



Making the Switch



Partner Greg Matlock discusses energy transition, decisions toward achieving NetZero and how traditional energy companies can play an important role in P3 Bulletin's *The Net Zero Partnerships Report 2021*.
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Knowledge Hub

The Knowledge Hub is a selection of recent legal alerts, articles and thought leadership published by our Projects & Infrastructure attorneys. For the most up-to-date news and publications, visit our [Projects & Infrastructure](#) page or any one of our firm blogs.



NEW JERSEY APPROVES OVER 2.6 GW OF OFFSHORE WIND IN LARGEST COMBINED AWARD TO DATE

On June 30, 2021, the New Jersey Board of Public Utilities (NJBP) announced that it approved over 2.6 GW of offshore wind (OSW) in the state's second OSW solicitation¹ in Docket No. QO20080555. [READ MORE](#)



LEGAL DEVELOPMENTS IN CONSTRUCTION LAW: JULY 2021

"This alert addresses the legal developments in US construction law including:

1. Failure to complete in a reasonable time – could that be a repudiation?
2. Incorporating terms and conditions – have you done enough?
3. Damages for defective premises - how do the courts work it out?
4. Building Safety Bill set to shake up the building regulatory system
5. Extra time for Defective Premises Act claims
6. New watchdog for workers' rights
7. Government sets 2050 net zero commitment for major government contracts: PPN 06/21
8. New guidance to factor wider benefits into procurement of public spending: PPN 05/21" [READ MORE](#)

NOW IT'S GOING TO HAPPEN: AS EXPECTED, EU COUNCIL FORMALLY ADOPTS FRAMEWORK FOR CARBON NEUTRALITY

On June 28, 2021, the European Council approved the Climate Law that was conditionally approved by the European Parliament on April 21, 2021. The Climate Law provides a framework for a climate-neutral EU by 2050 and sets a binding EU climate target to reduce net greenhouse gas emissions (emissions after deduction of removals) by at least 55 percent by 2030, as compared to 1990. [READ MORE](#)

IRS RULING PROVIDES GUIDANCE ON CARBON CAPTURE EQUIPMENT AND SECTION 45Q CREDIT

On July 1, 2021, the US Internal Revenue Service (the "IRS") released Revenue Ruling 2021-13 (the "Ruling"), which provides additional guidance on the definition of "carbon capture equipment" for purposes of the carbon capture tax credit under Section 45Q of the Internal Revenue Code of 1986, as amended (the "Code"). The Ruling also clarifies that a taxpayer need not own every piece of equipment within a single process train in order to claim the tax credit so long as the taxpayer owns at least one component. In addition, the Ruling provides helpful guidance on determining the placed-in-service date of the single process train for purposes of Section 45Q. [READ MORE](#)

BIDDERS FOR LARGE UK PUBLIC PROCUREMENT CONTRACTS MUST COMMIT TO NET ZERO BY 2050

In April 2021, the UK Government announced plans to cut carbon emissions by 78% by 2035, as part of the longer-term agenda to achieve a minimum of 'net zero' carbon emissions compared to 1990 levels by 2050. In this context, the UK Cabinet Office released a Procurement Policy Note on 5 June 2021 setting out how central government departments should require and assess Carbon Reduction Plans of bidders at the selection phase of the procurement process for large contracts (the "PPN 06/21", or the "PPN"). [READ MORE](#)



US DEPARTMENT OF ENERGY LOAN PROGRAMS OFFICE ANNOUNCES STREAMLINED TITLE XVII APPLICATION PROCESS

The US Department of Energy's Loan Programs Office (LPO) recently announced a streamlined application process for its Title XVII programs. Under Title XVII of the Energy Policy Act of 2005, LPO administers three separate loan programs—Renewable Energy and Efficient Energy, Advanced Fossil and Advanced Nuclear—with up to \$4.5 billion, \$8.5 billion and \$10.9 billion, respectively, in loan guarantee authority currently available thereunder. [READ MORE](#)



US DEPARTMENT OF ENERGY ANNOUNCES FUNDING TO SUPPORT HYDROGEN ENERGY EARTHSHOT PROJECTS TO LOWER COST, ADVANCE BREAKTHROUGHS FOR CLEAN HYDROGEN TECHNOLOGY

On July 7, 2021, the US Department of Energy (DOE) announced \$52.5 million to fund 31 projects "to advance next-generation clean hydrogen technologies and support DOE's recently announced Hydrogen Energy Earthshot initiative¹ to reduce the cost and accelerate breakthroughs in the clean hydrogen sector." [READ MORE](#)



THE U.S. MOVING TOWARD ADOPTING NEW CLIMATE DISCLOSURES

On June 21, 2021, US financial regulators met with US President Joe Biden to discuss the US economy and update him on their efforts to address climate-related risks. According to the White House readout of the meeting, the regulators said "they were making steady progress" on implementing President Biden's executive order on climate-related risk. [READ MORE](#)



MEXICO – CRE FIXES MAXIMUM LP GAS PRICES AFTER SENER ISSUES EMERGENCY GUIDELINE

After a brief review before the Federal Regulatory Improvement Commission (Comisión Nacional de Mejora Regulatoria, "CONAMER"), on July 28, 2021, the Ministry of Energy (Secretaría de Energía, "SENER") published in the Federal Official Gazette (Diario Oficial de la Federación, "DOF") an Emergency Guideline for the Welfare of Liquefied Petroleum Gas Consumers (the "Guideline") urging the Energy Regulatory Commission (Comisión Reguladora de Energía, "CRE") to set a maximum price regulation for the sale of liquefied petroleum gas ("LP Gas") to end users. [READ MORE](#)



PRESIDENT BIDEN ISSUES NATIONAL SECURITY MEMORANDUM ON CRITICAL INFRASTRUCTURE CYBERSECURITY

On July 28, 2021, President Biden signed a national security memorandum that seeks to “significantly improve” the cybersecurity of critical infrastructure systems. The “National Security Memorandum on Improving Cybersecurity for Critical Infrastructure Control Systems” (the “Memorandum”) reflects the administration’s conclusion that “[t]he cybersecurity threats posed to the systems that control and operate the critical infrastructure on which we all depend are among the most significant and growing issues confronting our Nation.” [READ MORE](#)



STAYING ALERT TO ESG RISKS AND OPPORTUNITIES IN GLOBAL SUPPLY CHAIN

Few days pass without a new, high-profile news story relating to the issues that fall within the broad concept of Environmental, Social and Governance, or ESG. So prominent has ESG become, in the corporate, political and economic agendas, as well as in the public conscience, over the past two years that companies, financial institutions, and professional service providers ignore the trend at their peril. [READ MORE](#)



EPA AIR PERMIT APPROVAL FOR VINEYARD WIND PROJECT A REMINDER OF THE MULTI-LAYERED APPROVAL PROCESS THAT LIES AHEAD FOR OFFSHORE WIND

“On May 19, 2021, the US Environmental Protection Agency (EPA) announced that it had issued the final Clean Air Act Outer Continental Shelf air quality permit to Vineyard Wind 1, LLC. As described in the announcement: [t]he permit includes air pollution control requirements for the construction and operation of the 800-MW windfarm. By issuing this permit, construction can now begin on the nation’s first major offshore wind project, which will be in federal waters off the coast of Massachusetts. The permit regulates pollutants from ““Outer Continental Shelf (OCS) sources,”” such as jack-up barges that will construct each wind turbine and the electrical service platforms.” [READ MORE](#)

VOLUNTARY CARBON MARKETS INTEGRITY INITIATIVE CONSULTATION REPORT RELEASED

The Voluntary Carbon Markets Integrity Initiative (VCMI), a global task force initiated to monitor the integrity of voluntary markets for the purchase and sale of carbon offset credits, held a global launch event and issued its consultation report (VCMI Report) in late July. The VCMI Report seeks to provide further guidance for assessing carbon credits and the emissions reductions they represent. [READ MORE](#)

US INFRASTRUCTURE INVESTMENT AND JOBS ACT OF 2021 – ASSESSING THE POTENTIAL IMPACT ON ELECTRIC VEHICLES AND ELECTRIC VEHICLE INFRASTRUCTURE

On August 10, 2021, the US Senate voted to pass the Infrastructure Investment and Jobs Act (the “IIJA”). The IIJA would provide a total of \$1.2 trillion in federal investment in infrastructure, including an unprecedented level of federal investment in electric vehicles (“EVs”) and electric vehicle charging infrastructure (“EV Charging Infrastructure”) through the creation of new programs and grants and the expansion of existing programs. These measures would be a significant step toward achieving the goal of making half of all new vehicles sold in 2030 zero-emissions vehicles, as outlined in Executive Order 14037. [READ MORE](#)



“US SCALE ACT OF 2021 (STORING CO2 AND LOWERING EMISSIONS ACT)”

Despite decades of related R&D and billions in related investment and funding, commercially viable carbon capture remains elusive. Attempting to address this challenge, the US House of Representatives is taking up the infrastructure bill that passed the Senate 69-30 with bipartisan support on August 10, 2021, and that includes the Storing CO2 And Lowering Emissions Act (the “SCALE Act”). The SCALE Act is intended to support the buildout of transport and storage infrastructure for carbon dioxide (CO2) and is premised on the view that carbon capture, use and sequestration (“CCUS”) technologies are key to reducing carbon emissions from the industrial sector, including by direct air capture, and must be deployed at large-scale to meet climate goals. [READ MORE](#)

TEXAS COMMISSION PROPOSES NEW GENERATOR, UTILITY WEATHER REQUIREMENTS AND OPENS FAST-TRACK RULEMAKING PROCEEDING

The Public Utility Commission of Texas (PUCT) has issued draft regulations¹ to implement new electric weather-related requirements set forth in Texas Senate Bill 3 (SB 3),² which was enacted in response to what the PUCT described as the February 1-5, 2021, “Southwest Cold Weather Event.” The PUCT release would adopt new Texas Administrative Code provisions (to be codified at 16 T.A.C. § 25.55) that would be binding on all registered generators and transmission owners within the Electric Reliability Council of Texas (ERCOT) portion of Texas. [READ MORE](#)

UK HYDROGEN STRATEGY: THE TRANSITION FROM IMAGINING TO BUILDING A MARKET

There is a strong sense of the challenge faced, which, in short, is to build a market for a product that is currently neither widely produced nor used in the UK – all this to be achieved without the benefit of time to allow for natural market developments with the looming CB6 and 2050 Net Zero targets adding a real sense of urgency. At times the Strategy highlights the slightly uneasy tension between the need to provide a road map for the 2020s, 2030s, through to 2050 and the acknowledged reality that, in truth, it is difficult to predict with any certainty developments more than a few years out. [READ MORE](#)

US FEDERAL INSURANCE OFFICE ISSUES RFI ON THE INSURANCE SECTOR AND CLIMATE-RELATED FINANCIAL RISKS

On August 31, 2021, the Federal Insurance Office (FIO) of the US Department of the Treasury published a request for information (RFI) on the insurance sector and climate-related financial risks for the FIO’s future work on: insurance supervision and regulation, insurance markets and mitigation/resilience, and insurance sector engagement. [READ MORE](#)



PROPOSED US LEGISLATION COULD ENCOURAGE MINING OF RARE EARTH METALS

This year, various bipartisan legislative efforts have been advanced to incentivize the mining of rare earth metals. Rare earths are a group of 17 elements (such as Neodymium, Thulium, Yttrium, Lanthanum and Terbium), many of which are germane to producing electronic components and other industrial uses. Rare earths are widely viewed as critical to the future growth of the global economy, and as demand for them continues to rise, ensuring a proper supply of these elements is imperative. [READ MORE](#)

WORLD-FIRST LAWSUIT OVER CLEAN ENERGY AND ZERO EMISSIONS CLAIMS

On August 25, 2021, the Environmental Defenders Office (EDO), acting on behalf of the Australasian Centre for Corporate Responsibility (ACCR), filed a consumer protection lawsuit with the Federal Court of Australia in respect of certain ESG related statements made in a gas company's 2020 Annual Report (the Report). This is the first lawsuit in the world that challenges the veracity of a company's net zero emissions target, and in relation to the viability of carbon capture and storage and the environmental impacts of hydrogen as an energy source, increasingly touted as the key elements in gas companies' pathways toward net zero emissions. [READ MORE](#)



BIDEN ADMINISTRATION ACTS TO SPUR SUSTAINABLE AVIATION

On September 9, 2021, the Biden administration issued a fact sheet (Fact Sheet) describing recent actions that aim to produce 3 billion gallons of sustainable aviation fuel (SAF) annually, reduce aviation emissions by 20% by 2030, and grow good-paying, union jobs. The Fact Sheet notes that "aviation (including all non-military flights within and departing from the United States) represents 11% of United States transportation-related emissions. Without increased action, aviation's share of emissions is likely to increase as more people and goods fly" and that "President Biden proposed a Sustainable Aviation Fuel tax credit as part of the Build Back Better Agenda. [READ MORE](#)

US HOUSE WAYS AND MEANS COMMITTEE PROPOSES SUBSTANTIAL GREEN ENERGY SUPPORT

On the night of September 10, 2021, the House Ways and Means Committee released legislative text covering a range of green energy tax incentives, a bill that it hopes will be enacted through the budget reconciliation process and it expects to begin markup of on Tuesday, September 14. This Legal Update provides further detail on the bill, which would significantly boost investment in green energy and other emissions reductions and extend many tax credits that would provide substantial certainty for the renewable energy industry. [READ MORE](#)

Blogs



[Energy Forward](#) provides the latest updates and analysis on energy industry developments around the world. The Energy Forward blog covers a wide range of the energy industry, including oil and gas exploration and production; pipeline transportation; oil and gas refining, processing and marketing; LNG liquefaction, regasification and marketing. Energy Forward will also address the energy transition from fossil fuels to a sustainable energy system with renewable, thermal and alternative power generation. The topics will relate to energy policy, project development, technology innovation, risk management, finance, investment, dispute resolution and others.



[Eye on ESG](#) is Mayer Brown's Environmental, Social and Governance (ESG) blog designed to provide practical guidance to global businesses and clients amid the important and growing impact of ESG issues on their institutions and business, as well as the latest updates on new ESG-related developments.



[Tax Equity Times](#) is Mayer Brown's blog that addresses issues at the intersection of US tax and energy policy. Its primary focus is the US law regarding transactions to monetize the tax credits and accelerated depreciation on qualifying renewable energy projects. The Tax Equity Times also addresses certain tangential topics, such as partnership taxation, equipment leasing, the US Treasury's cash grant program and state tax incentives. Those working with tax equity investors, developers and utilities will find posts of interest to them.

In Conversation

Paul Astolfi speaks with new tax partner Amanda Rosenberg on market changes

On October 1, Paul Astolfi, co-head of Mayer Brown's global Projects & Infrastructure team, sat down with Amanda Rosenberg to talk about her move to Mayer Brown and her view of the market in the midst of historic opportunities and challenges. Amanda, a tax partner in Mayer Brown's Los Angeles office, joined the firm's Projects & Infrastructure team in August of this year.

PAUL: Hi Amanda! Thanks for taking the time to talk today. I know your background, of course, but could you start with a brief introduction for everyone else's benefit?

AMANDA: Hi Paul! I am a partner in the Los Angeles office. I joined Mayer Brown in August from Norton Rose Fulbright where I spent about 12 years in the projects and renewables space.

PAUL: Obviously one of your strengths is renewable energy tax structures. How would you describe your practice?

AMANDA: I sit in the tax group, but 100% of my work is in renewables and projects. I consider myself a projects lawyer who does tax work rather than a tax lawyer who does projects work. I represent a wide range of clients in different types of deals. I work with sponsors developing projects and planning tax credit qualification, sponsors and investors in tax equity deals and a lot of buyers and sellers in renewables M&A deals. I am lucky that as a tax lawyer I get to see a lot of different aspects of the market.

PAUL: We've had such a strong run recently bringing partners into our practice. Eric Pogue and John Tormey joined us last year from Hunton. Greg Matlock joined us from Ernst & Young. Dan Kiely came to us from One Main Financial. We are thrilled now to have you on board—could we talk a bit about why you made the move?

AMANDA: Having worked across from the Mayer Brown team on many deals, I knew I would be joining a great group of smart people. When I told people of my move, it was wonderful to hear so many rave about the Mayer Brown team, so I knew I made the right choice. It is also an important transitional time in the market. More and more companies are looking to make investments in renewables—both traditional oil and gas companies and corporates with sustainability goals. Infrastructure, climate change and green energy initiatives are in the news on a daily basis. It is important to be part of a dynamic team that is ready to jump on the opportunities that come with change. I knew that is what I was getting when I made the move to Mayer Brown.

PAUL: Picking up on your last point, between the corporate-driven moves to decarbonization, the transition to green energy and the Biden administration's various initiatives, we seem positioned for accelerated growth in the renewables market. Looking ahead for the next few years, where do you think the biggest opportunities for our clients lie?

AMANDA: Obviously, the current proposed legislation that would expand and extend tax credits for years would have an extraordinary effect on the renewables industry in the United States. In particular, an extension of tax credits for a decade would give the industry a long runway to focus on growth



Paul J. Astolfi
pastolfi@mayerbrown.com
 Partner, Chicago
 +1 312 701 8028



Amanda L. Rosenberg
arosenberg@mayerbrown.com
 Partner, Los Angeles
 +1 213 229 5193



without the need to fight for extensions every few years. However, even without legislative changes, there have been enough societal changes with respect to climate change and energy to keep propelling renewables forward. Corporate responsibility and sustainability goals are playing a large role, as are state renewables goals and initiatives, at least in certain parts of the country. More companies are making investments in green energy. Storage continues to be on the brink of something big. An investment tax credit for stand-alone storage projects would be a seismic change. Every energy company wants a piece of the offshore wind action happening on the East Coast. There are also significant opportunities in hydrogen and carbon sequestration.

PAUL: Regarding offshore wind, the industry and the Biden administration have set some high-goals—for example to have 30 gigawatts installed by 2030. As someone with experience on several of the development-stage US transactions, what do you see as some of the key challenges and impediments to achieving these goals?

AMANDA: I have been fortunate enough to work on several of these projects. Although there is momentum and government support for offshore wind, these are very expensive projects with a long construction period and little track record in the United States. Offshore wind projects face a number of challenges. For instance, many energy companies are joining forces to try to win leases for projects. With such partnerships come complicated joint venture arrangements in which you are trying to plan for the unknown over a significant period of time. The federal and local permitting processes are complicated, projects often face local opposition and financing parties are still getting their heads around the risks that come with projects with multi-year development and construction periods that are first of their kind in the US. The industry will figure things out, but it will be a learning process.

PAUL: Regarding energy storage, this is also something we have talked about as a growth area. Kind of the same question as offshore wind: Based on your experience helping clients develop and finance battery projects in particular, what do you see as the key challenges for developing these projects?

AMANDA: On the tax side, the issues mainly arise if the owner plans to claim an investment tax credit on the battery. In order to claim a tax credit on the battery, the battery needs to be considered a generating asset. That generally means we want to see the battery owned by the project owner, co-located with the project, on the low side of the main step-up transformer and charged only with electricity generated by the project. The battery should essentially act as a knob that is used to control the rate at which electricity from the project is put on the grid. If the battery is used to provide ancillary services to the grid and stores non-solar/wind energy, you potentially lose or take a haircut on the tax credits. This creates some tension between the tax requirements and the project economics. Additionally, there are different views on whether a battery added to a project years after the project has been placed in service qualifies for tax credits. An investment tax credit for standalone batteries would resolve that issue.

PAUL: In closing, what is your outlook for the rest of 2021—what do you anticipate will be keeping you and your clients busy for rest of the year?

AMANDA: I expect the end of the year and 2022 to very busy. I expect to spend a lot of time monitoring what is happening in Washington with respect to the infrastructure and budget bills and keeping clients informed. There is a strong deal flow right now, so we will be working to close several deals by year's end, and I expect will have many more start up for early Q1 closings. On top of that, we will continue to help clients evaluate new opportunities, including in the offshore wind, energy storage and carbon capture spaces.



Making the switch

The role of energy transition and incentives in achieving Net Zero



Greg Matlock, Partner,
Mayer Brown

The energy industry is in the midst of a significant transformation. Dubbed the "energy transition", the recent focus on alternative energy sources, reflected in capital and consumer preferences, is driving discussions and decisions toward "cleaner energy" and achieving Net Zero. Traditional energy companies are evaluating whether to pivot or expand with the changing tide. As discussed below, these companies can play a meaningful and substantial role in this transition.

A confluence of factors is driving this transition, which we're seeing culminate in real time. With the global economy focusing on lower-carbon sources of energy and the renewed emphasis on environmental, social and governance issues, marginal capital is flowing into energy transition projects. This, coupled

with financial and economic incentives, can supercharge already-evolving energy policies, resulting in a transition far sooner than planned.

Against this backdrop, the role of tax credits and other financial incentives cannot be understated, as they drive behavior, make potential uneconomic projects economical, and fund research and development in the critical areas of energy transition. Over 170 countries have developed targets in relation to renewable energy, with more robust plans continually evolving.

Traditional natural resource-based energy sources will continue to play a key role in the world's overall energy mix well into the future. And traditional fuels can fit within a Net Zero strategy if produced in a cleaner, more efficient manner,



together with emissions being reduced by methods such as carbon capture use and sequestration (CCUS).

Further, traditional mining companies will play an essential role in the expansion of traditional renewable energy, as the minerals and components in renewable power sources are extracted from the earth. Stated differently, the transition to a new energy paradigm does not necessarily mean an outright abandonment of traditional energy sources; in fact, traditional energy sources can materially contribute to the transition (through activities such as CCUS, hydrogen, renewable natural gas (RNG), biofuels, geothermal and others).

Carbon Capture & Storage

Although CCUS projects can be structured in a wide variety of ways, these projects effectively involve capturing carbon oxides that would otherwise be released into (or otherwise exist in) the atmosphere. To aid in the development of CCUS projects, Section 45Q of the Internal Revenue Code of 1986, as amended, provides for a tax credit for the capture and sequestration of qualified carbon oxides, as well as in other situations (dependent on the source and use of captured carbon oxides).

To qualify for the Section 45Q tax credit, qualified carbon oxide must be captured from an industrial source or directly from the air using carbon capture equipment that is placed in service at a qualified facility and either:

- (a) disposed of in secure geological storage (and not used in an enhanced oil or natural gas recovery project); (b) used as a tertiary injectant in a qualified EOR project and disposed of in secure geological storage; or
- (c) “utilized” in certain approved commercial or chemical applications.

“Traditional energy sources can materially contribute to the transition”

With the infrastructure and downhole knowledge required, energy companies of many types can drive the emerging market on the capture side of the value chain; traditional natural resource midstream companies can leverage existing assets, know-how and experience to drive value in the transportation and movement of the captured oxides, and traditional natural resource-based companies that have a history of upstream projects are perfectly positioned to become the market leaders in the sequestration (and certain other upstream uses) of carbon oxides.

The addition of the substantial US federal income tax credit - which was clarified earlier this year - has driven substantial market discussions and spurred projects that are in various stages of realization.

Further, many legislative proposals have been and are being advanced in the United States to make CCUS projects (in all areas of the value chain) more economical - with the goal to continue to drive additional projects and carbon capture.

Hydrogen

Hydrogen is a clean fuel that can be produced from multiple sources including natural gas, biomass, solar and wind and can be transported using the nation’s existing midstream infrastructure (with certain retrofitting and upgrades). There are many “colors” of this colorless gas: the industry has assigned colors to hydrogen based on its source or origination or the method used to produce it. For example, blue hydrogen is produced from fossil-fuel and hydrocarbon resources, whereas green hydrogen is made from non-fossil resources.

Blue hydrogen: derived from hydrocarbons but carbon capture or similar technology is used

Green hydrogen: created by using non-carbon-based fuels

Recognizing the vast opportunity that hydrogen presents, many countries have national policies providing for hydrogen-related financial and economic incentives (including policies focused on production, storage and transportation, as well as general hydrogen-related innovations). Currently, there are a number of US legislative incentives being proposed related to the production of hydrogen to go along with a number of existing tax incentives that are designed to enhance, encourage and develop the domestic hydrogen economy.

Along with using financial and economic incentives, traditional energy companies (especially those with petrochemical experience) can leverage production expertise to grow and develop hydrogen at scale.

RNG (biomethane)

RNG is essentially a biogas that has been processed to certain purity standards, resulting in a pipeline-quality gas that can be largely interchangeable with traditionally produced, natural gas (RNG could, as an example, be used as a transportation fuel). Sources of RNG can vary, with the primary ones being livestock operations, landfills and wastewater treatment facilities.

Primary Sources of RNG:

Livestock operations

Landfill

Wastewater Treatment

The production, transportation and storage of RNG has many similarities to that of traditional natural gas, and, accordingly, traditional natural resource companies have an abundance of experience that can be leveraged, used and repurposed to develop the RNG economy.

Additionally, various domestic legislative efforts, as well as various state-level incentives, have been discussed and proposed to promote and encourage the production, transportation and storage of RNG.

Traditional renewable energy sources

Power generation from wind and solar is expected to continue on its sizeable growth trajectory for the foreseeable future. Traditional energy companies of all kinds have evaluated, invested in and installed wind and solar projects over the past years (from repurposing idled infrastructure assets to placing wind and solar on topside land associated with mineral production).

Further, certain economic and financial barriers that once existed are no longer problematic in the United States due in large part to the successful operation of the investment tax credit and the production tax credit.

“Minerals are building blocks of clean energy technologies”

The role of critical minerals

In addition to policies and incentives that will be needed to drive alternative sources of energy, a similar focus ought to be placed on the transition of critical minerals. Minerals are building blocks of clean energy technologies, used in wind turbines, hydrogen electrolyzers, batteries and solar panels (with clean energy technologies being more mineral-intensive than fossil-fuel based technologies). Solar panels, as an example, use a high amount of copper and aluminum, and wind turbines require significant amounts of copper, zinc and potential rare earth minerals.

The strong growth in clean energy technologies will fuel reciprocal demand growth for critical minerals needed to sustain that growth, and achieving Net Zero goals through the use of renewable and alternative energy sources will require a material increase in critical mineral development and production. Governments have a vital role to play through policies and incentives to encourage sufficient mineral production, while balancing the other energy transition policy goals.

Overall, the market recognizes that the energy landscape is clearly evolving and that all companies in the energy value chain will need to respond to the changing imperatives. To that end, a critical assessment of how and to what extent the traditional hydrocarbon-based economy can be reimagined to more effectively address climate change is underway.

Maximizing efficiency and reducing carbon emissions are hallmarks of today's "energy transition." Traditional energy companies and financial and economic incentives will play an outsized role in shaping and transforming the energy industry in the years to come - with the hope of ultimately achieving Net Zero goals.

CCUS, hydrogen, RNG, and traditional renewable sources are only a few of the aspects of energy transition, which will require combining expertise across sectors to reimagine carbon-based activities to address climate change. Traditional natural resource companies, as well as industrial and power generating companies, are uniquely positioned to capitalize on this emerging market and to aid in achieving the desired long-term, Net Zero outcomes.

In Conversation

Kirsti Massie speaks with partners Ben Thompson and David Harrison on Vietnam's wind power market

On September 20, Kirst Massie, co-head of Mayer Brown's global Projects & Infrastructure team, sat down with Ben Thompson and David Harrison to talk about one of Vietnam's largest wind power projects and the wind power market outlook for Southeast Asia.

KIRSTI: Ben and David, you recently acted for lenders on Lotus, a major wind power project in Vietnam. Can you introduce yourselves and tell us about that project?

BEN: Thanks, Kirsti. I'm Ben Thompson, and I'm a Projects & Infrastructure partner based in Mayer Brown's Singapore office. I focus on power projects, especially those in the renewable sector. I started off my career principally doing hydropower projects, and then as solar and wind took off in Asia, my practice expanded to those sectors, working both for sponsor and lender clients. We've seen that work grow exponentially, with all of our major clients in the region now focusing heavily on renewables as part of the so-called energy transition. I've been based in Asia now for over 17 years, and it's been fascinating to see and be part of this transition.

DAVID: My name is David Harrison and I am a corporate and finance partner in our Ho Chi Minh City office. After having practiced law in New York for a number of years with a Magic Circle firm and having also worked as a diplomat (which is what first brought me to Vietnam and inspired me to learn the Vietnamese language), I have been based in

Vietnam since 2010. The energy sector has been one of our core practice areas over the years, consistent with Mayer Brown's overall global energy strategy, and our Vietnam team is pleased to have assisted the lenders on such a groundbreaking transaction as Lotus. I will turn it over to Ben to describe the project in further detail.

BEN: Thanks, David. Lotus is a 144 MW onshore wind farm project composed of three sub-projects at different sites in Quang Tri Province in North Central Vietnam, each with a capacity of 48 MW. Each project is being implemented under a separate 20-year PPA with Vietnam Electricity—also referred to as "EVN"—with the COD expected by the end of October 2021.

We acted for a syndicate of lenders led by the Asian Development Bank. The two sponsors were a local developer, a domestic leader in the power infrastructure sector in Vietnam, and a Japanese developer.

DAVID: This was really a great project to be involved in, Kirsti. Vietnam's economy is growing rapidly. And, with that, it needs increasingly more electricity. There's a real desire to look at alternatives to carbon-intensive power projects in order to achieve this growth without a significant increase in greenhouse gas emissions. The resulting blossoming of Vietnam's renewables energy sector has been one of the key energy stories in Asia in the past few years.

The spotlight has been on solar projects to date, where the capacity increase has been beyond anyone's expectations—about 8.9 GW of solar capacity had been commissioned as of



Kirsti Massie
kmassie@mayerbrown.com
 Partner, London
 +44 20 3130 3555



Benjamin Thompson
ben.thompson@mayerbrown.com
 Partner, Singapore
 +65 6922 2248



David Harrison
david.harrison@mayerbrown.com
 Partner, Hanoi
 +84 28 3513 0310

September 2020. There have been fewer wind projects to date, largely due to their relative complexity and local banks being less familiar with them. But the wind resource is also very significant. In fact, Wood Mackenzie expects Vietnam to account for 66 percent of total new wind capacity—onshore and offshore—in Southeast Asia by 2030.

The Lotus project represents a number of firsts, but perhaps most importantly it is the first limited recourse project financing of a wind power project in Vietnam by international lenders without export credit agency cover. At 144 MW in total, Lotus represents one of the largest wind power projects developed to date in Vietnam. We expect it to really be a catalyst for the market.

KIRSTI: Thanks David, that's very interesting. These types of "firsts" are inevitably subject to major challenges, though. What were some of the key challenges you both faced on Lotus?

BEN: You're right, Kirsti. It was a challenging deal. It's been pretty well-publicized that the standard PPA is relatively short-form, and its positions on certain key issues are sub-optimal from an international lender perspective. As the Vietnamese government is generally resistant to amending the model PPA template, the lenders had to undertake extensive legal, financial and technical due diligence to identify the extent of each relevant risk in the context of the project itself and then determine, in consultation with the sponsors, appropriate mitigants.

Key in all of this was ensuring the transaction remained essentially structured as a project financing rather than becoming a corporate financing with full guarantees. Also, the fact that the local developer has extensive on-the-ground experience was hugely helpful in obtaining an accurate picture on certain issues—for example, curtailment risk in that particular province.

DAVID: Navigating the complexities of Vietnamese law is always a challenge, Kirsti. With our Vietnam offices featuring local law capability, we were able to provide lenders with all local law advice alongside the international representation (rather than having to engage a local law firm separately), and I think that was particularly appreciated by the lenders. It certainly made matters more efficient. For example, land and permitting-related issues can be complex in Vietnam, and it was crucial in this regard that our Vietnam team looking at these issues was completely joined-up with Ben and our team in Singapore to ensure everything was carefully documented in the financing agreements—we were genuinely a "one stop shop" for all advice on the project.

KIRSTI: What's next for the wind sector in Vietnam then—is this likely to be the first of many?

DAVID: The opportunity is certainly there. The wind sector is at a crucial juncture from a regulatory perspective, however. In order to benefit from the current Feed-In Tariff of 8.5 US cents per kWh for onshore projects and 9.8 US cents per kWh for offshore projects, projects need to achieve COD by the regulatory deadline of 1st November 2021. There are some question marks over what happens for projects completing after that date, however.

Market participants and policy groups have recently requested that the Ministry of Industry and Trade extend the Feed-In Tariff for at least six months to account for the large number of projects that are potentially unable to meet the COD deadline due to the most recent COVID-related lockdown measures and supply chain disruptions across Vietnam. An extension would also provide newer projects with more time to align equity and debt financing to realistically meet the revised deadline.

The Ministry of Industry and Trade in October 2020 outlined a draft proposal to extend the current Feed-In Tariff mechanism for wind power projects until the end of 2023. The draft proposal suggested the creation of higher tariffs for projects that reach commercial operation prior to December 2022 and a lower tariff for those projects which reach commercial operation prior to December 2023. There are also discussions that, consistent with other renewable energy asset classes, wind power may move to an auction-based competitive bidding system to replace Feed-In Tariffs post-2021.

BEN: The other big "wait and see" is offshore wind. Vietnam's topography and climate naturally lends itself to offshore wind power development, with more than 3,000 km of coastline, average annual wind speeds of 6m/sl and as high as 10m/s in the southeast and favourable offshore water depths. Significantly, the latest World Bank forecasts indicate a technical potential for offshore wind alone of up to 475 GW, inclusive of both floating and fixed installations. But as these projects are larger, more structurally complex and therefore more capital intensive, guiding them through to successful completion will require a major effort on all sides, including a serious look at the documentation and current risk allocation.

DAVID: I would agree with that, Ben. However, I think the government is acutely aware of the issues, and although things may not necessarily happen as quickly as we would all like, the opportunities offshore are just too great for everyone not to properly engage on that—and sooner rather than later. Also, it's worth noting that beyond the standard form PPA (which is applicable to all renewable energy projects) and capacity targets contained in the national power development plan, there is currently no express uniform legislative regime governing the development or operation of offshore wind plants in Vietnam. Key market participants in the energy sector have recently noted that legislation and formal regulations around offshore wind should be enacted, suggesting that Vietnam's vast offshore wind potential should

be utilised to not only provide power for domestic consumption but also drive the production and export of green fuels such as hydrogen in the future. Complexities around seabed rights, transmission and licensing present challenges for developers and the enactment of offshore wind legislation will serve to greatly increase investor certainty.

BEN: In any event, the success of such future projects will depend on building on the previous work and progress in the sector, so we do hope Lotus comes to represent an important first step in highlighting both the opportunities, and also the challenges, which will need to be thought through. We certainly hope to continue to play a part and are excited by what's to come.



Projects & Infrastructure Past Events

Mayer Brown's Projects & Infrastructure team present at various industry events and webinars throughout the year. Snapshots for each of their sessions along with key points of discussion can be found below.



[Stephanie D. Wagner](#)

Partner, Chicago

swagner@mayerbrown.com

+1 312 701 8475

SEPTEMBER 24

Stephanie Wagner speaks on *Risk, reward and rebound in US infrastructure finance*

On September 24, 2021, Stephanie Wagner, a partner in the Government practice and Projects & Infrastructure group joined a Proximo and BNY Mellon co-sponsored roundtable with experts in US infrastructure financing. Additional roundtable participants included Miguel Barrios, Principal, Business Development, BNY Mellon; Nicolai Dillow, Managing Director and Head of Origination Americas, Nord/LB; Claus Hertel, Managing Director, Rabobank; Thomas Liu, Managing Director, BofA Securities; Cathleen McLaughlin, Partner, Paul Hastings; and Vinod Mukani, Managing Director and Head of Infrastructure & Power Finance, Nomura Securities.

Risk, reward and the rebound in US infrastructure finance

Conditions are starting to look promising for higher volumes across US project finance. In a roundtable sponsored by BNY Mellon, Proximo explores the new market dynamic with a selection of experts in US infrastructure financing.

Never have US project finance market conditions been so promising while the market backdrop was so unpromising. Bank market terms are still generous, and non-bank lenders were not scared off by COVID-19 and its impacts. But

climate change has some serious impacts on the power sector, with the black-outs in ERCOT joining wildfires in California and volatility in PJM as potential sources of market concern. Volumes in US P3 have been fairly tepid, and US offshore wind is still a long way from delivering. For lenders looking south into Latin America, political instability joins a persistent toll from COVID.

Still, the US recovery from its short, sharp COVID depression is in full swing; the US labour market is tightening and climate change is now capturing the attention of more and more policymakers. The US infrastructure bill is plodding forward at the pace of Los Angeles rush-hour traffic, but still moving forward.

But which corners of the infrastructure finance market are best placed to respond to the challenges of the energy transition and the opportunities from sustained attention to infrastructure investment? Which lenders will have the right risk-reward expectations to exploit these potential shifts?

Joining Proximo to discuss some of the opportunities and challenges of the new normal is a panel comprising a strong cross-section of the US infrastructure finance market.

PROXIMO: WHAT CHALLENGES HAVE YOU EXPERIENCED IN COLLABORATING AND WORKING TOGETHER IN THIS ENVIRONMENT. ARE YOU ALREADY STARTING TO SEE THINGS COME BACK?

STEPHANIE WAGNER, MAYER BROWN (SW): It was difficult in 2020 to ascertain what it would be like to work with clients and colleagues and how to keep deals moving. But people adapted very quickly by using new technologies to meet and continue to do business. One of the key issues with public infrastructure in the US is the requirements around public meetings. Governments reacted quickly by allowing for virtual meetings and that gave people an opportunity to keep transactions moving. Public agencies also adopted new policies and procedures to accommodate the new virtual realities of deal-making. For instance, we saw public agencies shift from requiring multiple hard-copy submissions to going all-electronic and



using tools such as electronic signatures. Several major infrastructure projects managed to stay on time throughout the pandemic and continue into 2021. More recently, we are starting to see a trend towards more in office, in-person activities, and people are excited about that, but I think we'll see a hybrid style of work emerge. Some of the social aspects of new virtual technologies have been unexpectedly positive. For example, when you're working on a deal with clients or counterparties in different regions or countries, you might not meet everyone until near close or even at all, whereas now you have the opportunity for a personal video interaction early on.

PROXIMO: THERE'S A THEORY THAT 2020 MOVED SMOOTHLY BECAUSE PEOPLE WERE WORKING ON DEALS THAT THEY ALREADY HAD IN PLAY BUT THAT THIS YEAR MADE IT HARDER TO GET OUT AND MEET CLIENTS AND GET MANDATES. HAVE WE SEEN ANY EVIDENCE OF THAT?

JAMES WRIGHT, CIBC (JW): I think it depends on where you are in your career. If you've been around a while, have well-established networks, know your clients and know your counterparts at other banks and institutions, the business development work has carried on fairly seamlessly. It might be less interesting but everyone has done a pretty good job of hopping on Teams with clients and talking about new deals and new ideas. It's definitely more challenging for the those younger or newer in their careers, who are starting off and haven't got a ready-built network. And it's much easier building that with face-to-face interaction, attending conferences and client meetings with lots of people around a table.

NICOLAI DILLOW, NORD/LB (ND): One thing that has proven to be a little bit more challenging has been onboarding of new staff, whether they're experienced or junior. I think it is more challenging bringing on new people in this environment. We've made an effort to try and get people back to the office because we do have a number of new faces. Technology has done a remarkable job, better than I think most would have expected, but there's real value in being able to go back out and see people face to face.

PROXIMO: TOM, DID YOU FIND THAT THE MUNICIPAL MARKET BARELY SKIPPED A BEAT IN TERMS OF IN TERMS OF DISTRIBUTION AND GETTING INVESTORS LINED UP?

THOMAS LIU, BOFA (TL): Generally, the municipal market has a large mix of investors including the largest mutual funds, insurance companies and corporations as buyers, but also retail and a middle market buyers – so a very diverse

base. A spike in rates back in the March-April 2020 time frame changed the investor mix. But now, we have professional retail investors and other institutional buyers with solid interest in municipal bonds. Another reason the business has done well in 2021 compared to 2020 is that issuers continue to issue debt and benefit from lower rates – with recent rates at or near historical lows in the market.

PROXIMO: HAS EVERYTHING COME BACK STRONGER – ARE WE STILL AWASH IN LIQUIDITY?

CLAUS HERTEL, RABOBANK (CH): Markets are very liquid across the board, including the project finance markets, the bank market, debt funds, term loan Bs, and liquidity premiums as well have come down across the board. You have new entrants, as well as players that, say, had been doing M&A driven financings for PJM thermal assets and are now looking to redeploy their capital into ESG assets. Pricing is coming down and it's great for sponsors. Banks however have to be careful with what transactions they are willing to lower hurdles or loosen their structures, or whether they say no.

VINOD MUKANI, NOMURA (VM): At the start of Covid, there was that question, about how correlated infrastructure debt was to liquid public securities or leveraged loan indices when they were down in 80s and equities were trading so poorly. But Covid has again proven the resiliency of this particular asset class, and there's walls of liquidity now chasing infrastructure because of the lack of correlation to the S&P 500, inflation and GDP, as well as lower volatility, correlation to inflation, and correlation to GDP. It certainly benefits developers, though it creates a challenge for one set of investors.

PROXIMO: IS IT THAT MUCH HARDER TO FIND UNDER-UTILIZED, MAYBE UNDER-EXAMINED POCKETS OF LIQUIDITY, IN THE MARKET IN CURRENT CONDITIONS?

VM: In the first quarter of 2020, March to June, there was a question mark, but now it's not much harder than what it was before to find liquidity. It's not just banks, but credit funds, leasing companies, and any big asset manager or big AUM firm that you look at is busy creating debt funds to support this particular asset class.

ND: It's all about risk return and the challenge has become making sure the expectations of an investor match the market reality. Pricing is at rock bottom, and non-traditional investors with a huge ESG mandate or an interest in renewables often think twice after they look at where senior debt



is trading. Many of the credit funds that have emerged will have more of a mezzanine-like risk return thesis, and clients right now are getting extremely good terms from senior debt providers. When do banks start pricing risk more appropriately? There is a sliver of hope because there's so much deal flow out there from the backlog of projects that people are starting to be more selective in terms of what opportunities they're looking at.

PROXIMO: DO DIFFERENT DEBT PRODUCTS – BANK DEBT AND BONDS IN PARTICULAR – STILL NEED TO CONVERGE OR WORK TOGETHER BETTER?

CATHLEEN MCLAUGHLIN, PAUL HASTINGS (CM):

There is a bit of a convergence of understanding. You used to see bankers from the loan product side trying to do a capital markets deal, but over time capital markets bankers and loan bankers have started to marry the products. Building capital markets features into loan structures is still difficult to achieve and a little clunky, even for a determined sponsor. It will probably remain that way, given the difference in the markets between loan and debt capital markets.

MIGUEL BARRIOS, BNY MELLON (MB): We've seen transactions evolve like that while they were being put together, starting out as club loans before becoming note purchase agreements just before closing, or they even became notes under note purchase agreements that then got put into the clearing systems for trading. We've seen institutional investors push for that note purchase agreement rather than a loan participation agreement, but adapting a loan into a note does not always work that quickly and easily, even if the decision is made very quickly. Some of the structures we haven't seen since the late 2000s came back to market, such as periodic draws on bonds (e.g. variable funding notes) during construction rather than a bridge loan.

PROXIMO: WE'VE OBSERVED PRIVATE PLACEMENTS GETTING LARGER AND MORE MAINSTREAM. IS THAT A PHENOMENON YOU'VE OBSERVED?

CM: We are seeing that in spades. We're seeing it in all sorts of different stages of projects and the sizes are getting bigger. Maybe 15-20 years ago you saw private placements when the more liquid capital markets weren't available or something was just too small – under \$100 million- for the Rule 144A debt capital markets. Now project private placements are much larger and more complex and the investors are a broad array of funds and insurance companies that are now entering infrastructure and renewables. These

placements have project-like financial engineering or legal engineering, and they use the NAIC model form.

JW: For US renewables portfolios, the private placement market has been very relevant and a good source of liquidity to tap. At the individual asset level, banks have still been able to price tighter than the institutional market and there are structural issues such as make-whole premiums and the complexities around tax equity which can inform refinancing decisions.

VM: Certainly bonds or private placements have a purpose for a stabilized asset. But if capital is being formed around greenfield assets, just the negative carry is difficult to solve. Bank debt is more conducive to that capital formation, which has ebbs and flows, which has construction delays, and which may have other dynamics that play out. The price points are different and the duration is different too.

PROXIMO: DELAYED DRAW ABILITY CAN START COSTING SPONSORS A LOT. WHAT NEW SOURCES OF CAPITAL ARE ON OFFER IN THE MUNI MARKET IN GENERAL?

TL: Our market is very mature so we really don't see a lot of changes in that sense. However, we are seeing more direct placements than before and this may be a function of banks and broker-dealers becoming more sophisticated in terms of risk tolerance and market understanding. So if there are concerns with the traditional capital market and/or investors, we can look at the bank market to place that debt. Overall, most corners of the municipal sector are pretty secure, given that it's backed by the full faith and credit of a municipality and/or a dedicated revenue source.

SW: You see some opportunities to combine different sources of capital in public-private partnerships with private activity bonds or the federal TIFIA programme. These credits are investment grade, if not as highly-rated as traditional muni credits. Over the last 10-15 years you've had the emergence of a stacked debt structure with private activity bonds issued to the municipal tax-exempt market, coupled with a TIFIA loan from the federal government, and maybe even with a short-term bank loan layered in to deal with potential negative arbitrage on greenfield projects.

PROXIMO: LET'S TALK ABOUT LIBOR. WHAT'S YOUR FEELING ABOUT WHERE WE ARE IN THE LIBOR TRANSITION?

MB: We're all getting ready for something and we still don't know exactly what that something is. It's not just an issue for the loan market, but it's also an issue with variable rate bonds. As a servicer it's been a huge process, and we're



setting up our systems to deal with the replacement rates in the different markets. We've been able to on-board a lot of new transactions that have different language, that have different replacement rates or potential replacement rates in them. But there doesn't seem to be a consensus about what happens the day that Libor really goes away. We will need to sit down as an industry and work out what the consensus is.

CM: Law firms are being hired by banks to review the documentation they have and to come up with standard language on transition. Every bank has got a form that tries to incorporate flexibility to deal with it, which is the going forward issue, but there's also the look backward issue – dealing with the documents they already have. There is also a challenge on the ISDA side because many transactions have ancillary derivatives that are related to the interest determination. But while it's a massive issue, banks and institutions are on top of it in the same way they were on Y2K, and as they had to during the financial crisis.

PROXIMO: DO WE THINK BANKS WILL HAVE ACCESS TO THE ENGINEERING AND TECHNICAL KNOW-HOW TO FINANCE THE TECHNOLOGIES THAT WILL BE CRUCIAL TO THE ENERGY TRANSITION?

JW: Project finance has not always been an easy financing technique to marry with new technologies. Lenders typically need to see an operating history to get to the risk rating and associated cost of capital we typically see in the investment grade space. Where there can be a bridge for an energy transition thematic, is where there's a clear evolution of technology rather than a revolution. For instance, carbon capture and storage has an obvious historical application in the enhanced oil recovery business and the technology has been around for decades in terms of the basic compression and dehydration equipment. We can foresee a lot of CO2 pipelines being built with these CCS assets in mind, though those will also present some interesting permitting discussions for lenders. For batteries, on the other hand, the challenges now are more about the usage case – both in front of and behind the meter – and the fact that some of those cases can present quite a lot of merchant power risk to a project lender. On the technology side though, Lithium ion technology has been around since the 80s but it hasn't yet been deployed at grid scale over an extended period of time. So that puts a focus on performance guarantees, warranty and O&M packages. For offshore wind, we in the US should be leveraging Europe's 25-year history in the space. It's not all that new but there will be some interesting credit analysis around the staggering new turbines of 12 to

15MW+ in size that we'll eventually be seeing down the East Coast. That's far bigger than deployments to date, but again maybe construed as a technical evolution not a revolution. Lastly when we consider renewable natural gas, biofuels and landfill gas, these can all be very sensitive to environmental change, so we'll have to consider the potential impact of extreme weather events on those emerging business opportunities.

CH: I think batteries are now considered relatively proven by project lenders. Distributed solar and distributed batteries will face different challenges, because they're not really classic project finance structures. Distributed solar comprises 1-2MW facilities that are aggregated and warehoused for a few years and then refinanced in the capital markets. However, you have to get comfortable around the state programmes in New York, California, Massachusetts, Illinois, New Jersey. You need to put in the work on documentation and monitoring, and each institution needs clear credit guidelines.

VM: The understanding of technology, whether it's evolutionary or revolutionary, is critical, but as recently as 2008 we were trying to get our arms around solar as a technology. In the end it's about risk allocation and risk appetite – different pools of capital need to lean in to allocate and underwrite that risk and certainly PF banks may not be looking to underwrite certain technology risk. Other types of capital might, say, be more willing to take risk on fuel cells or hydrogen – it might not be time for project finance lenders yet.

ND: In 12 months the battery storage market went from a lot of talk but maybe a couple of banks and a couple of projects to almost every new greenfield deals having a battery or storage component to it. So don't underestimate the readiness of the market – even the project finance market – to adapt and digest some of these new technological challenges.

PROXIMO: DO WE THINK THAT ESG PROCESSES HAVE EVOLVED FROM PRIMARILY BEING A SCREEN FOR BAD OR DOUBTFUL PROJECTS TO BEING A POSITIVE MANDATE TO GET MORE CAPITAL OUT OF THE DOOR FOR THE RIGHT PROJECTS?

TL: The green bond market has really taken off based upon the Green Bond Principles and, in the water/wastewater sector, with most investors agreeing that water financings are in fact green. I think over the last five years or so about a third of all the green bond deals done in the US municipal market are in the water and wastewater area. I also believe



that the social aspect of improvements to water infrastructure mean that it will be a good candidate for sustainability bonds. Green bonds have helped cities and states promote their commitment to ESG, and have allowed us as bankers to reach investors that, absent green labelling, might not have participated in the muni market as well as to assist us in achieving a pricing benefit for our clients.

CM: The enhanced focus on ESG is filtering through to companies, which are now putting their own ESG programmes in place. Bankers have suggested to issuers that there will be pricing benefits, but companies are not just dressing up something that was already eligible to get better pricing. It's forcing different behaviours at the company level.

PROXIMO: IS THIS EVOLVED ESG APPROACH FILTERING THROUGH TO GOVERNMENTS IN TERMS OF HOW PLANNING OR THEY PROCURE ASSETS? DO THEY APPRECIATE SOME OF THOSE PROCESSES THAT ARE NOW AT WORK AMONG LENDERS?

SW: Municipal markets have done green bonds for certain PPPs or energy projects. At times there is clear overlap between ESG priorities and governmental goals and where these are aligned, there may be natural synergies that would allow for green bonds or similar to be used on P3 or other government projects.

PROXIMO: WHAT SECTORS AND ASSETS DO YOU THINK WILL BE PARTICULARLY INTERESTING GOING FORWARD, OR DELIVER PARTICULARLY GOOD VOLUMES?

CH: Distributed solar and anything distributed generation will have a large growth profile, and we'll see a lot more activity in the battery side. Every generation project we see has batteries attached to it and we also see it on a stand-alone, utility-scale basis, whether in ERCOT, CAISO, New York, or Massachusetts. We'll also see more storage activity in markets that have challenges in absorbing intermittent power, for instance and where batteries are needed for grid stability, especially during certain times of the day.

TL: Looking at engineering and infrastructure reports, you'll see over a trillion dollars in future water infrastructure needs. While there may be a reluctance to fund water in certain cases, we generally see growing needs ranging from replacing and upgrading water pipes to flooding and drought to lead remediation. I think we're now seeing more openness and a general desire to fund these projects. General infrastructure including housing, public power, roads and bridges also have large funding needs and are getting broader attention. So pretty much most areas within

the public finance sector will have large needs and may see more funding due to a general desire to fund projects in the current low interest rate environment.

PROXIMO: DOES THE HEALTH OF THE P3 MARKET IN THE US NECESSARILY DEPEND ON PUBLIC FINANCES BEING IN A POOR STATE?

TL: I think it's hard to generalize. In some cases, the municipalities are moving toward P3 transactions as the most attractive financing option to provide funding given the economic and other challenges they may be facing and may not be dependent upon their financial situation or condition.

SW: I don't think it requires a replacement of the municipal market itself for funding public infrastructure. The use of P3 could be driven by a lack of direct access to capital for the public agency, because of debt limits or other funding restrictions. A P3 also could offer the public agency lifecycle benefits to a project and while these benefits may not be reflected in the upfront cost of capital, a public agency might prioritize lifecycle benefits over time. As Tom Liu said, some assets have reached the end of their useful lives earlier than they should have because of deferred maintenance or other issues with public sector funding. I think it will be interesting to see what comes out of any infrastructure legislation and whether it will offer additional dollars or additional incentives for alternative financing or structuring of public projects.

PROXIMO: WHAT ARE THE MAIN CHALLENGES AND OPPORTUNITIES IN ENERGY AND INFRASTRUCTURE FINANCE IN THE NEXT 18 MONTHS THAT WE HAVEN'T COVERED?

CM: We have an unknown response after this pandemic in terms of how people live, and what structural issues will need to be addressed. In the health care sector – especially in the markets where I operate like in Latin America – there's a chronic under-hospitalization and frequently that is an infrastructure product. Those countries are some of the worst hit by COVID and continue to be the worst hit.

JW: I still think offshore wind is going to potentially be very significant here in the US. The Biden administration has committed to 30GW by 2030 and we're at less than 40MW right now on the East Coast. Your average wind farm today can be three or four billion dollars apiece, so there's going to be a lot of capital going into the offshore space in the next five to 10 years. When we think about the energy transition, policy and regulations are the bedrock of investor confidence, so we've got to see where the Biden infra plan shakes out at the working level. Investors need clarity and certainty. They need visibility on where those policies are



going over the next five or 10 years across multiple administrations. We also all need to be cognizant of the speed of change we're seeing in this space. Banks are not always the most nimble institutions and I think it's incumbent on all of us to start moving a little quicker to keep up with the pace!

VM: ESG is an endeavour that affects the entire globe, but how to support the energy transition is going to be a real challenge. How do you support assets that do not completely conform to what's required of ESG, not just the E, but also the S and G? Another challenge and opportunity will be digitization. Covid has made it possible for us to work remotely, creating opportunities in data centres, fiber, broadband, and cell towers. I think there will also be some opportunities from public sector or public services being offered to private owners, for instance in district heating.

TL: We're excited about the Federal Infrastructure Bill and other related funding proposals coming out of Washington DC. These proposals include large dollars but that's still fairly small relative to the general infrastructure needs of the business. So there's obviously still going to be large needs for capital market funding as well as innovative financings.

MB: There are a lot of ESG bonds out there, but no standard tracking or uniformity. BNY Mellon has had extensive experience working with ESG bond issuers and we're noticing that the pain points are consistent across the industry. We stay close to our clients and other market participants to see how the ESG market is evolving on that front.

SW: I see both a challenge and an opportunity in the integration of new or even potentially disruptive technologies into public infrastructure. This presents interesting questions, like how to plan and finance an airport with parking over a 30-year development as technology continues to move towards autonomous vehicles. There's really great opportunity as these technologies develop, but it likely requires some rethinking of traditional ways of looking at project development.

ND: Maybe the biggest opportunity and challenge, is dealing with this wall of capital and making sure that those different pockets of capital have an understanding of what's possible – to optimise the resources and supply that are out there.

CH: In addition to the capital needs of offshore wind projects over the next two to three years, there are the needs of the infrastructure around it – transmission, ports, and vessels. As a challenge, I see terms being discussed with very thin pricing, long tenors, which don't really work for this market. There will be challenges around maintaining credit discipline and structure discipline. Tax equity will also be a challenge, maybe not for the very large sponsors but for some of the smaller ones. There might be the availability, but after the ERCOT blackouts the deal process has slowed down and some tax equity providers have exited the market.

**[Mitchell D. Holzrichter](#)**

Partner, Chicago

mholzrichter@mayerbrown.com

+1 312 701 8212

SEPTEMBER 14

Mitch Holzrichter Discusses the Impact of Airport Stakeholder Engagement at P3C's Public-Private Partnership Conference & Expo

On September 14, 2021, Mitch Holzrichter, a partner in Mayer Brown's Government practice and Projects & Infrastructure group, participated in the panel Unique Approaches to Airport Innovation and Stakeholder Engagement with fellow panelists Robert Poole, Director of Transportation Policy of Reason Foundation; Iñigo Tellechea, General Counsel of Ferrovial Airports North America and moderator, Maria Cristina Casero Borges, International Asset Management Director of Ferrovial Airports at P3C's Public-Private Partnership Conference & Expo. The panel discussion focused on P3 structures for stakeholder engagement specifically in the airport sector. A few key highlights from Mitch's panel discussion included:

- Discussing the wide range of P3 structures, from full-airport leases like the successful lease of the San Juan International Airport, to asset-specific leases and concessions for terminals, parking, energy systems, airport transit, and other assets.
- Highlighting the untapped market value of airports, as highlighted in The Reason Foundation's recent public report.
- Highlighting ways to engage airport stakeholders, including airport employees, airlines, contractors, and travelers, to bring the most value from innovation and to mitigate obstacles to transactions.

**[John R.R. Tormey](#)**

Partner, Washington DC

jtormey@mayerbrown.com

+1 202 263 3223

JUNE 27

John Tormey presents "Deep Dive into Collateral Packages for Hedges" in Infocast's Master Class Advanced Hedging for Renewables: Risk Appetite and Market Shift

On June 27, 2021, Washington, DC Projects & Infrastructure partner John Tormey participated as a co-presenter in an Infocast Master Class presentation on *Advanced Hedging for Renewables: Risk Appetite and Market Shift*. The topic of John's presentation was a "Deep Dive into Collateral Packages for Hedges." A few highlights from John's presentation included:

- Defining typical hedge collateral packages;
- Discussion on intercreditor relationships;
- Case studies and examples of typical collateral packages, and potential deviations; and
- Mandatory prepayment triggers, reserve accounts, and distribution blocks.

Projects & Infrastructure Upcoming Events

Mayer Brown's Projects & Infrastructure team present and participate at various industry events and webinars throughout the year. To learn more about our involvement, please contact us at workingcapital@mayerbrown.com.

DATE	EVENT	SPEAKER	FORMAT / LOCATION
2021 EVENTS			
October 19	Proximo Latin America 2021: Energy & Infrastructure Finance "Alternative Debt Structures: Still a Regional Leader"	MODERATOR Gabriela Sakamoto	HYBRID New York, NY
October 26	US P3 Forum "Mission critical broadband"	MODERATOR Joe Seliga	New York, NY
November 14-16	Forum on US Infrastructure Law		Marina del Rey, CA
November 17-18	Proximo US Power & Renewables Finance 2021 "Offshore Wind Infrastructure" "Power Transition: the path to Net Zero"	MODERATOR Eric Pogue MODERATOR Paul Astolfi	Austin, TX
2022 EVENTS			
March 23, 2022	NetZero Conference in conjunction with P3 Awards 2022	SPEAKER Greg Matlock	New York, NY
March 7-9, 2022	Solar + Wind Finance & Investment Summit		Scottsdale, AZ



Accolades

Mayer Brown’s Projects & Infrastructure Industry Team thanks our clients for trusting us with their most important transactions. Our Projects & Infrastructure Industry Team leverages our collective experience across our practice groups and global platform to deliver the highest quality legal services and commercial advice for projects and infrastructure matters across asset classes and transaction structures.

2021



118 LAWYERS RANKED

RANKED IN Banking & Finance, Construction, Projects & Energy, Projects & Energy: Mining & Minerals



170 LAWYERS RANKED

SPOTLIGHT TABLE
Banking & Finance, Projects

BAND 1 Projects: PPP

RANKED IN Energy: Electricity (Transactional), Energy Sector (International & Cross-Border), Projects: Renewables & Alternative Energy



21 LAWYERS RANKED*

RANKED IN Banking & Finance, Project Finance

* Includes lawyer from *Tauil & Chequer Advogados* in association with Mayer Brown



49 LAWYERS RANKED

SPOTLIGHT TABLE: Projects

RANKED IN Energy & Natural Resources: Oil & Gas



16 LAWYERS RANKED

BAND 1 Projects & Energy: Mining & Minerals

RANKED IN Projects & Energy



52 LAWYERS RANKED

RANKED IN Banking & Finance, Projects & Infrastructure



TIER 1 Project Development Power

RANKED IN Banking, Capital Markets, M&A, Project Finance and Project Development Oil & Gas

2020



NORTH AMERICA ROADS DEAL OF THE YEAR
Metropistas



2020 INFRASTRUCTURE FINANCING OF THE YEAR
Caribbean: Trans-Jamaican Highway LatinFinance



TAG PIPELINE (BRAZIL) DEAL OF THE YEAR
Latin America M&A

CRC TRANSMISSION LINE (CHILE) DEAL OF THE YEAR
Latin America Transmission



DEAL OF THE YEAR
Projects Lāwa’i 28MW solar power plant / 100MW energy storage facility

PROJECT DEVELOPMENT
Power, Tier 1

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