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Electrical Generation | Evergy buys 199 MW Oklahoma wind farm for \$250MM

Electrical Generation | Denham realizing 2015 Nexif investment via \$605MM sale

Fuel & Heating | ReNew plans \$8B project in Egypt, gets \$1.B for 1.3 GW in India

Fuel & Heating | Fuel cell firm Bloom raises over \$388MM in NYSE offering

Energy Storage | Zinc battery maker Eos closes term loan to grow manufacturing

Materials & Services | Ormat's product backlog triples with \$100MM in new contracts

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Iberdrola advances U.K. hydrogen, starts up solar farm in Spain

Spanish utility Iberdrola revealed a new hydrogen project and construction of an offshore wind farm in the U.K. as well as completion of a Spanish solar farm it says is the largest in Europe in a series of announcements Aug. 9-11. The green hydrogen project will be located at the Port of Felixstowe, the largest freight port in the U.K., with capacity to produce 14,000 tonnes annually. First production is anticipated in 2026 from the first phase, which is expected to cost €170 million (\$176 million).

Green hydrogen project will be able to produce 14,000 tonnes per year.

Covering 2 brownfield acres within the port, the plant will supply hydrogen to vehicles and machinery used there, as well as trains transporting goods to and from Felixstowe. Iberdrola said the plant's capacity could be doubled in the future and it could also potentially be used to produce green ammonia or ethanol for the shipping industry or for export to other markets. The company's U.K. subsidiary ScottishPower will develop the project together with Hutchison Ports, the owner of the port. [Read more...](#)

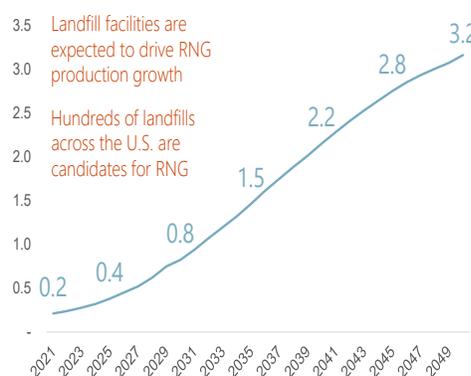
KMI gallops into RNG with two acquisitions totaling \$490MM

Kinder Morgan Inc. is accelerating its venture into renewable natural gas, which began with the acquisition of Kinetrex Energy a year ago. In its Q2 earnings release July 20, the U.S. midstream giant said it bought three landfill gas facilities from Mas CanAm LLC for \$355 million. Then on Aug. 11 it said it purchased North American Natural Resources and its sister companies, North American Biofuels LLC and North American-Central LLC, for \$135 million.

NANR and its affiliates bring with them seven landfill gas-to-power facilities in Michigan and Kentucky, up to four of which KMI intends to convert into RNG facilities with \$175 million in capex. KMI said it will soon make an FID on the conversions, which should enter service by early 2024. Once complete, the facilities are expected to generate 2 Bcf of RNG annually, or about 5.5 MMcf/d. The remaining three NANR gas-to-power facilities, projected to produce 4.8 MWh in 2023, will diversify KMI's renewable portfolio by adding electricity generation to its landfill gas operations. KMI expects the investment to be accretive to its shareholders, as the four converted RNG facilities will become operational over the next 18 months and the purchase price and additional development capex represent less than six times the expected 2024 EBITDA. [Read more...](#)

Kinder Morgan Sees Growth Potential in RNG

U.S. RNG PRODUCTION bcf/d



KM LANDFILL-RNG FACILITIES

- 2.2 bcf capacity already operational (1.8 bcf net to KM interest)
 - Recently acquired 1.4 bcf Arlington facility; potential to grow the facility to 2 bcf over the next decade without much capex
- 5.5 bcf of additional capacity under development
 - 3 Indiana facilities under construction; total annual capacity of 3.5 bcf online by year-end 2023
 - Converting 4 gas-to-power facilities in Michigan and Kentucky to 2.0 bcf of RNG capacity; operational by early 2024
 - \$331 million development capex for the 7 facilities
- Expect <6x 2024 Adj. EBITDA based on ~\$1.1bn total investment
- Current RNG offtake is contracted with high-quality counterparties in the transportation market
- Because the gas is sold into the transportation market, we also generate RINs which are sold to obligated parties (like refiners)

FUTURE DEVELOPMENTS

- RNG-dedicated team is focused on pursuing new projects to expand RNG platform
- Plan to mitigate exposure to RIN volatility over time through fixed-price contracts as voluntary market develops

7.7 bcf of RNG reduces emissions by 4.3 million metric tonnes CO₂e per year, equivalent to:



Source | Kinder Morgan 08/11/22 presentation via Enverus docFinder

Activity Index

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Apple	Apple inks PPA for electricity from wind farm in Queensland	Electrical Generation	9
Archer Ltd.	Drilling firm Archer invests in Icelandic geothermal business	Materials & Services	20
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Electrical Generation

Shell closes \$1.55B Sprng buy, tripling renewables capacity

Shell has closed its \$1.55 billion acquisition of Solenergi Power Private Ltd. and its Sprng Energy group of companies from Actis Solenergi Ltd. Sprng Energy supplies solar and wind power to distribution companies in India. Its portfolio consists of 2.9 GW of assets—2.1 GW operating and 0.8 GW contracted—with a further 7.5 GW of renewable projects in the pipeline.

The deal, announced in late April, extends the supermajor’s renewable energy footprint into India and triples its operational renewables capacity. Excluding Sprng’s assets, Shell has 1 GW of renewable generation capacity in operation, 4.7 GW under construction or committed for sale, and 38 GW of future projects in the pipeline. SPPL, incorporated in Mauritius, is the direct shareholder of Sprng Energy, which is based in Pune, India. Sprng Energy will retain its existing brand and operate as a wholly owned subsidiary of Shell.

Subject to closing adjustments, about half of the \$1.55 billion deal value will be reported as cash capex and the remainder assumed as debt obligations, according to Shell’s statement. The supermajor said the transaction will help it deliver its Powering Progress strategy, announced in February, an important part of which is to develop an integrated power business that will allow Shell to reach its target of becoming a profitable net zero emissions energy business by 2050.

JSW gobbles up 1.75 GW of Indian renewables for \$1.3B

JSW Neo Energy, the renewables subsidiary of Mumbai, India-based power company JSW Energy Ltd., agreed to acquire U.K.-based Mytrah Energy’s 1.75 GW of renewable generation capacity. The transaction is valued at INR 105.3 billion (\$1.32 billion), the largest acquisition in JSW Energy’s 28-year history.

Operating primarily in the southern, western and central parts of India, the Mytrah portfolio consists of 10 wind-focused special-purpose vehicles with combined generation capacity of 1.33 GW and seven solar SPVs with a combined 422 MW. The assets increase JSW’s operational capacity by more than 35%, are supported by long-term power purchase agreements and have an average remaining life of 18 years.

The acquisition increases JSW’s operational capacity by 37% to 6.54 GW, although the company has a long distance to go to reach its 2030 target of 20 GW. JSW also has about 2.5 GW of wind and hydroelectric projects under construction and likely to be commissioned in phases over the next 18-24 months, which should increase its capacity to about 9.1 GW with renewables making up 65% of generation.

JSW signed an exclusivity pact in May to acquire Mytrah’s assets. The transaction requires the approval of the Competition Commission of India.

Evergy buys 199 MW Oklahoma wind farm for \$250MM

Evergy Inc., a NYSE-traded power provider to 1.6 million customers in Kansas and Missouri, is acquiring the Persimmon Creek wind farm from developers Scout Clean Energy and Elawan Energy for \$250 million. The wind farm covers 17,000 acres in Dewey, Ellis and Woodward counties, Oklahoma, and began commercial operations in 2018. It has a total installed capacity of 199 MW, consisting of 80 General Electric turbines. Electricity generated by the wind farm will serve customers in Evergy’s service area.

About half of Evergy’s generation capacity comes from renewable sources. Colorado-based Scout Clean Energy is backed by Quinbrook Infrastructure Partners and has more than 1.2 GW of operational assets and a development pipeline of over 15 GW in the U.S. Elawan, a part of the Orix Group, has 1.1 GW of operational renewable assets globally and 11 GW under development.

Residential solar company Sunnova raises \$600MM

Sunnova Energy International Inc. completed the sale of \$600 million aggregate principal amount of 2.625% convertible senior unsecured notes due 2028 with institutional buyers. The total included the full exercise of a 13-day overallotment option for \$100 million that was granted to initial buyers. The Houston-based “energy as a service” company, which provides residential solar services, realized net proceeds of \$584.6 million from the private placement.

Each \$1,000 of the notes will convert into 29.2039 Sunnova common shares, equal to about \$34.24 per share. The notes may also convert to cash or a combination of cash and shares.

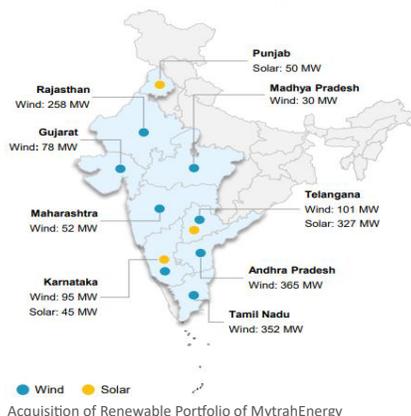
Sunnova will use the net proceeds for working capital, operating expenses, capex and debt repayment. Around \$40.4 million of the proceeds paid for capped call transactions, which Sunnova entered with certain of the notes’ buyers to reduce potential dilution to its shares once the notes are converted.

Sunnova and its subsidiaries had nearly \$4 billion in long-term debt outstanding at the end of Q2.

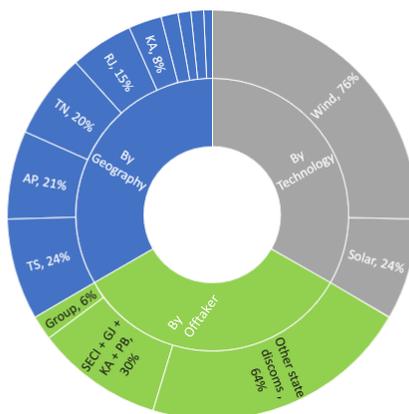
Mytrah's RE Portfolio Overview

Geographical Spread of Mytrah Portfolio

Total: 1,753 MW



Mytrah Portfolio Overview



Source | JSW Neo Energy 08/10/22 presentation via Enverus docFinder

Electrical Generation

Innergex signs 320 MW, 30-year PPA with PacifiCorp

Independent renewable power producer Innergex Renewable Energy has signed a power purchase agreement to supply utility PacifiCorp with electricity produced from the Boswell Springs wind project in eastern Wyoming. The agreement will cover 320 MW of generation capacity for a 30-year term.

Boswell Springs is expected to cost \$544 million to build and is scheduled to begin commercial operations in 4Q24. It was selected in response to a competitive solicitation in PacifiCorp's 2020 all-source request for proposals and is expected to benefit from 100% of the U.S. production tax credits, Innergex said. The project is anticipated to generate operating cash flow of \$22.6 million annually and another \$39.2 million from production tax credits, which is indexed to inflation.

Innergex has 84 operational facilities across Canada, the U.S., France and Chile with combined net installed capacity of nearly 3.5 GW (4.2 GW gross) and energy storage capacity of 159 MWh. The company also holds interests in 13 projects under development or construction, with 731 MW of net installed capacity and 745 MWh of energy storage capacity. It has another 7.5 GW of prospective projects under different stages of development.

Boswell Springs wind to cost \$544MM and begin operations in 4Q24.

Innergex's Chile portfolio refi has \$710MM in green bonds

The refinancing of some of Innergex Renewable Energy's Chilean assets involved the issuance of \$710 million aggregate principal amount of 14-year green bonds, which underwriter SMBC Nikko calls one of the largest private placements in Latin America's recent history. In all, Innergex, a Quebec-based hydroelectric, solar and wind operator, refinanced \$801 million of non-recourse debt attached to certain Chilean assets with the green bonds and a \$93.1 million letter of credit facility.

Part of proceeds used to fund \$686MM Aela wind acquisition in June.

About \$176.2 million of the proceeds were used to help fund the \$685.6 million acquisition of Aela Generación S.A. and Aela Energía SpA and their 332 MW portfolio of three new wind farms in Chile, which closed June 9. Aela was a JV of U.K. infrastructure investor Actis and Ireland's Mainstream Renewable Power Ltd. The three wind farms, called Sarco, Aurora and Cuel, sell power through two agreements with 25 Chilean distributors.

Though neither SMBC Nikko nor Innergex disclosed a coupon for the green bonds, Innergex reported earlier in August that the bond's pricing was tied to forward start interest rate swaps from February but settled in July. The bonds will have a \$139 million balloon payment. CIBC joined SMBC as underwriter of the green bonds.

Innergex also used \$548.7 million of the refi proceeds to repay existing debt related to the portfolio, while \$72.6 million will finance all development activities for the battery energy storage system being built next to its 68 MW Salvador solar facility. In addition to the three Aela wind farms and Salvador, the portfolio of refinanced assets includes the 50.6 MW San Andrés solar farm and the 18 MW Licán, 55 MW Mampil and 85 MW Peuchén hydroelectric facilities. Innergex owns other assets in Chile that were not refinanced.

BlackRock & Mubadala invest in Tata's renewables business

BlackRock Real Assets and Abu Dhabi sovereign fund Mubadala Investment Co. are new investors in Indian conglomerate Tata's renewable energy business. Their joint investment vehicle GreenForest New Energies Bidco Ltd. bought the first of two planned equity tranches in Tata Power Renewable Energy Ltd. that will cost a combined INR 40 billion (\$502.4 million).

In the first tranche, GreenForest bought 83.6 million shares for INR 239.22 each, or INR 20 billion. The second tranche—in six months—will involve the issuance of compulsory convertible preference shares at INR 100 each. When first agreed upon in April, the GreenForest investment for a total 10.53% stake gave the Tata renewable energy business, run by Tata Power Co. Ltd., an implied valuation of INR 340 billion (\$4.27 billion). The final GreenForest stake will represent somewhere in the 9.76-11.53% range upon final conversion.

Tata Power Renewables has assets generating 4.9 GW and a 25-year power purchase agreement for grid-connected large-scale projects. Its goal is 20 GW in the next five years. The investment will enable the business to create "India's most comprehensive renewable energy platform," working with various solar, wind, hybrid, engineering and electric vehicle products and technologies.

Pivot acquiring community solar developer SGC Power

Renewable energy company Pivot Energy is acquiring SGC Power, a Maryland-based community solar developer. Pivot said the transaction will result in substantial future growth and will enable SGC, which will continue to operate as a business unit under Pivot, to enter new markets and increase value to property owners. The company added that the larger team will also allow it to better scale greenfield development, add product offerings and expand its national footprint.

SGC Power has been involved in more than 285 community solar projects with over 2.8 GW of capacity across 31 states and territories since its inception in 2008. Community solar projects typically range in size from 0.5 MW to 10 MW and connect to a community's existing electrical grid. Businesses, municipalities and residents can subscribe to the project instead of installing solar on their own properties, with solar credits offsetting their electric bills.

Pivot develops, finances, builds, owns and manages solar and energy storage projects. It also offers a distributed energy platform that includes a range of services and software. The company has been involved in 975 projects since its founding in 2009, according to its website.

Electrical Generation

Greenbacker brings online 104 MWdc/80 MWac solar farm in Utah

Greenbacker Renewable Energy Co. has begun commercial operations at the Graphite solar project in Carbon County, Utah. With capacity of 104 MWdc or 80 MWac, Graphite is the first operational project for developer rPlus Energies, which sold the project to Greenbacker in late 2020. It was built by EPC contractor Sundt Renewables, including the installation of 1.5 miles of transmission lines and nearly 260,000 solar modules.

PacifiCorp, an Oregon-based utility, has a long-term power purchase agreement in place for electricity from the project on behalf of Meta, the parent company of Facebook. The PPA was developed under PacifiCorp subsidiary Rocky Mountain Power's Schedule 34 green energy tariff, which helps large energy consumers source renewable energy, rPlus Energies said. Graphite Solar is delivering its power to Meta's nearby data center in Eagle Mountain, Utah.

BofA steps up with tax equity commitment for Iowa wind farm

Bank of America has provided a tax equity commitment for an undisclosed sum to Apex Clean Energy to finance the 224 MW Great Pathfinder wind project in Boone and Hamilton counties, Iowa. The project, which will use 66 turbines, is under construction and aiming for completion in Q4. Apex has an agreement to sell all Great Pathfinder power to Meta Platforms, its fifth such power purchase deal with the parent of Facebook.

Charlottesville, Virginia-based Apex completed financing construction for Great Pathfinder in May with Santander, SMBC and BofA. Apex is majority owned by alternative investment manager Ares Management Corp., which had about \$334 billion of assets under management as of June 30.

Buckeye's solar projects to supply 165 MW to LyondellBasell

Pipeline products operator and renewable energy developer Buckeye Partners LP has signed two power purchase agreements to supply electricity to LyondellBasell. The chemical company will source 165 MW from two Buckeye-owned solar farms currently under construction in Falls County, Texas. The Crown and Sol solar projects are expected to begin commercial operations in 3Q23. LyondellBasell said they will generate about 400 GWh of energy annually for the company, offsetting 152,000 tonnes per year of CO2 emissions, under 15-year terms.

LyondellBasell aims to procure half of its electricity consumption, or about 5 TWh, from renewable sources by 2030. Including the new Buckeye agreements, it has signed four PPAs covering 381 MW of capacity, generating over 1 TWh annually. The previous agreements were signed in June with Engie North America for 100 MW and Buckeye for 116 MW.

Canadian Solar sells ready-to-build U.K. solar & BESS projects

London-based alternative asset manager Gresham House acquired two fully permitted, construction-ready projects in the U.K. from Canadian Solar Inc.: a collocated 50 MW solar and 38 MW/76 MWh battery energy storage project in Durham and a standalone 28 MW solar project in Warwickshire. Canadian Solar will continue to be responsible for long-term operations and maintenance once the projects are built. It said both projects are subsidy-free, consistent with the remainder of its U.K. development pipeline. Canadian Solar did not say when the projects are expected to begin commercial operations.

The Durham project is the first with both solar photovoltaic generation and battery storage in the U.K. and the second acquired by Gresham House, whose new energy business invests in battery storage, solar and wind projects and has 700 MW of operational capacity in the U.K. Canadian Solar has developed and built 200 MW of renewable energy capacity in the U.K. and has 1.8 GW of solar and 4.3 GWh of battery storage projects under development.

Denham realizing 2015 Nexif investment via \$605MM sale

Global energy investor Denham Capital will realize its seven-year investment in Nexif Energy for \$605 million, selling the company's 2.7 GW portfolio of clean energy assets in Australia and Southeast Asia to Thai power company Ratch Group plc. Among the assets are 1.3 GW of capacity expected to be in operation and under construction by next year, and a 1.4 GW additional pipeline of projects in various stages of development. About 500 MW of capacity is currently operational or in the process of being installed, according to Denham.

Trace Capital Management to focus on energy infrastructure, upstream & low carbon.

In addition to Australia, the assets are in Vietnam, the Philippines and Thailand. The enterprise value of Nexif's portfolio exceeds \$1 billion, based on the sum that Ratch will pay for the assets.

Denham said Nexif and Ratch will work together to manage and continue to grow the portfolio through a new JV following completion of the transaction. The Nexif sale is Denham Sustainable Infrastructure's seventh platform exit.

The global energy investor recently announced the formation of Trace Capital Management, which will focus on investing in energy infrastructure, upstream oil and gas and low- or no-carbon assets and businesses. Trace will start out managing over \$1.4 billion of capital in two funds started by Denham. The portfolio comprises 11 active investments including Rushmore Resources, Rockies Resources, Canes Midstream and BANGL Pipeline.

Houston-based Trace will be led by the Denham Capital Energy Resources leadership team of Jordan Marye, Stu Porter, Geer Blalock, Steven Smith, James Obulaney and Anil Pillai. The team has managed more than \$2.9 billion in total committed and invested capital and 26 investment platforms over a 10-year period. Marye, a managing partner, indicated that Trace will be emphasizing the low-carbon segment of the energy industry.

Global Renewables Investment by Region



Renewables Investment by Source

Renewables investment is growing rapidly, driven by government support and falling costs. The global renewable energy investment reached \$1.5 trillion in 2018, up from \$1.1 trillion in 2013. This growth is primarily due to increased investment in wind and solar power, which have seen significant cost reductions over the past several years. China and the United States remain the largest markets for renewable energy investment, with China leading in wind and solar, and the US leading in wind and hydro. Other major markets include Europe, India, and Brazil. The investment in renewables is expected to continue to grow, reaching \$2.5 trillion by 2025.

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Renewables Pulse is a comprehensive report that provides a detailed overview of the global renewable energy market. It covers a wide range of sectors, including solar, wind, hydro, and geothermal, and offers insights into market trends, key players, and emerging technologies. The report is designed to be a valuable resource for industry professionals, investors, and policymakers alike.

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Executive Summary

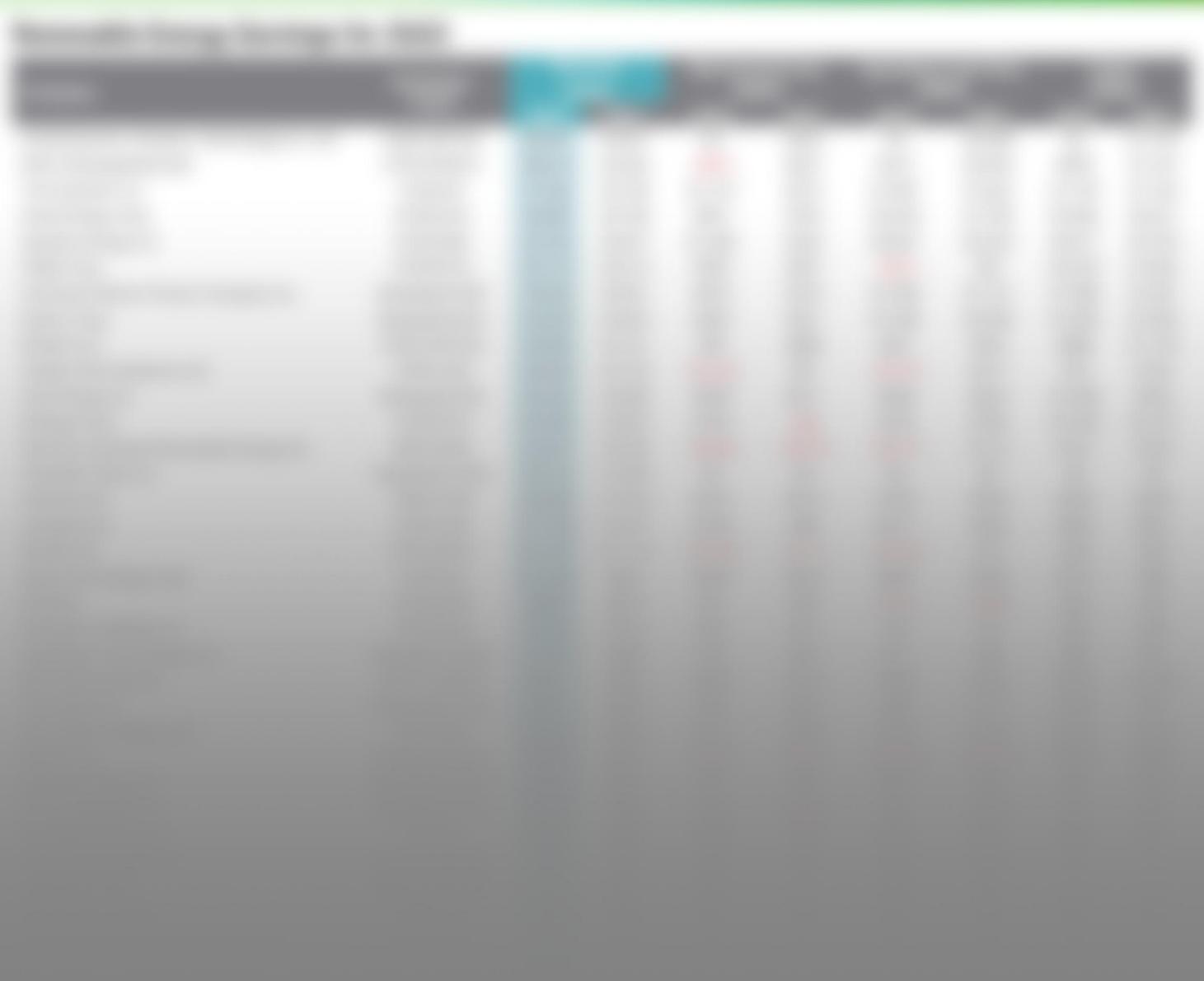
The global renewables market continues to show strong growth, with significant investment in solar and wind energy. Key highlights include the launch of new renewable energy projects and the expansion of existing operations. The market is expected to continue its upward trajectory in the coming years.

Global Renewables Activity

Global renewable energy capacity is projected to reach 10,000 GW by 2025, up from 5,000 GW in 2015. This growth is driven by increasing government support and falling costs of renewable energy technologies. The market is expected to continue its upward trajectory in the coming years.

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Renewables Pulse

Renewables Pulse is a comprehensive report that provides a detailed overview of the global renewable energy market. It covers a wide range of topics, including solar, wind, hydro, and geothermal energy. The report is designed to provide investors, analysts, and industry professionals with the latest information on market trends, key players, and future outlook.

The report is divided into several sections, each focusing on a different aspect of the renewable energy market. These sections include:

- Global Renewable Energy Market Overview
- Regional Market Analysis
- Key Players and Companies
- Market Trends and Outlook
- Investment Opportunities

Renewables Pulse is a must-read for anyone interested in the renewable energy industry. It provides a comprehensive and up-to-date overview of the market, helping you to make informed decisions and stay ahead of the competition.

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Executive Summary

Renewables Pulse provides a comprehensive overview of the global renewable energy market, including key trends, challenges, and opportunities. The report covers a wide range of sectors, from solar and wind to hydro and geothermal, and offers insights into the latest developments in the industry.

Global Renewable Energy Market Outlook

The global renewable energy market is expected to continue its rapid growth over the next several years, driven by increasing government support, technological advancements, and rising awareness of the need for sustainable energy. Key factors influencing the market include policy changes, investment trends, and the integration of renewable energy into the existing power grid.

Key Market Drivers and Challenges

Key drivers of the renewable energy market include government incentives, such as tax credits and grants, as well as the growing demand for clean energy from both residential and commercial sectors. However, challenges such as intermittency, grid integration, and high initial costs remain significant barriers to widespread adoption.

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Global Renewable Energy Investment (USD Billion)

Year	2015	2016	2017	2018	2019	2020
Renewables	1,100	1,200	1,300	1,400	1,500	1,600
Wind	300	350	400	450	500	550
Solar	200	250	300	350	400	450
Hydro	400	400	400	400	400	400
Geothermal	10	10	10	10	10	10
Bioenergy	10	10	10	10	10	10
Other	10	10	10	10	10	10

Global Renewable Energy Capacity (GW)

Year	2015	2016	2017	2018	2019	2020
Renewables	1,000	1,100	1,200	1,300	1,400	1,500
Wind	300	350	400	450	500	550
Solar	200	250	300	350	400	450
Hydro	400	400	400	400	400	400
Geothermal	10	10	10	10	10	10
Bioenergy	10	10	10	10	10	10
Other	10	10	10	10	10	10

Renewables Pulse is a comprehensive report that provides a detailed overview of the global renewable energy market. It covers a wide range of topics, including market trends, investment activity, and policy developments. The report is designed to provide readers with a clear and concise understanding of the current state of the market and the challenges and opportunities ahead.

The report is divided into several sections, each focusing on a different aspect of the market. This includes a detailed analysis of the global market, as well as regional and country-specific insights. The report also provides a comprehensive overview of the various renewable energy technologies, including wind, solar, hydro, and geothermal.

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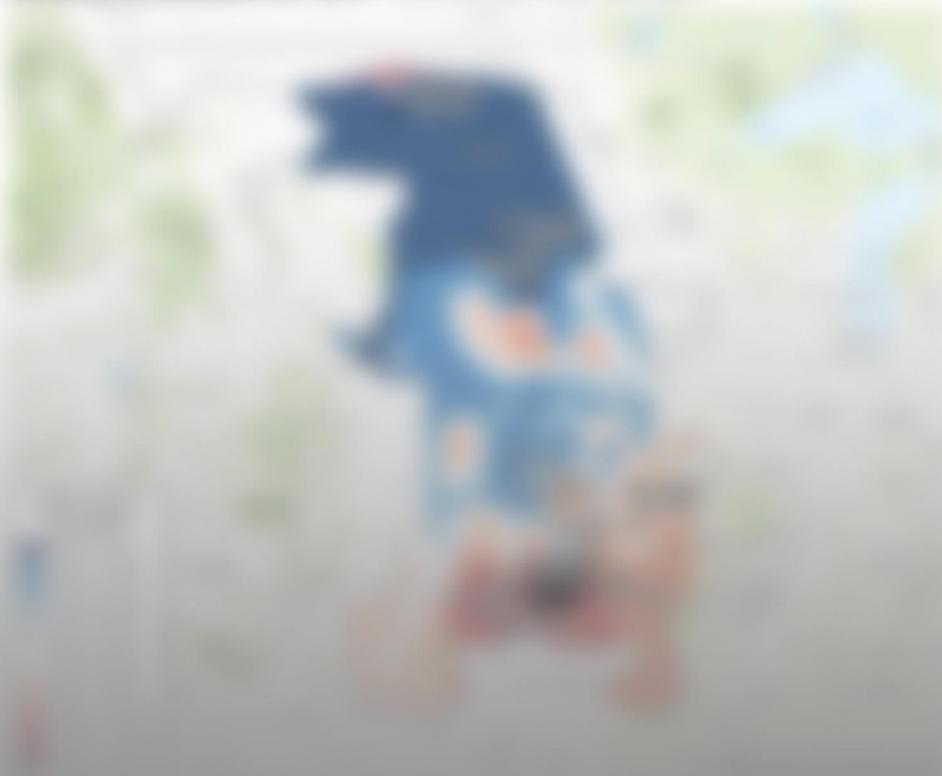
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Renewables Pulse is a comprehensive report that provides a detailed overview of the global renewable energy market. It covers a wide range of topics, including solar, wind, hydro, and geothermal energy. The report is designed to provide investors, analysts, and industry professionals with the latest information on market trends, key players, and emerging technologies. It is a valuable resource for anyone looking to stay up-to-date on the renewable energy industry.

The report is divided into several sections, each focusing on a different aspect of the renewable energy market. It includes a detailed analysis of the global market, as well as regional breakdowns for North America, Europe, and Asia. The report also covers the latest developments in renewable energy technology, including solar panel efficiency, wind turbine design, and energy storage solutions. It is a comprehensive and up-to-date resource for anyone interested in the renewable energy industry.

Renewables Pulse is a must-read for anyone looking to stay up-to-date on the renewable energy market. It provides a comprehensive overview of the market, including key players, market trends, and emerging technologies. The report is designed to provide investors, analysts, and industry professionals with the latest information on the renewable energy market. It is a valuable resource for anyone looking to stay up-to-date on the renewable energy industry.

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