

## An interview with Michael Blum: Midstream energy companies leading the energy evolution

### Kristin Douglass:

Good morning, everyone. I'm Kristin Douglass, director of our strategic client group at TortoiseEcofin, covering our research relationships with key clients, including broker dealers and institutional platforms. As part of our energy evolution educational series, I'm pleased to be joined today by Michael Blum, managing director and senior equity analyst at Wells Fargo Securities, covering the midstream energy, MLP and natural gas sectors since 2003.

As many of you may know, Michael has a vast following as an expert in midstream energy and publishes extensive differentiated and forward-looking research on the space. So welcome, Michael, and thanks for taking the time to sit down with us.

Several of your recent research report highlight Midstream's role in an energy transition, as well as midstream companies getting into renewables. So we're going to touch more on this later in our conversation, but we would certainly agree that these topics are critically important to understanding the future of midstream energy.

I know from my conversations with clients that oftentimes the investor sentiment is that the transition to cleaner energy sources and midstream energy are mutually exclusive. When in fact, I think they should really be viewed as mutually dependent for the future of energy consumption. This is certainly something that we, here at TortoiseEcofin, recognized early on, that an energy evolution was underway. And in order for us to be a successful investor, it's imperative to have expertise across the energy ecosystem, from midstream to utilities to renewables.

So with that introduction, and before we drill down into Midstream's role in the energy evolution and discuss the outlook for the sector, I was just hoping we could start with your views on the new political backdrop that has unfolded. I think it's been about almost two weeks since Joe Biden was announced as president elect. And presumably, we now have a much clearer picture of the makeup of our government in 2021. It was evident towards the end of the campaign that Biden said, he's not calling for a total ban on fracking, but policies are more likely to be focused on banning new permitting on federal lands, which I think is a key distinction to highlight. So with that, I ask you, what policies should we look for and for investors to look for that may impact midstream under a Biden presidency?

### Michael Blum:

Absolutely. So thanks again for having me on today. So I think you can look at a Biden presidency and there's a few knowns that we have and a few kinds of unknowns. The knowns are that the president has been on record as saying Keystone XL, he's going to attempt to revoke the presidential permit. There's some questions about whether he can do that or not, but that certainly, he's on record saying that. As you mentioned, he said on record, he's going to ban new permits on federal land. And that includes the offshore. We don't think that's really that bad. All the producers know that's coming. And so, they've actually been building up about a three to four year backlog of permits. So the way to think about that is, if that gets instituted, you probably have a three to four year window till drilling would slow down and you'd start to see declines.

I think you'd expect to see increased regulations around methane and just generally more regulation around the industry. We would think the FERC becomes less hospitable to pipeline permitting. So building, pipelines gets more difficult, but really that was already pretty tough under a Trump administration. So really, it's just more of the same.

The question mark, of course is we're assuming in all this, that the Republicans maintain control of the Senate. If the Democrats win the two races in Georgia and take the Senate, you probably have a more aggressive scenario. Some version of the New Green Deal probably is more likely to get passed. That probably means an acceleration in renewable investments, which could hasten the market share gains of renewables versus traditional oil and gas. You'd probably also see the loss of oil and gas subsidies and tax breaks. Even potentially, who knows, but the MLP structure could be viewed that way as well.

And then I think the unknowns, just things we just don't know about, are pipelines, like Dakota Access Pipeline, Enbridge's Line 3 project and Equitrans' Mountain Valley Pipeline, all of which could be impacted by a Biden administration, but he hasn't really said anything on record about those. So that's kind of TBD.

**Kristin Douglass:**

So you mentioned the Green New Deal, which we've obviously heard a lot about and an acceleration toward investing in renewables under Biden. So that's a good segue into the topic of energy evolution and transition that I mentioned earlier. As I said, you've written a lot of reports on Midstream's role in energy transition. And in those you highlight two critical components in understanding the future impact on midstream companies, which are terminal value and valuation. So particular to midstream, I would say, can you explain why that's important for the viability of the sector going forward?

**Michael Blum:**

You bet. So terminal value is just the value of a company beyond the forecast period, when the future cash flows are basically estimated, either to grow or decline at a set rate into perpetuity. So in valuing stocks, using a discounted cash flow approach, such as a dividend discount model, for example, an investor would discount all future cash flows at a certain discount rate and then come up with a fair value for the stock.

And then the terminal value in many cases will make up a meaningful part of that total value that you're getting on the stock. Just to give you a flavor for it, we estimate for the larger midstream companies, terminal value currently makes up about 30% of the stock price. So terminal value has obviously become a very popular topic, now, as you mentioned for oil and gas investors, in the context of energy transition and the increase in renewable energy penetration. So if we were to assume that the world stopped using hydrocarbons in 10 or 20 years, that would have a big impact on what investors will be willing to pay for a stock today that transports oil and gas, or any hydrocarbon for that matter.

So of course, I'll stop here and just hasten to say that this is not a realistic scenario in our view, but when some midstream stocks got to a really low price earlier this year, probably around September, we decided to do a sort of sanity check to see how much terminal value is being priced into pipeline stocks. And what we found was that some midstream company stock prices were imputing zero terminal value after 10 years. In other words, the market was pricing these stocks as if they would cease to return any cash flow to equity holders after 10 years. Now, clearly that is not a very realistic scenario, no

matter what your views are. And so, that gave us a lot of comfort in recommending certain companies where the market was basically telling you after 10 years, the stock is worth zero.

**Kristin Douglass:**

Great. So it would seem from your comments and from our research as well, that there are several midstream companies that are positioned to benefit from this energy transition. Kinder Morgan and Williams are just two that come to mind as they have significant natural gas and LNG pipeline exposure. And they also have the potential to invest in renewables. So can you elaborate on the role that natural gas will play as energy evolves and why it's important for these companies to be able to adapt and pivot going forward?

**Michael Blum:**

Absolutely. Well, first of all, I would say we think midstream companies are going to have to address energy transition. And that will mean different things for different companies. For the larger midstream companies that are skilled at managing large scale infrastructure projects, we think these companies will need to be open to renewable investments. That could mean wind and solar projects and other forms of renewable energy. But we think that's got to be part of the mix.

To name the two, just to discuss the two that you just mentioned, Williams and Kinder Morgan. Williams has set a goal to reduce emissions by 56% by 2030. To get there, they're kind of taking in all the above approach to renewables. So that includes leveraging existing pipelines to transport, possibly hydrogen or renewable natural gas. It also means directly investing in solar projects. And right now, the company is spending about a couple, \$200, \$300 million per year to power its compressors with solar panels. So Kinder Morgan is a bit behind Williams when it comes to the renewable efforts, but we think it's just a matter of time until they adopt a similar approach.

The other companies I would mention in this discussion on renewables would be Enbridge and TC Energy two Canadian companies that we think are the furthest along and pushing into the renewables space. Enbridge owns several green energy assets, including offshore wind farms that currently generate about \$200 million of EBITDA. So relative to the size of the company, that's very small, but at least it's a start. And Enbridge also recently pledged to reach net zero greenhouse gas emissions by 2050. TC Energy or TRP is also somewhat ahead of the game on energy transition, actually held their investor day yesterday and spent a good part of the time talking about renewable strategies, including wind, solar, hydrogen, pump hydrogen, battery investments.

And the other interesting thing that they are doing is TRP is factoring CO<sub>2</sub> emissions into their capital allocation decision, which we think is a first for a midstream company and probably will establish ultimately a new standard for the industry.

**Kristin Douglass:**

That's great. Thank you. And we touched on Williams, but another key opportunity for midstream to participate in the evolution of energy is by transporting hydrogen. And as part of this educational series, we actually hosted an interview last month with Alan Armstrong, the CEO of Williams. And he spoke a lot about what you just mentioned, but he also spoke about the economic benefit of producing hydrogen through electrolysis, particularly as it relates to producing power in

excess and effectively having free electricity. So can you talk about the potential role pipelines could play with transporting hydrogen?

**Michael Blum:**

Sure. So companies that own natural gas pipelines, we think are uniquely positioned to potentially participate in hydrogen transportation down the road. If it becomes economically viable, I should add. There are different estimates for how much hydrogen can be blended and transported in existing natural gas pipelines, it's anywhere from 2% to 15%. But if green hydrogen becomes commercially viable, it seems to us like the natural gas pipelines will be best positioned to play a role. For example, most of the best locations in the U.S. to site wind farms are in the Midwest, but the major demand centers are on the East and West coast. So we could conceive of a future where green hydrogen is produced with wind power in the Midwest and then transported via existing natural gas pipeline networks to demand markets on the East and West coast.

And the reason this is great for the natural gas pipeline industry is that even if you believe that over time the demand for natural gas declines, and therefore there'd be some kind of natural decline in natural gas volumes on pipes, that could be offset by increases in hydrogen transportation. And that would basically extend the life of these assets.

**Kristin Douglass:**

In addition to hydrogen, there's a couple other renewable opportunities for pipelines that have been discussed. So first, what's your take on the opportunity for a renewable natural gas?

**Michael Blum:**

Sure. So just to level set everyone, renewable gas is made from capturing and processing methane that's emitted by organic waste, from places like landfills or dairy farms. So this methane, if you think about it, it was going to be emitted into the atmosphere anyway. So capturing it and burning it as fuel is considered carbon neutral.

Now, the average renewable gas project is pretty small in terms of the amount of natural gas it generates. It's usually about 1 million cubic feet per day. And just to give you some perspective, the typical pipeline has a capacity to flow 2000 times that amount of gas. However, there are many landfills, wastewater plants and dairy farms scattered around the country. And similarly, if an existing natural gas pipeline can connect to a whole bunch of these, they can help fill up volumes on their pipe and to the extent you think you're going to see declines over the long term in traditional gas production in the field, this is a way to offset that.

**Kristin Douglass:**

Thank you. So what about renewable diesel? Can you discuss any opportunity you may see there down the line?

**Michael Blum:**

Sure. So we actually think renewable diesel overall is kind of a net negative for midstream companies. We're seeing several refineries shutting down or converting to renewable diesel production. And when they do this, there are two key changes. First, the volumes on the crude pipelines that supply that refinery are eliminated or reduced. And the output of volume of renewable diesel, post-conversion, is typically much lower. So while of course it's better for midstream companies to try and transport as much renewable diesel as possible, the overall impact we think is negative. So far, if you look at the renewable diesel conversions announced by Marathon Petroleum, HollyFrontier, Phillips 66, collectively, that's 191,000 barrels per day of crude refining capacity, that's getting shut down, taken out of the market. And it's being replaced by 121,000 barrels per day renewable diesel capacity. So there's obviously a big decrease in oil demand into these refineries. And then there's a net 70,000 barrel per day decrease in volume of refined product that would travel on the refined product pipeline.

**Kristin Douglass:**

Okay. So it sounds like little less of an opportunity there, but what about wind and solar? How do you think midstream management should be looking at those types of investments?

**Michael Blum:**

So the arguments we've heard from midstream companies in the past is that wind and solar investments generate lower returns than traditional midstream investments. And that is certainly true on the face of it. The IRRs for renewable projects today are typically in a, call it 7% to 8% range. And while midstream companies will tell you that a traditional investment in pipeline will generate a return of 12% plus.

But when we dig a little bit deeper, we find this argument falls apart a little bit. So first, midstream returns we found are closer to 10%, when you take into account the full cycle economics and not just the initial contracted terms for a project. And second, even if that is true, having a stake in renewable projects could help midstream companies build expertise in renewable energy, which would help position the company for future opportunities. So there's definitely a segment of the investor community that believes midstream companies should simply return cash to shareholders, rather than chase lower returning renewable investments. But that's obviously one side of the coin. The other is that the returns are not really that much lower than a traditional midstream investment and you're sort of hedging your bets for the future.

**Kristin Douglass:**

Great. Thank you. So I want to switch gears and talk about the outlook for the sector going forward, but certainly sounds like those companies who are able to evolve and adapt, both in terms of their business models and balance sheets, are going to be the beneficiaries going forward. And we've seen this evolution happen with companies in other sectors, and we've certainly seen it happen in midstream over the years, albeit in various forms. But it does seem that this is a pivotal opportunity for midstream companies to demonstrate their essential value to our global economy.

So moving on from energy transition, but perhaps equally important is that the midstream industry is increasingly focused on free cash flow generation. And that's something I was hoping you could touch on and how you think free cash is likely to be allocated among distributions, debt pay down and share buybacks?

**Michael Blum:**

Absolutely. This is actually, I would say the key question right now for midstream. We're at a real inflection point heading into 2021. Most midstream companies have dramatically scaled back their capital spending. So they're finally going to be generating meaningful free cash flow. And the question you asked, which is the right one, what should they be doing with it? So we think the first answer has to be debt paydown, to the extent the company's leverage is too high. And we could talk about what the right leverage is. But generally, we would say that most midstream companies carry too much leverage right now. And so debt reduction should be the first priority.

But once a company reaches a comfortable level, the question is then dividends or stock buybacks? And here we would say, it kind of depends on what the market is telling you. At this exact moment in time, the market is clearly not ascribing as much value to dividends. The median yield for the sector is somewhere around 11% compared to the five and 10 year averages of 7% to 8%.

Also, there's a lack of fund flows in the midstream sector and really the entire oil and gas industry right now. So to some extent, we think midstream companies just need to create their own fund flows if they can. So given all that, buybacks seem like the best return on capital today for many midstream companies. That will change over time as valuations change. But today, we think buybacks is definitely the way to go.

**Kristin Douglass:**

Great. And I guess the follow on question to that would be based on debt reduction and share buyback expectations. What are your total return expectations for midstream over the long term and further to that, to what degree would you say distributions factor into those return expectations?

**Michael Blum:**

So we have a chart that's in our monthly report that shows the composition of yield plus growth for the sector every year, going back to 1991. And what it shows, is that remarkably, over all those years, that the yield plus growth for the midstream sector has been right around 12%. And so, if you go back to the late '90s, when there was not as much growth in the sector, the yield was as high as around 10%. And then when distribution growth increased, the yield compressed, but overall still sort of just got you to a 12% total return. And so, in our minds, what that says is the required rate of return to own midstream for investors in the market is about 12%. So in today's low growth environment with dividend growth prospects of 0% to 2%, and maybe the potential for 1% to 2% to be returned via stock buybacks, an 8% to 10% yield for the sector could make sense. But we think ultimately, it's going to all end up around 12%.

**Kristin Douglass:**

And that chart you mentioned from your monthly report does a good job of spelling that out for investors. So circling back to the political backdrop for a moment, back in August, you published a report entitled Will MLPs Outperform in a Biden Presidency. And that was certainly a popular question among our investors as well. And I know we touched on this briefly earlier, but in terms of return expectations, how do they differ between C-corps and MLPs, given a Biden presidency and particularly as higher tax rates are less likely, should we end up with a majority Republican Senate after we see what unfolds in Georgia?

**Michael Blum:**

Sure. So this was a question we too were receiving quite a bit over the last few months, and I think many investors are of the opinion that if corporate tax rates go higher then MLPs become more advantaged on a relative basis and perhaps this leads to outperformance for MLPs over C-corps. I think we just have a different view on it. We don't agree with that.

Everything I just said is kind of technically true, but we think fund flows and capital availability are going to be far more important drivers of performance than taxes. Meaning, the amount of capital that can invest in C-corps is far greater than that can be invested for MLPs. It's due to a host of reasons, but really corporate governance and ESG are probably the biggest ones. So we think that is going to be a far more important driver than tax rates. And therefore we think C-corps will continue to attract the lion's share of fund flows into midstream pretty much for the foreseeable future.

**Kristin Douglass:**

Great, thanks. And I'd be remiss if I didn't mention the strong market that we've seen this month, following the vaccine announcements, but also earnings have been quite strong this quarter. So do you think this is a sign of the durability of midstream companies' cash flows, even having been in the most challenged environments like COVID?

**Michael Blum:**

So certainly, the rebounding cash flows and the speed of which things have recovered has been surprising to the upside, for sure. The way I would answer this question is just to point out that midstream is primarily a volume game. It's less directly about commodity prices, but you do need high enough prices to stimulate drilling activity, which ultimately results in higher volumes across midstream assets. So on some level midstream is going to be a function of how fast U.S. shale rebounds or doesn't as we go forward.

We think you need oil prices around \$50 a barrel to stimulate U.S. shale growth on a broad level. So there will, of course be areas that are drilled at lower prices and some need higher prices. But overall, we think that's kind of the number the industry needs.

Also, you need to look at end market demand. We think natural gas demand and NGL demand are much more durable over the long term versus oil demand. So we think companies with gas and NGL assets are likely to fare better than oil over the long term, but certainly this cycle has certainly proven to some extent the durability of the cash flows of the midstream industry.



**Kristin Douglass:**

And you mentioned natural gas and NGL demand and I think maybe as we wrap up here, I would say it's important to highlight the degree to which the U.S. has increasingly become an exporter of those robust energy supplies. So how do you see the export opportunity playing out over the next decade or so?

**Michael Blum:**

We think exports is the opportunity for the U.S. energy industry, regardless of who's in the White House or who controls Congress. The U.S. and most other first-world economies are going to see renewable energy take market share from fossil fuels. There's no doubt that's going to happen. But developing economies in Asia and India and elsewhere, where their population sizes and growth rates are much larger than ours. They're going to need hydrocarbons to move from their current living standards to first-world living standards. And the U.S. is still one of the lowest cost producers of hydrocarbons in the world. So the U.S.' role will be a net exporter of oil, of natural gas, of NGLs. And we think that's only going to grow over time. We basically think that is the future for U.S. oil and gas.

**Kristin Douglass:**

Great. Thank you, Michael. We would certainly agree on that. So we appreciate you taking the time today and sharing your insights with us.

**Michael Blum:**

Thanks so much for having me. I enjoyed it.

**Disclaimer:** Michael Blum is not affiliated with the TortoiseEcofin family of registered investment advisers. This material is provided as of 11/16/2020 and is subject to change. Any views or opinions of unaffiliated third parties are the personal views of the individuals or organizations that provided them and do not necessarily reflect the opinion of TortoiseEcofin or its affiliates. Nothing contained in this communication constitutes tax, legal, or investment advice. Investors must consult their tax advisor or legal counsel for advice and information concerning their particular situation. This podcast contains certain statements that may include "forward-looking statements." All statements, other than statements of historical fact, included herein are "forward-looking statements." Although TortoiseEcofin believes that the expectations reflected in these forward-looking statements are reasonable, they do involve assumptions, risks and uncertainties, and these expectations may prove to be incorrect. Actual events could differ materially from those anticipated in these forward-looking statements as a result of a variety of factors. You should not place undue reliance on these forward-looking statements. This podcast reflects our views and opinions as of the date herein, which are subject to change at any time based on market and other conditions. We disclaim any responsibility to update these views. These views should not be relied on as investment advice or an indication of trading intention. Discussion or analysis of any specific company-related news or investment sectors are meant primarily as a result of recent newsworthy events surrounding those companies or by way of providing updates on certain sectors of the market. TortoiseEcofin, through its family of registered investment



---

advisers, does provide investment advice to TortoiseEcofin related funds and others that includes investment into those sectors or companies discussed in these podcasts. As a result, TortoiseEcofin does stand to beneficially profit from any rise in value from many of the companies mentioned herein including companies within the investment sectors broadly discussed.

### **Well Fargo Securities Disclaimers**

#### **Additional Information Available Upon Request**

I certify that:

- 1) All views expressed in this research report accurately reflect my personal views about any and all of the subject securities or issuers discussed; and
- 2) No part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by me in this research report.

Wells Fargo Securities, LLC does not compensate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC's research analysts receive compensation that is based upon and impacted by the overall profitability and revenue of the firm, which includes, but is not limited to investment banking revenue.

### **STOCK RATING**

**1=Overweight:** Total return on stock expected to be 10%+ over the next 12 months. BUY

**2=Equal Weight:** Total return on stock expected to be 0-10% over the next 12 months. HOLD

**3=Underweight:** Total return on stock expected to lag the Overweight- and Equal Weight-rated stocks within the analyst's coverage universe over the next 12 months. SELL

### **VOLATILITY RATING**

**V=A** stock is defined as volatile if the stock price has fluctuated by +/-20% or greater in at least 8 of the past 24 months or if the analyst expects significant volatility. All IPO stocks are automatically rated volatile within the first 24 months of trading.

As of: November 9, 2020

52% of companies covered by Wells Fargo Securities, LLC Equity Research are rated Overweight.	Wells Fargo Securities, LLC has provided investment banking services for 47% of its Equity Research Overweight-rated companies.
39% of companies covered by Wells Fargo Securities, LLC Equity Research are rated Equal Weight.	Wells Fargo Securities, LLC has provided investment banking services for 36% of its Equity Research Equal Weight-rated companies.
9% of companies covered by Wells Fargo Securities, LLC Equity Research are rated Underweight.	Wells Fargo Securities, LLC has provided investment banking services for 31% of its Equity Research Underweight-rated companies.

### **Important Disclosure for U.S. Clients**

This report was prepared by Wells Fargo Securities Global Research Department (“WFS Research”) personnel associated with Wells Fargo Securities and Structured Asset Investors, LLC (“SAI”), an investment adviser subsidiary of Wells Fargo & Co. If you are paying directly for this research, it is being provided by SAI. For all other recipients in the U.S. this report is being provided by Wells Fargo Securities.

### **Important Disclosure for International Clients**

**EEA** – The securities and related financial instruments described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. For recipients in the EEA, this report is distributed by Wells Fargo Securities International Limited (“WFSIL”). WFSIL is a U.K. incorporated investment firm authorized and regulated by the Financial Conduct Authority. For the purposes of Section 21 of the UK Financial Services and Markets Act 2000 (“the Act”), the content of this report has been approved by WFSIL, an authorized person under the Act. WFSIL does not deal with retail clients as defined in the Directive 2014/65/EU (“MiFID2”). The FCA rules made under the Financial Services and Markets Act 2000 for the protection of retail clients will therefore not apply, nor will the Financial Services Compensation Scheme be available. This report is not intended for, and should not be relied upon by, retail clients.

**Australia** – Wells Fargo Securities, LLC, Wells Fargo Securities International Limited and Wells Fargo Securities Asia Limited are exempt from the requirements to hold an Australian financial services license in respect of the financial services they provide to wholesale clients in Australia. Wells Fargo Securities, LLC is regulated under the laws of the United States, Wells Fargo Securities International Limited is regulated under laws of the United Kingdom, and Wells Fargo Securities Asia Limited is regulated under the laws of Hong Kong. All such laws differ from Australian laws. Any offer or documentation provided to Australian recipients by Wells Fargo Securities, LLC, Wells Fargo Securities International Limited or Wells Fargo Securities Asia Limited in the course of providing the financial services will be prepared in accordance with the laws of the United States, United Kingdom or Hong Kong and not Australian laws.

**Canada** – This report is distributed in Canada by Wells Fargo Securities Canada, Ltd., a registered investment dealer in Canada and member of the Investment Industry Regulatory Organization of Canada (IIROC) and Canadian Investor Protection Fund (CIPF).

Wells Fargo Securities, LLC’s research analysts may participate in company events such as site visits but are generally prohibited from accepting payment or reimbursement by the subject companies for associated expenses unless pre-authorized by members of Research Management.

**Hong Kong** – This report is issued and distributed in Hong Kong by Wells Fargo Securities Asia Limited (“WFSAL”), a Hong Kong incorporated investment firm licensed and regulated by the Securities and Futures Commission to carry on types 1, 4, 6 and 9 regulated activities (as defined in the Securities and Futures Ordinance (Cap. 571 The Laws of Hong Kong), “the SFO”). This report is not intended for, and should not be relied on by, any person other than professional investors (as defined in the SFO). Any securities and related financial instruments described herein are not intended for sale, nor will be sold, to any person other than professional investors (as defined in the SFO). The author or authors of this report is or are not licensed by the Securities and Futures Commission. Professional investors who receive this report should direct any queries regarding its contents to Kelly Chiang and Mandy Wan at WFSAL (email: wfsalresearch@wellsfargo.com).

**Japan** – This report is distributed in Japan by Wells Fargo Securities (Japan) Co., Ltd, registered with the Kanto Local Finance Bureau to conduct broking and dealing of type 1 and type 2 financial instruments and agency or intermediary service for entry into investment advisory or discretionary investment contracts. This report is intended for distribution only to professional investors (Tokutei Touseika) and is not intended for, and should not be relied upon by, ordinary customers (Ippan Touseika).

The ratings stated on the document are not provided by rating agencies registered with the Financial Services Agency of Japan (JFSA) but by group companies of JFSA-registered rating agencies. These group companies may include Moody’s Investors Services Inc., Standard & Poor’s Rating Services and/or Fitch Ratings. Any decisions to invest in securities or transactions should be made after reviewing policies and methodologies used for assigning credit ratings and assumptions, significance and limitations of the credit ratings stated on the respective rating agencies’ websites.

#### **About Wells Fargo Securities**

Wells Fargo Securities is the trade name for the capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including but not limited to Wells Fargo Securities, LLC, a U.S. broker-dealer registered with the U.S. Securities and Exchange Commission and a member of NYSE, FINRA, NFA and SIPC, Wells Fargo Prime Services, LLC, a member of FINRA, NFA and SIPC,

Wells Fargo Securities Canada, Ltd., a member of IIROC and CIPF, Wells Fargo Bank, N.A. and Wells Fargo Securities International Limited, authorized and regulated by the Financial Conduct Authority.