Getting ready for a market correction
US airport sector takes off
First Nations – the new frontier
Energy's continued flow of opportunity
Data innovation in alternatives
…and more
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Transforming Global Infrastructure

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New frontiers and old favourites

In the US, the Trump administration may not support clean energy, but the drive for renewables and decarbonisation goes beyond politics and regulation.

IT PROBABLY comes as no surprise that, despite all the brouhaha about government-backed infrastructure programmes, the energy sector once again dominates the North American infrastructure market – and will continue to be “the major infrastructure investment opportunity in North America, now and for some time to come”, Partners Group’s Todd Bright tells us on p. 20.

The difference is that this opportunity is increasingly not limited to conventional energy. As Starwood Energy’s Himanshu Saxena points out on p. 26, demand for renewables is being driven by customers – and huge energy consumers at that, including major tech titans such as Facebook, Google and Amazon, as well as corporates such as General Motors, Johnson & Johnson and Procter & Gamble. In the US, the Trump administration may not support clean energy, but the drive for renewables and decarbonisation goes beyond politics and regulation. “It is basic economics,” Saxena says.

Perhaps a more unexpected bright spot in the US is the recent activity witnessed in the aviation sector, with some high-profile, big-ticket projects having taken off with financing from the private sector. With a price tag of $13 billion, the modernisation of New York’s JFK International Airport is now one of the country’s largest PPPs. Not only is the price tag eye-catching, what’s impressive is that “a staggering 90 percent” of that total will be financed by the private sector and mostly by airlines, as we find in our p. 7 US feature.

Further to the north, in Canada, we look at the untapped opportunities First Nations present due to a significant infrastructure deficit that amounts to C$30 billion ($22.7 billion; €20.2 billion). Our Canada feature, beginning on p. 10, provides some expert advice on how institutional investors can make the most of this opportunity that is emerging as ‘the new frontier’ in the Canadian infrastructure market.

You also won’t want to miss our p. 14 roundtable discussion with five industry experts, who provided a sweeping overview of the North American infrastructure market, including the changes it’s going through and where it’s headed. Aside from predicting a drop in valuations, another hot topic among participants was infrastructure’s ever-expanding definition. As InstarAGF’s Gregory Smith put it, should a market correction materialise, “it will become evident very quickly which investors are being true to the definition of infrastructure”.

Enjoy the report,

Kalliope Gourntis
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A YEAR IN NORTH AMERICA

TWO-MINUTE ROUND-UP

The top stories from the region reported by *Infrastructure Investor* over the past 12 months

**PRIVATE ACTIVITY BONDS SPARED IN FINAL US TAX BILL**

The US infrastructure sector avoided a policy setback, as the final version of the tax reform bill preserved the tax-exempt status of private activity bonds.

A previous version of the bill passed by the House of Representatives would have scrapped the PABs, a key financing source for public-private partnerships. A report issued by Fitch Ratings in November 2017 warned that eliminating PABs “would likely lower the interest in and feasibility of public-private partnerships”.

PABs have been tapped to finance many of the country’s largest PPPs, including LaGuardia Airport.

**DALE BURGESS NAMED HEAD OF OTPP’S INFRA GROUP**

Ontario Teachers’ Pension Plan named Dale Burgess, who has spent 22 years on the Canadian retirement fund’s investment team, head of infrastructure and natural resources after taking over interim duties for the group in February.

Burgess becomes senior managing director for OTPP’s infrastructure and natural resources group, which manages around C$25.4 billion ($19.8 billion; €16.5 billion) in assets, after his predecessor Andrew Claerhout left the pension earlier this year. He joined the Canadian pension in 1996, first working on its real estate team before switching to infrastructure in 2003. His most recent position was managing director for Latin America.

**AGRAWAL TAKES KKR INFRA TOP SPOT AS GLOBAL CO-HEAD DEPARTS**

Jesús Olmos, KKR’s global co-head of infrastructure alongside Raj Agrawal, is leaving the firm at the end of April.

The industry veteran – who, prior to joining KKR in late 2008 to help build its infrastructure team, was chief executive of Endesa Europa – is understood to be staying until the end of April to help fully invest the firm’s second $3.1 billion infrastructure fund, closed in 2015.

Following Olmos’ departure, Agrawal, who joined KKR in 2006, will become the infrastructure team’s sole leader. Both Tara Davies, head of European infrastructure, and Vincent Policard, a KKR partner, will shoulder some of Olmos’ responsibilities.

**DIVERSITY A FACTOR IN CHICAGO TEACHERS’ DECISION TO PASS ON BLACKSTONE, BROOKFIELD**

A deficit in workplace diversity contributed to heavyweight managers Blackstone Group and Brookfield Asset Management being passed up for a recent $50 million infrastructure allocation by a Chicago pension.

Angela Miller-May, CIO of the $10.8 billion Chicago Teachers’ Pension Fund, said board members considered the ethnic and gender make-up of four firms – which also included IFM Investors and Ullico Investment Advisors – along with fee levels, investment experience and return expectations, when it made the allocation last month.

CTPF chose to allocate $35 million to Australia’s IFM and $15 million to Ullico.
STONEPEAK CLOSES YEAR’S LARGEST NORTH AMERICA-FOCUSED FUND ON $7.2BN

Stonepeak Infrastructure Partners has concluded one of the largest infrastructure fundraisings so far this year on $7.2 billion, after bumping the hard-cap for its third fund by $200 million to cater for last-minute commitments.

Around 100 investors committed to the fund, which is targeting a 12 percent net internal rate of return, inclusive of a 4 percent cash yield, on investments in North American power, water, energy, communications and transportation assets, according to public pension documents.

Fund III more than doubles Fund II’s final close of $3.5 billion, held in January 2016. Like Fund II, the firm will use its newest vehicle to target deal opportunities between $100 million and $1 billion.

BROOKFIELD, ICON BET ON ASSET LEASING WITH NEW DEALS

Canada’s residential services sector caught the interest of infrastructure investors when two fund managers bought into companies providing heating and air conditioning rental and maintenance agreements.

Toronto-based Brookfield Infrastructure agreed to pay an enterprise value of C$4.3 billion ($3.31 billion; €2.86 billion) for publicly-listed Enercare, while London-based iCON Infrastructure agreed to buy an 80 percent interest in Vista Credit Corporation for an undisclosed amount.

The deals show the definition of what’s considered an infrastructure asset continues to expand to distributed and service-type assets.

FENGATE WINS LAX BID AS IT TARGETS ‘HUGE OPPORTUNITIES’ IN US AIRPORTS

A consortium led by Fengate Real Asset Investments was chosen by Los Angeles World Airports to design, build, finance, operate and maintain a consolidated rental car (ConRAC) facility at Los Angeles airport (LAX) – the second-largest in the US – under a 28-year lease agreement. LAWA’s decision must be approved by the Los Angeles City Council.

The project involves building a rental car facility that consolidates 20 various locations around the airport. LA Gateway Partners will build a 5.3 million square foot facility with 6,600 parking stalls, 10,000 idle vehicle storage spaces and 1,100 rental car employee parking spaces.

Fengate, which has backed around 15 PPPs in North America, plans to use experience gained from the LAX rental car project to pursue more US airport developments, the firm’s chairman for US infrastructure Martin Klepper told Infrastructure Investor.

CARLYLE TO LEAD $13BN MODERNISATION OF NEW YORK’S JFK

The Carlyle Group will lead a consortium of private investors financing a $13 billion redevelopment of New York’s John F Kennedy International Airport, according to a plan unveiled by state governor Andrew Cuomo.

Carlyle, a US-based private equity firm, is part of the Terminal One Team chosen by the Port Authority of New York and New Jersey to modernise JFK, one of North America’s busiest airports – hosting 60 million passengers annually. Along with Carlyle, the private investors chosen to finance the project, one of the largest PPPs in the US, include JLC Infrastructure and Ullico, according to a statement.

The consortium also includes airlines operating at JFK’s current terminal one.
Still taxiing for take-off

Increased needs in ageing sectors is providing opportunity for investors – yet questions of funding models and increased politicisation remain. Joel Kranc reports

In the lead up to the 2016 presidential election, infrastructure was a much-discussed policy issue by then candidate Donald Trump. Even after the victory that placed him in the White House, President Trump continued his rhetoric of $200 billion in federal spending, which, he hoped, would encourage more than $1.5 trillion in overall investment at the local, state, municipal and private sector levels.

Unfortunately for the President (and the economy), an analysis from the Wharton School – Trump’s alma mater – found that most of the incentives would fail to attract anything close to the $1.5 trillion goal. The report said that each new dollar of federal spending could reduce spending by state and local governments because, in many cases, they already qualify for the proposed new grant money within their existing infrastructure programmes.

“Investment across all levels of government would increase between $20 billion to $230 billion, including the $200 billion federal investment,” said the report. As a result, the plan would have “little to no impact” on gross domestic product.

However, there are still areas that are experiencing a renaissance and need institutional investor capital as the country moves past the mid-term elections and into the 2020 election season. One such area is water and wastewater. In October, President Trump signed the America’s Water Infrastructure Act of 2018 authorising funding for water infrastructure projects; upgrading wastewater, drinking and irrigation systems; as well as authorising or reauthorising water infrastructure projects. The Act approved more than $6 billion in spending over 10 years for projects nationwide. However, it’s still another drop in the investment ocean (pun intended).

Gregory Smith, president and chief executive of InstarAGF Asset Management, a Toronto-based infrastructure investor, says the opportunities for investment in US infrastructure remain robust. “When I look at what’s happening with municipalities and what’s happening at the state level, there is still a lot of activity in energy, and regulated fields including water and wastewater,” he says.

Smith also adds that infrastructure had been growing in the US well before Trump talked about it and, from an investment point of view, there is an interest in a gradual approach as opposed to an immediate surge in projects, “so that we, in the private sector, can determine how to add value and innovate in conjunction with a solid procurement process, and alternative government funding”.

WELCOME ABOARD

Recently, there has been growing activity in another sector of the economy in desperate need of capital, reinvestment and modernisation, given the changing habits and demographics of the population – the airport sector.

The American Society of Civil Engineers says US airports serve more than two million passengers per day. “The aviation industry
is marked by technologically advanced and economically efficient aircraft, however, the associated infrastructure of airports and air traffic control systems is not keeping up. Congestion at airports is growing; it is expected that 24 of the top 30 major airports may soon experience ‘Thanksgiving peak traffic volume’ at least one day every week. With a federally mandated cap on how much airports can charge passengers for facility expansion and renovation, airports struggle to keep up with investment needs, creating a $42 billion funding gap between 2016 and 2025,” says the ASCE. As a result, they have given the aviation sector a grade of “D” on their Infrastructure Report Card.

But changes are being made and investment is taking shape. In New York, for example, Governor Andrew Cuomo unveiled a $13 billion plan that would help increase capacity at JFK Airport by 15 million passengers per year, while at the same time modernising and consolidating airport terminals. A staggering 90 percent of the project is being financed by the private sector – mostly airlines – and tentative plans call for the first gate openings in 2023. Construction is projected to begin in 2020.

Also, the airport sector is still receiving positive outlooks from rating agencies and analysts. In a recent Fitch Ratings report, senior director Seth Lehman noted “GDP growth and general airline health remain the most important revenue gauges for airports, though rising rates could make borrowing debt more expensive for airports with a substantial pipeline of investments on the horizon.”

Others in the industry also see the potential for further investment opportunities. “There is a hope that we will see more transportation assets coming to market,” notes Giulio Leucci, a senior advisor to Partners Group. “There are a few projects that may come to fruition in the next year, mainly St Louis Airport is starting to consider privatisation and Louisville, Kentucky may also be interested in the privatisation process,” he adds.

He notes that most airport redevelopment projects would act as some form of public-private partnership model given that the government is generally the leaseholder and will support construction or, at the very least, be a landholder in the deal. In the case of JFK, he says JetBlue Airways has put in its own money for the construction of Terminal 5 but will also likely tender management of the terminal to outside vendors, again resembling a PPP model for the airport.

Despite immediate projects, Smith, whose firm is also an investor and part-owner of Toronto’s Billy Bishop Airport, one of the only privatised airports in Canada, says air traffic demand will double in the next 30 years and, “the need to have improvements and grow in aviation infrastructure is becoming very large”, he says.

“When we look at investing in airports, we look at what are the strong value-add for stakeholders, for the government, for the community and for the passengers, as well as what’s generating some of the long-term economic value for that airport,” adds Smith. So, looking at alternative structures for improvement and redevelopment is key. And because only 40 of the top US airports are either fully or partially privately owned, there is a role for further privatisation of the aviation sector, in Smith’s opinion. “The value that the private investor brings to the sector is not just capital, it does allow the transfer of risk to the private sector, global relationships and different innovations (we are seeing globally) into that airport.”

Expect ‘a lot more politicisation’

Infrastructure funding and the debate surrounding it is becoming a more politicised discussion in some states. In California, Colorado, Missouri and Utah, voters, in the mid-term election, faced ballot issues that could affect gas taxes and/or transportation funding. Proponents of infrastructure spending view this as a risky move as voters tend to recoil at the idea of increased gas taxes. This begs the question: Is infrastructure becoming too politicised?

“Because of the lack of funding at the federal and state level you will see a lot more politicisation of infrastructure issues,” says Giulio Leucci, a senior advisor to Partners Group. “Airport privatisation or toll-road privatisation is one of those issues that will be more a part of the discussion on political agendas.” He adds that if there is no current mechanism for funding certain infrastructure, decisions will need to be made to change legislation, which will then lead to politicians going back to the public for input. “I can see this being more prevalent since there is not enough ‘dry powder’ in the pockets of government.”

Gregory Smith, president and chief executive of InstaAGF Asset Management, says the old days of building infrastructure meant expropriating land and not involving the public on any meaningful level. “Infrastructure today is embedded in the fabric of our society. The vast majority of what’s important has to be how we do we approach communities; how do we get strong public support and strong governmental support. Proper legislation and policies will follow from there. It has to move into community and stakeholder engagement. It’s a paramount starting point and then proper regulation and policies will follow from there. As infrastructure professionals, we are spending a lot more time on the social impact of infrastructure and if we avoid that or we don’t do that, we do so at our own peril.”

There is a hope that we will see more transportation assets coming to market”

Leucci
With the challenges of a digital future in mind, Ardian Infrastructure is focusing on essential energy, transport and other public infrastructure network connecting real people. Working closely with major industrial, utility and construction companies, we have the global reach to provide long-term return opportunities for our investors.
The current climate for infrastructure investing is certainly a seller’s market with a dearth of capital chasing fewer and fewer assets. In Canada, given that the market is relatively small, compared with other industrialised countries, investors are looking at alternative options and procurement models to fill their revenue needs in that sector.

One area that is emerging as a potential new frontier for institutional investors in the country (and from elsewhere) is within the indigenous or First Nations population. According to the Canadian Council for Public-Private Partnerships, First Nations communities in Canada face an infrastructure deficit of C$30 billion ($22.7 billion; €20.2 billion). In Ontario alone, Canada’s largest province, the First Nations infrastructure deficit stands at nearly C$9 billion. And unlike other municipalities or sectors that have mature partnerships, organisations and procurement models, First Nations communities are still relatively far behind in their efforts and sophistication to attract investment. But that is changing.

WHERE TO BEGIN
As institutional investors look to First Nations infrastructure, there are essentially two areas of interest to consider: social and economic infrastructure, according to Michael Ledgett, a partner in the Toronto office of global law firm Dentons and a leader of the National PPP/Infrastructure Group, where he advises governments and their agencies, as well as private sector developers, operators, lenders and investors on PPP projects in Canada. He defines social infrastructure as areas such as building broadband networks, for example,
whereas economic infrastructure represents areas such as pipelines and energy projects.

“Social infrastructure is the area that the P3 community has been looking at and trying to figure out how they can use the P3 model that has been developed in Canada to develop social infrastructure in remote First Nations communities,” he says. The problem, according to Ledgett, is that, despite a lot of good will among participants or potential investors, the projects themselves can be too small, by investment standards, too remote and as a result, too difficult to get off the ground. “The challenges are difficult, and the need is great but at some point, there will be a window open for institutional investors,” he comments.

The other investment opportunity is economic or business infrastructure. “These projects are not necessarily driven by First Nations’ needs, but by other mandates or needs in the economy, in general,” Ledgett explains. “The role that First Nations have, is they have claims to necessary elements of that project and one of the best ways to get consent is to partner with them, so that means structures will be put together that are accommodating to both First Nations and investor partners.” Ledgett notes that in this scenario, First Nations are no longer just “add-ons” but are true partners who will invest alongside larger institutional investors.

**CANADA INFRASTRUCTURE BANK**

One of the ways to encourage investors in any form of First Nations infrastructure projects has been through the creation of the Canada Infrastructure Bank. In its last budget, the Government of Canada created the CIB as “an additional tool that provincial, territorial, municipal and Indigenous partners can use to build infrastructure across Canada”. The CIB has been given C$35 billion from the federal government to invest in infrastructure projects, out of a budgeted C$180 billion over the next 10 years.

Nicholas Hann is the new head of investments for CIB. He says, as far as First Nations initiatives go, the bank will look at so-called standardised investment for scalability. “A lot of what CIB will do is very bespoke structuring of very large projects but we’re also looking to fill gaps in the market [...] through programmatic investments which will allow for smaller-scale projects to be undertaken,” he says. “Our mandate is to act as a catalyst to private sector investment, so we are looking for a multiplier effect of our investment in terms of the private investors we attract,” he adds.

Specifically, Hann says CIB is looking towards areas such as lower cost but higher quality power and a reduction in reliance on diesel generation as well as water and wastewater treatment, and connectivity (land and digital). And, similarly to Ledgett’s point about partnership, Hann notes the Bank will work with the indigenous community on projects that take place on protected lands. Despite being focused across the infrastructure spectrum, Hann adds the CIB will focus on green infrastructure, trade and transportation corridors, and public transit. “Some of these sectors lend themselves to more isolated and rural areas of the country.”

A problem, however, with smaller projects, especially for larger investors, is “to ensure the operational capacity and long-term viability of a project,” says Jeff Frank, senior vice president for development, lands and infrastructure with British Columbia-based Castlemain Consulting Group.

**NEW INVESTMENT MODELS**

However, the interesting point to note is the way in which larger investors can overcome that problem and invest in smaller, often geographically difficult projects in such a way that is beneficial to their bottom line. One suggestion has been to bundle several smaller projects into one larger investment pool.

“You can aggregate or link water treatment plants together, for example,” says
Frank. He adds that the Atlantic Policy Congress, a policy and research advocacy secretariat for 30 chiefs, nations and communities in Atlantic Canada, Québec and Maine, is doing that by aggregating its very own water treatment facilities. “It’s a totally new concept for the indigenous world. “

Mark Romoff, president and chief executive of CCPPP agrees that opportunities for institutional investors will arise from First Nations that partner and create larger opportunities vis-à-vis a bundled approach. “The opportunities for institutional investors in off-reserve infrastructure are where First Nations are either leading or looking to partner with the private sector and are interested in taking an equity piece in the project. “

Another example, similar to the Atlantic Policy Congress, is the Kenney Dam Project in northern British Columbia where a group of four First Nations and BluEarth Renewables, a Calgary-based private company focused on commercial-scale renewable energy development and operation, are looking for equity partners to move forward on the large hydroelectric power project. Similarly, last spring the Government of Canada and the Government of Ontario announced funding for the Wataynikaneyap Power Transmission Line Project in the aggregate amount of C$1.6 billion. The funding framework allows for a viable transmission business with First Nations and Fortis participating as the equity investors. The project will connect remote First Nations in Northwestern Ontario to Ontario’s power grid, provide for savings associated with avoided diesel costs, and socioeconomic benefits to the communities.

The Wataynikaneyap Power partnership consists of 22 First Nations, which are leading this project and equally own 51 percent, while industry partner, Fortis owns 49 percent.

Besides the above-mentioned projects, First Nations have successfully used the PPP model in the past. According to Infrastructure Canada and the ’Namgis First Nation partnered with Brookfield Renewable Energy Partners to develop a $200 million, 45MW hydroelectric generating facility. The special purpose vehicle that developed the project, the Kwagis Power Limited Partnership, is 25 percent owned by the ’Namgis First Nation and 75 percent owned by Brookfield Renewable Energy Partners. BREP operates as one of the world’s largest publicly traded renewable power platforms.

What is important to note is projects such as the Kenney Dam are a pilot of the First Nations Major Project Coalition. Several First Nations, spread across Western Canada and the Yukon, have formed the FNMPG “for the purposes of examining: (a) how ownership of major resource projects on their lands could be facilitated, and (b) how environmental practices can be improved to meet their needs. The work of the FNMPG is directed through feedback received from the First Nations participating in the Coalition. “

Similarly, the First Nations Financial Authority was developed as a standalone organisation, separate from the federal government, to provide First Nations governments investment options and capital planning advice, as well as access to long-term loans with preferable interest rates.

According to Indigenous Services Canada, the FNFA issued its inaugural debenture in June 2014 for C$90 million followed by C$50 million in July 2015, C$110 million in May 2016, C$126 million in October 2017 and C$138 million in September 2018, for a grand total of C$514 million. The last debenture issued in September was sold to 12 buyers – including insurance companies and pension funds – from British Columbia, Alberta, Ontario, Québec, the US and internationally.

The FNFA has 73 borrowing members; however, only 46 of these First Nations have accessed financing to date. Financing has been used predominantly for infrastructure and economic development purposes.

Overall, as First Nations within Canada gain the financial sophistication, bundling and scaling of projects, as well as incorporating PPP into their structures, large institutional investors will have more opportunity to come on board and participate in what was previously smaller and harder to finance deals. It’s a new frontier that will likely expand the current crowded infrastructure market. “

We are looking for a multiplier effect of our investment in terms of the private investors we attract” Hann
Leading investor.
Trusted and innovative partner.
The possibility of a correction and how it could be a good thing for valuations is one of the first topics that arises during our discussion with a banker and four fund managers, who have gathered in midtown Manhattan to discuss how the infrastructure asset class has changed over the past decade and what the future may hold.

Perhaps it comes as no surprise that the banker, Laurie Mahon, CIBC’s vice chair of global investment banking, broaches the topic first.

“You have so much money pouring into this sector and not enough assets to invest in,” Mahon says. “We’re probably ready for another correction in valuations. Sometimes a little regulation or boundaries on the revenue side will actually produce better deals.”

But what is surprising is that the four fund managers, who are invested in the assets Mahon says might drop in value, agree with her.

According to Gregory Smith, president and chief executive of Toronto-based InstarAGF Asset Management, high valuations can sometimes disguise investments that may not necessarily fit the bill of what’s considered infrastructure.

The North American investment environment is shifting, though what investors expect from infrastructure isn’t. Five industry experts tell Jordan Stutts how to stay on strategy.

Getting ready for a market correction
“As the market corrects, you’ll start to see the true nature and underpinnings of deals – the contracting, regulatory and monopolistic characteristics that assets should have,” Smith says. “If there is an economic correction, you’ll see if non-correlated features actually materialise. It will become evident very quickly which investors are being true to the definition of infrastructure.”

Mark McComiskey, co-head of infrastructure at AVAIO, a firm spinning out of US construction company AECOM, agrees that a correction would expose exactly what types of assets fund managers are investing in as new capital pours into the sector. Smart fund managers that stay disciplined should remain unscathed, he says.

“If you’ve been prudent in your capital structure, you can survive a downturn and the imperfect correlation between the revenue protection arrangements in place for your assets and what actually happens in the economy,” McComiskey explains.

Stefano Mion, managing director and co-head of Ardian Infrastructure US, adds: “It’s a function of whether the asset is essential infrastructure. When we bought assets over the past three or four years, we knew at a certain point a correction would happen. You should stress to investors your valuation, making sure you don’t lose money even in corrections.”

**BROADENING DEFINITIONS**

For George Theodoropoulos, a managing partner at Fengate Asset Management, staying with the strategy a fund manager promised

“If you’ve been prudent in your capital structure, you can survive a downturn”  

**McComiskey**

**AROUND THE TABLE**

**Laurie Mahon, vice chair of global investment banking, CIBC**

Mahon has worked at CIBC since 2013, first joining as managing director and global head of the infrastructure finance group. Her experience in infrastructure ranges from banking to public sector manager, executive and consultant. Prior to joining CIBC, Mahon held posts at McKinsey & Company, on Wall Street as an investment banker and at New Jersey Transit.

**Mark McComiskey, co-head of infrastructure, AVAIO**

McComiskey is co-heading a new infrastructure venture called AVAIO that is spinning out from the capital investment arm of construction company AECOM. Throughout his career, he has invested more than $4 billion of equity in energy infrastructure and transportation assets. Prior to joining AECOM, McComiskey was a founding partner of Vanwall Capital, a senior managing director at Prostar’s energy private equity fund and co-head of First Reserve’s private equity business.

**Stefano Mion, managing director, co-head of Ardian Infrastructure US**

Mion co-heads the US infrastructure portfolio of French private equity firm Ardian. Already one of Europe’s largest infrastructure players, Ardian has expanded its horizons; raising its first Americas-focused fund last May. Mion has been with Ardian since 2007, previously working for Merrill Lynch’s European leveraged finance team and at UBS Investment Bank and JPMorgan.

**Gregory Smith, president and chief executive, InstarAGF Asset Management**

Smith is the head of InstarAGF, a firm which last year closed its inaugural infrastructure fund on C$740 million ($560.4 million; €495.2 million). Prior to joining InstarAGF, Smith headed Brookfield Financial’s Global Infrastructure Advisory Group and was president of Macquarie Capital Funds Canada.

**George Theodoropoulos, managing partner, Fengate Asset Management**

Theodoropoulos manages Toronto-based Fengate’s infrastructure investment business. In September, a consortium led by the firm, was selected to develop a new rental car facility at Los Angeles International Airport. Before joining Fengate in 2009, Theodoropoulos worked as a director at RBC Capital Markets and served as head of RBC’s Canadian Infrastructure Advisory Group.
It will become evident very quickly which investors are being true to the definition of infrastructure.”

Smith

its investors is what’s most important. “The number one thing we hear is ‘stay on mandate’. Investors spend a lot of time allocating capital and figuring out where they want to invest their money. They have you in a certain bucket and they want you to stay in that bucket.”

“I remember when investors talked about infrastructure in 2003 and 2004. It was always, ‘buy me a transmission line, a power plant, a PPP’, Smith recalls. “If you were starting in infrastructure, you would typically begin with large global names and a core portfolio. Now, some LPs have matured and are expanding their asset set to pick up value-add and opportunistic strategies. Everybody’s definition is broader because experience in the sector is broader.”

“We’ve given up on the definition,” Mion counters. “We just go for essential infrastructure, assets that have real barriers to entry, whether that’s a concession or a physical barrier.”

The five industry experts sitting around the table spell out and reach agreement on the various definitions that apply to different types of infrastructure investments. Core infrastructure, they say, typically refers to assets that are de-risked and have the hallmark asset class characteristics – contracted or regulated cashflows. Core-plus means there are opportunities to de-risk the asset, while value-add means the asset can be improved through capital investments and operational improvement.

They also agree that mid-market investments are those that range from $50 million to $200 million.

Where they differ, however, is on the size of opportunities available in North America given the heightened attention the sector is drawing.

Smith says he jokingly likes to tell other fund managers the North American market is overcrowded, in an attempt to throw competition off the trail. But in reality, he says, there are many attractive opportunities to pursue here.

“Comparing North America with the rest of the world, there is quite an interesting niche in the mid-market,” Smith explains. “Big deals get the headlines, and big pension plans pursue the mega-
deals, but looking at the numbers, 70 percent of transactions in North America are less than $1 billion in enterprise value.”

**GOING ‘UPSTREAM’**

Others offered a different view. McComiskey and Theodoropoulos argue that in recent years, competition for assets has led some fund managers to pursue new strategies to obtain still-attractive returns.

“An enormous amount of capital has flowed into funds buying existing assets,” McComiskey says. “Still good deals to be done there, but we have concluded that it is better for us to focus on the less competitive build-to-core segment rather than trying to be smarter than everyone else at buying core.”

Theodoropoulos adds: “If you want to capture higher returns, you’ve got to go upstream in respect of risk with the appropriate in-house expertise […]. We’re putting our chips down with developers that we would like to capture exclusivity with on their deal pipelines, thereby obtaining higher returns through investments that have very significant yield compression.”

The one caveat in expanding into greenfield, he says, is taking on added risk, which investors seeking infrastructure exposure generally want to avoid. “Our investors are primarily pension funds, and are conservative investors,” Theodoropoulos explains.

From a lending perspective, Mahon points out: “There are a lot of places equity wants to put money that isn’t necessarily where banks want to put money. I think there will be an interesting inflection point in the market between debt and equity, and you’re seeing it already, where investors are having to use more equity to back deals. People may be willing to pay 21 times EBITDA on something, but the bank is only willing to lend six times.”

**LPs’ CONFLICTING DESIRES**

Determining what it is investors want from a changing infrastructure market may be easier said than done, according to McComiskey.

“We offer fund lives of 20 years. Some investors say, ‘but we like the discipline of a five-year investment period and a five-year hold-and-sale period’,” he explains. “The reasons many give for investing in infrastructure is to own long-lived, steady-returning assets that match the tenor of their liabilities, but, with some exceptions, investors seem wedded to traditional fund structures that have a shorter life.”

Mahon agrees, saying she’s seen investors place heavy emphasis on exit strategy recently. “Most infrastructure assets are not held in a structure that is perpetual,” she notes. “A lot of assets are owned through concessions. We’ve been seeing a lot of attention from people in

“If you take out of portfolio returns the accreted value upon exit and just look at cash-on-cash, then you get back to what I call normalised infrastructure returns” Mahon
the marketplace saying, ‘when and how do I get out? Who decides when I get out? Can I decide?’”

Mion says it seems like LPs today have “two conflicting points”, wanting years of exposure to assets that are deemed steady and reliable but also wanting to deploy their capital quickly. “[Investors] like the fund formula where there is an exit plan,” he remarks. “When an exit happens, if it’s an asset the investor likes, they will try to stay in it either through a co-investment or a special-purpose vehicle.”

The combination of what investors want and an increasingly competitive marketplace is leading some fund managers to pursue deals that may not completely fit the bill of an infrastructure deal.

**EXPANDING STRATEGIES**

“There is a lot that’s being called infrastructure now that was simply private equity a few years ago. Container cargo rental businesses, laundry machines, logistics companies, are all things private equity firms have been investing in for a long time,” McComiskey says. “Capital asset rental businesses have a long history in the private equity realm.”

McComiskey adds that the expanding boundaries of infrastructure are driving up returns and creating higher expectations for the asset class that will be hard to meet when pursuing a strategy that is more strictly aligned with traditional definitions of infrastructure.

“The returns this sector has generated over the past 10 years are, on average, arguably higher than returns from private equity. There is little possibility that this may have moved expectations a little out of line in some quarters. You shouldn’t consistently be able to generate 20 per cent returns pursuing a core, core-plus strategy,” he says.

According to Mahon, part of infrastructure’s outsized returns of late comes from asset sales and fund managers’ exit strategies. “If you take out of portfolio returns the accreted value upon exit and just look at cash-on-cash, which theoretically is the way everyone should be looking at infrastructure, then you get back to what I call normalised infrastructure returns,” she says.

Smith argues that part of today’s infrastructure returns is the result of macro-economic factors. “We’re inflated a little bit by decreasing interest rates. However, if there’s a little volatility, on average I think you have better performance in infrastructure.”

**LACK OF PRIVATE EQUITY INVESTMENT**

Mahon says she’s annoyed by the misconception that there is a lack of private investment in US infrastructure. “Save me room on my soapbox,” she exclaims. “I think every person outside the United States gets that wrong. Just remember who buys muni-bonds,” she says.

McComiskey responds that “in theory”...
the US is the cheapest market for funding infrastructure projects. “It’s just that the cheap financing makes significant portions of the market not amenable to people like us,” he says.

Smith adds that, while there may be private investment in US infrastructure through the bond market, private control and ownership in the US significantly lags Canada. “What makes the US different is its muni-market and tax code,” he explains. “There’s always been infrastructure investment in the US, but not in the same way we see it happening in other parts of the world today.”

“One could argue that that is the traditional form and everybody else changed it,” Mahon replies. “The only people talking about the lack of private investments in US infrastructure are those who have funds that need to invest in it. The people in the muni-bond market don’t sit around saying, ‘I can’t wait to have more PPPs.’ When looking at the US market, it’s not a lack of private investment. It’s a lack of private equity investment.”

Smith adds: “The US market is not one homogeneous market from coast to coast and north to south. The US isn’t going to adopt a PPP model that looks like Canada or Europe. The US will develop its own type of unique model.”

**KNOW YOUR ROLE**

More than anything, change in the market is what the financiers that gathered in Manhattan agreed investors should expect from infrastructure going forward. But if an investor stays true to what makes infrastructure the asset class it is, then they shouldn’t have much to worry about.

“It’s all about knowing your role, Smith explains. “We’re not trying to solve all the needs of an institutional investor. We’re trying to fill one niche, one part of their needs. How does that fit into the overall marketplace?”

Theodoropoulos echoed that sentiment, adding that infrastructure is still the asset class that will perform better than others through economic uncertainty. If a portfolio is built around assets that deliver on that, larger economic factors won’t make as much of a difference.

“We’ve been through a very long, low-interest-rate cycle, and we’re coming out of it now,” he concludes. “If your asset is linked to inflation or the economy in general, you’re going to come out of it. If your assets aren’t linked to inflation, hopefully your returns are high enough to withstand the pressure.”
Shale revolution continues to breed midstream opportunity

Partners Group’s Head of Private Infrastructure Americas, Todd Bright, talks about creating the infrastructure required to support North America’s explosion in energy production

Energy continues to dominate North American infrastructure. Why is that?

TB: Energy has always been a sector that has been conducive to private capital investment in North America, from upstream right through to downstream. Enabling legislation such as the Public Utilities Regulatory Policy Act of 1978, which gave rise to the independent power industry; private ownership of mineral rights; and a number of government incentive schemes along the way, have all supported the growth of infrastructure investment in this space.

And then there is the sheer size of the opportunity relative to other types of infrastructure in the region. The US is now the largest producer and consumer of natural gas in the world. It is the largest producer of crude oil and the largest producer and consumer of refined products. We have a million megawatts of installed generation capacity. The simple scale involved creates a lot more opportunities than most other sectors.

I will say that the communications space is closest behind energy in terms of having the conditions in place to support private investment. But other areas of infrastructure are dominated by public ownership – airports, toll roads, ports. The development of public-private partnerships has not come about in North America, or the US certainly, in the same way as other geographies because of a lack of public sector expertise in procurement and contracting, as well as the complexities of dealing with federal and state governments. All of this points to energy being the major infrastructure investment opportunity in North America, now and for some time to come.

Which areas within the energy space are most attractive?

TB: Everything that has happened over the past five to seven years with the shale revolution has created opportunities all along the value chain. The drilling activities have created gathering and processing opportunities close to the wellhead. That production, in some cases involving newer basins, creates opportunities to relieve bottlenecks to market. And then the flows further downstream have changed as well and that creates pipeline, processing and storage opportunities.

The other thing that has happened is that because of the abundant, cheap supply of energy in the US, there has been a downstream industrial renaissance. We have seen an explosion of activity in petrochemicals and other energy-intensive sectors and that has created a lot of need for related support infrastructure investments.

Then, of course, there is the export play as well. Right up and down the pathway from wellhead to the export of natural gas and other commodities, there has been a massive transformation. Transformation within capital-intensive markets will usually create a lot of infrastructure need and that is what has happened. Whereas in renewables, we see better relative value for our clients in other geographies such as Asia, in North America, midstream energy infrastructure is where we see good relative value.
Partners Group has been realizing the potential of private markets investments for two decades.

Our strategy is to seek out and invest in essential infrastructure with development potential on behalf of our clients, all around the world.

We do this by combining significant local sourcing capabilities with deep sector expertise and a leading value creation practice.

Our more than 1,000 professionals in 19 offices around the globe manage USD 78 billion of private markets assets on behalf of over 850 institutional clients worldwide.

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What impact has the Trump administration had on energy infrastructure investment? Do you see the regulatory environment changing?

TB: With regulation around infrastructure in the US, there is a federal overlay, but it is the state level that is critical. The regulatory environments in California and Texas, for example, are very different when it comes to energy assets. You have to work with those differing frameworks in mind.

In California, we are invested on behalf of our clients in a power plant that helps support the growth of renewables. This isn’t a baseload plant, running all the time and competing against renewables. It’s a plant that only runs about 15 per cent of the time but on around 90 per cent of days. It’s a flexible plant that can stop and start in response to fluctuations in wind and solar supply. The Californian regulatory environment is pretty supportive for those types of projects.

In Texas and Oklahoma, meanwhile, the regulatory environment is very supportive for midstream assets. The natural gas value chain is a crucial part of the economy in those states, so when it comes to the development, building or permitting of assets within that sector, those are good states to be operating in.

Will the Trump administration ever pull together a coherent infrastructure incentive scheme? Maybe. Maybe not. If they do, that obviously cannot hurt. However, we wouldn’t rely on it happening because the regulatory framework that is closer to the specific assets, at a state or local level, is more important anyway.

How big a problem is activism for midstream assets, such as pipelines, and how do you deal with that risk?

TB: We are very serious about environmental, social, and governance – or ESG – factors. We look to invest our clients’ capital in assets and businesses that are providing essential services that are good for society and needed by society. We are trying to build assets that are supported by their communities. If you have those sorts of characteristics, then activism should be less of a concern. But if ESG considerations are secondary for your firm, then yes, you might get surprised by activist interest from time to time.

ESG is front and centre of our investment screening and due diligence processes, as well as how we manage the assets we own. That is because we think that is the right thing to do, and, as a result, we are minimising the risk of being surprised by activist opposition.

The market for midstream assets is very competitive and valuations are high. What does that mean for origination, underwriting and exit?

TB: It is a very competitive market right now on the buy side which makes it a good environment for selling. Valuations have been climbing steadily over the past few years. By the same token, we are seeing interest rates trend up. It used to be close to 4 percent, all in, in terms of cost of debt. It is now more like 6 to 7 percent, so that will impact valuations eventually. We’ve underwritten that into all of our investment cases and will continue to do so.

Where assets are GDP-exposed, meanwhile, I think valuations might start to settle down. London City Airport traded at 33x EBITDA a couple of years ago. An asset with that much GDP exposure probably wouldn’t sell at that level today, so we try to minimise GDP exposure in our portfolio.

Pricing has certainly been high and it has been a favourable environment for exiting, which we have been able to take advantage of for our clients. But clearly upward movements in interest rates, some volatility in capital markets and concerns around the macroeconomic situation globally, all need to be factored into underwriting.

There is clearly huge demand for midstream infrastructure right now. But how much growth remains?

TB: Infrastructure development within the midstream sector has occurred pretty rapidly over the past few years. That is always going to cause people to ask whether the trend can continue. But all the indications are that billions more is required in this space, right through to 2030 or 2040.

In terms of annual expenditure though, we might be setting the high-water mark presently. Close to $70 billion will have been spent across the US and Canada in 2018. Next year is expected to be bigger, possibly even approaching $100 billion. That probably will represent a peak. I think those numbers will settle down in the $50 billion to $75 billion range until 2035, which still represents an exciting opportunity. We continue to be bullish about the need for midstream infrastructure and to look at establishing platforms that will benefit from that need going forward.

Because of the abundant, cheap supply of energy in the US, there has been a downstream industrial renaissance
Data innovation in alternative investments

Mercatus CEO Haresh Patel explains how smart use of data and technology can create winners in the competitive North American infrastructure market.

Q **What are the big opportunities for infrastructure investors in North America?**

**HP:** There is a tsunami of capital being invested in alternative asset classes - $20 trillion by 2020. The ugly duckling has become the swan. The alpha returns race is wide open, which means a global land grab as infrastructure, energy, and real estate merge into Environment, Social, and Governance (ESG) impact investing. We believe, and we have stories to validate, that companies that can successfully connect people, data and processes have a great competitive advantage. And all of us have an opportunity to impact our global footprint and create a more sustainable planet, which is incredibly exciting.

Q **Conversely, what are the biggest operational challenges that the asset class faces?**

**HP:** Opportunity always brings risk and we are seeing that manifest itself in a number of ways. First is fee compression - partially driven by millennials - which means investors have to learn to do more with less. Second is margin pressure as more funds enter the market, increasing competition for the best infrastructure deals. Third is the massive unscalable data complexity being created by diversification and globalisation of assets, funds, and portfolios. We call that a perfect storm that GPs have to navigate. But there’s still one more dynamic at play here. As LPs write larger checks, they are also demanding more transparency, traceability, and real-time analysis. That is yet one more pressure point on already stressed internal teams, and fund managers who are trying to do more with fewer resources as they work with a reduced fee structure.

Q **How can technology be employed to respond to these challenges?**

**HP:** We conducted in-depth global analysis of growth in assets under management and found that growing infrastructure AUM over the last decade has had no gain in productivity. In other words, headcount has grown linearly to scale AUM. With the fee structures diminishing, doubling headcount to double AUM essentially requires fund managers to defy gravity. If you stress existing teams, you increase error and risk exposure. It’s impossible to increase AUM while keeping operational risk in check with current legacy IT infrastructures.

From a process perspective, funds are thinking about raising money, investing money and managing assets as three separate processes. This is compounded by building IT infrastructure around these to support each process – e.g., the investment team working with legacy front-office CRM building a system-of-record for customers; the asset management team using a ledger-based system-of-record for the back-office. Missing is a system-of-record for projects and assets across the lifecycle of an asset from origination to divestiture.

Investors need to connect critical data locked up in bespoke excel finance models, thousands of documents and e-mail conversations, and centralise it to improve investment decisions and gain the upper-hand on operational efficiency across the entire organisation. This is where the right platform technology can...
play a critical role in building a scalable foundation for growth. Intelligently centralising data allows the organisation to spend time analysing risk and performance, and forward-looking valuation scenarios, instead of focusing on just meeting reporting and compliance requirements.

What are tangible ways in which data, and the technology to harness it, can lead to better infrastructure returns?

HP: Let me give you a few examples. We worked with a company that had acquired a set of wind farm portfolios. The business model was to sell those assets at the perfect time, and, as we know, timing markets isn’t easy. It was taking that company 23 days to run stress test scenarios, such as fluctuation in currency and inflation rates, which has significant effect on the valuation of wind assets. After centralising the data in our platform, we reduced that time from 23 days to 2-3 hours. Having the ability to do real-time scenario analysis enabled them to gain around a 108 basis point-advantage on the value of the asset.

A second company was operating across 11 different asset classes in 35 countries. Each of those regions had its own deal pipeline and was reporting differently. By getting the basic foundation right, dynamically connecting people and data across the enterprise, that company was able to kill deals in the business development phase a lot quicker. Dead deal costs can be very high. Even more meaningful was the digitalisation of their processes, which enabled the business to increase its assets under management fivefold with the same 200 investors globally. The superior structural cost advantage allowed them to aggressively bid on new asset acquisition, gain market share and improve IRR performance.

What stage is the infrastructure industry in within North America in terms of technology sophistication?

HP: I would say we are in the early innings of true digitalisation. There are early adopters that have sensed the opportunity to create an agile infrastructure, who see how technology can lead to better, faster investment decisions, competitive differentiation, and alpha returns.

But there are also infrastructure managers that are overinvesting. They are creating spaghetti code and then facing the nightmare of trying to untangle it. Throwing money at the problem can sometimes create more data silos when the goal should be simplification and centralisation.

What’s next for the adoption of technology in North American infrastructure? Will we see emerging technologies at work?

HP: There’s no question that speed and accuracy of decision making in the infrastructure world will be a defining differentiator. This will not happen without the use of technology to process data faster and empower executives with real time data they can trust to make good financial and investment decisions. Ultimately, technology will reduce deal friction, increase capital velocity, and deliver efficiency on steroids.

It’s happening quickly. The world of infrastructure and alternative assets is ripe for innovation. The opportunity for the US – and for every market – to become better, faster, smarter, more predictive for investors is right around the corner. But it’s so important to get the foundational plumbing right.

Most infrastructure investors are still relying on 30+ year old technology – e.g., Excel, Powerpoint, e-mail, people and duct-tape – for critical business functions to scale the business. Funds will need to invest in better collaboration tools to streamline workflows. Due diligence and underwriting have to be systematised and the underlying data has to be centralised. Once that is in place, you have the possibility of introducing new technologies such as machine learning and artificial intelligence. Once you can see behaviours and repetitive patterns, then you can apply machine learning. Once you have documents centralised and connected to financial spreadsheets, you can look at technologies that read those documents automatically, eliminating human eyeballs and mistakes.

In light of technological advancement, what does the future spell for the evolution of the infrastructure industry in North America?

HP: The US, China, India are still relatively early in the infrastructure rebuild, meaning there are multiple decades of land-grab opportunities to come. But competition will be fierce.

The companies that have lean overhead, that are agile in making fast, accurate decisions will secure alpha returns. The markets are big enough to have many winners.
Change your perspective.
Starwood Energy CEO Himanshu Saxena discusses how the energy industry is responding to a low gas price world

Q How have falling energy prices affected investment opportunities for infrastructure investors in North America?

HS: The shale gas revolution has created a great deal of disruption over the past 10 years. I remember the take-private transaction of TXU in 2007, the largest deal in the industry's history. The sponsors were forecasting gas prices of between $6 and $8 for the foreseeable future. Now, the forward price is in the $2 to $3 range. That is a phenomenal shift and a reflection of all the technological evolutions in the oil and gas space, whether that's fracking, or even newer technologies being implemented to increase the efficiency of existing wells.

With gas prices low, and expected to remain low, the profitability of power generation assets has changed. We have around 1,000GW of installed power generation in the US. A little over half of that is coal and nuclear. Before the shale gas revolution, these assets were highly profitable. But with the price of gas so low, there has been a shift on the marginal unit – effectively the last asset that has to run to meet the power demand at any point in the grid. That marginal unit has, generally speaking, become natural gas, so gas is now setting the price of power. In most markets in the US, that price of power is now in the $20 to $30 per megawatt-hour range.

At those prices, coal and nuclear plants are often no longer profitable and we are continuing to see economic retirement of nuclear and coal assets. This decarbonisation is not being driven by politics or regulatory issues. It is basic economics. The old technologies for generating power are no longer the technologies of the future. Coal and nuclear plants are being retired and gas-fired plants and renewables are being built in their place.

Q But the energy sector is still facing decreased demand. What does that mean for the future?

HS: Over the past 10 years, there has been a big increase in the efficiency with which energy is used. That has led to flat or even decreased demand, despite population growth and despite strong economic growth. We are doing more with less energy.

Flat demand does create significant challenges for some assets, but I think that the demand pattern is set to change. Look at all the data centres being built as tech companies like Facebook try to keep pace with demand. These data centres are massive users of energy. Also consider the amount of energy it would take to mine bitcoins, if projected growth ever becomes a reality. Electric vehicles are another piece of the puzzle. There are forecasts that envisage hundreds of billions of dollars of infrastructure being built to support electric vehicles going forward.

Q Given these macro trends, where is Starwood placing its bets?

HS: We focus on two key verticals: greenfield and brownfield. We look at building greenfield gas-fired power plants; renewable assets including wind, solar and biomass; transmission assets; midstream assets; battery generation and battery storage assets. We tend to get involved during the mid- to late-stages of development when it is not necessarily about deploying a lot of development capital but of adding value during critical phases of the development lifecycle. We have relationships with all the OEMs, with financing counterparties; we know how to negotiate a construction contract and how to find a long-term customer for the capacity and energy we are selling. Every asset we develop has pre-identified customers, whether it is a state, utility, city or a corporate that is willing to give us a long-term contract. It is a really important risk management tool for us.

So, essentially, we do a lot of cooking to produce high quality infrastructure assets...
and that cooking is how we create value for our investors. We have built six wind farms now, with combined capacity of more than 1.2GW. We have built large solar photovoltaic projects in Ontario and the largest biomass project in the country down in Florida. We have developed two large transmission projects, Neptune and Hudson, and are now developing our third, the Ten West Link, connecting Arizona and California.

The other half of the business is buying existing assets with an eye towards adding value by making those assets run better, upgrading the capacity on the gas turbines or connecting the gas power plants to better pipelines. It is all about adding value. A lot of us are engineers by training and love getting involved with the assets.

**Q** You acquired a portfolio of coal assets from Ares last year. How does that brownfield deal fit in with the decarbonisation trends you were describing?

**HS:** We don’t generally invest in coal, but this was a unique opportunity to buy a portfolio of four contracted assets – it was more about the contracts than about the coal. In time, these plants will be replaced with gas-fired plants or with battery storage assets. Any time we are investing in an operating asset we are thinking about what we can do with it. We are selectively buying, selectively building and selectively switching between different technology types as windows of opportunity open and close.

**Q** You are a mid-market player in an industry dominated by mega funds. How does that affect the way you operate?

**HS:** There are firms out there raising $20 billion funds right now and we see a lot of competition for deals involving equity cheques of between $50 million and $1 billion. These mega funds are far less likely to pursue single asset opportunities – a wind farm in Ohio, for example, that is still three years from commercialisation. Mid-market deals, which I would describe as those involving equity cheques of between $50 million and perhaps $400 million at the top end, attract a lot less competition and can ultimately be more profitable.

**Q** How do you see the renewables industry evolving within the broader energy sector over the next decade?

**HS:** The renewables industry is here to stay. I read a report recently that said there is around 90GW of installed wind in the US, which is around 9 per cent of installed generation capacity. Most of that has been built over the past 10 years. I would expect that to grow by the same amount, if not more, over the next 10 years.

People ask whether renewables would have done so well without subsidies. Look at what is happening in Alberta, where they don’t have subsidies, or in Mexico. Wind is being priced in the high teens and low twenties. It is clear that wind can be competitive on an unsubsidised basis.

The other interesting point here is that demand for renewables is being driven by customers. Amazon, Google, Yahoo, Microsoft, Facebook – these tech companies are some of the largest buyers of renewable energy in recent history. They are not buying because they are obligated to. They are making an economic decision to buy this energy based on the ability to lock in favourable pricing and the ability to be sustainable. Facebook wants every new data centre it launches to be 100 per cent powered by renewables. That is what its users demand.

And it’s not just tech companies. Numerous non-tech names such as General Motors, Johnson & Johnson, Procter & Gamble – these businesses are looking, in many cases, to be 100 per cent green in their procurement. This huge buyer pressure means that renewable assets will continue to be built even if subsidies expire.

**Q** Nonetheless, regulatory and political risk is prevalent in the energy sector. How do you manage that risk?

**HS:** We do consider regulatory risk carefully. In many cases we will try and pass on some of that change of law risk to our customers, in our contracts, or manage it through insurance products. But the regulatory environment in the US is really, very stable. In other markets, such as Spain, where subsidies were given and then withdrawn, that hurt a lot of investors. We haven’t seen that in the US. That is why the US is one of the most constructive regulatory markets for operating assets in the world.
Top 10 North America-focused funds in market

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</tr>
<tr>
<td>Turner-Agassi Charter School Facilities Fund II</td>
<td>United States</td>
<td>Turner Impact Capital</td>
<td>0.40</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Institutional investors with an appetite for North America investment

North America-based institutional investors with an appetite for the region

Funds in market targeting the North America region, as at 29 October 2018

North America fund managers raising capital, as at 29 October 2018

North America-focused fund closes

<table>
<thead>
<tr>
<th>Fund Name</th>
<th>Head Office</th>
<th>Fund Manager</th>
<th>Current Size ($bn)</th>
<th>Year Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stonepeak Infrastructure Fund III</td>
<td>United States</td>
<td>Stonepeak Infrastructure Partners</td>
<td>7.20</td>
<td>2018</td>
</tr>
<tr>
<td>Energy Capital Partners III</td>
<td>United States</td>
<td>Energy Capital Partners</td>
<td>5.05</td>
<td>2014</td>
</tr>
<tr>
<td>Stonepeak Infrastructure Fund II</td>
<td>United States</td>
<td>Stonepeak Infrastructure Partners</td>
<td>3.50</td>
<td>2016</td>
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<tr>
<td>Macquarie Infrastructure Partners III</td>
<td>Australia</td>
<td>Macquarie Group</td>
<td>3.04</td>
<td>2014</td>
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<tr>
<td>Carlyle Energy Mezzanine Opportunities Fund II</td>
<td>United States</td>
<td>The Carlyle Group</td>
<td>2.82</td>
<td>2016</td>
</tr>
<tr>
<td>EnerVest Energy Institutional Fund XIV</td>
<td>United States</td>
<td>EnerVest</td>
<td>2.40</td>
<td>2015</td>
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<tr>
<td>LS Power Equity Partners IV</td>
<td>United States</td>
<td>LS Power Group</td>
<td>2.25</td>
<td>2018</td>
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<tr>
<td>LS Power Equity Partners III</td>
<td>United States</td>
<td>LS Power Group</td>
<td>2.08</td>
<td>2014</td>
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<tr>
<td>EnerVest Energy Institutional Fund XIII</td>
<td>United States</td>
<td>EnerVest</td>
<td>2.00</td>
<td>2013</td>
</tr>
<tr>
<td>John Hancock Infrastructure Fund</td>
<td>United States</td>
<td>John Hancock Investment</td>
<td>2.00</td>
<td>2018</td>
</tr>
</tbody>
</table>

North America-based funds targeting $1bn plus, as at 29 October 2018

North America-focused funds targeting $1bn plus, as at 29 October 2018
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