-fired power plants in Europe by 2025.

The energy supplier has since served up plans to build an industrial-scale, wind-powered green hydrogen plant and underground storage facility near Bad Lauchstädt in eastern Germany – touting that it would become Europe's first underground hydrogen storage facility and the first globally to store green hydrogen.

Siemens Mobility, meanwhile, entered into an MoU in early October with the recently spun-off Siemens Energy to develop hydrogen systems for trains. Siemens Energy will produce the systems required for hydrogen generation, while Siemens Mobility will focus on maintenance and depot facilities/equipment.

Westküste100

The Westküste100 offshore wind-to-green hydrogen project in Schleswig-Holstein, northern Germany, gathered pace this year– becoming the first green hydrogen project to secure financial backing from the government.

The project's JV H2 Westküste – led by EDF Germany, Ørsted and Raffinerie Heide – was formed in 2019 on a 5-year mission to build a 30MW electrolysis plant that will produce green hydrogen on the site of the regional refinery Raffinerie Heide (pictured).

The JV in August secured €30 million from the Bundesministerium für Wirtschaft und Energie to build the €89 million plant, which will start at 30MW with the aspiration of scaling it up to a capacity of 700MW.

The year before (2019) the Westküste100 laboratory was set up to support research and testing of the electrolysis plant.

The project has attracted 10 sponsors consisting of EDF Deutschland, Holcim Germany, OGE, Ørsted, Raffinerie Heide (regional refinery), Stadtwerke Heide (regional refinery), Thüga, Thyssenkrupp Industrial Solutions, Entwicklungsagentur Region Heide AöR and Fachh-ochschule Westküste – University of Applied Sciences.

Raffinerie Heide mandated law firm Mayer Brown to advise on the process.

Green hydrogen for steel

German electric utility RWE and steel producer Thyssenkrupp in June announced a partnership to try and flow hydrogen from RWE's Lingen power plant in the state of Lower Saxony, north west Germany, to Thyssenkrupp's steel mine in Duisburg, western Germany.

RWE is already experimenting with electrolysis that could supply green hydrogen at its Lingen plant.

Thyssenkrupp steel mine

"We have enormous subsidies for very small installations which do not really produce a significant share of electricity in the network."

If the project goes to plan, the 100MW electrolyser RWE is building at the Lingen plant could produce 1.7 tons of gaseous hydrogen per hour – corresponding to around 70% of the quantity required by the Duisburg steelmaker's blast furnace, the companies have said.

The power conversion would "translate theoretically into around 50,000 tons of climate-neutral steel".

The project involves:

- building a 100MW electrolyser at RWE's Lingen plant
- connecting to a hydrogen network to transport gaseous hydrogen to the steel mill, with the first flow of hydrogen planned for 2025
- conversion of Thyssenkrupp's blast furnace by 2022

Achilles' heel

Interest in hydrogen technology is likely to grow among developers following the publication of the German government's hydrogen strategy in June – followed by the EU's strategy in July.

The government's national strategy was accompanied by a €9 billion ($10.2bn) cash injection into the hydrogen industry, and set a national target of achieving 10GW of electrolysis production over the next 2 decades.

The 28-page document favours "green" hydrogen – electrolysers fuelled from renewable energy sources – ahead of the less popular "blue" or "grey" alternatives.

Meanwhile, the EU Hydrogen Strategy by the European Commission detailed a 3-phase investment plan for deploying hydrogen electrolysers across Europe over the next decade.

The EU is targeting the deployment of 40GW of electrolysers between 2025 and 2030, which, from now to 2030, would require an investment of between €24 billion and €42 billion, according to European Union estimates.

Retrofitting half of Germany's existing plants by 2030 with carbon capture and storage (CCS) is estimated to cost around €11 billion, the strategy says.

"The EU has committed a lot of funding to a green recovery and what you have as a result is seemingly the political will and the beginnings of the economics that could make hydro realisable as a genuine alternative fuel source," says Conway.

But if Germany is to be a leading light in the adoption of hydrogen technology in Europe, changes to the status quo will be necessary, according to some in the industry.

The "heavy" grant-based system so far used by the German government to finance renewable energy projects has attracted criticism.

"We have enormous subsidies for very small installations which do not really produce a significant share of electricity in the network, but require huge payments under the German support scheme. I hope this time the government will really support the big players and the technology developers," says Hogan Lovells partner Stefan Schröder.

Andrew Clennett, co-founder and chief executive of Hiringa Energy, adds: "The German government has not looked at how you finance hydrogen projects by commercial means. The emphasis should be on modern financing and working with banks and private equity companies."

The government's €30 million backing of Westküste100 is a significant milestone for the hydrogen industry. But it has escaped the notice of few in the industry that hydrogen's greatest weakness is the absence of a legal and regulatory framework to ease it into the national energy mix – which deters investors.

It is too early for project financing in the hydrogen market, which will continue to temper enthusiasm, according to Juan Carlos Badillo (pictured), managing partner of financial advisory boutique AtZ Advisors.

It is too early for project financing in the hydrogen market, which will continue to temper enthusiasm.

As Schröder echoes, infrastructure projects are being put on hold because stakeholders are unclear what the regulatory environment for natural gas will be and where it will be applied.

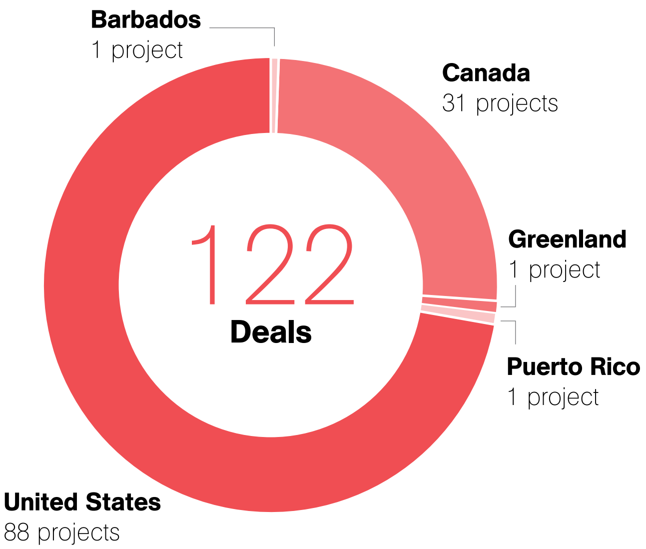
Nicholas Cole, business director, financial assurance, UK & Ireland at DNV GL, adds: "There is some uncertainty around whether hydrogen will fall under the definition of gas for the purposes of transmission, and this will require clarification to give investors sufficient comfort that hydrogen infrastructure has support via a regulatory framework. At the moment infrastructure investors are focusing on other countries within Europe that have more developed frameworks to support the transition to hydrogen."

A lot rests on whether the government will follow up on its hydrogen strategy with a more robust regulatory framework for the use of hydrogen – and when.

However, with the impetus being driven primarily by industrial heavyweights like Siemens, BP, EDF and Thyssenkrupp, policy will follow in time… even if the cart is clearly coming before the horse for now. ■

North America

Tenders launched



Projects with recent tender updates

1	Acquisition of a 50% Stake in Equinor US Offshore Wind Portfolio
2	Austin City Transport System Redevelopment
3	DeKalb County Wastewater Treatment System Refurbishment
4	Eastern Ontario Fiber Optic Broadband PPP
5	Acquisition of Direct Energy
6	Hudson Tunnel Refurbishment PPP
7	Prince George School Bundle P3
8	University of Illinois Hospital PPP

Closed deal values by sector

Oil & Gas
Transaction count **26**
$29,480 ($m)

Power
Transaction count **21**
$12,251 ($m)

Renewables
Transaction count **62**
$10,352 ($m)

Mining
Transaction count **1**
$1,500 ($m)

Social & Defence
Transaction count **5**
$966 ($m)

Telecoms
Transaction count **5**
$5,165 ($m)

Transport
Transaction count **26**
$5,559 ($m)

Water
Transaction count **2**
$180 ($m)

Closed deals by country

	Transaction Country	Value ($m)	Count
1	**United States**	58,591	132
2	**Canada**	7,885	15
3	**United States, Virgin Islands (US), Puerto Rico**	1,200	1
4	**Canada, United States**	75	1
5	**Virgin Islands (US)**	22	1
6	**Puerto Rico**	N/A	1

Transactions that reached financial close

- 25 Aug — Prospero 2 Solar PV Plant (331MW)
- 27 Aug — Cascade Alberta CCGT Power Plant (900MW)
- 28 Aug — Broadway Subway Phase II (5.7KM) PPP
- 8 Sept — San Marcos Public Services Complex PPP
- 15 Sept — Gray Oak Pipeline Refinancing
- 17 Sept — Armow Wind Farm (180MW) Refinancing
- 8 Oct — Acquisition of Vivint Solar
- 30 Oct — Acquisition of a Stake in TransAlta Hydro Portfolio (1150MW)

The molecule of the moment – green hydrogen US

Project finance circles have been abuzz lately with the prospect of financing green hydrogen production facilities, while power and utility companies are trying to incorporate the alternative fuel into their generation streams. **Taryana Odayar** reports.

The potential for green hydrogen – which can be made by electrolysing water using electricity from renewable resources – has come to the fore in recent months as a range of companies in the transportation and power sectors have announced initiatives to either produce the fuel, use it, or both.

Producing hydrogen in this way – as opposed to more established but less climate-friendly methods involving fossil fuels – had been prohibitively expensive until recently. The falling cost of renewable energy makes it increasingly viable and competitive, opening the door to a range of applications.

"As renewable energy capacity demand increases and prices drop, the cost of hydrogen production by 2030 could drop by 70% from current levels," wrote Carolina Dores, co-head of Morgan Stanley's European utilities equity research team, in a recent note. "The key to cost savings could be hydrogen production facilities built jointly with wind/solar farms, so producers could generate power without incurring grid fees, taxes and levies."

One renewable energy developer that has already seized on this co-location opportunity is Apex Clean Energy, which recently partnered with fuel cell manufacturer Plug Power to develop a network of green hydrogen production facilities that will leverage Apex's development pipeline of projects.

Plug Power's hydrogen fuel cells are used by customers to power vehicle fleets or provide back-up power needs, among other applications. The company is aiming for 50% of the hydrogen it supplies to clients to be from renewable sources by 2024.

"We expect the levelised cost of hydrogen produced by renewables to continue to decline while providing active returns for our investors," said Andy Marsh, chief executive of Plug Power. "Green hydrogen represents a substantial growth opportunity for the broader renewable industry that

accelerates decarbonizing the electric grid and producing clean hydrogen fuel to serve many industries."

Meanwhile, regulated utilities and other power companies are also considering how either to use hydrogen as an alternative fuel for generation or, conversely, use excess generation to produce green hydrogen.

One of NextEra Energy's utility subsidiaries, Florida Power & Light, is planning to do both at the same time. The company is developing a $65 million pilot project that will use a 20MW electrolyser to convert excess solar generation into green hydrogen that will be burned in its 1,622MW Okeechobee Clean Energy Center gas-fired plant.

Dominion Energy is also exploring the possibility of blending more green hydrogen into its fuel supply mix, having already used a 10% hydrogen blend in gas-fired assets.

"We committed a couple of years ago to making sure our LDC (local distribution company) system is ready to accept up to 5% hydrogen by 2030, so just in the next decade," said Diane Leopold, president and co-chief operating officer, on the company's 31 July (2020) earnings call. "Our initial pilot is in advanced planning stages in Utah. So, high level, we think there's going to be a lot of activity in this area."

Utilities are also working with turbine manufacturers on updates to technology that will enable greater use of hydrogen in power generation.

Entergy Corp and Mitsubishi Power recently signed an agreement to develop – among other things – hydrogen-capable combined-cycle machines and green hydrogen production, storage and transportation facilities.

Mitsubishi announced the sale of its first hydrogen-capable advanced class gas turbines in March this year. They will be fitted in Intermountain Power Agency's 1.8GW Intermountain Power Plant in Utah, which the utility aims to convert from coal to a mixture of 30% hydrogen with natural gas by 2025, ramping up to 100% green hydrogen fuel by 2045.

Plans are also in the works to convert Fortress Transportation and Infrastructure Investors' recently financed Long Ridge Energy Terminal gas-fired project in Ohio to run on hydrogen, starting with a blend of natural gas and hydrogen as soon as next year, when it is scheduled to begin operations.

Fortress financed the 485MW combined-cycle facility last year (2019) with a unique non-bank unitranche loan totaling $742 million. Clinching the financing was no easy feat, owing in part to the project's unusual commodity hedge structure with counterparties including Morgan Stanley Commodities, EDF Trading and Axpo US.


Noam Ayali

"If you look at stock market investing chat rooms, everyone is trying to invest in hydrogen and fuel cell companies."

New Fortress Energy, which is a portfolio company of FTII's sponsor, Fortress Investment Group, will collaborate with General Electric on the conversion project, with the aim of rendering the plant capable of burning 100% green hydrogen within the next decade.

The CCGT is still under construction and is due to be online in November 2021, so Fortress and GE are aiming to make the project the first purpose-built hydrogen-burning power plant in the US. It is also expected to be the first in the world to blend hydrogen in a GE H-class turbine.

"We are thrilled to work with the Long Ridge and New Fortress Energy teams on this first-of-its kind GE HA-powered project that will drive a cleaner energy future by utilizing hydrogen to ultimately produce carbon-free power," said Scott Strazik, chief executive of GE Gas Power.

The plant's GE 7HA.02 combustion turbine can burn gas with a hydrogen content of between 15% and 20% of total volume initially, transitioning to 100% hydrogen over time.

Zero, a new division of New Fortress Energy created to invest in and deploy emerging hydrogen production technologies, will also support the project, as will engineering firm Black & Veatch, which has been engaged to assist with the hydrogen blending integration.

For its initial hydrogen blending tests, Long Ridge will use hydrogen that is produced as an industrial byproduct nearby. For the production of green hydrogen with electrolysis, the plant has access to water from the Ohio River. Over time, underground salt formations could be used for large-scale hydrogen storage.

"Long Ridge has many advantages in the pursuit of green hydrogen and zero-carbon power and this partnership allows us to get firsthand knowledge and experience blending hydrogen and natural gas in GE turbines," said Wes Edens, chief exec and chairman of New Fortress Energy. "Our singular focus has been to identify and support clean technologies that can eventually produce hydrogen at commercially attractive prices."

Such gas-to-hydrogen conversions could also be an option for larger independent power producers, such as NextEra, as existing projects roll off contracts.

Financing opportunities

Existing green hydrogen infrastructure is thin on the ground, so there is in theory a huge opportunity for financiers to fund the capital expenditure that will be required to build it out. But as with any emergent technology, the first movers will be taking the biggest risks.

"If you think about a lot of these hydrogen-focused companies, you'll see equity markets running up valuations, and if you look at stock market investing chat rooms, everyone is trying to invest in hydrogen and fuel cell companies," says Noam Ayali, a partner in Norton Rose Fulbright's Washington, DC, office. "But these are still start-ups or early-stage companies that don't have a balance sheet yet."

Even in the case of the Long Ridge CCGT conversion, which is backed by a well-established infrastructure investor, funding an investment in an associated hydrogen production facility with project finance debt would raise the specter of "project-on-project risk," notes Ayali.

Although there are many examples of project-on-project risk – especially in the LNG-to-power sub-sector, where floating storage regasification units, port infrastructure, gas pipelines and power plants can all be financed simultaneously – a fair amount of structuring work and risk allocation is needed.

Having the same lenders for the green hydrogen project and the project for which it supplies the fuel may make sense in some cases, says Ayali. "You can see how the whole chain is connected and how complexity comes in, but it has definitely been done before."

In the case of Long Ridge, Fortress may elect not to finance the green hydrogen production facility while the CCGT is still under construction, since the plan is to use industrial byproduct hydrogen initially.

Project finance structures

More generally, for any hydrogen production project, a key consideration for potential long-term debt financing will be the creditworthiness of any offtaker.

Solena Group company SGH2 is developing one of the world's largest green hydrogen production projects in Lancaster, California, using a unique technology. The facility will produce hydrogen by gasifying recyclable paper waste, a technique that the developer says is cheaper and even more climate-friendly than electrolysis. The facility is due to be operational in 2023.

"Assuming that SGH2 set this up with an SPV structure that meets our criteria, we could evaluate this as a project financing," says Trever D'Olier Lees, a senior director at S&P Global Ratings.

The rating agency would evaluate construction, operational, transaction and counterparty risks, including:

- evaluating performance guarantees provided by the front-end engineer Fluor as well as EPCM contracts
- the reliability of the recyclable waste feedstock and associated commercial arrangements
- costs associated with running the project and any potential margin risk if the sale price of the green hydrogen output does not include a pass-through of any increases in those costs
- whether the gasification technology itself is proven and scalable. This assessment would include consideration of how guarantees work – timely payment would be key.
- how much of the offtake is purchased through long-term contracts versus spot market sales that would expose the project to market risks, either through volume or pricing mechanisms

"We have rated biofuel projects and a key credit driver was the pressure on financial performance as market prices fell," adds D'Olier Lees.

Since green hydrogen facilities can run on flexible schedules, another option would be to integrate them commercially into contracted renewable energy projects to convert any excess capacity into hydrogen. In this case the green hydrogen project would play a similar role to battery storage.

First movers

The Hydrogen Council, which was launched during the 2017 World Economic Forum in Davos, has over 90 members, providing an indicator of who the first movers in the green hydrogen market might be.

Its investor group includes banks like BNP Paribas, Crédit Agricole, Société Générale and SMBC, as well as fund managers like Antin Infrastructure Partners and John Laing – which announced in March that it was exiting all standalone investments in wind and solar.

It also includes oil and gas majors Saudi Aramco, BP, Chevron, Equinor, Shell, Sinopec and Total, renewables developers like EDF and Engie, and utilities like Sempra Energy's SoCalGas.

Engineers Airbus, Siemens and Mitsubishi Heavy Industries are also members, as are automotive manufacturers Audi, BMW, Daimler, General Motors, Honda, Hyundai, Kawasaki, Toyota and electric truck manufacturer Nikola.

Just this summer, Microsoft joined the council, as did Mubadala Investment Co and Baker Hughes.

Intermountain Power Plant in Utah, aims to convert to 30% hydrogen by 2025

"Assuming that SGH2 set this up with an SPV structure that meets our criteria, we could evaluate this as a project financing."

Trever D'Olier Lees, a senior director at S&P Global Ratings

Meanwhile, as the pace of green hydrogen announcements has picked up, several law firms have set up practices dedicated to the sector, such as Baker Botts, Pillsbury and K&L Gates.

"These topics are farther along the cutting edge than we have ventured," says a project finance lawyer in New York. "It is good to know that we are not alone!"

However, despite the excitement, it may be a while before lenders are comfortable enough to move projects from the drawing board to the capital markets. So far, the green hydrogen projects that have been built have been at the smaller end of the scale.

"Many project finance banks that we talk to and work with indicate they are looking at hydrogen because they're all seeing the tremendous opportunity," says Ayali. "When you're trying to finance capital intensive infrastructure projects, you look for a steady source of contracted revenue to finance the project and that's the piece that's missing right now."

"Green hydrogen is in its very early days – perhaps as much as 10 years away from maturity – and may be more expensive than the alternatives," says a spokesperson for a project finance bank in New York. "Initial projects could possibly require a long-term contract with a utility to get project financing. Some see most of the activity being done on balance sheets for now by some of the large renewable players."

Ayali thinks government support may also be needed to get the industry off the ground, in the form of either tax incentives or Department of Energy loan guarantees. The upcoming presidential election may determine how fast those materialise, if at all.

"It's hard to prognosticate how some of these early projects will be project financed," says Ayali. "But a lot of smart people are paying attention and trying to figure it out." ■

Latin America

Tenders launched

Projects with recent tender updates

1	Bogota Metro Line 1 (26.5KM) PPP
2	La Dorada - Chiriguano Railway Line (521KM) PPP
3	Cardones-Polpaico Transmission Line (753KM) PPP Refinancing
4	Mexico City Metro Line 1 (18.28KM) Modernisation PPP
5	Acquisition of 33% in Cerrejon Coal Mine
6	Esmeralda Refinery Refurbishment PPP
7	Vila do Conde LNG Terminal
8	Santa Eugenia Wind Portfolio (519MW)

Closed deal values by sector

Sector	Transaction count	Value ($m)
Oil & Gas	8	$2,678
Power	12	$2,034
Renewables	28	$2,239
Renewables, Power	1	$1,535
Mining	1	$500
Telecoms	3	$265
Transport	11	$1,688
Water	3	$331

Closed deals by country

	Transaction Country	Value ($m)	Count
1	**Brazil**	3,287	23
2	**Chile**	2,938	15
3	**Mexico**	1,964	7
4	**Panama**	1,550	3
5	**Peru**	1,067	5
6	**Colombia**	819	8
7	**Argentina**	273	4
8	**Uruguay**	86	1
9	**Ecuador**	80	1
10	**Guatemala, Colombia**	5	1

Transactions that reached financial close

- 13 Aug — Autopista del Norte (362KM) PPP Refinancing
- 17 Aug — Topolobampo Ammonia Plant
- 31 Aug — Huemul Wind Portfolio (630.2MW)
- 11 Sept — Lima Jorge Chavez International Airport Expansion PPP
- 24 Sept — Malgarida Solar PV Complex (238MW)
- 2 Oct — Sao Paulo Metro Line 6 (15.3KM) PPP Bond Facility 2020
- 7 Oct — Ruta Nahuelbuta Road Improvement (55KM) PPP
- 9 Oct — FPSO Marlim 1 MV33

Jorge Chávez International Airport Peru

After years on the planning, the Jorge Chávez International Airport has finally closed the first part of the expansion financing. But as *IJGlobal* reporter **Juliana Ennes** reports, long-term financing is still far from sight.

Among 5 of the busiest airports in Latin America, the recent reopening of the Jorge Chávez International Airport in Lima to international flights is raising questions about the asset's long-delayed expansion plans.

Peru closed its international borders for 7 months in an attempt to protect its citizens from the coronavirus pandemic and the health crisis has posed a significant challenge to the global economy, and in particular, high-demand-risk assets like airports.

When it comes to an airport where expansion ambitions have been in planning for years – suffering a succession of mishaps – questions over the viability of a billionaire enlargement become more apparent.

The Fraport-controlled concessionaire Lima Airport Partners (LAP) recently secured a $450 million bridge loan to fund the construction of the so-called airside part of the airport's expansion, which includes a new air traffic control tower and a second runaway.

The air traffic control tower is expected to reach completion in late 2021, while the runway project will finish by the end of 2022. However, neither projects include the largest construction works still needed for the airport's augmentation – the second terminal.

Second terminal

Current plans were already being viewed with skeptical eyes. According to its concession contract, LAP needs to conclude the construction works of a second passenger terminal at Jorge Chávez International Airport in 2024. It means that the terminal would only be ready 2 years after the second runway starts operating.

In the face of economic hardship caused by the coronavirus pandemic, these plans might change further. Construction never started and now it is known that Fraport's concessionaire asked the Peruvian government for authorisation to delay the project. While waiting for a response, the $1 billion project has been halted.

The attempt to declare force majeure comes after projections that the airport will close in 2020, having moved around 6 million passengers, a level similar to the one seen in 2006. This number was higher than 22 million in 2018.

Plans to build a second terminal started when Lima was an important hub for South America, a position lost to airports such as Bogota and Panama.

A bit of history

LAP started operating a 30-year BOT concession of Jorge Chávez airport in February 2001. The concessionaire was originally formed by German airport operator Fraport AG, US-based construction group Bechtel and Cosapi, a Peruvian construction company.

After a few M&A transactions, in May 2008 the World Bank's International Finance Corporation (IFC) and the Fund for Investment in Infrastructure, Public Services and Natural Resources, managed by AC Capitales SAFI, became LAP partners.

Fraport AG purchased a further 10%-stake in LAP from AC Capitales' infrastructure fund in May 2019. Today, LAP comprises Fraport AG (80.01%) and IFC (19.99%).

With the growth of passengers travelling to and through Peru, in 2017 LAP signed with the Ministry of Transport and Communications the Addendum 7 on the airport concession contract.

The new contract established that the government would hand over 100% of the land necessary to build the new terminal and runaway.

When problems started

The expansion of the airport was initially planned as one megaproject that would require investments totalling around $1.5 billion, wholly funded by the private sector, without any state co-financing.

In 2018, a group of banks led by SMBC were expected to provide up to $1.2 billion in debt, with financial close planned for December of that year.

A consortium comprising FCC Construction, Salini Impregilo and AECOM was awarded a design-build contract in 2018, comprising both the second runaway of the airport and the new passenger terminal, new access roads, a new control tower and auxiliary infrastructures.

FCC, Salini and AECOM beat 2 other consortia competing for the works – one comprising Ferrovial and ACS, and the other formed by the US-based Bechtel.

However, Peru started facing a series of corruption scandals that ultimately overthrew the president of the country, Pedro Pablo Kuczynski (PPK), and put an interim in his place, Martin Vizcarra, until the new general elections in April 2021.

On top of corruption accusations, the project faced litigation involving land rights and problems with EPC contractors, which initially delayed financial close and finally altered not only the profile of the project itself but also of the financing.

LAP had to give up its ambitions to execute this flagship project in Peru as one megaproject. The concessionaire decided to split the projects and award the contract to different firms for each part of the expansion programme.

The project was split into 3 parts:

- new control tower
- second runaway
- second passenger terminal

Financing

The airside development comprises a new 65-meter-high air traffic control (ATC) tower, a new second runway with a length of 3,480m, 10km of taxiways, a 250-hectare advanced mid-field apron area for increased aircraft parking capacity, new operational facilities for fire and rescue services, beacons and navigation aids, surveillance systems and other systems.

The Nuevo Limatambo Consortium – comprising OHL and Cosapi – was selected for the earthmoving works in December 2019 and in May 2020 the Wayra Consortium was selected for the construction of the new control tower. Wayra comprises Acciona, Ferrovial and JJC.

The EPC contract to build the second runaway was awarded to the consortium Inti Punku, comprising Sacyr and GyM.

To finance initial works, LAP negotiated last year with Scotiabank a mini-perm at around $140 million, which never closed. Negotiations were halted until the EPC contracts were solved, and the banks were approached again after the Covid-19 pandemic reached peak points in around March or April (2020).

The amount raised was increased to $450 million but closed just as a bridge loan at a 1-year term. It was enough to avoid further delays to the construction.

Four international banks provided the loan, with SMBC acting as financial adviser to the borrower and Scotiabank Peru as administrative agent. The transaction signed on 11 September (2020).

SMBC also acted as mandated lead arranger, providing the loan alongside with other institutions.

The bank syndicate comprised:

- KfW IPEX-Bank
- Scotiabank
- SMBC
- BBVA

Legal advisers on the transaction were:

- Garrigues Peru – local to lenders
- Milbank – NY to lenders
- Rodrigo Elías Medrano – local to borrower
- Paul Hastings – NY to borrower

Uncertain future

Being able to raise $450 million amid a pandemic was certainly a good sign for Lima Airport Partners. The whole transaction was negotiated after coronavirus had already closed borders and made investors more sceptical about demand-risk assets.

However, financing issues are far from being solved. The $450 million raised was a short-term debt, which will need to be refinanced within a year, when there will be further clarity on the fate of the second terminal.

If the government forces the hand on deadlines for construction of the second terminal, LAP will either have to raise $1 billion in the current unstable market or it might be forced to take more difficult decisions. Rough waters ahead. ■

Asia Pacific

Tenders launched

Closed deal values by sector

Sector	Transaction count	Value ($m)
Renewables, Power	1	$1,018
Oil & Gas	2	$1,225
Power	12	$3,491
Renewables	30	$4,419
Social & Defence	5	$300
Telecoms	3	$5,029
Transport	11	$7,343
Water	3	$660

Projects with recent tender updates

1	Bac Lieu LNG Power Complex (3.2GW) and Gas Pipeline (35KM) Portfolio
2	Rayong-Chanthaburi-Trat High Speed Railway (190KM) PPP
3	Kidston Pumped Hydro Power Plant (250MW)
4	Footscray Hospital PPP
5	Tampakan Copper-Gold Mine
6	Golden Plains Wind Farm (1000MW)
7	Cavite Sangley Point Airport Expansion Phase 1 PPP
8	Dung Quat Oil Refinery Expansion

Closed deals by country

	Transaction Country	Value ($m)	Count
1	**India**	7,003	11
2	**Australia**	4,856	23
3	**Indonesia**	1,925	2
4	**China - Hong Kong (SAR)**	1,815	3
5	**Malaysia**	1,500	1
6	**Vietnam**	1,498	4
7	**China - Mainland**	1,344	3
8	**Japan**	897	7
9	**Kazakhstan**	743	1
10	**Philippines**	571	4
11	**Uzbekistan**	548	4
12	**Pakistan**	497	1
13	**Maldives**	151	1
14	**New Zealand**	66	1
15	**Singapore**	42	3
16	**Thailand**	27	1

Transactions that reached financial close

- 6 Aug – Almaty Ring Road (66KM) PPP
- 28 Aug – SB Energy Rajasthan Solar PV Portfolio (600MW) IPP
- 31 Aug – Acquisition of a 49% Stake in RIIHL's Tower Business
- 10 Sept – Acquisition of Infigen Energy
- 22 Sept – Patimban Deep Sea Port Phase I Package 1 PPP
- 30 Sept – Thar Block-II ThalNova Coal-Fired Plant (330MW) IPP
- 8 Oct – Acquisition of 75% in Krishnapatnam Port PPP
- 31 Oct – Acquisition of Hills of Gold Wind Farm (420MW)

Lifting the veil on Vietnam LNG

IJGlobal reporter **Civi Yap** looks into the potential and challenges of the emerging LNG market in Vietnam as the country steps away from conventional power…

Vietnam's Ministry of Industry and Trade (MOIT) is soon submitting the revised power development plan 8 (PDP8) to Prime Minister Nguyen Xuân Phúc.

The government forecasts Vietnam's electricity demand to grow 8.6% annually during 2021-2025, and decelerate slightly to 7.2% during 2026-2030.

To meet the country's rising demand, Vietnam needs to invest in more than $133 billion in transmission (72%) and distribution networks (18%).

The LNG bandwagon

MOIT's PDP8 embraces renewables and LNG, which aligns with the country's decision to phase out conventional power in anticipation of the depletion of oil and gas reservoirs.

The Southeast Asian country plans to import LNG from 2021 and estimates the demand for LNG imports will increase from 5 million tonnes in 2025 to 15 million tonnes in 2035.

To achieve these targets, MOIT intends to build 3 to 4 LNG terminals from 2021 to 2025 and another 5 to 6 LNG terminals from 2026 to 2035.

Hence, an upsurge of interest among international investors for the newly emerging market. *IJGlobal* lists the following 17 LNG projects in order of low to high implementation risk in the table (below):

Procurement

Vietnam's government used to develop gas power projects under its PPP model. However, with an increasing number of investors exploring the IPP scheme, this allows for projects to be fully privately funded.

A contributing factor is the new PPP law that will take effect from 1 January 2021.

"It does pose some challenges, including the requirement for the project documents with the government to be governed by Vietnamese Law, which will impact on the ability for projects to be banked," Melissa Keane, Hanoi-based partner at law firm Allens, tells *IJGlobal*.

Project name	Sponsor	Cost ($m)	Capacity	Province
Hai Linh LNG terminal	Hai Linh	367	2-3mmt/y	Ba Ria-Vung Tau, south east
Thi Vai LNG terminal	Petrovietnam, Bitexco, Tokyo Gas	285 (phase 1)	1-3mmt/y	Ba Ria-Vung Tau, south east
Nhon Trach 3 & 4 LNG-fired	Petrovietnam	1,400	1.3GW-1.76GW	Ba Ria-Vung Tau, south east
Bac Lieu LNG-to-power	Delta Offshore Energy	3,000	3.2GW	Bac Lieu, south
Son My LNG terminal	Petrovietnam, AES	1,400	1-3mmt/y	Binh Thuan, south central
Son My 2 gas-fired	AES	1,700	2.25GW	Binh Thuan, south central
Van Phong LNG-to-power	Petrolimex, JXTG	1,400	3-6GW	Khan Hoa, south central
Quang Ninh LNG-fired	Petrovietnam, Colavi, Tokyo Gas, Marubeni	1,900	1.5GW	Quang Ninh, north east
Ca Na LNG-fired	Gulf Energy	7,800	6GW	Ninh Thuan, south east
Long Son LNG-to-power	EVN, Electricity Generating Corporation No. 3	4,390	3.6GW	Ba Ria-Vung Tau, south east
Mui Ke Ga LNG-to-power	Energy Capital Vietnam, Kogas, Excelerate	4,200	3.6GW	Binh Thuan, south east
Hai Phong LNG-to-power	ExxonMobil	5,090	4.5GW	Hai Phong, north east
Cai Mep Ha LNG-to-power	T&T Group, Gen X Energy	5,870	6GW	Ba Ria-Vung Tau, south east
Thai Binh LNG-to-power	Truong Thanh Viet Nam Group	5,800	4.5GW	Thai Binh, north east
Ca Mau 3 LNG-fired	Petrovietnam	1,500	1.5GW	Ca Mau, south
Chan May LNG-to-power	Chan May LNG (US-Vietnam JV)	6,200	4GW	Thua Thien Hue, north central
South Van Phong LNG-to-power	Millennium Petroleum Group	15,000	9.6GW	Khan Hoa, south central

The uptick in power projects is also down to the government becoming increasingly open to IPP projects as Hanoi plans to roll out a competitive power market, according to a local banker.

Whether through IPP or PPP, the LNG market itself is attracting investors.

"The total power market in Vietnam is about 50GW, and registered LNG projects are also around the same amount," says the banker.

Is Vietnam capable of achieving its ambitious goals? What should the developers, financiers, and advisers be keeping a close eye on?

PPA in question

Clear guidelines do not yet exist on agreements for LNG projects. Whether it would use the model PPA framework for wholesale as a basis, or whether there is room for negotiation with a more flexible PPA.

"We are seeing investors pushing for bespoke PPAs that look more like the PPA used in previous BOT projects, instead of the model form PPA that might otherwise apply for IPP projects operating in the wholesale market, in order to ensure improved risk allocation for the investor," says Keane.

Besides, developers might insist on an offtaker ratio as high as 100% when negotiating with monopoly power system operator Vietnam Electricity (EVN). The government would be reluctant to stretch that far, the banker also noted.

Local media reported that Hai Linh LNG terminal – the first LNG project which MOIT approved in 2018, has not yet finalised the sales agreement with EVN, despite having a scheduled commercial operations date in 2021.

Vague terms for government guarantees

The government of Vietnam in 2017 released new regulations which tighten the issuance of government guarantees and undertakings to foreign loans.

The new PPP law also states that the cap guarantee for foreign currency balance is at 30% of project revenue in Vietnamese Dong, after subtracting expenditures.

"Other than the limited foreign currency guarantee, the new PPP law is somewhat vague on what guarantees from the government will be available for a project. Investors will have to negotiate with the government, as not every power project in the PPP form will be automatically entitled to one," says Keane.

Drawing reference from Vietnam's wind and solar market, the banker tells *IJGlobal* that there is a possibility that the government might not provide any guarantee at all. Developers, therefore, would have to enter the competitive power market to sell electricity.

LNG price uncertainty

According to data reported by Japan's Ministry of Economy, Trade, and Industry, the contract-based LNG prices in January (2020) was at \$5.9 per million British thermal unit (MMBtu), which this year in May dropped to \$2.2/MMBtu, and rose to \$4.5/MMBtu in September.

Around the same time last year (2019), the price started at \$8.2/MMbtu in January, dropped to \$4.7/MMBtu in July, and increased to \$6.4/MMbtu in December.

Although vertically integrated companies, which own assets and services across the value chain in the LNG market, would have a natural hedge against the pricing, the pricing mechanism for the fluctuation of LNG prices would impact the project's bankability.

The government is highly unlikely to allow full price pass-through, and might opt for a price range or a price ceiling, according to sources on the ground.

One local banker agrees that it is difficult with high tariffs on LNG. Just like the low tariff for the solar and wind market, MOIT and EVN prioritise using the cheapest source. The banker further estimates the tariff price for LNG would not be higher than \$0.10kw per hour.

Challenges for state-owned companies

With the switch from conventional power to renewables and LNG, stakeholders in Vietnam's power sector have doubts over EVN's ability to maintain the power grid, and state-owned companies' – the likes of Petrovietnam (PVN), Vietnam's state O&G company – financing capacity for the LNG projects.

"EVN and PVN already have several power projects in development, and their funding is tied up accordingly. They might not have the funding capacity for any significant investment in LNG projects as well," says Keane.

The banker tells *IJGlobal* that local companies might not have enough financing capacity, as well as sufficient technology to operate LNG projects, and that a viable alternative would be to enter the market alongside foreign investors.

The new PPP law also includes power grids as a sub-sector eligible for private sector participation.

"A grid upgrade could be incorporated as part of the project, with the government recently considering private investment in grid infrastructure," says Keane. "In such a case, the project would involve the investors upgrading the infrastructure themselves in order to connect their projects to the power grid."

However, the government is less likely to approve an LNG project on an overloaded power grid, even if the investors propose to upgrade the grid as a fillip to the government. ■

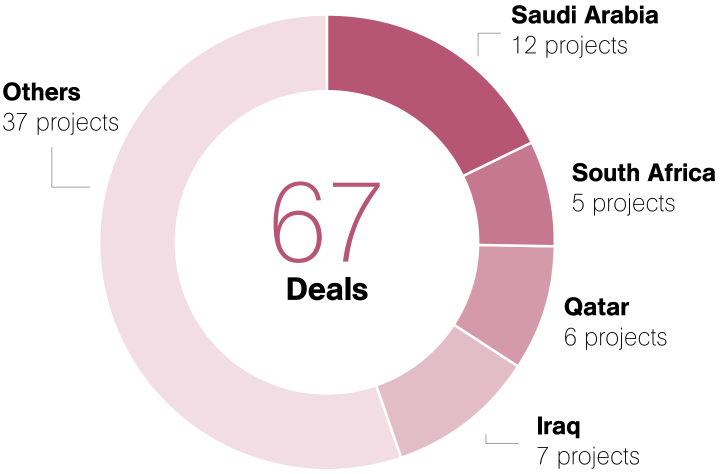
Vietnam's electricity demand is forecast to grow 8.6% annually

Melissa Keane

"A grid upgrade could be incorporated as part of the project, with the government recently considering private investment in grid infrastructure."

Middle East & Africa

Tenders launched



Closed deal values by sector

Oil & Gas
Transaction count 5
$26,778 ($m)

Social & Defence
Transaction count 2
$118 ($m)

Power
Transaction count 2
$1,318 ($m)

Renewables
Transaction count 8
$871 ($m)

Telecoms
Transaction count 1
$97 ($m)

Transport
Transaction count 5
$445 ($m)

Water
Transaction count 5
$1,018 ($m)

Projects with recent tender updates

1	Lamu Coal-Fired Power Plant (1050MW) PPP
2	Deir al Balah Desalination Plant
3	Nairobi-Nakuru-Mau Summit Road (273KM) PPP
4	Jeddah and Makkah School Bundle PPP
5	Rumakali Hydro Power Plant (222MW)
6	Boikarabelo Coal Mine
7	Qurayyat-East Amman Interconnection Link (164KM)
8	Vredendal Battery Storage (80MW)

Closed deals by country

	Transaction Country	Value ($m)	Count
1	**Mozambique**	22,580	3
2	**Israel**	2,900	2
3	**Saudi Arabia**	2,219	3
4	**United Arab Emirates**	1,639	3
5	**Morocco**	661	6
6	**Oman**	300	1
7	**Senegal**	108	1
8	**Democratic Republic of the Congo, Gambia, Sierra Leone, Uganda**	97	1
9	**Sierra Leone**	50	2
10	**Malawi**	29	1
11	**South Africa**	25	2
12	**Madagascar**	19	1
13	**Kenya**	18	2

Transactions that reached financial close

- 12 Aug — Leviathan Natural Gas Field Bond Facility
- 17 Aug — PetroTel Musandam Oil and Gas Portfolio
- 1 Sept — Jubail 3A Desalination Plant IWP
- 2 Sept — Taza Wind Farm Phase I (87MW)
- 3 Sept — Mohammed bin Rashid Al Maktoum Solar PV Plant Phase V (900MW) IPP
- 14 Sept — Acquisition of 10% in ADNOC Distribution
- 1 Oct — Area 1 Mozambique LNG
- 13 Oct — Port of Dakar Bond Facility 2020

DEWA solar V

United Arab Emirates

An ACWA Power-led consortium has defied the odds and has reached financial close on the fifth phase of the booming Mohammed Bin Rashid Al-Maktoum solar park in Dubai. *IJGlobal* Middle East and africa reporter **James Hebert** investigates

An ACWA Power-led consortium has again shrugged off the Covid-19 pandemic to close on another large-scale stage of the booming Mohammed Bin Rashid Al-Maktoum solar park in Dubai in September – the 900MW DEWA V.

Procuring authority Dubai Electricity and Water Authority (DEWA) chose to test long-held assumptions and expectations in the market simply by not offering a sovereign guarantee.

This move was understood at the time to determine lender appetite for the debt financing – however, the sponsors still attracted a 9-strong club of banks.

DEWA V also briefly had a claim for a world-beating solar tariff but by the time of the PPA signing earlier this year (April 2020), it had been overtaken. In any case, the competitive price was achieved despite only 2 bids being submitted.

The fifth phase is the latest follow-up to the DEWA IV solar project which reached financial close on 31 January 2019. The similarly sized DEWA V achieved this on 2 September (2020).

Procurement

DEWA issued the request for prequalification (RFQ) documents for DEWA V on 26 February 2019 – little under a month after the closing of the preceding fourth phase. A total of 64 companies submitted letters of intent.

The RFP was then released to the market on 17 June 2019. Bidders were given more space to bid, but by the time of the new deadline on 9 October 2019 only 2 bidding groups remained:

- ACWA Power, Gulf Investment Corporation (GIC) – $0.016953/kWh
- Masdar, EDF, Jinko Solar – $0.01725/kWh

The bid from the ACWA Power-led consortium was one of the lowest tariffs ever entered for solar PV. In fact, at the time both bids above were lower than the 2 lowest bids submitted for the 300MW Sakaka solar PV in Saudi Arabia – also by ACWA Power and Masdar/EDF.

The ACWA Power-led consortium was named preferred bidder by DEWA on 22 November 2019. The ownership structure of the project company – SHUAA Energy 3 – is:

- DEWA – 60%
- ACWA Power – 24%
- GIC – 16%

DEWA has retained a larger share than it did for DEWA IV, which was capped at 51%. Much like DEWA IV, only the 2 private sector sponsors are making equity investments in the project company.

The sponsors signed the power purchase agreement (PPA) with DEWA in April (2020) based on the agreed tariff of $0.016953 per kilowatt hour. Since then, the tariff has been bettered in Qatar and in Abu Dhabi. However, this tariff was achieved despite DEWA's desire to test the financial markets' long-held requirement of a sovereign guarantee on the offtake agreement.

Financing

The project capex is $564 million, with $450 million through debt financing – giving an 80:20 debt/equity ratio.

These lenders are:

- Abu Dhabi Islamic Bank
- Apicorp
- Commercial Bank International (CBI)
- Emirates NBD
- ICBC
- Natixis
- Samba Bank
- Standard Chartered Bank
- Warba Bank

The 150bp debt pricing on the soft-mini perm is 50bp lower than the average start for the same format used for the DEWA IV debt financing, but 150bp remains high for the market due to the lack of a state guarantee. The tenor on the debt is 27 years.

A mezzanine tranche has also been provided by CBI and an equity bridge loan by:

- CBI
- Emirates NBD
- Mashreq

Alea iacta est

DEWA took a potentially risky move with the fifth phase of its rapidly-expanding solar park. It had stated in the tender documents issued last year that it did not intend to offer a sovereign guarantee backing the payments under the PPA. This was a daring approach, but the power and water utility was in a good position at the time – and recently on 18 October (2020) it became debt-free after repaying a $1.5 billion bond, issued back in 2010.

A recent periodic review on 8 September of DEWA by Moody's supported the findings of the 2019 review – that the authority holds a primary position over Dubai's power and water sectors, a strong asset base with a 34% reserve margin and very strong financial and liquidity profiles. Sources have previously told *IJGlobal* that it has the best credit profile of any utility in the region, and sources based in the Emirate itself can attest to DEWA's sense of financial punctuality.

While DEWA had the confidence to push ahead with this, some developers appeared to think differently – after only 2 consortia put in bids for DEWA V in early October (2019), one of the reasons cited for the dropout was the lack of sovereign guarantees, though other sources also told *IJGlobal* that the proposed structure (with DEWA taking a 60% stake) was a bigger deterrent. A more universal reason may be the stiff competition in the MENA solar market provided by the regional rivalry of ACWA Power and Masdar/EDF.

> *"Continued low tariffs are a strong testimony to DEWA's profile, especially on this landmark project."*
>
> **Rajeev Singh, partner at EY**

On the lender side, the main participants were local and regional, perhaps proving that some international banks still held a conservative view of risk in MENA. On top of that, both the mezzanine and the equity bridge loan were provided solely by Dubai-based lenders. Long-standing client relationships shine through the deal, however – Standard Chartered Bank is a frequent lender on ACWA Power's transactions.

Rajeev Singh, a partner at EY who led the firm's team that advised DEWA, commented on the project's role in the trend of ever lowering tariffs in the region: "Continued low tariffs are a strong testimony to DEWA's profile, especially on this landmark project which has set a new benchmark on increased risk transfer to the private sector." Singh added that this was due to the lack of sovereign guarantee and no base rate movement.

Shanghai Electric was signed as the EPC contractor in July (2020). The Chinese developer was retained from DEWA IV as part of ACWA Power's efficient bid for the sequel project.

DEWA V is expected to begin commercial operations with the start of the first phase on Q1 2023.

Advisers

DEWA was advised by:

- EY – financial
- Towers & Hamlins – legal
- GOPA-International Energy Consultants – technical ■