

# Denmark moves forward on North Sea 'energy island'



AFP/ Copenhagen

Denmark has said that it has approved plans to build an artificial island in the North Sea that could generate wind power for at least 3mn households.

Parliament in June adopted a political environmental framework aimed at reducing the country's CO2 emissions by 70% by 2030, which included plans for the world's first "energy hubs" on the island of Bornholm in the Baltic Sea and in the North Sea. On Thursday, parliament went further by approving a plan to place the North Sea hub on an artificial island, with a wind power farm that will initially supply 3GW of electricity.

That could later be scaled up to 10GW – enough for 10mn households – according to the ministry of climate, energy and utilities, much more than needed for Denmark's population of 5.8mn.

"Clearly this is too much for Denmark alone and this also why we see this as a part of a bigger European project," Climate Minister Dan Jorgensen told AFP, adding that Denmark wanted to

also export excess energy to the rest of Europe.

Plans also include the use of “electrolysis” to extract hydrogen for use in the production of renewable fuels for things like maritime transport.

The island, “the largest construction project in the history of Denmark”, is to be majority owned by the Danish government in partnership with private companies and is expected to cost around 210bn Danish kroner (\$34bn, €28bn).

Rather than a traditional offshore wind power farm, the island will function as an “energy hub” allowing connections from other countries’ wind power farms and cables to efficiently distribute the incoming energy.

Its final size is yet to be decided but it is expected to cover between 120,000-460,000sq m, according to the ministry.

The total number of wind turbines has not been finalised either, but estimates range between 200 and 600 units at “a previously unseen scale”, with the tip of the blades reaching as high as 260m (850’) above the sea.

While the project is a step in the plan to provide enough energy to electrify Denmark, Jorgensen also said they hoped the project could offer guidance for bigger countries looking to transition their societies in the face of climate change.

“We know that as a small country, only responsible for about 0.1 percent of the world’s greenhouse gas emissions, it doesn’t matter that much to the climate what we actually do in Denmark,” he said. “We hope that it will have a bigger influence by influencing others.”

The project’s next steps include environmental impact assessments and talks with potential investors, so construction is still some years off.

According to the ministry, initial construction is likely to begin around 2026 and finished sometime between 2030 and 2033.

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# Solar Stocks Have Been Thriving—Here's Why That Could Continue



The solar industry has been on a tear. Several stocks in the sector hit all-time highs last month. Investors seem eager for more solar companies to go public. But is this surge more sustainable than prior booms?

Earlier boom times ended painfully. Several renewables companies went public in 2014 and 2015—or spun off their operating power-plant units—amid a clean-tech wave. But the collapse of SunEdison Inc.—the world's largest renewables company before its 2016 bankruptcy—stung the solar industry. Some investors began prioritizing profitability over growth. No solar companies went public in the U.S. between late 2016 and early 2019, according to Bloomberg data.

Now, clean-tech companies are going public at a dizzying pace. Since October, at least two solar companies have gone public via initial offerings and another agreed last month to do so

through a merger with a blank-check company. They join several electric-vehicle and battery companies that have also gone public with special purpose acquisition companies. There have been 32 clean-tech SPAC deals over the past 12 months, according to Pavel Molchanov, an equity analyst at Raymond James.

One big reason: It became clear early in the pandemic that solar wouldn't just weather this difficult time, but possibly thrive during it. By mid-December, the U.S. was projected to install a record 19 gigawatts of new solar capacity last year, according to Wood Mackenzie and the Solar Energy Industries Association. Meanwhile, a sustainability-focused index that includes some solar companies, the WilderHill Clean Energy Index, last year surged more than 200%, topping the 58% gain in 2019. California-based SunPower Corp. rose as much as 14% on Friday, and is up about 70% this year. And the underlying drivers propelling clean tech look sturdy in the near-term: supportive policies in Europe and the U.S., a push to green electric grids as well as trillions of dollars in funds focused on the energy transition.

"It's a mega-trend that's essential for the future of this world," says Jeff McDermott, head of Nomura Greentech.

But the success and future promise of the industry doesn't mean that solar has become an easy business for executives—or for investors. Active Solar, for instance, was the best-performing stock-picker in Europe last year with a 183% return, but did so after twice losing most of its investors' money. Guinness Atkinson Asset Management, an investment management firm, found that the total rate of return of the median stock among solar-equipment companies was 98% last year, but -32% in 2018. In fact, among all of the clean-tech sub-sectors it studied, the total rate of return for solar equipment was the lowest between 2010 and 2020 at 65%.

Installation "volumes are going through the roof, but

profitability can be quite different,” Molchanov says. “We have seen countless companies that have grown revenue rapidly over the years but profitability has been pressured.” There remains “relentless commoditization including margin compression” that affects multiple solar segments, including modules, inverters and power-supply agreements.

The overlapping trends of decarbonization and electrification—plus the struggles of oil—attracted many investors to solar last year. That’s a far cry from 2016, when the experience of SunEdison soured many on the industry. The company had fueled its ascent on financial engineering and cheap debt before its 2016 bankruptcy.

Nearly five years later, the price of solar power has fallen markedly, such that the resource is now the cheapest in many markets. (This is obviously a plus for solar’s competitiveness, but not necessarily the best development for manufacturers). Solar companies are increasingly confident that investors will reward them for focusing on just a few things—power-plant ownership, installations, panel-making, or components—rather than feeling the need to be vertically integrated like once before.

One major change is how clean power and other climate-forward businesses are now seen outside the industry. More than ever before, these companies are seen as a financial opportunity—not just good public relations.

– *With assistance by Drew Singer, and Will Wade*

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# Green Energy Firms to Help Power Spanish IPO Revival in 2021



Spain's national stock market, home to a solitary listing in 2020, is gearing up to host a flurry of green energy providers in the coming months.

At least four companies including Repsol SA are working on possible initial public offerings of renewable assets in Madrid, according to people familiar with the matter. Driving the trend is an increasingly environmentally-conscious investor base and a national government intent on generating power from sustainable sources.

"The public market is paying more than the private sector for these types of assets now. This is in stark contrast to 18 months ago," said Inigo Gaytan de Ayala, global head of equity capital markets at Banco Santander SA. "Time is of the essence and first-mover advantage is critical. Companies want to move swiftly and make the most of this favorable window."

Companies that produce renewable energy have raised \$336 million via IPOs on European exchanges over the last 12 months, according to data compiled by Bloomberg. By far the largest listing came from Soltec Power Holdings SA, a green power generator and manufacturer of certain devices for solar panels.

Soltec's was the only IPO on a Spanish exchange in 2020, when the coronavirus crisis kept many companies and investors away from public markets. The deal pipeline is looking decidedly healthier this year, with Capital Energy, Opdenergy SA and Ecoener Emisiones all weighing plans to list in the country in the spring, the people said, asking not to be identified discussing confidential information. Two other privately-owned renewables firms are also considering IPOs, one of the people said.

Representatives for Capital Energy and Ecoener said the companies were analyzing possible IPOs, though no final decisions have been taken. Spokespeople for Opdenergy and Repsol declined to comment.

## **Political Push**

"The strong level of activity Spain is currently enjoying in the renewable segment is probably a combination of different factors," said Angel Arevalo, global head of advisory at Banco Bilbao Vizcaya Argentaria SA. Among these, he said, are the country's large renewable resources, falling generation costs and "strong local political commitment to alternative energy."

Spain's government has been working to boost renewable power in its generation mix from around 50% today to 70% by 2030, and 100% before 2050. Last month, Spain held its first power auction in four years and awarded 3 gigawatts of new wind and solar capacity. The country is set to become a recipient of European rescue funds to help rebuild its economy in the wake of the Covid-19 pandemic and a large allocation of these could

go to clean energy projects.

“Spain is structurally a great base for renewable companies, particularly for firms that focus on solar energy given climate,” said Jerome Renard, head of European equity capital markets at Bank of America Corp. “The country saw investments in that industry very early on, and therefore benefits from a whole ecosystem of expertise.”

So far in Spain, stock performance from the sector has been stellar.

Shares in Soltec have risen 137% since it went public. Greenergy Renovables has also more than doubled from when the Spanish power producer moved from the country’s alternative market to main exchange in late 2019. BBVA’s Arevalo said renewables in Spain were offering “better returns for investors compared to other geographies.”

## **Mainstream Asset**

Investment banks are also preparing to pick up more mandates tied to sustainable energy initiatives. Gonzalo Garcia, co-head of investment banking at Goldman Sachs Group Inc. in Europe, the Middle East and Africa, said in a January interview that the shift toward renewables would be one of the key market themes for banks this year.

Capital Energy is working with Goldman Sachs and UBS Group AG to gauge investor interest ahead of its potential share sale, a person familiar with the matter said. Repsol is working with JPMorgan Chase & Co. on its renewables IPO plan, people said.

Representatives for Goldman Sachs, JPMorgan and UBS declined to comment.

“In the past, renewables used to attract specialist investors with a focus on the energy sector,” said Renard at Bank of America. “It has now become completely mainstream, reaching a



much wider base of investors.”

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## **Carbon-Neutral Or Green LNG: A Pathway Towards Energy Transition**



**LNG producers have started to look for ways to minimise or counterbalance their carbon footprints, says Dr Hussein Moghaddam, Senior Energy Forecast Analyst, Energy Economics and Forecasting Department**

According to the latest, 2020 edition of the GECF Global Gas Outlook 2050, the demand for natural gas is expected to rise by 50% from 3,950 billion cubic metres (bcm) in 2019 to 5,920

bcm in 2050, as gas remains the cleanest-burning hydrocarbon. In spite of that, meeting global targets for climate change mitigation is one of the biggest challenges. Significant emissions are released through the combustion of gas to drive the liquefaction process, while any carbon dioxide (CO<sup>2</sup>) detached before entering the plant is frequently emitted into the atmosphere.

Subsequently, investors, regulators, and customers exert mounting pressure on the gas industry, as it needs to do more to accomplish climate objectives and focus on reducing emissions.

More than 120 countries have already developed a climate risk strategy that sets target to reduce greenhouse gas (GHG) emissions to net-zero by 2050. As natural gas has a central role to play in mitigating carbon emissions, LNG producers have started to look for ways to minimise or counterbalance their carbon footprints, thus ongoing LNG decarbonisation efforts are likely to expedite. Accordingly, top LNG producers, traders, and consumers have indicated their plans in order to decarbonise the LNG supply chain. This is being done in two ways: by offsetting emissions from individual cargoes retrospectively, as well as by building low-emission liquefaction terminals. As a result, the “Green LNG” term has appeared as a new product within the LNG industry.

The carbon-neutral or Green LNG market is an emerging prospect whereby “Green” indicates either the reduction of GHG, or the offset of GHG emissions, linked to some, or all elements of the LNG value chain – from production of upstream gas and pipeline transportation, to liquefaction, transportation, regasification, and downstream utilisation of natural gas.

Companies in the LNG value-chain can diminish GHG emissions in numerous ways. For instance, by using biogas as feedstock; by decreasing emissions from upstream, pipeline, and liquefaction facilities; by applying renewable energy to power their

liquefaction plants; respectively, by using carbon capture, and storage (CCS), or carbon capture, utilisation and storage (CCUS) technologies by reinjection of CO<sup>2</sup> into the subsurface after it had been detained during the processing of the feed gas before liquefaction.

Therefore, it should be taken into account that carbon-neutral does not mean that the LNG cargo generates zero emissions, rather that LNG sellers can counterbalance their GHG emissions by obtaining offsets to compensate for all or part of their GHG emissions or the utilisation of carbon credits, which reinforce reforestation, afforestation or other green projects.

It is worth noting that last year the leaders of the G20 endorsed the concept of the circular carbon economy (CCE) and the GECF is the part of this process. The CCE aims to include a wide range of technologies such as CCS/CCUS as a way to promote economic growth and to manage emissions in all sectors.

In contrast, Qatar Petroleum (QP) is the company that applies a combination of strategies to reduce its emissions. Its future LNG production will be low-carbon based, as the company is building a CCS facility alongside its 126 mtpa liquefaction capacity expansion by 2027.

As part of its new sustainability strategy, QP has announced that its aim is to reduce the emissions intensity of its LNG facilities by 25% by 2030. The capture and storage of CO<sup>2</sup> from its LNG facilities of about 7 mtpa by 2027 is another goal. Furthermore, QP aims to drop emissions at its upstream facilities by at least 15%, as well as cut flaring intensity by over 75% by the end of this decade. Additionally, by 2030, QP is attempting to abolish routine flaring, and by 2025, the company would like to minimise fugitive methane emissions along the gas value-chain by establishing a methane intensity

target of 0.2% over all of its facilities.

In certain supply contracts of the company, environmental considerations are incorporated as well. In November 2020, QP signed the first long-term deal with “specific environmental criteria and requirements”, which was designed to minimise the carbon footprint of the LNG supplies with Singapore’s Pavilion Energy, and to provide 1.8 mtpa of LNG over a 10-year period.

In order to fulfil the objectives of decreasing GHG emissions, CCS also helped the case in Australia. Chevron is the operator of the 15.6 mtpa Gorgon LNG offshore Western Australia and has injected more than 4 million tonnes of CO<sub>2</sub> in the CCS facility since its commissioning in August 2019.

Meanwhile, NOVATEK has embraced a long-term methane emissions reduction target by 2030 in Russia, mainly to diminish methane emissions per unit of production by 4% in the production, processing and LNG segments. Moreover, the company aims to decrease GHG emissions per tonne of LNG produced by 5% [5]. In this regard, NOVATEK and Baker Hughes, which provides engineering and turbomachinery at Yamal LNG, signed an agreement to introduce hydrogen blends rather than solely running methane from feed gas into the main process for natural gas liquefaction to reduce CO<sub>2</sub> emissions from NOVATEK’s LNG facilities.

Bio-LNG will have a significant role in the coming years to form the heavy road and water transport in the Netherlands. The construction of the first Dutch bio-LNG installation was launched in Amsterdam last November. Renewi (the waste management company), the Nordsol (for processes the biogas into bio-LNG) and Shell (to sell this bio-LNG at its LNG filling stations) have developed this project. Biogas is made up of roughly 60% methane and 40% CO<sub>2</sub>. An additional CO<sub>2</sub> cutback takes place due to the recycling of the CO<sub>2</sub> by-product in the market, which results in a 100% CO<sub>2</sub> neutral fuel [7].

Inpex, which is Japan's biggest oil and gas producer, has recently disclosed its strategy to become a CO<sub>2</sub> net-zero company by 2050 by developing its renewable and hydrogen energy together with the utilisation of carbon capture technologies. Japan has also stated in October 2020 that the country would become carbon-neutral by 2050.

Two major LNG importer regions, namely Asia-Pacific and Europe, have already set policies regarding long-term decarbonisation targets. It is worth noting that most of the carbon-neutral LNG cargoes have been supplied by companies in Asia to a certain extent, where carbon policies and investor pressure are fairly fragile.

According to the 2020 Edition of the GECF Global Gas Outlook 2050, it is forecasted that LNG imports to Asia will increase to about 800 bcm (585 mt) by 2050, and with 71% of global LNG imports, the region is set to be the driving engine for global LNG demand growth. As concerns with air quality rise in numerous Asian countries, the most realistic solution to attain a decarbonised society in the future by minimising the level of CO<sub>2</sub> on a global scale, is the combination of natural gas and renewable energy. Thus, emissions and cleaner-burning fuels are going to be the centre of attention.

Europe could be the predecessor for carbon-neutral LNG in the long-term, by sticking to its new methane strategy, which was revealed by the European Commission (EC), and in accordance with their 2050 carbon-neutral goal. Importantly, the EC suggested LNG producers to engage with their international partners to explore possible standards, targets, or incentives for energy supplies to the EU.

### **Which part of the LNG value-chain should take responsibility?**

An LNG seller will probably need to diminish and offset GHGs, which emphasises the need for robust offset markets in order to be completely carbon-neutral through the entire LNG value-

chain.

Accordingly, this highlights challenges for legacy LNG projects with limited means to decrease carbon, making them dependant on expensive market mechanisms. LNG producers have to keep the balance between the competitive fuel pricing and the expensive emissions reduction initiatives. Therefore, the question of who pays the additional costs to produce Green LNG is yet to be decided.

As noted, the balance of carbon emission is feasible for any LNG facility and can lead to carbon-neutral LNG cargoes. Although, this is probably not a sustainable long-term process and does not directly cope with the project's emissions, it is a good transformation for general LNG decarbonisation.

However, the GECF proposes that both sellers and buyers have to contribute to achieving emission targets. The discussions with respect to these issues should involve all LNG industry players, such as sellers, buyers, traders and policymakers, respectively. A more focused perspective that targets minimising emissions in upstream and liquefaction might be more feasible for LNG producers. This will also associate with the already ongoing efforts from them, as they have to control their carbon footprints under more pressure from the public and investors.

In conclusion, as LNG demand keeps expanding, the demand for Green LNG will grow as well. Green LNG can help ensure that natural gas preserves its role as a crucial part of the energy mix, supporting climate goals over the energy transition period. As stated in the 2019 Malabo Declaration, at the 5<sup>th</sup> GECF Summit of Heads of State and Government in Equatorial Guinea [10], the GECF Member Countries, reiterate the strategic role of the development, deployment and transfer of advanced technologies for more effective production, and the utilisation of natural gas to enhance its economic and environmental benefits.

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# Biden's green push gives Detroit the cover to go electric



General Motors CEO Mary Barra just stomped on the electric-vehicle accelerator pedal. Call it the Biden effect.

Six months ago the automaker backed the Trump administration in a legal battle that could have neutered California's longstanding right to set its own tougher carbon-emission rules. About two weeks after Trump lost, GM withdrew from that fight and two weeks after he left office, it pledged to match the state's mandate to sell only electric vehicles starting in 2035 – and do that all across the U.S.

Why the 180? Barra is getting a jump on President Joe Biden's policies, which are expected to help GM and its rivals build and sell more EVs in the U.S. He wants to restore the \$7,500

tax incentives that companies including GM and Tesla Inc. exhausted under Trump's watch, and Biden plans to build 500,000 charging stations across the country. That could make EVs more affordable and ease concerns of would-be buyers about battery-powered cars' driving range.

Some see GM's about-face on the politics of clean cars as less a calculated policy move than a recognition of longer-term global forces at work.

"They would not make an announcement this substantial just for political purposes," said Joe Britton, executive director of the Zero Emission Transportation Association, a Washington-based lobby group pushing for full adoption of EVs by 2030. "This is a clear sign that electric vehicles are going to be the future and that we're in a bull market for innovation right now."

Believe it or not, Biden's position has been met with a collective sigh of relief in some quarters of Detroit. The rest of the world is moving toward electric vehicles, and the Trump administration had no interest in easing that transition in the U.S.

While Trump was trying to prolong the era of combustion engines by watering down clean-air rules and resisting efforts to expand the EV tax credit, China's government has adopted rules and incentives that boosted EV sales in the world's largest car market. Almost all of the European Union's 27 member states have purchase or tax incentives for consumers who buy electric vehicles, and it's rapidly ratcheting up emission restrictions to penalize automakers that don't sell enough EVs in Europe.

As a result, China and the EU have jumped way ahead of the U.S. in EV adoption rates. Last year, of the 3.2 million EVs sold globally, 1.3 million were in China and 1.2 million were in the European Union and UK. The U.S. accounted for just



328,000 sales, according to Swedish researcher EV Volumes.com.

That put Detroit's carmakers in a spot. They get most of their revenue and profits at home in the U.S., where EV sales have been minimal. And they need help with economies of scale sufficient to drive down battery costs and create profit margins.

Barra had been heading in this direction since 2017, when GM announced plans to build 20 different EVs by 2023, but most of them were bound for the Chinese market. GM accelerated that shift in November, promising **30 models by 2025 and an investment of \$27 billion** in electric and self-driving cars with more models planned for the U.S. Ford Motor Co. has been stepping up its efforts as well, budgeting \$11 billion for EVs and more fuel-efficient vehicles.

Biden's victory put some wind at the auto industry's back and makes the commitment to electric powertrains more palatable for their risk-averse corporate cultures.

### **Political convenience**

Even so, there also is a hefty dose of political convenience involved in the decision to go all-in on EVs. GM, Toyota Motor Corp. and Fiat Chrysler Automobiles – now a part of Stellantis – went along with Trump in his legal fight with California, throwing a bone to a temperamental president and thereby extending their ability to churn out cash-cow gasoline-powered vehicles.

Officially, GM said it always wanted one national standard instead of different rules from Washington and Sacramento. It just so happens that the company picked Trump's watered-down option.

Critics of government subsidies were quick to see GM's move as a sign the market for EVs is maturing fast enough that no additional incentives are needed.

“GM is a publicly traded business and is making a strategic, calculated market decision,” Tom Pyle, a former Trump adviser and current president of American Energy Alliance, a free-market advocacy group, said in a statement. “In no way should any taxpayer be responsible for GM’s ability to achieve – or fail to achieve – their corporate goal of an all-electric light duty fleet by 2035.”

Big companies have long sought to position themselves in the most favorable light in Washington, regardless of which party’s candidate is in the Oval Office. Automakers are no exception. Former Ford CEO Mark Fields warned then-President Trump that overly tough mileage rules would put a million jobs at risk, a prelude to Trump’s rollback. And GM broadly touted its Chevrolet Volt plug-in after its 2009 rescue by the Obama administration, which later set a goal of putting a million electric vehicles on the road by 2015.

### **Carrot and stick**

Trump and his Twitter account are now silenced. With Democrats running the White House and having a majority in both chambers of Congress, the prevailing wind is definitely blowing against Detroit’s status quo dependency on big sport-utility vehicles and trucks.

Biden’s plan also comes with a stick. Earlier this week, he vowed to reinstate vehicle emissions standards gutted by the Trump administration and set “new, ambitious ones that our workers are ready to meet.”

Doing so would aid GM’s electrification push and could encourage competitors to follow suit, said Joshua Linn, a senior fellow at Resources for the Future, a Washington think tank that focuses on environmental policy and economics.

“Companies don’t want to get out too far ahead of the market,” he said. “Having more ambitious policies, greenhouse-gas standards and maybe a national zero-emission vehicle program

will help support the entire market moving in that direction.”

GM’s worst nightmare is a scenario in which its commitment to EVs isn’t met with higher consumer demand, allowing rivals with less ambitious electrification plans to steal away business. Biden may be giving GM some of the cover it needs to proceed.

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## **Wind Generation in Europe Rises to Record in 2020**



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# Green Boom's Hottest Trade in 2021 May Turn Out to Be Utilities



(Bloomberg) – After a bumper year for Europe’s renewable-energy stocks, underappreciated utilities shares are now gaining support from the market as 2021’s hot sector to play the clean power transition.

Helped by government policies such as the European Union’s Green Deal and investors’ environmental, social and governance concerns, renewable assets have strongly outperformed traditional utilities peers this year in the Stoxx Europe 600 Index. Turbine maker Vestas Wind Systems A/S has almost doubled in value, while U.K. electric company SSE Plc is up less than 3%.

Some strategists warn that opportunities in wind and solar stocks may be more uneven in 2021 as valuations appear stretched. Utilities may be a lower-risk way to buy into green energy growth than renewables equities, said Ursula Tonkin,

head of listed strategies at infrastructure investor Whitehelm Capital Pty Ltd.

“Over the long run, the tortoise will likely outperform the hare,” she said. “For every new solar, wind or battery installation, the grid has to expand to accommodate it.”

While coronavirus-pandemic winners such as tech shares are losing favor in the latest vaccine-fueled stock rally, sustainable companies have stayed in favor, also helped by November’s U.S. presidential election victory for Joe Biden, who pledged a clean-energy agenda. Still, utilities as a whole have gained only modestly so far this year.

Many utilities have positioned themselves to capitalize on opportunities in green energy after “cleaning up” their portfolios in the past few years, said Sam Arie, an analyst for the industry at UBS AG.

“We’ve gone from a world five years ago which didn’t really have climate goals in view to one where now those are the most important goals across all the sectors,” he said.

Investors will have to be more selective, with next year unlikely to be as “exceptional” as 2020 for the renewables segment, said Louise Dudley, a global equities portfolio manager at Federated Hermes Inc. Stocks such as Orsted A/S trade at about 53 times estimated earnings, versus 19 times for the Stoxx 600 Utilities Index. The Danish offshore wind-farm developer was recently downgraded at Bank of America Corp. and Royal Bank of Canada.

Investors are giving “insufficient credit” to utilities like SSE, Germany’s RWE AG, and Portugal’s EDP SA that balance spending on renewables with defensive earnings flow from electricity networks, RBC Capital analysts said in a 2021 outlook note for the utilities sector. Analysts tracked by Bloomberg see 16% upside for RWE and 6% for EDP, while average price targets are for at least 11% declines for Vestas and

peer Siemens Gamesa Renewable Energy SA.

Another plus is attractive payouts. Investors would struggle to find another industry that delivers utilities' highly predictable, strong earnings growth alongside comparatively high dividend yields, UBS's Arie said.

Still, while 2021 may involve a "bumpier ride" for renewables, valuations for Vestas, Orsted and peers aren't likely to slide as their business growth forecasts are so positive, Whitehelm Capital's Tonkin said.

### Green Competition

An additional concern for the pure renewables industry in 2021 is increasing competition, both from utilities ramping up spending and oil companies aggressively investing in green energy. This could pose a "real threat" to the economics of wind and solar, said Ulrik Fugmann, co-head of the Environmental Strategies Group at BNP Paribas Asset Management.

Others, however, are sanguine. James Smith, fund manager at the Premier Miton Global Renewables Trust, said oil companies that "seek projects simply for the sake of it" would put returns at risk at a time when the sector must strike a balance between operating core crude-oil assets, executing the shift to renewables and paying dividends.

The energy market "needs to grow very aggressively in the next two decades" to reach regulators' emission-cutting goals, said Harry Boyle, a portfolio specialist at sustainability-focused fund manager Impax Asset Management. "There should be ample room for all actors."

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# Tesla market value tops \$700bn for first time



New York: Electric carmaker Tesla closed trading on Wednesday with a market value topping \$700 billion for the first time.

The latest surge means the company is worth more than General Motors, Ford, Toyota, Honda, Fiat Chrysler and Volkswagen combined.

Tesla's share price ended with a gain of 2.8 percent to \$755.98 for a total value of whopping \$717 billion. That came after the stock saw a more than 700 percent ascendance in 2020 – a gain some analysts viewed as inflated.

The auto industry disruptor led by Elon Musk wowed Wall Street yet again over the weekend, reporting annual car deliveries of 499,550, just shy of its 2020 target of half a million, but well above analyst estimates.

The disclosure capped a year that saw Tesla report a series of profitable quarters and join the S&P 500, establishing the company as one of the world's most valuable businesses and elevating Musk to the second-wealthiest person behind Amazon CEO Jeff Bezos.

While industry analysts do not expect another massive surge in value this year, they remain optimistic about the company's sales prospects, even if the cars remain out of reach for many buyers.

The optimism comes as construction continues on new Tesla factories in Texas and Germany, which will join existing plants in California and Shanghai that are ramping up production.

Musk has expressed determination to cut the price for Tesla's electric cars, which currently start at \$37,990 in the US market.

The Tesla chief is developing battery design, material and production innovations that combine to cut the cost per kilowatt hour by 56 percent.

That should enable Tesla to field a \$25,000 model in "three years-ish," Musk said in September, adding, "it is absolutely critical that we make cars that people can actually afford."

And US sales could be helped by President-elect Joe Biden's commitment to green technology to combat climate change.

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## **Countries seen needing to**



# invest \$55tn to reach emissions target



Global economies will need to invest as much as \$55tn through the middle of the century to meet an emissions goal and contain warming of the planet, according to a report by a group of executives from energy-intensive companies including ArcelorMittal SA, BP Plc and Royal Dutch Shell Plc. Reaching the net-zero carbon emissions target by 2050 will require large-scale electrification of industries, buildings, and transport, as well as the use of hydrogen and biofuels in areas that can't be electrified, according to the Energy Transitions Commission. Using less energy to produce more and recycling material will aid the efforts. Building renewable power plants will take up a bulk of the estimated investment.

More frequent and severe natural calamities across the world have heightened the need to contain climate change and end the use of coal and other fossil fuels while expanding clean energy. That's forcing some of the biggest fossil fuel users to recast their energy mix and adopt greener sources of power.

The Intergovernmental Panel on Climate Change said in a 2018 report that reaching net-zero CO2 emissions by mid-century will be key to limiting global warming to 1.5 degrees Celsius above pre-industrial levels. Humanity is on course to miss that mark, with the World Meteorological Organization saying there is a 20% chance that global temperatures will breach the limit in at least one of the next five years. The decarbonization strategy will involve phasing out of coal-fired plants, according to the report. Those that remain should be used as a peaking or a seasonal back-up to renewable power and should be retrofitted with carbon capture and storage. The report highlighted some challenges on the way. China, the world's biggest coal user, "is not yet on a clear path towards a net-zero economy and new coal investments are continuing despite evidence that renewables are now highly competitive on a new-build basis in most of China's provinces," it said. The nation can become a fully developed, rich economy with net-zero emissions by 2050 by rapidly deploying renewable power projects and reducing its dependence on coal, according to the report. The country needs to double annual investments in solar and as much as quadruple investments in wind energy, along with accelerating the use of clean energy in industries and residential heating. India, the second-biggest coal user, is likely to see consumption of the fuel peak between 2027 and 2030, before gradually sliding down, Ajay Mathur, a co-chair at Energy Transitions Commission, said in a phone interview.

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## **BP Clean Energy Push Starts**

# With 5-Year Dash on Solar, Wind



BP Plc's journey from oil major to clean energy giant will start with a five-year sprint to dramatically boost wind and solar power.

By 2025, the company intends to have approved more than 20 gigawatts of renewable energy projects, an eightfold increase from 2019, Dev Sanyal, BP's executive vice president of gas and low-carbon energy, said in a online presentation on Tuesday.

Most of that would be solar – putting BP on a par with today's biggest generator of electricity from the sun. The company also plans big investments in wind, following on from last week's \$1.1 billion deal with Equinor ASA.

“With falling costs comes real growth,” Sanyal said. “Renewables have become the fastest growing source of energy

and we see this continuing over the next decade and beyond.”

This rapid expansion would just be the start of the London-based oil giant’s transformation into a low-carbon integrated energy company. Chief Executive Officer Bernard Looney has pledged to eliminate all net greenhouse gas emissions from BP and its customers by 2050.

A series of presentations this week aims to show he can achieve this while still delivering competitive returns. Investors may need some convincing, after seeing their dividends cut in half last month.

## **Trading Gains**

BP’s in-house trading operations are at the heart of Looney’s pledge to move away from fossil fuels without sacrificing profits. Renewable energy projects typically gives returns of 5% to 6%, Looney said, but the company’s expert traders can add about 2 percentage points to that.

Lightsource BP, which currently manages about 2 gigawatts of solar plants, is already achieving returns of 8% to 10% and “we actually believe it can do better,” Looney said. Access to low-cost funds, and integration with the rest of BP and its project management experience can boost returns, said Sanyal and Looney.

BP will gradually expand its electricity trading over the next five years, increasing the amount of power it buys and sells annually by about 40% to 350 terawatt hours.

Of the 20 gigawatts of renewable energy capacity BP intends to begin developing over the next five years, 83% will be solar, 15% wind and 2% bio-energy, Sanyal said.

That much solar would give BP about the same capacity as is currently owned by the world’s biggest operator, China’s State Power Investment Corp. Ltd, according to data from

BloombergNEF.

Solar power will be crucial for achieving the breakneck pace of growth BP laid out. It is relatively quick to install, taking as little as 18 months from concept to construction, Sanyal said. That's much faster than massive offshore wind farms, which can take a decade to plan and construct.

By 2030, BP plans to have taken the final investment decision on 50 gigawatts of low-carbon energy capacity, and be trading 500 terawatt hours of power each year.

On bio-energy, the company says it will more than double its 2019 production to 50,000 barrels a day by 2025, and 100,000 by 2030. These fuels will help sectors that are hard to electrify, like aviation, marine and heavy goods vehicles, Sanyal said.

BP currently makes biofuels in a joint venture with Bunge Ltd. in Brazil, produces biogas in the U.S. and processes some renewable fuels within its refining portfolio.

"We see these businesses as generating returns of around 15% or higher," Sanyal said. "It competes well within our disciplined financial framework."