

**SPECIAL REPORT**

# **RENEWABLE ENERGY IN THE US**

## **TOP 5 PRIORITIES FOR THE NEXT 10 YEARS**

October 2020

**FINANCING WIND**  
NORTH AMERICA

 **TAMARINDO GROUP**

IN PARTNERSHIP WITH



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# Acknowledgements

UL and the Tamarindo Group would like to thank the following industry leaders for their participation in the Wind Investment Boardroom debate which took place the day before our Financing Wind North America 2020 conference on 2nd and 3rd September, and for their permission to be quoted in this report.

**Beth Waters**, Managing Director, Mitsubishi UFJ Financial Group (MUFG)

**Bruce Hogg**, Managing Director, Canada Pension Plan Investment Board (CPPIB)

**Dan Shreve**, Global Head of Wind Research, Wood Mackenzie

**Jennifer Bodden Tripp**, Managing Director, nFront

**Keith Martin**, Partner, Norton Rose Fulbright

**Martin Torres**, Managing Director, BlackRock

**Michael Brower**, VP, UL

**Michael Rucker**, CEO, Scout Clean Energy

**Ravina Advani**, Head of Energy Natural Resources & Renewables, BNP Paribas

**Tristan Grimbert**, President & CEO, EDF North America

# Executive summary

Optimism about the future of US renewables is high among industry leaders even though there are significant concerns over transmission capacity and future revenue models. That's the key message from a closed-door meeting of senior decision makers held in advance of Financing Wind North America 2020.

The UL-sponsored Wind Investment Boardroom meeting brought together financiers and developers and included transmission, legal, analyst and certification experts in a debate focused on the key issues facing US renewables over the coming decade.

Transmission capacity and revenue sustainability emerged as the two biggest concerns, with grid flexibility, public acceptance of renewables and political will also being cited. This paper captures the views expressed in the debate, analyzing the key issues US renewables will have to face up to for sustainable growth over the coming decade.



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# Introduction

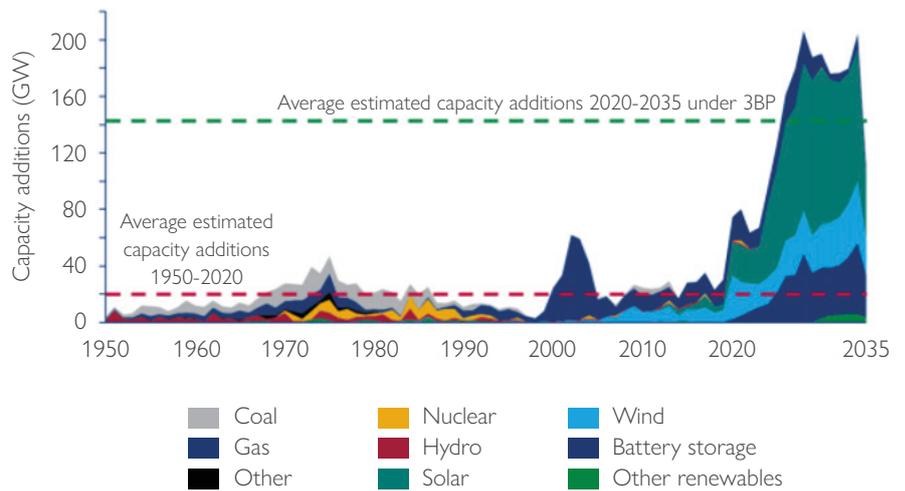
**Fall 2020 represents a key moment in the development of the US renewable energy market. The renewables industry has performed surprisingly well in the face of COVID-19, arguably the most significant socioeconomic stressor in a century, and is poised for strong growth in the years to come.**

The level of growth hinges on the outcome of the 2020 US presidential election and senate race. A Democratic win would see capital investments in renewables and energy storage assets top US\$2.2 trillion through 2035, according to data presented by Dan Shreve, global head of wind research at the analyst firm Wood Mackenzie.

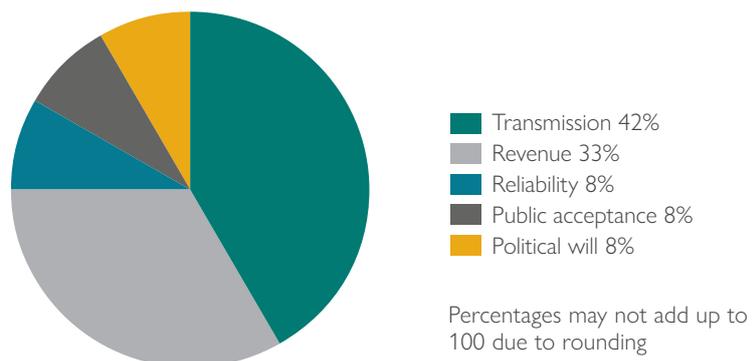
Conversely, if Biden's bid fails then Wood Mackenzie estimates the US will forfeit four more years in the fight against climate change and dramatically reduce the possibility of eliminating carbon emissions from the region's power grid before 2050. Whatever the outcome, though, renewables can still expect growth.

Against this backdrop, the main concern expressed in a straw poll of leaders in the Wind Investment Boardroom is how to overcome transmission challenges, closely followed by maintaining sustainable business revenues with an asset class that faces price cannibalization as penetration increases.

Leaders also highlighted three lesser issues: grid reliability, public acceptance of renewables and political goodwill towards the sector. These five topics are covered in detail in this report..



**Historical US power market capacity additions versus Biden's Build Back Better Plan (3BP) estimates** (source: Wood Mackenzie)



**Key concerns for US renewables growth over the next decade** (source: UL Wind Investment Boardroom poll)

# 1 Transmission

**Looking at the potential for renewables growth in the US market, irrespective of the outcome of the US elections, it is clear there is a pressing need for new transmission infrastructure.**

“Already our transmission interconnection queues around the United States are chock full and we’re having upgrade costs, which are passed through to generators, that are unsustainable,” says Michael Rucker, CEO at developer Scout Clean Energy.

Jennifer Bodden Tripp, managing director of transmission and delivery at nFront Consulting, agrees that costs have spiraled out of control.

“You’ve reached a point where you need major transmission additions to be able to meet these goals and you have to come up with a fair cost allocation mechanism to be able to account for that,” she says.

To solve the problem, Tripp advocates “critical thinking” around areas such as allowing battery storage to be part of the transmission system, with appropriate cost recovery. “It can’t just be, ‘you need a 340-kV line, the generators need to pay for it,’” she says.

There are already instances where distributed series reactors have helped avoid the need for grid upgrades worth hundreds of thousands of dollars, she says. But it will take a coordinated effort to find solutions

that best meet the requirements of the grid while maintaining long-term reliability and allowing for further renewables integration.

Beth Waters, managing director for Americas project finance at Mitsubishi UFJ Financial Group, also sees battery storage as a key tool to overcoming transmission system challenges. “Nobody wants transmission [infrastructure] in their backyard,” she says. “But energy storage, at large utility scale, could displace the requirement.”

Ravina Advani, head of energy, natural resources and renewables at BNP Paribas, says managing transmission challenges will be key to the financing of power purchase agreements (PPAs). “The lion’s share of deal flow is renewables, but with that come additional risks,” she says.

“To see these projects through, we are going to be focused on balancing what comes to fruition and some of the risks, whether we’re talking about merchant risk, basis risk [or] corporate PPA offtaker risk. That’s something we’re going to be laser-focused on as we continue to grow our footprint in the renewables space.”



# 2 Revenue

**Citing an old article from *The Economist*, Norton Rose Fulbright partner Keith Martin says: “Renewables hold the seed of their own destruction, which is they drive down cost.”**

The prospect of price cannibalization is a major concern for investors as the US looks to implement a decarbonized grid.

“The biggest consideration for equity capital going forward will be how investors deal with the inevitable maturation of the market and revenue supplies,” says Bruce Hogg, managing director and head of power and renewables at the CPP Investment Board.

Martin Torres, managing director and head of Americas renewable power at investment behemoth BlackRock, also puts future power pricing at the top of his list of concerns. “You can bring everything together. But if the revenue side’s not there to convince capital to invest for 25 to 35 years, then you’re not going to have a project,” he says.

For Tristan Grimbert, president and CEO of EDF Renewable Energy North America, the key to future renewables growth is for the industry to understand and adapt to the deflationist nature of its business. “When I started in this business 15 years ago, the common wisdom was that electricity prices would go up by 4% a year forever,” he says.

“Today, we know that wind power and solar power in 10 years will be cheaper than today. We have to adapt to that. The consultants have to do more work to better anticipate long-term power pricing.”

EDF Renewable Energy has already formed a working group to look at this issue, Grimbert says. “At the policy level, we have to work on transmission, carbon and market design,” he comments. “But as an industry, we have to work on the business model. If we contract for the short term, we have to contract at the right price.”

The renewable industry has not shown enough discipline on this point, Grimbert believes. And Michael Brower, vice president for renewable energy at UL, believes things won’t be made easier by the economic downturn that is expected to follow COVID-19.

“It could take a year or longer to recover to 2019 levels, based on the projections that I’ve seen,” he notes. “That means depressed demand for power which could affect power prices and prospects for new renewable energy projects..”

On the plus side, developments such as the rise of electric vehicles could have a positive impact on energy demand and help provide new sources of revenue for clean energy providers, Brower says.



# 3 Reliability

**Grid reliability is closely linked to transmission infrastructure. But ensuring reliability is about more than just transmission, according to Tripp at nFront. “It’s going to take systemic balance between all the objectives,” she says.**

To take just one example, electric vehicles are great for load. But without a policy that provides incentives for people to charge at night rather than during peak demand hours, electric vehicles will just amplify the problems facing the grid.

Thus, electricity system reliability will ultimately require not just the involvement of grid operators but also of many other stakeholders, each providing a perspective that helps inform the whole environment.

# 4 Public acceptance

**To meet the most optimistic growth projections for US renewables will require “an enormous amount of community outreach,” says Shreve at Wood Mackenzie. “Technical challenges may not be as substantial as the people problem.”**

NIMBYism is a challenge not just for wind and solar project developers but also for the buildout of much-needed transmission infrastructure, he says. “Community education is going to be incredibly important and should be put front and center, almost more so than talking about increased efficiencies some of these generation technologies.”

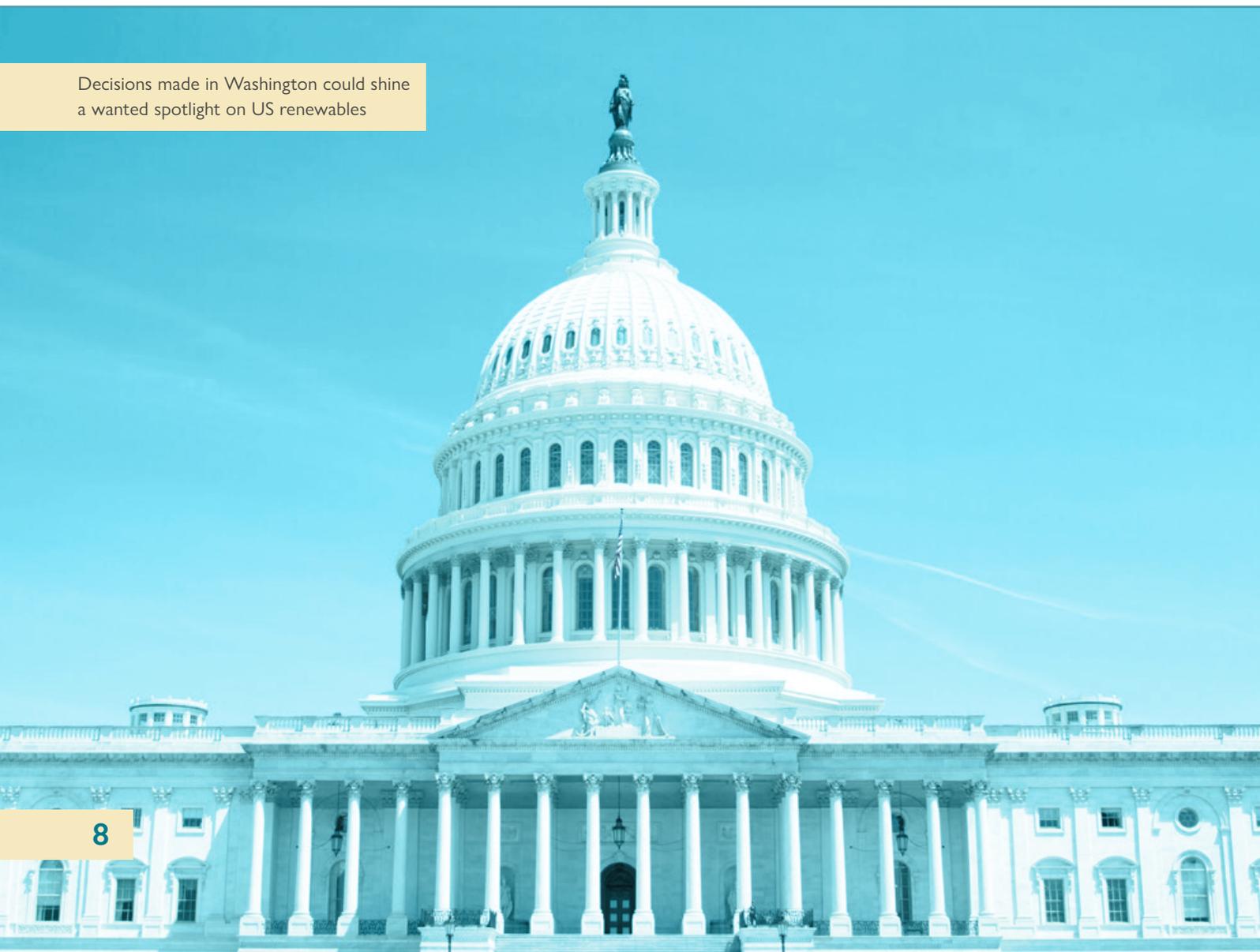
The good news, says Advani at BNP Paribas, is that most other stakeholders are already on board. “Every single stakeholder is focused on sustainability,” she says.

# 5 Political will

**Politics will continue to shape the future of US renewables no matter who wins the election. But the worst that can happen is that renewable energy becomes a partisan issue. Brower at UL says: “We’ve been fairly lucky under the Trump administration that it hasn’t become more political. Renewables have flown under the radar.”**

A Biden win might change that and put renewables under the spotlight. But renewable energy sector may need to take that risk. It needs Washington’s attention in order to secure the policy changes that are required for critical issues such as distribution infrastructure funding.

Decisions made in Washington could shine a wanted spotlight on US renewables



# Conclusion

**Despite the clear challenges facing US renewables, the Wind Investment Boardroom experts were almost unanimously optimistic about the future for the sector, with only one contributor offering a downbeat assessment. The optimism is perhaps understandable given the resilience of the renewables sector during COVID-19.**

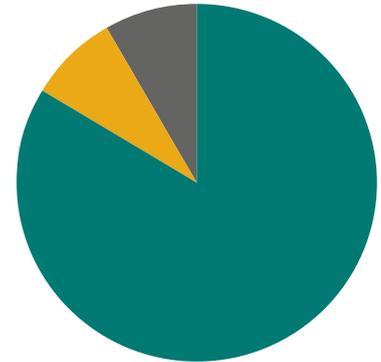
“When we hit the COVID crisis in March, we actually saw interest among our institutional investors globally accelerate at a much quicker rate,” recounts BlackRock’s Torres. “Renewables have performed well on a relative basis to infrastructure, and many other asset classes, through the crisis.”

As things stand today, says Martin at Norton Rose Fulbright, “I think the long-range outlook is great if Biden is elected. If Trump is elected, I think we will also see continuing growth.

What the government will have to do eventually is use every tool available to tackle climate change, to make up for lost time.”

EDF’s Grimbert likens the current situation to a sea crossing in a storm. “Yes, it’s really rough,” he says. “Yes, you want to make sure your harness is hooked to the boat. It’s not very pleasant to go through the storm. But overall, our industry has been very resilient. We’ll come out.”

Not only that, he says, but “we’ll come out stronger because we’ll have to show more discipline in the business model that we are deploying.”



- Optimistic 83%
- Neutral 8%
- Pessimistic 8%

Percentages may not add up to 100 due to rounding

### Outlook for US renewables over the next decade

(source: UL Wind Investment Boardroom poll)





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