DIRECTION

THE FUTURE OF WIND



GCube will use Renew Risk's cutting-edge catastrophe risk models for offshore wind assets. (Courtesy: Renew Risk)

GCube, Renew Risk partner to boost offshore wind risk analytics and modeling

GCube Insurance, an underwriter for renewable energy projects, is partnering with Renew Risk, a Software-as-a-Service (SaaS) risk analytics provider, which will strengthen GCube's capability in offshore wind risk analytics and modeling, benefiting its offshore wind clients.

GCube will use Renew Risk's catastrophe risk models for offshore wind assets, which are based on advanced physics, data analytics, and simulation techniques. The models will help GCube better understand and quantify the factors that affect the risk and liability of offshore wind assets, such as extreme weather events, natural disasters, inter-connected component damage probabilities, operational failures and expected losses – allowing GCube to offer more tailored and competitive pricing.

"This partnership will enable us to enhance our offshore wind services by using Renew Risk's pioneering catastrophe models," said Fraser McLachlan, GCube Insurance CEO. "Renew Risk's models will help us better understand and quantify the complex catastrophe risks of offshore wind assets, which will allow us to offer more tailored and competitive pricing."

Renew Risk's models are being integrated with Nasdaq Risk Modeling for Catastrophes, a SaaS platform providing access to a broad range of catastrophe risk models and services to (re)insurance firms, brokers, and financial institutions. Incorporating Renew Risk onto Nasdaq's platform will enhance users' ability to assess risk associated with offshore wind farms, estimate losses, compare project risk-return profiles, and allocate capital.

Renew Risk's models provide more comprehensive risk analysis for offshore wind assets than traditional methods, which typically use generic or onshore models. Such methods do not account for the specific characteristics of different regions or the nuances of offshore wind infrastructure, which can lead to suboptimal insurance pricing. Instead, Renew Risk's models consider a broad range of factors that affect risk and liability, such as the location, age, size, power, and gearbox system of the turbines, the cost and availability of replacement parts and vessels, the downtime and reliability of the operations, and the Business Interruption (BI) losses. These models also offer comprehensive coverage of high-risk regions, encompassing Northeast U.S. hurricanes, Taiwan earthquakes, and typhoons, as well as Japan earthquakes and typhoons.

"The extraordinary growth of the offshore wind industry demands an increasingly sophisticated insurance ecosystem to serve it," said James Lay, senior director of Nasdaq. "This is driving a critical need for advanced models capable of accurately assessing risk. As the first models of their kind available in the Oasis format, integrating Renew Risk with Nasdaq's platform will provide seamless access to the tools necessary to support the continued growth of the sector."

"Collaborations will enable us to showcase our innovative catastrophe models platformed on Nasdaq, rooted in cutting-edge advanced physics, data analytics, and simulation techniques," said Ashima Gupta, Renew Risk co-founder and CEO. "Our models will assist GCube in enhancing its ability to evaluate and handle intricate catastrophe risks associated with offshore wind assets, ultimately translating into amplified advantages for GCube's esteemed clients."

MORE INFO www.gcube-insurance.com enew-risk.com

Electricity Transformation Canada succeeds in new site

Electricity Transformation Canada (ETC), Canada's largest and most in-

fluential renewable energy event, was a success in its new location, Calgary, Alberta. ETC 2023 attracted more than 2,500 attendees from across North America and featured a diverse and informative lineup of keynote speakers, engaging panel discussions, multiple networking events, and cutting-edge exhibitions.

More than 160 exhibitors populated the expo hall, which featured for the first time an Indigenous Business Pavilion with 10 Indigenous companies and organizations from across Canada, supporting Canada's electricity transformation that will be important for many generations to come.

The conference's educational program doubled this year, including a full roster of thought-provoking sessions about today's utilities and ISOs, community engagement, supply chain, responsible land use, green-hydrogen potential, energy storage, unlocking corporate PPA possibilities, building Canada's clean electricity future, behind-the-meter solar, delivering electricity through a changing grid, permitting Canada's green transition, building Canada's renewable energy workforce, and cross-Canada markets and policy updates.

Attendees and exhibitors were welcomed by the chair of the Board of Directors of the Canadian Energy Association (CanREA), Jason Chee-Aloy, managing director of Power Advisory LLC, and with a blessing from Doreen Bergum, Region 3 Elder of the Metis Nation of Alberta, and a welcome from the mayor of Calgary, Jyoti Gondek, followed by opening remarks from Can-REA's president and CEO, Vittoria Belissimo, and a special keynote address by the Hon. Danielle Smith, premier of Alberta.

"As the annual conference of the Canadian Renewable Energy Association, ETC's educational program presents the latest innovations in wind energy, solar energy, and energy storage, looking even more broadly to the full



ETC 2023 attracted more than 2,500 attendees from across North America. (Courtesy: Electricity Transformation Canada)

transformation of the electricity sector in Canada," Bellissimo said.

A special networking event with the Canadian Francophonie was also on the agenda, as was a launch of Can-REA's new Clean Energy Jobs Canada website, aiming to help build Canada's renewable energy future.

"Electricity Transformation Canada continues to be a tremendous success," said Stephen Miner, president and CEO, RE+ Events. "Together, with our partners, we were once again able to deliver an outstanding event that has been valuable to the market in Alberta, as well as Canada as a whole. We look forward to returning next year."

Electricity Transformation Canada 2024 will be October 21-23, in Calgary, Alberta.

MORE INFO electricity transformation.ca

LiveDiligence platform calls for reboot of renewable market

Traditional approaches to due diligence, alongside fragmented knowledge management, are slowing down the flow of new capital into renewable energy projects worldwide, leading to missed opportunities for advisers delivering valuable expertise to their clients, according to LiveDiligence, a software platform that delivers insights to renewables investors and lenders.

The firm is calling for the renewable energy market to "reboot" its due diligence processes to ensure projects are financed and built at the rate needed to meet global growth targets.

"Historically we haven't seen a lot of cross pollination of ideas between due diligence advisers and the tech world, leading to a lack of innovation in the sector," said Joss Boxford, Chief Operating Officer, LiveDiligence. "Advisers haven't been offered compelling alternatives to the status quo, despite widely recognized deficiencies in the current tools and processes."

LiveDiligence has pinpointed four areas of focus for renewable energy due diligence advisors over the next five years:

▶ 1) Knowledge management: Those companies with institutional knowledge will consistently deliver higher value with fewer resources, and scale faster through efficient knowledge sharing and accelerated upskilling of new employees. Delivering insights derived from specialist knowledge

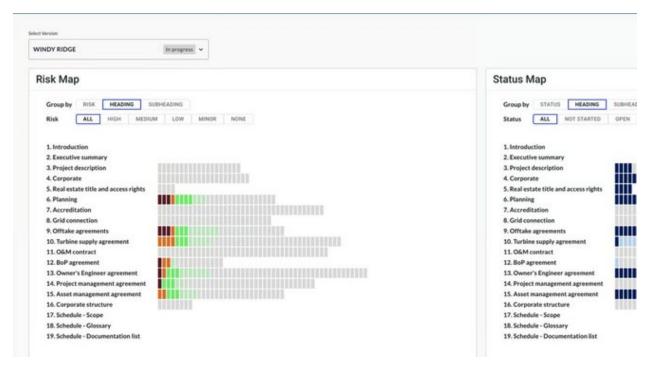
at speed and scale is vital to expedite clean-energy investment.

✓ 2) Client centricity: With more complex deals and shorter transaction time frames, traditional static deliverables, often delivered late in the day, will no longer cut it. Deal teams are demanding faster and earlier insights to critical issues and effective interactive collaboration with their full advisory team.

▼ 3) Emerging regulatory requirements: New requirements for climate risk assessment and other forms of ESG assessment will be increasingly high on the agenda of capital providers, bringing further complexity to the due diligence process.

Advisers have an opportunity to start on the front foot by adopting digital tools that can adapt to changing requirements, while simplifying the reporting process for clients.

▶ 4) Technological and market complexity: Investor scrutiny on emerging technologies such as storage, floating wind, and green hydrogen, coupled with new financing and offtake structures, are driving a focus on technical and financial risk management. The ability to support decision making will be a competitive advantage to advisers supporting the deployment of complex new projects.



New requirements for climate risk assessment and other forms of ESG assessment will be high on the agenda of capital providers. (Courtesy: LiveDiligence)

LiveDiligence has been designed to simplify the process of removing investment risk to speed up project financing and deployment, while preserving the specialist knowledge that experienced advisers bring.

The platform creates a collaborative, single source of truth for technical, legal, insurance, and financial due diligence providers – streamlining traditional due diligence processes.

To date, the platform has been used to support more than 400 renewable energy transactions, by more than 700 professionals across 170 different organizations.

MORE INFO www.livediligence.com

Vestas appoints new people and culture officer

Vestas recently appointed Anne Pearce to the position of chief people and culture officer. Beginning in January, Pearce will become executive vice president of people & culture and will join Vestas' executive management team.

Pearce comes from a position as vice president of human resources at Shell plc, one of the world's energy majors.

In the role, Pearce will lead the continued development of Vestas' P&C organization and efforts to attract, develop, and retain employees.

Prior to joining Shell, Pearce built



Vestas recently named Anne Pearce as its new chief people & culture officer. (Courtesy: LinkedIn) her international profile through HR leadership roles within industrial companies in North America, EU, and Asia Pacific.

"We're excited to welcome Anne to Vestas to lead People & Culture and take our P&C organization, services, and operations as well as leadership across

the company to the next level," said Henrik Andersen, Vestas President and CEO. "The energy transition requires us to have the right people at the right time and place and elevating our P&C organization further is key for us to create the organization and operations that allow us to grow sustainably in the future

Anne is a seasoned international profile that brings a wealth of experience from leading companies, including an energy major like Shell, and we look forward to having her on team Vestas."

"I am delighted to be joining Vestas as CPCO and excited to be part of the Vestas' journey to become the global leader in sustainable energy solutions," Pearce said. "I look forward to working closely with executive management and the People & Culture management team and organization on building Vestas' organizational capability and leadership to thrive in the energy transition." Pearce was born in New Zealand before moving to Australia and now lives in the United Kingdom.

Prior to joining Vestas, she had leadership positions in AXA, Bluescope Steel, ArcelorMittal, and Shell.

As part of joining Vestas, she will relocate to Denmark.

MORE INFO www.vestas.com

AMSOIL maintains EcoVadis silver medal

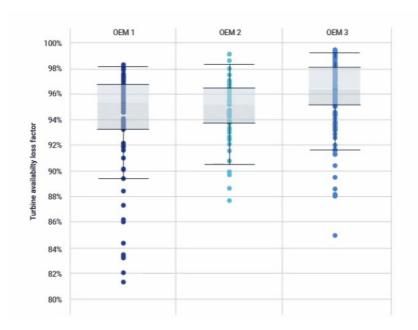
AMSOIL maintains its silver medal from EcoVadis, a leading evaluator of corporate sustainability. The EcoVadis assessment evaluates 21 sustainability criteria across four core themes: environment, labor and human rights, ethics, and sustainable procurement. AMSOIL was awarded a silver rating, an achievement earned by only the top 25 percent of more than 100,000 companies rated by EcoVadis worldwide.

"Ranking in the top 25 percent is an excellent accomplishment," said Dave Meyer, AMSOIL senior VP, Industrial Business. "We complete a thorough assessment of our business sustainability practices and environmental management systems on an annual basis. EcoVadis helps us identify areas where we are succeeding, and areas where there's room for improvement."

EcoVadis' ratings are based on international business sustainability standards, including the Ten Principles of the UN Global Compact, the International Labor Organization (ILO) conventions, the Global Reporting Initiative (GRI) standards and the ISO 26000 standard. The ratings provide an evidence-based analysis on performance and an actionable roadmap for continuous improvement.

The EcoVadis award indicates to partners and customers that AMSOIL is committed to evaluating and improving on environmental principles and long-term sustainability. The EcoVadis silver rating confirms the sustainability performance of AMSOIL. More than 100,000 businesses rely on EcoVadis to monitor and improve the sustainability performance of their business for environmental, social and ethical practices across 200 industry categories and 175 countries.

AMSOIL specializes in developing custom lubricants designed to achieve maximum protection, performance and efficiency in consumer and industrial applications. In 1972, AMSOIL



Clir Insight for Asset Development leverages 200 GW of data to improve technology selection and operation and ensures mitigation of risk. (Courtesy: Clir Renewables)

10W-40 Synthetic Motor Oil became the first synthetic motor oil in the world to meet American Petroleum Institute service requirements.

MORE INFO www.amsoilindustrial.com

Clir Renewables launches Insight for Asset Development

Clir Renewables, the market intelligence platform for wind and solar, has announced the launch of Clir Insight for Asset Development, a product that leverages 200 GW of data to improve technology selection and operation, and ensure mitigation of risk.

In an increasingly competitive market, developers are faced with a dynamic risk profile, considerable practical challenges, and uncertainty for successful execution of renewables projects. Leveraging more than 200 GW of industry operations and risk data, Clir's new offering supports developers throughout asset development to evidence major technology selection and contracting decisions, improve accuracy of energy yield loss assump-

tions, and guide future operations and maintenance strategies.

Clir Insight for Asset Development navigates equipment selection and contracting by identifying technical manufacturer issues, timelines for operational maturity, relative attritional loss risk by technology type, controllable availability by manufacturer, and expected loss factors given site conditions.

Site loss factors and production vary by region and manufacturer, affecting energy yield loss assumptions. By employing new technologies with access to environmental and extreme weather data, grid and technology availability, degradation metrics, trends in equipment failure rates and repair intervals, and sub-optimal performance, developers can gain access to bespoke, accurate, and extensive market intelligence to ensure greater certainty in their financial and operational decision-making.

By leveraging data for accurate assumptions, renewables developers are able to create a more transparent and reliable project trajectory. This can support them in the process of securing the necessary initial funds for project construction, while ensuring positive



The Crowley enterprise has invested more than \$3.2 billion in maritime transport. (Courtesy: Crowley)

returns on investment in the operational phase.

"Clir Insight for Asset Development builds upon our existing product line, creating unparalleled insights for pre-construction and early operational projects," said Craig McCall, Clir Renewables chief revenue officer. "By arming developers with over 200 GW of industry data, we provide

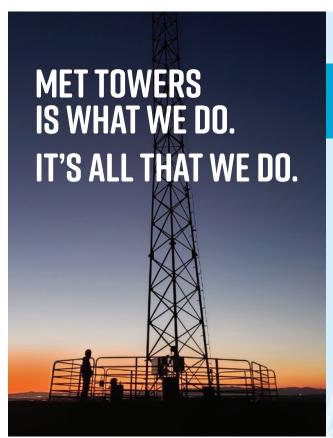
direct comparisons between existing technologies and strategies, giving clients the precise guidance they need to confidently design, build, and operate their assets. This enables improved decision-making to maximize project returns."

Clir accelerates renewable energy production, improving the economics of projects and ultimately reducing the human impact on the planet by further incentivizing the shift away from fossil fuels. Founded in 2017, the company works with renewable energy investors and their asset managers across Europe, Africa, the Americas, and Asia.

MORE INFO www.clir.eco

Crowley praises Humboldt marine terminal grant

Crowley, a U.S.-owned and operated maritime, energy, and logistics solu-



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tions company, praised the announcement of a nearly-\$8.7 million federal grant to secure funding for the Humboldt Heavy Lift Marine Terminal for offshore wind. This grant provides funds to progress the project to "shovel ready" status including design and permitting preparation costs.

"With the help of the Port Infrastructure Development Program grant secured by the Humboldt Bay Harbor District, Crowley looks forward to advancing our collaboration in the development of the Humboldt Heavy Lift Marine Terminal in close collaboration with the Harbor District, County, Tribal Nations, and other key organizations and stakeholders," said Bob Karl, senior vice president and general manager, Crowley Wind Services. "We also thank U.S. Rep. Jared Huffman for his support of the project. We are thrilled to have supported the Harbor District in the grant process. This marks another milestone in our path toward giving the county, state, and the nation a new source of energy that respects the environment and reduces greenhouse gas emissions. We take the great responsibility of delivering sustainable and positive economic impact for this community to heart."

Crowley serves commercial and government sectors with \$3.4 billion in annual revenues, more than 170 vessels mostly in the Jones Act fleet and approximately 7,000 employees around the world — employing more U.S. mariners than any other company. Crowley serves customers in 36 nations and island territories through five business units: Crowley Logistics, Crowley Shipping, Crowley Government Solutions, Crowley Wind Services, and Crowley Fuels.

MORE INFO www.crowley.com

MET Group hires new CEO adviser

Swiss-based energy company MET Group has hired Alexander Alting von Geusau as adviser to the group CEO.



MET Group has hired Alexander Alting von Geusau as Group CEO adviser. (Courtesy: MET Group)

In this newly created role, he will be a member of the executive board of MET Holding and report directly to MET Group's chairman and CEO, Benjamin Lakatos.

Alexander Alting von Geusau is an accomplished corporate finance executive with more than 25 years of experience across Asia and Europe.

Von Geusau has been managing director utilities and renewable since 2003 at ING Bank in London and played a role in various sector projects in the context of energy transition developments. In his capacity as Global Head for the Utility Sector at ING, he was responsible for the management of a multi-billion-euro lending portfolio and led numerous strategic transactions for most major utilities.

Von Geusau joined ING in 1997 in the project and structured finance department in Singapore, then moved to Corporate Finance in Hong Kong in 1999 to become the head of the utilities sector in Asia.

Prior to joining ING, he worked for 10 years as a corporate lawyer in an international law firm in Singapore, Rotterdam, and New York. He holds a Master of Laws degree from Leiden University in the Netherlands.

MET Group is an integrated European energy company, headquartered in Switzerland, with activities and assets in natural gas and power markets. MET is present in 15 countries through subsidiaries, 30 national gas markets, and 22 international trading hubs. MET has extensive experience in operating green (renewable) and flexible (conventional) energy assets, thus providing the widest possible support to energy transition. In 2022, MET Group's consolidated sales revenue amounted to 41.5 billion euros, with a total traded volume of natural gas amounting to 109 BCM and total traded electricity of 67 TWh.

MORE INFO www.met.com

Oceantic Network hosts Ventus Award gala

The Oceantic Network (formerly Business Network for Offshore Wind), in partnership with Recharge, hosted its annual Ventus Gala in Boston November 9, honoring former Bureau of Ocean Energy Management Director Amanda Lefton and the 2023 Ventus Award finalists. The Ventus Gala is the offshore wind's premier celebration, bringing together the industry to celebrate the year's accomplishments, connect with peers, and honor those moving the industry forward.

The 10 categories, selected based on their significant contributions to the offshore wind industry, range from supply chain and workforce develop-



Former BOEM director Amanda Lefton was presented the Heronemus Award for Outstanding Achievement in Offshore Wind. (Courtesy: Oceantic Network)



ZTZ creates cloud-enabling server solutions that help the world's leading companies turn their ideas into realities. (Courtesy: ZTZ Services)

ment to engineering and technical innovation. Finalists' projects include digital tools, engineering solutions, and targeted initiatives to advance the industry and its supply chain.

This year, the Heronemus Award for Outstanding Achievement in Offshore Wind was presented to former Bureau of Ocean Energy Management (BOEM) Director Amanda Lefton for her work to streamline the federal permitting process and accelerate offshore wind development during her tenure at BOEM from 2021-2023.

"The Ventus Gala is a celebration of the offshore wind industry's collective achievements over the past year—and there's a lot to celebrate in 2023, from the first turbine blades in the sky to new vessel announcements and a series of supply chain firsts," said Liz Burdock, founder and CEO of Oceantic Network. "It's also a time for us to come together to recognize the groundbreaking work being done by individuals, companies, and organizations to push our industry forward."

A portion of all Gala ticket and table

sales went toward funding the Rising Star Offshore Wind Scholarship, which awards college-bound high school seniors who are interested in pursuing a career in offshore wind with funding toward tuition.

MORE INFO www.oceantic.org

ZTZ Services opens new HQ in Florida

ZTZ Services International had its ribbon cutting, reception, and open house at its new world headquarters December 15 in north Miami, Florida. The new ZTZ World Headquarters provides modern conference space for meetings and classroom training, space for additional production lines to meet the growing demand for its products, and a secure space for a planned monitoring operations center serving clients in the electric utility industry.

"On December 15, we will launch a new building not just with modern fa-

cilities but as a launch pad for further growth well into the future," said Daniel Berler, ZTZ CEO. "This new facility includes ample parking, is handicap accessible, and is well located near two international airports, making it easier for our clients."

ZTZ is a world leader for on-line continuous diagnostic monitoring for electric utility equipment- primarily high-voltage substation transformers and related high-value transmission assets. ZTZ serves utility clients in North America, Europe, China, and former Soviet states.

In addition to traditional electric utility clients, ZTZ also serves many renewables (solar & wind) operators and operators of data centers. ZTZ systems provide the same benefits to all, reduction of failure risk.

Transformer failure interrupts electric power to customers, can cause vast environmental damage, and cost operators millions of Dollars in unnecessary replacements. λ

MORE INFO ztsystems.com/zt-services