

SPECIAL REPORT

NORTH AMERICAN POWER LIST 2021

The people and trends at the leading
edge of North America's wind industry

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Welcome

It's been a year and a half since we put together our last North American Power List. Looking back, it's felt more like a decade and a half.

We've been through a once-in-a-generation pandemic and watched the downfall of President Trump. We've seen massive wildfires and devastating floods around the world. Nobody could claim that the last 18 months have been free of big news.

In addition, we saw dire warnings from the United Nations Intergovernmental Panel on Climate Change last month, in which it raised a "code red for humanity". It said our planet is warming at an unprecedented rate because of human activity, and the natural disasters we saw around the world in 2020 and 2021 will only get worse.

But this is galvanising those who work in the global renewable energy industry.

That's why this feels like the right time to revisit the North American Power List. The need for strong action on the energy transition has never been greater. The desire for leadership has never been more keenly felt. But the global response to Covid-19 has also shown what we can do when countries around the world work together. We can only hope this message gets through to those meeting at COP26 in November.

It has been a fascinating 18 months for the North American wind industry too.

In the US, wind farms totalling 16.9GW were commissioned in 2020, representing an 85% increase over 2019, according to the American Clean Power Association. It also said in December

that an extra 17.3GW was being built and 17.5GW in advanced development. There's now over 127.8GW of operational wind farms in the US as of June 2021.

We have seen the emergence of US offshore wind too. While this was a feature of our previous NAPL in 2020, there can be no denying the anxiety felt by some in the industry over the continued delays to the 800MW Vineyard Wind 1 under the Trump administration. But changes under Biden and state tenders have quelled that fear.

We can see the impact in the ACP's numbers. It said that 26% of projects in the US development pipeline now are offshore, ahead of Texas (13%) and Wyoming (10%). We need to see steel in the water, but we've come a long way since early 2020.

Finally, there has been the continued emergence of technologies such as energy storage and green hydrogen, which are forcing utilities, developers, and investors to keep evolving their business models. It's an exciting time for wind in North America.

In this report, we celebrate the 100 people who we see at the cutting edge of the US wind industry, both onshore and offshore. Some are industry stalwarts who have featured on the NAPL before, but around half are new entrants, which shows us that even the challenges we've faced can't stop new ideas and individuals emerging.

We'd like to thank our headline sponsor WindESCo, our judges, our Legal Advisory Board, everyone who nominated, and you for picking up the report. We hope you enjoy it, and we look forward to hearing from you. ■

How we did it

The editorial and content team of A Word About Wind and Energy Storage Report began the process to develop this year's North American Power List in April 2021.

The process

To maintain the North American Power List's credibility, we followed this research process.

■ April 2021

Desk-based research for the North American Power List began. This involved examining the market and highlighting notable individuals.

■ June 2021

Opened the floor for nominations on our various digital platforms.

■ June 2021 & July 2021

Interviews were conducted with our Legal Advisory Board on the most prominent names in the North American wind industry.

■ July 2021

Closed nominations and restarted research on each individual on the ensuing list to compile a longlist. Over 300 individuals were considered.

■ July 2021

Shared the longlist with our judges.

■ August 2021

Received feedback from judges.

■ August 2021

Decided on the final 100 and completed the rankings and commenced report production. The positions and views in this report are those of our editorial staff, and our decisions are final.

■ 29th September 2021

North American Power List 2021 published.

We have made every effort to be comprehensive, and to ensure that profiles are accurate at the time of publication. If there are important factual inaccuracies you feel need correction, please contact us at editorial@tamarindogroup.com

Our criteria

We were looking for the 100 business leaders in North America that exert the most influence on the wind industry through their deals, innovations and strategic thinking.

Our interest is the leaders and deal-makers who shape the financial side of the wind industry globally and are based in North America. The top 100 includes key people at the industry's leading developers, investors, lenders, manufacturers and utilities, as well as their financial advisors, and those working for corporate energy buyers. Our main exception is law firms, which we cover in our Legal Power List reports.

This means that our top 100 predominantly focuses on chief executives, divisional heads and other members of senior management teams. They will tend to contribute to the broader success of the wind industry in one of the three following ways.

- By shaping the strategies of the sector's leading companies, which play an integral role to the financial performance of the industry as a whole.
- By working on the largest and most complicated deals, which help unlock major investment in the sector while generating interest in the industry.
- By working on developments that help to unlock new investment opportunities for wind, both in terms of geography and/or technology.

However, those three criteria are not exclusive. We considered each entrant based on their individual merits and visible activity in the sector since the middle of 2020. Our aim is to ensure that our top 100 represents the range of businesses, individuals and technologies that contribute to the success of the wind sector now and in future. ■



Our judges

Our editorial and content team worked with the following expert judges and our Legal Advisory Board to gain an independent view on who we should include in our final top 100.



Gary Meyers

CEO, Power Factors

Gary is the CEO of Power Factors and recently led the SaaS company's acquisitions of Greenbyte and 3megawatt. Prior to this, Gary held several leadership roles at FusionOps, Synopsis and Synplicity. He also served on the boards of both public and private companies, including chairman of Exar and "SkyAdvisor" at UC Berkeley's SkyDeck.



Bruce Bailey

Founder, AWS Truepower (Retired)

Bruce is a retired VP of Renewables at UL and a true veteran of the industry. Having established a renewables research program at the University of Albany, he then founded AWS Truepower and led it for over 30 years, before being acquired by UL. Bruce evaluated over 140GW of projects and served on numerous industry association and university boards.



Stewart Mullin

Chief Operating Officer, Global Wind Energy Council

Stewart joined the Global Wind Energy Council in early 2021 after a decade as a senior executive in the wind industry. Before GWEC, he worked at offshore turbines specialist MHI Vestas (2014-2021) since its inception, and before that was at Siemens Wind Power (2008-2014). He has also sat on the boards of GWEC, WindEurope and WindDenmark.

Our Legal Advisory Board



Andrea Lucan

Partner, Allen & Overy

Andrea is a partner in the global Projects, Energy, Natural Resources and Infrastructure practice, based in A&O's Los Angeles office. Andrea focuses her practice on project development and mergers and acquisitions.



Vanessa Richelle Wilson

Partner, US Co-Chair, Energy and Natural Resources Sector, DLA Piper

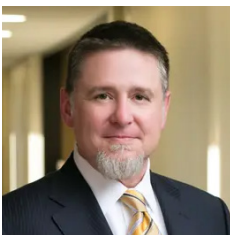
Vanessa Richelle Wilson has more than 20 years of experience in the energy sector. Vanessa represents corporate and industrial buyers in the purchase of renewable energy and Renewable Energy Credits in physical and virtual transactions.



Andrew Compton

Partner, Linklaters LLP

Andrew is a partner in the Global Energy and Infrastructure Group based in New York. He focuses on a wide range of domestic and cross-border project financing and acquisition divestment transactions, with particular emphasis on the power (including renewables) sector.



Blake Winburne

Partner, Orrick, Herrington & Sutcliffe LLP

Blake leads Orrick's Energy and Infrastructure Sector (one of the firm's three focus areas, along with technology and finance) and is a transactional lawyer focusing on the downstream and midstream energy sectors.



Eli Katz

Partner, Latham & Watkins LLP

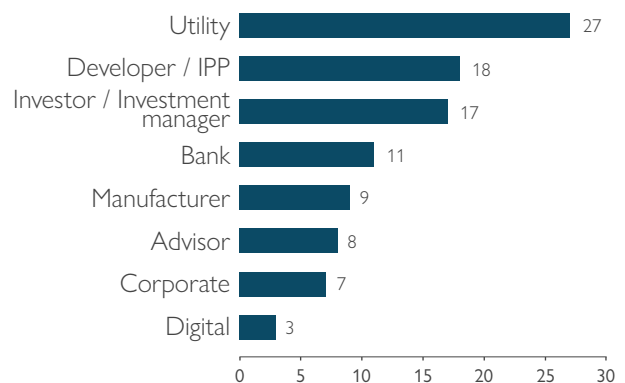
Eli Katz is a partner in the New York office of Latham & Watkins. He serves as Global Vice Chair of the firm's Energy & Infrastructure Industry Group and is a member of the firm's Tax Department and Project Development & Finance Practice.

North American Power List: The breakdown

Our top 100 shows the breadth of talent across the wind industry in North America. Here are the key figures behind the 2021 North American Power List.

1. Utilities make up over one quarter of the 100

The best-represented sector on the top 100 is utilities (27), ahead of developers / independent power producers (18) and investors (17) (see graph 1). The utilities represented are a mix of regulated and unregulated players, including European companies that have continued to invest in the US due to strong growth in the US wind industry during the Trump years.

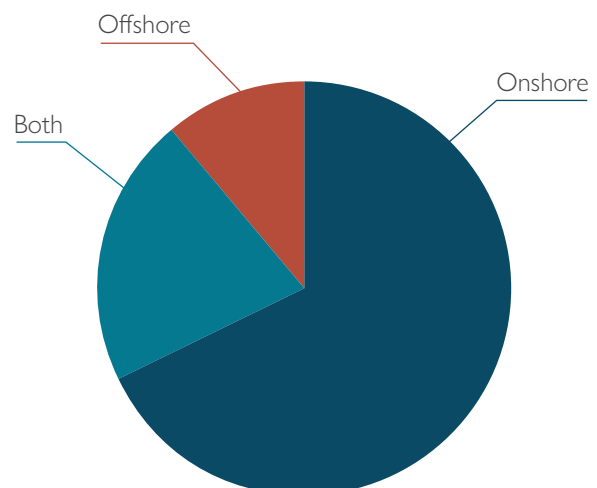


Graph 1 - Company type represented in the top 100

2. Nearly a third are involved in offshore wind

Sixty-nine of those in this top 100 focus their wind efforts exclusively onshore (see graph 2), which is to be expected given the dominance of onshore wind.

However, ten of the top 100 focus solely offshore and 21 both onshore and offshore. These include leaders from firms including Atlantic Shores, Copenhagen Offshore Partners, Dominion Energy, Equinor and Ørsted, who are continuing to drive the US offshore wind industry forward with a mix of utility-scale and pilot developments.

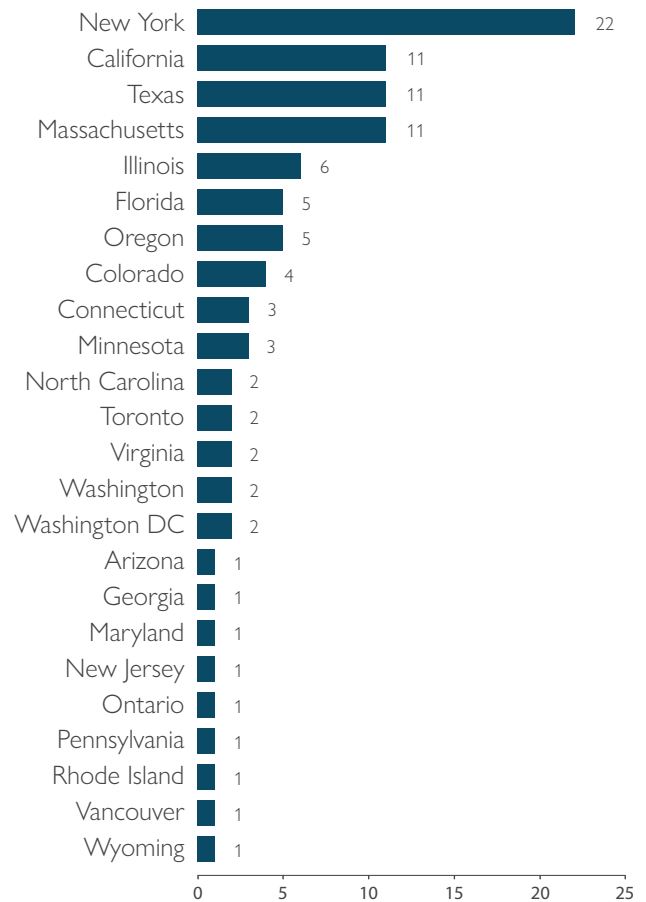


Graph 2 - Market focus of those in the top 100

3. New York is still key for wind deal-making

New York is the largest US state represented on this top 100 (22), which reflects the city's continued importance as a financial centre – even in a year where its leading bankers were working remotely.

This was followed by Texas (11), which continued its dominance in wind installations in 2020: over 4.2GW of wind was completed last year in the US state, which is almost quadruple the second-placed state Wyoming. California (11) came joint second in our top 100 due to its importance for corporates such as Facebook and Google, as well as west coast utilities and investors. Massachusetts also came joint second on our list (11) because of the emergence of US offshore wind.



Graph 3 - State/province of those in the top 100



4. Women represent over a third of this top 100

Thirty-four of our top 100 are women, which continues the upward trend from our last two North American Power Lists. In our debut list in 2018, women made up 23 of the top 100, and this increased to 27 in January 2020. This suggests that the top women in US wind are continuing to grow both in terms of status and in the attention they attract.

This top 100 also features five women in the top ten for the first time, and 11 in our top 30. All this means the NAPL has for the first time beaten the goal of 30% female representation in top roles, which is held up by organisations such as the 30% Club as the threshold that correlates with more innovation and higher profits. Firms can do more on diversity – but these figures suggest progress is being made.

5. Almost half are new to the North American Power List

The Covid-19 pandemic has put limits on our activities and movement over the last 18 months – but it has not been a barrier to the emergence of exciting new talent. In total, 49 of the people in this top 100 are new to the NAPL. Some of the new entrants have

arguably gained long overdue recognition, such as our number one, and others represent the industry's next generation of leaders. It is this mixture of new ideas and older heads that will be needed to keep US wind fit for purpose in the years ahead. ■



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The North American Power List 2021

100

NEW ENTRY



WHITNEY WILSON

VP, Asset Management & Wind Operations, Brookfield Renewable

Experienced asset manager who leads the optimisation of Brookfield's wind fleet.

99

NEW ENTRY



ASHLEY CROWTHER

Global VP, ONYX Insight

Enhancing the competitiveness of North American Wind through reliability engineering, edge computing and predictive analytics.

98

NEW ENTRY



KIMBERLEE CENTERA

CEO, TerraPro Solutions

Renewable risk management specialist who has financed 12GW of projects.

97

NEW ENTRY



GARETH BROWN

CEO & Co-Founder, Clir Renewables

Founded software firm Clir in 2017 and plays a key role in the optimisation debate.

96

▼ 92



JATIN SHARMA

Co-Founder & Managing Partner, NARDAC

Respected insurance broker for onshore and offshore wind development, construction, and operational risks.

95

NEW ENTRY



ENRIQUE ALVAREZ-URIA BERROS

Country Manager, US, Ocean Winds

US lead for Ocean Winds, which is co-developing the 2GW Mayflower complex.

94

▼ 70



DAVID SALE

CEO, Goldwind Americas

Global manufacturer Goldwind has this year expanded its North American fleet to over 1GW.

93

▼ 85



MARTIN MUGICA

President & CEO, Skyline Renewables

Set up Skyline in 2018 and has grown it to over 1GW, including 800MW of wind.

92

NEW ENTRY



MO DUA

Founder & CTO, WindESCO

Former First Wind exec who now helps firms use data to boost project operations.

91

▼ 51



CHRIS ARCHER

Head of Americas, Green Investment Group

Heads the expansion of Macquarie's Green Investment Group in the Americas.

90

NEW ENTRY



ALEXANDER O. POST

Senior Vice President, Lockton Power, Lockton Companies

Strategic disruptor and thought leader for US renewables insurance with over two decades of experience.

89

▲ 97



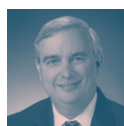
GILL HOWARD LARSEN

Global Director of Renewables Advisory, UL

Has three decades' experience working in utility-scale wind and joined UL in 2014.

88

▼ 87



BILL GRANTHAM

President, Southern Power

Grew Southern's wind portfolio to 2.5GW in 2021, of its total capacity of 12.5GW.

87

NEW ENTRY



SHANNON OKUYAMA

SVP, M&D / Business Development, Onward Energy

A rising star who is helping to deliver growth at new 4GW platform Onward.

86

▼ 29



JONATHAN BRAM

Founding Partner, Global Infrastructure Partners

Key figure at GIP, which bought MAP's 16GW wind and solar arm in 2020.

85

▲ 91



MICHAEL RUCKER

CEO & Founder, Scout Clean Energy

Leading Scout, an owner-operator with 1.2GW in operation and 5GW of wind, solar, and hybrid storage projects in development.

84

NEW ENTRY



STEVEN DAYNEY

Head of Offshore North America, Siemens Gamesa Renewable Energy

Siemens veteran who joined Siemens Gamesa in 2020 to lead it in offshore wind.

83

▼ 80



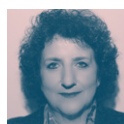
BLAKE NIXON

President, National Grid Renewables

Stepped up to become president following the acquisition of Geronimo Energy.

82

▲ 89



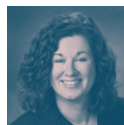
ALLA WEINSTEIN

CEO, Trident Winds Inc.

Partnering with EnBW to seek approvals for two 1GW floating offshore wind projects, in the states of California and Washington.

81

▼ 79



TERESA MOGENSEN

SVP of Energy Supply, Xcel Energy

Mogensen is responsible for an 18GW fleet that powers 3.5million customers.



WHAT CAN NATURE TEACH US ABOUT OPTIMIZING WIND ENERGY PRODUCTION?

A murmuration, or flock of starlings, results from the graceful balance between group cohesion and individual effort. This phenomenon inspired WindESCo to take a system approach to wind plant optimization.

Through years of data analysis, modeling and testing, we've developed closed-loop technology that delivers 3-5% AEP gains site-wide.

WindESCo Swarm™ uses collaborative interaction between turbines to maximize an entire farm's output potential, rather than optimizing turbine-by-turbine.

Find out more at
windesco.com/swarm

'Closed-loop systems optimize site-wide wind plant performance'

It's now possible to employ a closed-loop system to optimize site-wide performance instead of risking overall AEP by optimizing individual assets alone, says WindESCo chief revenue officer Ed Wagner.

To what extent are wind plants underperforming and not maximising their annual energy production (AEP)?

WindESCo operates globally and we are seeing differences regionally. Low wind conditions are impacting some regions while clustered sites, where wind turbines are too close to each other, are also facing challenges. More generally, we are hearing from operators that their wind plants are not meeting expectations as they come off warranty and we also observe significant variation based on the model and age of different turbine types.

How can operators and wind energy investors benefit by improving the performance of their wind turbines?

Wind operators benefit on sites with known (and sometimes unknown) underperformance issues by turbines being returned to intended design performance. Whereas asset managers and investors benefit by improving the asset or fleet profile by 1%-2% in terms of annual energy production.

What steps can operators and wind energy investors take to improve the performance of wind plants?

It is standard for operators to employ dashboards which identify new issues where risks to asset downtime may exist. To enable corrective actions and prevent recurrence, operators and investors need to understand why their plants are underperforming and how to correct them, rather than simply being alerted to reliability or underperformance issues. Such dashboards for reliability purposes can enable some analytics capabilities with standard SCADA data in ten-minute intervals. However, to enable more predictive capabilities as well as energy output performance, operators should employ analytics that utilize high frequency data to identify the detailed behaviors within the components of moving systems such as pitch, yaw, rotation and the associated anomalies that lead to energy improvement opportunities. It is also now possible to employ a closed-loop system at a wind turbine site to optimize site-wide performance instead of just individual asset performance. It is possible that optimizing individual turbines alone can negatively impact

the site production as a whole or leave collective opportunities on the table. New solutions such as WindESCo Swarm analyze the site as a system optimization problem in addition to asset-by-asset improvements. When considering site-wide optimization, outcomes potential ranges from 3-5% AEP improvement.

What is your advice to operators or wind energy investors who suspect their wind plants are underperforming?

The operators and investors should employ deep experience and subject matter expertise in wind turbine operations and not rely solely on general data science. It is easy to identify the symptoms from the data differences, but it is extremely difficult to define a treatment plan that will improve performance and then measure and track results due to the nuances of equipment technology such as controller design.

What do current technology solutions overlook that could improve wind plant performance?

Due to SCADA system standards, it is easiest to utilize existing ten-minute data. However, within the periods at lower time intervals, there is a more anomalous value opportunity that is often masked within the data. Independent power producers (IPPs) and operators need to look at high resolution data to pick up information about turbine operation anomalies that can be used to improve AEP. Users should look to vendors that support seconds-level data for high-value analytics.

What do you see as the biggest challenges in the wind industry today?

Managing operational models with varying types of renewables (including solar, wind and hydro) and the segmented supply chain. Variations between OEM standards and support for equipment models both aging and new. First, IPPs are experiencing energy price fluctuations that require additional flexibility to meet regional demand. They are struggling to remain profitable as our climate changes. Second, OEMs need to recognize that working to make their operators successful using all the tools and talent in the industry is the path to selling more wind assets. If the operators are successful, the entire industry succeeds. OEMs should be more open on behalf of their customers to implementing solutions that increase AEP.

What are the biggest opportunities for the wind industry?

In North America, with the continued extension of the production tax credits, we can repower more of the existing assets to improve performance and extend life. There is also an opportunity for North America to take advantage of the arrival of new offshore opportunities. From an independent software vendor point of view, we need to roll-up a number of the point solutions in the market, to make it easier for the operators to find, fix and measure anomalies and problems they have with their wind assets and businesses quickly and effectively. There's a lot to learn from other industries to keep costs low, while improving the services we bring to operators. ■

- 80

NEW ENTRY



MARTIN PASQUALINI
MD, Partner & Founding Member, CCA Group, LLC
Has established himself over three decades as a leading project financier.
- 79

▼ 77



SHANNON SHOUL
Director, Corporate Renewable Energy, Nike
Leads sports giant Nike's goal for 100% renewable electricity, and supports supply chain adoption
- 78

NEW ENTRY



AARON SMITH
CCO, Principle Power
Leading the global expansion of California-headquartered floating specialist and championing the growth of floating wind in the USA.
- 77

NEW ENTRY



ALTA YEN
Senior MD, Renewable Energy, Kayne Anderson Capital
Recognisable name in the advisory world who joined from GE EFS in 2019.
- 76

▼ 74



KARA HURST
VP and Head of Worldwide Sustainability, Amazon
Leads sustainability for the world's largest corporate buyer of clean energy.
- 75

▼ 54



TONY MILIKIN
Chief Supply Chain Officer, Keurig Dr. Pepper
Corporate sustainability expert who moved from InBev in September 2021.
- 74

NEW ENTRY



KEN ELSER
SVP, Renewables Project Finance Finance & M&A, DNV
His team acted on 60GW of renewable M&A and 8.5GW of wind fundings in 2020.
- 73

▼ 72



SHALINI RAMANATHAN
Director - Origination, Quinbrook Infrastructure Partners
Has closed more than 2GW of renewable projects representing more than \$2.5bn.
- 72

▼ 58



TOM CARBONE
President & Director, Tri Global Energy
Focused on originating projects for Tri Global, including in the key Texas market.
- 71

NEW ENTRY



CHRIS LeWAND
Senior MD & Leader of Power & Utilities Practice, FTI Consulting
Specialises in M&A advisory work, and is also a member of FTI Capital Advisors.
- 70

NEW ENTRY



LAURA CASPARI
VP - Head of Power Marketing & Commercial Strategy, Engie North America
Leads Engie North America's renewable offtake origination, commercial strategy, and project M&A
- 69

▼ 64



NICK KNAPP
Senior MD & President, CohnReznick Capital
Has 15 years' experience in M&A and structured finance with renewables firms.
- 68

NEW ENTRY



CONNOR TESKEY
Managing Partner & CEO, Brookfield Renewable
Joined Brookfield in 2012 and became CEO of its renewables arm in 2020.
- 67

NEW ENTRY



ALBERTO GARCIA
Executive Director - Project & Acquisition Finance, Santander
Joined Santander in 2003 and plays a leading role in financing huge US projects.
- 66

NEW ENTRY



CHRIS MOSCARDELLI
MD, Societe Generale
US-based MD at SocGen, which is a key backer of onshore and offshore wind.
- 65

NEW ENTRY



JENNIFER DANIELS
Development Director, Atlantic Shores
Won support in June to develop a 1.5GW wind farm off the coast of New Jersey.
- 64

NEW ENTRY



FRANK NICKLAUS
Managing Director, Nomura Greentech
Has advised on 2GW of operating and in-construction wind asset sales during 2021, including a \$700m deal for Caithness.
- 63

NEW ENTRY



NATALIE JACKSON
Head of Capital Markets, Clearway Energy
Joined Clearway in 2020 to lead its expansive project level capital markets efforts.
- 62

RE-ENTRY



JIM KING
MD & Head of US Corporate Banking, CIBC Capital Markets
Has completed financing of over \$8.5bn of renewable energy projects in the US.
- 61

NEW ENTRY



BASILIO GUERRERO
Energy CFO, Acciona US & Canada
Has spent ten years at Acciona with a focus on innovative funding structures.

60
NEW ENTRY



JESSICA SHOR

Director of Acquisitions & Structuring in North America, Enel Green Power North America

Joined from SunEdison in 2016 and now has more than \$3bn of transaction experience.

55
▲ 59



SUSAN NICKEY

EVP & Chief Client Officer, Hannon Armstrong

Leads business development, client relationships management, and policy advocacy efforts.

59
▼ 42



POOJA GOYAL

Partner & Co-Head of Infrastructure Group, Carlyle Group

Joined Carlyle in 2019, and led the launch of its renewables unit Copia in July.

54
NEW ENTRY



JUSTIN DeANGELIS

Partner & Co-Head Sustainable Infrastructure, Denham Capital

Growing its remit beyond pure renewables, including a \$2.1bn tie-up with Alfac.

58
NEW ENTRY



PHILIP HOPKINS

Head of Renewable Energy & Environment Finance, Wells Fargo

Leads the REEF team, which has provided \$10bn tax equity since 2006.

53
NEW ENTRY



LARS VILLADSEN

CFO, Vestas North America

Villadsen is a 12-year Vestas veteran and plays a key role leading the company in North America.

57
NEW ENTRY



JOE NOLAN

President & CEO, Eversource

Partnering with Ørsted to build 4GW of offshore wind in the US Northeast, including the Revolution Wind, South Fork Wind, and Sunrise Wind projects.

52
NEW ENTRY



RAVINA ADVANI

Head of Energy Natural Resources & Renewables, BNP Paribas

Focused on deepening the bank's sustainable finance initiatives in energy.

56
NEW ENTRY



ERIC WHITE

Executive Director, Energy Investments - Engineering, J.P. Morgan

Over 25 years in alternative energy, the last 11 years at J.P. Morgan overseeing technical review on over 20GW of wind and solar investments.

51
NEW ENTRY



ARI PRIBADI

Senior MD, Head of Chicago Office, Co-Head of DE & I Committee, Marathon Capital

Advised on over 25 completed wind deals, including the creation of Pattern Energy and Innogy's entry into North America wind.



FTI Consulting's Power, Renewables and Energy Transition

(PRET) group assists clients across the value chain navigate the rapidly evolving landscape and positioning sector participants to be ready for today's and tomorrow's industry needs.

We provide a wide array of advisory services addressing the strategic, financial and operational challenges faced.

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Q&A Interview:

Chris LeWand, FTI Consulting

The US wind M&A market rebounded after a short hiatus in 2020 when Covid created significant uncertainty – since then, M&A activity has been robust and it appears the trajectory will continue, says FTI Consulting’s global power, renewables & energy transition (PRET) leader, Chris LeWand.

What are the biggest trends in wind energy M&A?

Growing interest in US wind projects is the key trend but this is a product of a series of favourable underlying factors. Government support programs, ESG and sustainability interest, energy transition goals and the search for strong yielding assets are all contributing. Anticipation of continued significant enablement from government programs has increased with the Biden administration coming into office, while boards of directors have been the recipients of growing pressure from activist investors, employees, vendors, customers and even the SEC with its push for heightened ESG disclosures. Further, demand is being pushed to new levels by foreign entrants and oil and gas majors implementing new strategic plans.

What type of acquisition targets are particularly attractive to wind energy investors?

High-performing assets, particularly those with strong offtake arrangements, continue to be in high demand. However, the volume of built projects with these de-risked profiles is in relatively short supply and the speed with which new projects are being completed has

slowed down due to supply chain constraints and permitting issues among other reasons. Newer entrants have tended to target buying into development platforms or as passive investors. However, many of the larger private developers have been acquired leaving few options.

What will be the emerging M&A trends in the coming year?

How projects are financed is likely going to be significantly impacted by changing rules and general industry maturity. For example, the White House is supporting a plan to allow the renewable energy industry to form tax-advantaged partnerships known as master limited partnerships or MLPs. MLP structures have been used prolifically by the oil and gas industry since the late 1980s, including to build out US pipeline and storage infrastructure.

The benefit of MLPs is that the partnership is not taxed until distributions are made, but the structure can offer liquidity comparable to a publicly traded corporation. This will change the way investors think about these types of investments, allowing for an expanded base to invest directly in wind and other renewable energy projects. ■

50
▲ 55



GAURAV RANIWALA
Global Renewable Energy Leader,
GE Energy Financial Services
GE EFS supports GE's renewables customers
and has invested \$15bn since 2004.

49
▼ 45



CHARLENE LAKE
Chief Sustainability Officer & SVP of CSR,
AT&T
AT&T continues its commitment to
sustainability through the purchase of more
than 1.5GW of renewable energy capacity.

48
▼ 32



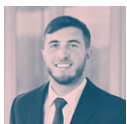
VIKAS AGRAWAL
MD & Head of Alternative Energy Investing,
Goldman Sachs
This Goldman veteran recently joined its
enlarged sustainable investing team.

47
▲ 60



BILL WHITE
Head of US Offshore Wind,
Avangrid Renewables
Moved over from EnBW in late 2020 to lead
Avangrid's offshore wind business.

46
NEW ENTRY



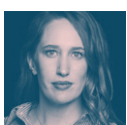
SEAN TOLAND
Director, Copenhagen Infrastructure Partners
Leads CIP's onshore renewables development
finance and investment activities in North
America.

45
NEW ENTRY



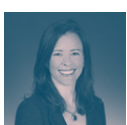
FONG WAN
SVP, Energy Policy and Procurement,
Pacific Gas & Electric
Instrumental in moving renewable
procurement forward for PG&E and California.

44
NEW ENTRY



JENNIFER GOODWILLIE
VP, Project Development, Ørsted
Moved to Ørsted after it bought Lincoln Clean
Energy, which she joined in 2019.

43
▼ 40



REBECCA KUJAWA
CFO & EVP of Finance, NextEra Energy
Resources
Joined NextEra in 2007 and playing a key role
as it keeps growing in renewables.

42
▼ 31



MARTIN TORRES
Head of Americas (Renewable Power),
BlackRock Real Assets
Took over as BlackRock's head of renewables
in the Americas in early 2019.

41
▲ 71



GABRIEL ALONSO
CEO & President, 547 Energy
Former EDPR NA chief joined energy private
equity group Quantum in 2018.

40
▼ 24



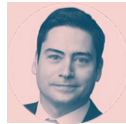
STEVE LOCKARD
Chairman, TPI Composites
Grew TPI to a \$1bn blade maker and now also
chairs Keystone Tower Systems.

39
▲ 83



MIGUEL ANGEL PRADO
CEO & Chief Procurement Officer,
EDP Renewables North America
Heads 6.4GW portfolio for EDPR NA and
manages global procurement for EDPR with a
target to deploy 20GW in 2021-2025.

38
NEW ENTRY



LEONARDO MORENO
President, AES Clean Energy
AES has 7GW of renewables assets, a 23GW
pipeline and bought sPower in 2020.

37
NEW ENTRY



YVETTE DENNIS
Senior VP of Infrastructure, AIG
Monitors a \$13bn portfolio in 16 countries for
AIG's insurance companies.

36
▲ 53



MIKE CRAWLEY
President & CEO, Northland Power
Leads Northland's expanding global platform
including recent offshore and onshore wind
entries into Poland and Spain, respectively.

35
▼ 26



JEFFREY GRYSOWSKI
CEO, US Wind
US offshore pioneer who resurfaced as CEO
of developer US Wind, Inc in late 2020.

34
▲ 67



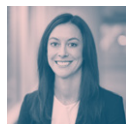
VANESSA MILER-FELS
Director of Energy Innovation & Impact,
Microsoft
Works to power Microsoft operations and
supply chains with renewable energy.

33
NEW ENTRY



ANDRE CANGUCU
Chief Commercial & Industries & M&A Officer,
Engie North America
Playing a vital role in driving Engie's M&A led
US growth in recent years.

32
▲ 36



MEGHAN SCHULTZ
SVP, Finance & Capital Markets, Invenergy
Has led on deals worth more than \$25bn and
executed over 15GW of projects.

31
▼ 22



SKIP GROW
MD & Head of Clean Technology Group,
Morgan Stanley
Clean energy specialist Grow acts for a crop of
the industry's biggest names.

Q&A Interview:

Beth Waters, MUFG

Richard Heap talks to Beth Waters, Managing Director of Project Finance, Americas at MUFG, about Biden's \$1bn infrastructure bill, Vineyard Wind 1, and standalone storage schemes.

How active are banks in US renewables at present?

Exceptionally active. We're seeing a focus on ESG from everyone – corporations, institutional investors, banks, private equity, strategics – and renewables fit in perfectly. Essentially all those industry players now have ESG guidelines and they're looking for deals that can satisfy those guidelines. Thus, even without the support of the Biden administration, it would be full speed ahead for renewables.

Are you optimistic about Biden's \$1trn infrastructure bill?

A lot of people are asking if it's going to happen or fall apart. I am confident that some form of the bill will pass and benefit the wind industry.

How important is the financial close of Vineyard Wind 1?

Other states that favor offshore wind saw a major roadblock removed with the closing of the Vineyard Wind 1 transaction. These states know the benefits of offshore wind, to reduce carbon emissions, create jobs and diversify the power supply, coupled with prices of offshore wind energy coming down significantly.

There are many offshore wind projects under development on the East Coast of the U.S. as well as some on the West Coast. To keep the

development costs of these large projects down, the various states must work together by taking advantage of economies of scale. As an example, it wouldn't make sense for every state to have its own port for bringing in turbine towers and blades.

Incidentally, MUFG was a joint lead arranger [i.e., top lender] on the Vineyard Wind 1 deal led by my colleague Louise Pesce.

Are you getting involved in storage at present?

Yes. Lithium-ion is still the most cost-effective and has the technological track record to be financeable in the bank and private placement markets, but we will see other battery technologies coming out when the developers of these technologies manage to sort out various technical issues, establish a track record and bring down costs. In the next five to ten years, you're going to see other battery technologies besides lithium-ion that will be able to store power for longer periods of times, which will be highly beneficial to the industry.

We are now seeing the development of very large battery storage facilities that utilities will use to manage intermittency in their overall grids. These large batteries will help in places with bottlenecks or high demand, and it will also mean you won't need to build as much transmission, which take years to get permitting and regulatory approvals. ■



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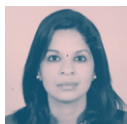
Beth Waters, Managing Director
MUFG - Project Finance, Americas
212-782-4501 | EWaters@us.mufg.jp



THE LIST

30

▼ 19



SANDHYA GANAPATHY

Global Head of Investments & M&A,
EDP Renewables Group

Has led EDPR's global asset rotation strategy since 2012, raising over €3.3bn.

20

NEW ENTRY



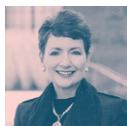
DIANE LEOPOLD

COO, Dominion Energy

Key as Dominion seeks to build offshore wind farms while also growing onshore.

29

NEW ENTRY



LYNN GOOD

Chair, President & CEO, Duke Energy

Became CEO in 2013 and is leading Duke's expansion in the renewables sector.

19

NEW ENTRY



SHANNON STURGIL

CEO of Onshore North America,
Siemens Gamesa Renewable Energy

Joined Siemens Gamesa in 2020 to grow their North American onshore business

28

▲ 35



GEORGIOS PAPADIMITRIOU

Head of North America, Enel Green Power

Leads Enel Green Power's growth in North America backed by a host of PPAs.

18

▲ 34



SILVIA ORTÍN RIOS

CEO Wind Onshore & PV, RWE Renewables

Became CEO in 2021 to lead wind and solar for RWE Renewables.

27

NEW ENTRY



MICHAEL TERRELL

Global Head of Energy, Google

Has overseen more than 55 wind and solar agreements to purchase nearly 6GW of renewable power new to the grid since 2010.

17

▲ 39



ALEJANDRO De HOZA

President & CEO, Avangrid Renewables

Became CEO in 2019 and is key to huge projects, including Vineyard Wind 1.

26

NEW ENTRY



URVI PAREKH

Director of Renewable Energy, Facebook

Heads Facebook's team buying renewable energy, which now totals over 5.6GW.

16

NEW ENTRY



PATRICK BYRNE

CEO of Onshore Wind & CEO of Digital,
GE Renewable Energy

Byrne leads onshore wind for GE Renewable Energy, which was the largest wind turbine manufacturer in the US by installations in 2020.

25

▼ 21



MARK GOODWIN

President & CEO, Apex Clean Energy

Developing the first and largest US wind-powered hydrogen project, with Plug Power.

15

▼ 13



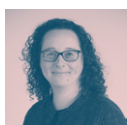
MIT BUCHANAN

Managing Director, Energy Investments,
J.P. Morgan

Well-known figure in US tax equity with three decades' of energy sector experience, with the last 13 years being in renewables at J.P. Morgan.

24

NEW ENTRY



RACHEL PACHTER

Chief Development Officer, Vineyard Wind

Leads the effort to secure the 800MW Vineyard Wind 1's final permits.

14

▼ 1



MIKE GARLAND

President & CEO, Pattern Energy Group

Topped our previous NAPL in 2020 after the \$6.1bn buyout of Pattern by CPPIB.

23

NEW ENTRY



DAVID HARDY

CEO for Offshore North America, Ørsted

Promoted to CEO from COO in 2020 to lead Ørsted's growth in US offshore.

13

▼ 3



BRUCE HOGG

MD & Head of Sustainable Energy,
Canada Pension Plan Investment Board

Named head of this pensions giant's new sustainable energy group this year.

22

▼ 18



TRISTAN GRIMBERT

CEO & President,
EDF Renewables North America

Heads renewables in North America, where EDF has developed projects of 16GW.

12

▲ 15



WILLIAM J. FEHRMAN

President and CEO,
Berkshire Hathaway Energy

Fehrman has been a senior executive at Berkshire Hathaway Energy since 2006.

21

NEW ENTRY



BOB FRENZEL

President & CEO, Xcel Energy

Joined Xcel as CFO in 2016 before becoming COO in 2020 and now CEO in 2021.

11

▲ 12



RAY WOOD

MD & Head of Natural Resources,
Bank of America

Key deal-maker who was promoted to BAML's natural resources head in July.



CCA Group

Since 2003, CCA Group has been delivering premier financial advisory services, making complex project financing understandable for both issuers and investors in renewable markets.



www.ccagp.com

10

▲ 20



BETH WATERS

MD of Project Finance in the Americas, MUFG

Waters has driven the origination of nearly \$37 billion in non-recourse debt to finance more than 31GW of energy-producing assets and 817 miles in energy transmission lines

9

NEW ENTRY



ROXANE PERRUSO

EVP & COO, Power Company of Wyoming

Perruso is tasked with solving the thorniest of problems for US wind developers – transmission – by completing the \$3bn TransWest Express link in 2025 for a 3GW PCW wind cluster in Wyoming.

8

▼ 5



DANIELLE MERFELD

VP & Chief Technology Officer, GE Renewable Energy

Led the team that developed the gigantic 14MW Haliade-X offshore wind turbine. She also topped our Women's Power List report earlier this year.

7

▲ 9



MIKE SKELLY

Founder & CEO, Grid United

Skelly set up Grid United in June to have another crack at modernising the US grid, after his work with Clean Line. He is also senior advisor at Lazard and the only person in this list with a book about them.

6

▲ 11



DAVID GIORDANO

Global Head of Renewable Power, BlackRock Real Assets

Giordano is global head of BlackRock Renewable Power, which this April achieved the \$4.8bn close of its Global Renewable Power Fund III to invest in renewables – including wind – in the Americas, Europe and Asia. This follows its GRP I and GRP II funds.

5

NEW ENTRY



SIRI ESPEDAL KINDEM

President, Wind US, Equinor

Kindem is a key player in US offshore wind as she led Equinor to win support, with BP, for two projects totalling 2.5GW off New York, in addition to the 816MW Empire Wind 1.

4

NEW ENTRY



JOHN KETCHUM

President & CEO, NextEra Energy Resources

Ketchum leads NextEra Energy Resources, which owns 22GW of generating capacity in 37 US states and Canada including 14.1GW of wind. He ascended to the role in 2019.

3

▲ 21



LAURA BEANE

President, Vestas North America

Beane joined Vestas North America as president on 1st July from Engie North America, where she was chief renewables officer, and will now lead its growth in this key market.

2


▲ 4



LARS THAANING PEDERSEN

Co-CEO & CEO of Vineyard Wind, Copenhagen Offshore Partners

Pedersen is spearheading growth of utility-scale offshore wind in US waters at projects including the 800MW Vineyard Wind 1, which reached financial close in September 2021.



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1

NEW ENTRY

Jim Murphy

Co-Founder, President & Corporate Business Leader, Invenergy

Jim Murphy is a new entry to the North American Power List, but that is largely due to the fact he co-founded Invenergy with the company's high-profile chief executive Michael Polsky. In recent years, Murphy has made an increasingly large contribution to the wider industry, and it feels right to recognise that contribution in this top 100.

Developer and operator Invenergy remains the largest privately-held US renewable energy company, and it continues to work on some of the country's most significant wind developments.

These include the 999MW Traverse Wind Energy Center, which is the largest of three wind farms that Invenergy is developing for American Electric Power (AEP) at the 1.5GW North Central Wind Energy complex. This is the biggest project

Invenergy has worked on so far, and the largest onshore wind farm in development in the US. Invenergy is looking to commission Traverse in early 2022.

The company also reached financial close on the 287MW Maverick and 199MW Sundance projects in late 2020. It is developing these two projects for AEP as well.

But Invenergy's deals of the last 12 months extend far beyond individual projects. In December, the company secured a \$1bn investment from Canada's La Caisse de Dépôt et Placement du Québec to support its global growth. The companies have been partnering since 2013, and Murphy said this would help accelerate the growth.

Overall, Murphy has negotiated over \$40bn of private equity and debt investments, power plant acquisitions and sales, and project financings during his 40 years in the energy industry. He leads general management at Invenergy, including its legal and financial affairs; and sets the direction of Energize Ventures, the venture capital fund managed by Invenergy, as a founding member of its investment committee.

He also influences the wider industry in his role as chair of the board of the American Clean Power Association – which was launched earlier this year as an evolution of the American Wind Energy Association – and he sits on the board of directors of the American Council on Renewable Energy. ACP merged with the US Energy Storage Association earlier this year, which demonstrates how wind is increasingly part of a hybrid renewables development rather than a standalone asset.

Murphy is confident in the power of renewables, which can only benefit with the pro-renewables President Biden in the White House.

“The clean power industry is a driving force for major new infrastructure... resulting in an economic opportunity to our communities. Additionally, American families improved their equality of life through large-scale carbon emissions reductions in the electricity sector,” he has said.

Murphy has spent four decades working in the energy sector – but his activity in the last year shows he is still at the cutting edge of its most important changes. ■



The North American Power List 2021 in full

RANK	NAME	POSITION	COMPANY
1	Jim Murphy	Co-Founder, President & COO	Invenergy
2	Lars Thaaning Pedersen	Co-CEO & CEO of Vineyard Wind	Copenhagen Offshore Partners
3	Laura Beane	President	Vestas North America
4	John Ketchum	President & CEO	NextEra Energy Resources
5	Siri Espedal Kindem	President, Wind US	Equinor
6	David Giordano	Global Head of Renewable Power	BlackRock Real Assets
7	Mike Skelly	Founder & CEO	Grid United
8	Danielle Merfeld	VP & Chief Technology Officer	GE Renewable Energy
9	Roxane Perruso	EVP & COO	Power Company of Wyoming
10	Beth Waters	MD of Project Finance in the Americas	MUFG
11	Ray Wood	MD & Head of Natural Resources	Bank of America
12	William J. Fehrman	President and CEO	Berkshire Hathaway Energy
13	Bruce Hogg	MD & Head of Sustainable Energy	Canada Pension Plan Investment Board
14	Mike Garland	President & CEO	Pattern Energy Group
15	Mit Buchanan	Managing Director, Energy Investments	J.P. Morgan
16	Patrick Byrne	CEO of Onshore Wind & CEO of Digital	GE Renewable Energy
17	Alejandro de Hoz	President & CEO	Avangrid Renewables
18	Silvia Ortín	CEO Wind Onshore & PV	RWE Renewables
19	Shannon Sturgil	CEO of Onshore North America	Siemens Gamesa Renewable Energy
20	Diane Leopold	COO	Dominion Energy
21	Bob Frenzel	President & CEO	Xcel Energy
22	Tristan Grimbert	CEO & President	EDF Renewables North America
23	David Hardy	CEO for Ørsted Offshore North America	Ørsted
24	Rachel Pachter	Chief Development Officer	Vineyard Wind
25	Mark Goodwin	President & CEO	Apex Clean Energy
26	Urvi Parekh	Director of Renewable Energy	Facebook
27	Michael Terrell	Global Head of Energy	Google
28	Georgios Papadimitriou	Head of North America	Enel Green Power
29	Lynn Good	Chair, President & CEO	Duke Energy
30	Sandhya Ganapathy	Global Head of Investments & M&A	EDP Renewables Group
31	Skip Grow	MD & Head of Clean Technology Group	Morgan Stanley
32	Meghan Schultz	SVP, Finance & Capital Markets	Invenergy
33	Andre Cangucu	Chief Commercial & Industries & M&A Officer	Engie North America
34	Vanessa Miler-Fels	Director of Energy Innovation & Impact	Microsoft
35	Jeffrey Grybowski	CEO	US Wind
36	Mike Crawley	President & CEO	Northland Power
37	Yvette Dennis	Senior VP of Infrastructure	AIG
38	Leonardo Moreno	President	AES Clean Energy
39	Miguel Angel Prado	CEO & Chief Procurement Officer	EDP Renewables North America
40	Steve Lockard	Chairman	TPI Composites
41	Gabriel Alonso	CEO & President	547 Energy
42	Martin Torres	Head of Americas (Renewable Power)	BlackRock Real Assets
43	Rebecca Kujawa	CFO & EVP of Finance	NextEra Energy Resources
44	Jennifer Goodwillie	VP, Project Development	Ørsted
45	Fong Wan	SVP, Energy Policy and Procurement	Pacific Gas & Electric
46	Sean Toland	Director	Copenhagen Infrastructure Partners (CIP)
47	Bill White	Head of US Offshore Wind	Avangrid Renewables
48	Vikas Agrawal	MD & Head of Alternative Energy Investing	Goldman Sachs
49	Charlene Lake	Chief Sustainability Officer & SVP of CSR	AT&T

50	Gaurav Raniwala	Global Renewable Energy Leader	GE Energy Financial Services
51	Ari Pribadi	Senior MD, Head of Chicago Office, Co-Head of Diversity & Inclusion Committee	Marathon Capital
52	Ravina Advani	Head of Energy Natural Resources & Renewables	BNP Paribas
53	Lars Villadsen	CFO	Vestas North America
54	Justin DeAngelis	Partner & Co-Head Sustainable Infrastructure	Denham Capital
55	Susan Nickey	EVP & Chief Client Officer	Hannon Armstrong
56	Eric White	Executive Director, Energy Investments - Engineering	J.P. Morgan
57	Joe Nolan	President & CEO	Eversource
58	Philip Hopkins	Head of Renewable Energy & Environment Finance	Wells Fargo
59	Pooja Goyal	Partner & Co-Head of Infrastructure Group	Carlyle Group
60	Jessica Shor	Director of Acquisitions & Structuring in North America	Enel Green Power North America
61	Basilio Guerrero	Energy CFO	Acciona US & Canada
62	Jim King	MD & Head of US Corporate Banking	CIBC Capital Markets
63	Natalie Jackson	Head of Capital Markets	Clearway Energy
64	Frank Nicklaus	Managing Director	Nomura Greentech
65	Jennifer Daniels	Development Director	Atlantic Shores
66	Chris Moscardelli	MD	Societe Generale
67	Alberto Garcia	Executive Director - Project & Acquisition Finance	Santander
68	Connor Teskey	Managing Partner & CEO	Brookfield Renewable
69	Nick Knapp	Senior MD & President	CohnReznick Capital
70	Laura Caspari	VP - Head of Power Marketing & Commercial Strategy	Engie North America
71	Chris LeWand	Senior MD & Leader of Power & Utilities Practice	FTI Consulting
72	Tom Carbone	President & Director	Tri Global Energy
73	Shalini Ramanathan	Director - Origination	Quinbrook Infrastructure Partners
74	Ken Elser	SVP, Renewables Project Finance Finance & M&A	DNV
75	Tony Milikin	Chief Supply Chain Officer,	Keurig Dr. Pepper
76	Kara Hurst	VP and Head of Worldwide Sustainability	Amazon
77	Alta Yen	Senior MD, Renewable Energy	Kayne Anderson Capital
78	Aaron Smith	CCO	Principle Power
79	Shannon Shoul	Director, Corporate Renewable Energy	Nike
80	Martin Pasqualini	MD, Partner & Founding Member	CCA Group, LLC
81	Teresa Mogensen	SVP of Energy Supply	Xcel Energy
82	Alla Weinstein	CEO	Trident Winds Inc.
83	Blake Nixon	President	National Grid Renewables
84	Steven Dayney	Head of Offshore North America	Siemens Gamesa Renewable Energy
85	Michael Rucker	CEO & Founder	Scout Clean Energy
86	Jonathan Bram	Founding Partner	Global Infrastructure Partners
87	Shannon Okuyama	SVP, M&D / Business Development	Onward Energy
88	Bill Grantham	President	Southern Power
89	Gill Howard Larsen	Global Director of Renewables Advisory	UL
90	Alexander O. Post	Senior Vice President, Lockton Power	Lockton Companies
91	Chris Archer	Head of Americas	Green Investment Group
92	Mo Dua	Founder & CTO	WindESCo
93	Martin Mugica	President & CEO	Skyline Renewables
94	David Sale	CEO	Goldwind Americas
95	Enrique Alvarez-Uria Berros	Country Manager, US	Ocean Winds
96	Jatin Sharma	Co-Founder & Managing Partner	NARDAC
97	Gareth Brown	CEO & Co-Founder	Clir Renewables
98	Kimberlee Centera	CEO	TerraPro Solutions
99	Ashley Crowther	Global VP	ONYX Insight
100	Whitney Wilson	VP, Asset Management & Wind Operations	Brookfield Renewable



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