



# FINANCING WIND NORTH AMERICA: EVENT SUMMARY

A BRIEFING WITH INSIGHTS INTO  
THE US WIND MARKET

NOVEMBER 2022

# Contents

Statement	3
Biden policy package accelerates wind	4
Supply chain doubts temper offshore wind optimism	5
Debt market hungry for wind	6
Equity market needs new recruits	7
Inflation spurs wider PPA contract flexibility	8
Transmission-stalled projects gather dust	9
Future wind-to-hydrogen will need targets	10



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# Statement

**Excitement sounded above the hubbub of Financing Wind North America, our annual conference focused on the investing and financing side of the wind sector in New York. This year's event picked up the thread of the conferences we have been holding on both sides of the Atlantic since 2012.**

Banking sector attendees were revving up for powerful new regulation that is set to reshape the current tax equity market over the next decade.

The passage of the Inflation Reduction Act raised hopes that had sunk over two years of uncertainty over the prospects for continued tax equity support. It saw tax credits not only extended but also strengthened with adders and transferability. The longer runway for the support it provides will bring new players to the

wind investment table, among them corporations and foreign investors.

The feeling in the room was still cautious: The current war-induced inflationary environment is putting more cost pressure on wind development, bringing a shock rise in costs to an industry founded on the principle of costs going down.

Even without inflation, supply chain and transmission development chasms are yet to be traversed at the

federal level. Questions about the future availability of wires and wind turbines are already holding back wind developers, banks and firms who would otherwise be charging full steam ahead.

Echoing their concerns, suppliers like WindESCo and Hover explained the innovations they are bringing to market to better ensure project profitability.



# Biden policy package accelerates wind

**Developers saw pipelines gutted when the US government's Production Tax Credit support expired in end-2021, and they balked at supply chain constraints this year, but by August they were seeing the light at the end of the tunnel.**

Congress passed the Inflation Reduction Act, and projects that developers had sidelined without tax credit support were revived. The passage has also helped bring about a solar and storage investment "tsunami."

The IRA paves the way for corporations to finance wind projects, with transferability and direct pay options for credits having the potential to enhance the tax equity market in the country, while adding energy storage and hydrogen support to the mix.

Observers say the transferability will add further efficiency to the tax equity market for wind. The US tax equity market today is relatively inefficient, with two banks representing over half the market, but thanks to PTC transferability, corporate investors will be able to buy the credits directly from projects. Banks are looking to use transferability to create new equity financing structures. This could

potentially lower the cost of capital for developers.

The wider US wind finance sector is awash in liquidity despite growing risks, buoyed by unit economics of installation that still attract capital. Between banks, non-banks, public market access, private market access, ESG family offices, infrastructure funds, core funds, sovereign wealth funds, and private equity growth funds, wind project capital is abundant.

The US private equity market for wind was described as "healthy" and the public equity market was described as "sick" by observers, because of overall market issues. The outlook for public markets is set to improve if players evolve to find new structures enabled by the IRA, one sector participant suggested.

Despite the current IPO slowdown, finance players with new renewable development platforms may be planning on a wave of renewable

independent power producer growth vehicles in the next two or three years that launch IPOs when the US market picks up, industry watchers speculated. CohnReznick Capital is currently waiting to launch six IPOs.

Even so, risks for developers continue to rise in lockstep with costs for construction components and turbines amid inflation. Rising costs for offshore or floating wind projects are set to be passed through to both PPA buyers and consumers, at a time when inflation also puts pressure on businesses and politicians to lower energy prices, tempting them to abandon wind for traditional energy sources.

# Supply chain doubts temper offshore wind optimism

**Offshore wind developers expressed excitement at seeing the US set up a West Coast floating wind auction and Gulf Coast competitive offshore wind leasing process back-to-back in 2022. Offshore wind pipelines are growing, pushing towards the national 30 GW by 2030 offshore wind capacity target set last year.**

But the lack of a supply chain plan impacts how quickly offshore wind projects will be built. Developers note entire pipelines of projects in development depend on assurances by suppliers they will set up factories in the country before they can be financed.

The scarcity of domestic suppliers means global investors see US wind offshore wind projects as less competitive than projects in other parts of the world.

Missing factories are also a missed economic opportunity. There is now an under-supply of offshore wind components needed to meet global demand. The supply gap includes not only wind turbines but also HVDC lines, cables, monopiles, and accessible steel. A US domestic supply chain would bolster offshore wind projects over the long term against both cost risks and trade risks, as well as representing a major export opportunity for investors.

Observers remarked that per-state local content requirements on building out the supply chain seem inefficient, especially given there is now also a local content adder in the IRA. Currently, duplicate local content

rules could create two competing turbine component factories in two different states beside each other, for example.

The tri-state area — the East Coast states New York, New Jersey and Connecticut — could use supply chain planning at the regional and federal level organisation to ensure that investor finance is used efficiently, and the jobs created remain long-term.

Despite all of this, the current gaps in the US offshore wind supply chain will not put a stop to the country's lumbering advance into offshore wind, some argue. It has not broken the stride of one of offshore wind's early superstar nations, the UK.

The other conundrum for US offshore wind developers is state-level interconnection. Links for offshore wind could be planned and pushed by the federal government, taking a page from approaches in Germany and the Netherlands.



# Debt market hungry for wind

**American banks are increasingly finding wind attractive, entering the project finance ring to reach internal ESG aims. Certain banks foresee today's lender competition continuing into next year: The trend has grown with the passage of the IRA.**

Just over a year ago, banks were flush with liquidity, observers say. Lenders looked to renewables to fill the gap when they pulled away from financing gas-fired power projects. Because of the rush into the ESG-friendly wind market, the cost of wind project debt financing was on the way down.

However, with the war in Ukraine triggering energy price inflation and national banks hiking interest rates, certain US banks are no longer able to offer renewable developers the same low prices for debt securities they offered 18 months ago.

Deals that would have been in developers' favour last year are now in lenders' favour as they start raising capital pricing. Also, lenders are increasingly under internal pressure to exercise contracted renegotiation options called market flex as a result of Federal rate increases.

Lenders are seen to pull out of project finance deals when inflation economics hit capital markets, as this forces an uptick in the cost of capital. The more unconventional a deal's structure, the more lenders are likely to become uncomfortable with capital pricing in the difficult rising interest rate environment. Some banks advise that developers avoid changing the term sheet in the documentation period, as any delay risks a further

market-based increase in the cost of capital.

At the same time, a global hike in oil and gas prices has tilted the scale in favour of financing certain US fossil fuel projects, for example Liquefied Natural Gas projects. Some US banks are exercising restraint to preserve their ESG goals by turning down these multi-billion-dollar LNG project finance deals.

Some lending players are working through the backlog of deals created when wind pipelines jumped back to life this year. As a result, they may become more selective on wind finance deals to keep their staff from being submerged.

# Equity market needs new recruits

**Lenders in certain companies expect a deficit in the availability of tax equity over the next few years. Thanks to the IRA, more sectors — carbon capture, offshore wind and green hydrogen — will be demanding tax equity finance. At the same time, the traditional tax equity markets for solar and wind are set to grow. Lenders expect corporations, for example in the food and drinks sector, to enter the fray and fill the gap.**

As a result of tax credit transferability, corporations may look to buy tax credits that will be branded as clean energy investments. Corporations will be more interested in gaining Investment Tax Credits than Production Tax Credits because they are more familiar with their current tax situations than what they will be in 10 years – the wait time required to use the PTCs. There is also less exposure to operational and technology risk related to wind projects. Another boon is a lower bar to ITC market entry on energy market expertise.

Lenders may also look to bundle PPAs together with ITCs. PPAs are still needed to make wind investment competitive with solar and hydrogen given the rising price of wind project costs. While some worry over solar and wind sectors competing for tax equity investment, investors' diversification aims should work in wind's favour.

Lenders, currently awaiting guidance from the US government's Internal Revenue Service on transferability and direct pay due in June, are engaging in talks with insurance players as they begin assessing the price of transferability. They think developers will expect bridge loans ahead of transferability-related investment.

It could take a couple of years before the overall market understands the full potential of transferability. The hope is that lenders and developers can act quickly to take advantage of the ITC market. The IRA promised the ITC and PTC will be available 10 years, far longer than the prior one-and-two-year PTC extensions, although from 2025 they will take the form of a new "technology neutral" ITC and PTC.

The longer runway for ITC and PTC applications is expected to grow global investor interest in the US, including institutional players developing projects.

European investor interest in US green hydrogen market is also stronger now that it is due to receive ITC and PTC for the first time. However, they are being pressured to focus instead on Europe's effort to invest in hydrogen to replace Russian natural gas.

Meanwhile, US investors are eyeing the revised tax credit as an opportunity to use wind-to-hydrogen technology for converting wind project spillage into hydrogen and averting project losses.

# Inflation spurs wider PPA contract flexibility

**A couple of years ago, Power Purchase Agreements between US developers and corporate offtakers exceeded the number of PPAs between developers and utility offtakers. US utilities stepped back from the PPA market in 2015 and 2016, and it bottomed out in 2018 and 2019, say observers.**

Recently, however, utility PPA buying picked up and the market for renewable energy become more competitive. Utilities had to get back into the PPA buying game or lose generating revenues. As utilities sought to sell energy from their PPAs, they first offered commercial green tariffs for transportation and EV charging, and ultimately began to offer residential green tariffs.

Developers note inflation is raising costs for both construction and wind turbines, costs that they then pass on to consumers of PPAs. This has led to a few PPA deals between developers and utilities publicly imploding. One example is the proposed offshore wind project Mayflower Wind, which recently petitioned to renegotiate its PPA contracts with utilities Eversource, National Grid and Unitil in the wake of inflation raising costs. However, certain PPA buyers have been open to negotiation with cash-strapped developers.

Developers see buyers becoming more cautious, but also more flexible. They are ever-more flexible on PPA contract terms, and may be willing to wait to take out a PPA in exchange for a lower power price. Also, they may contract for flexible PPA pricing in the future.

Many PPA buyers have deadlines to hit their decarbonisation goals, and so they choose to accept PPA revisions rather than wait for alternatives. Industrial offtakers who have been hit by price rises may also acknowledge the situation is economy-wide.

Virtual PPAs are more common than physical. Texas and California are popular places for wind developers to take advantage of PPA markets, because of the way buyers evaluate forward project economics. The Northeastern US also remains a hotspot for developing windfarms for PPAs, despite famously long interconnection queues.



# Transmission-stalled projects gather dust

**Wind developers say it has been more difficult than ever to get US interconnection approvals.**

The interconnection application process some in the industry call “ridiculous” is run by regulated non-profits called Independent System Operators. In some cases, queues for interconnection applications contain more capacity than the peak capacity of the existing transmission system.

Developers are making speculative interconnection applications as a crude solution to long wait times and mysterious pricing, but this has only further exacerbated the problem. One reason for speculative applications there is a lack of information about the cheapest available points to connect. Projects are dropped when ISOs inform developers of unexpectedly high transmission costs.

Renewables’ rise means ISOs are experiencing higher workloads and longer queues than they have historically. While application processes were designed for an era with few interconnection requests, they have become the de facto renewable transmission planning systems. The result is renewable development chaos.

In view of this, wind developers have become more cautious about where they choose to locate projects. They want to find locations where wind

resources align with likely low-cost transmission interconnection costs, and are not already oversubscribed for interconnection capacity and locational marginal price suppression resources. Some developers apply to build in places where there are limited network upgrades and low network upgrade costs, but there are fewer of them than there were five-to-ten years ago.

Developers are also searching for a way around the problem so they can build projects quickly to benefit from the extended tax credits available under the IRA. But as it stands, the IRA is set to put pressure on already overwhelmed interconnection application queues. One observer said that building projects under the IRA with the current application process would be like trying to catch a tailwind with a rowboat.



# Future wind-to-hydrogen will need targets

**While green hydrogen project development in the EU revolves around state energy security and greening concerns, in the US it hinges on corporate greening.**

Several American projects are centred on opportunities in e-fuels development in Texas because it has adaptable gas infrastructure and hydrogen demand, including from refineries.

When it comes to a future market for hydrogen from wind, lenders may be open to financing linked wind and hydrogen projects either together or separately. However, developers may prefer to develop the wind project separately as part of their debt pricing and M&A strategies.

Beyond wind-to-hydrogen, investors are also looking to privately invest in other kinds of hydrogen infrastructure. But currently, the green hydrogen production sector lacks commercial arrangement and offtake structures required for debt financing any kind of hydrogen project.

To fix this, lenders suggest federal targets could be set for industrial green hydrogen consumption. They

also suggest states issue hydrogen production targets along the lines of the Renewable Portfolio Standard to drive green hydrogen investment at the state level. Once large-scale electrolyser technology is proven insurable, exports of green hydrogen will also be an important driver of wind-to-hydrogen investment.

Also, while the EU already defines which hydrogen production qualifies as decarbonising for subsidy and investment purposes in the EU Taxonomy and revised Renewable Energy Directive, the US does not. In October, the US proposed a draft Clean Hydrogen Production Standard. But how exactly it defines clean hydrogen, and whether that aligns with forthcoming IRS rules on new hydrogen tax credits, remains to be seen.

Investors have questions about possible US laws that make sure power consumers and hydrogen consumers don't compete for

renewable energy, so-called additionality rules. The EU dodged the controversial issue with a September amendment to the revised Renewable Energy Directive that passed the conundrum to states.

In parts of the US, the low cost of power ensures the price of green hydrogen produced from it is on par with not just the price of natural-gas-sourced, carbon-capture-enabled blue hydrogen, but also traditional natural-gas-sourced hydrogen. But some lenders argue as long as carbon values are taken into account, both blue and green hydrogen could win financing, but they would like lower-carbon green hydrogen to have a bigger slice of the pie.





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