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Ever since U.S. President Donald Trump, the world's most powerful climatechange skeptic, embraced "beautiful clean coal" (his words) as a fundamental resource for U.S. security, investors in renewable energy have been wondering about the political risks associated with wind and solar energy.

During a March rally in Michigan, Mr. Trump doubled down on coal by attacking the alternatives: He made the absurd claim wind turbines cause cancer and can't possibly provide enough power when you need it. "If it doesn't blow, you can forget about television for that night," the President told his adoring crowd.

He is by no means the only politician pushing back against renewable energy. Ontario Premier Doug Ford abruptly cancelled 758 renewable-energy contracts in the province last year, blaming wind and solar farms for a rise in electricity costs. And in Alberta, Jason Kenney's United Conservative Party says it will roll back the province's climate regulations if it wins next week's election. That could mean terminating a carbon tax, killing subsidies for wind and solar power and allowing the most efficient coal-fired plants to remain open longer.

But far from recoiling, sophisticated investors and the top executive ranks of the renewable-energy sector are reacting to these shifting political winds with shrugs. Renewable energy, they argue, is viable with or without political assistance, and these experts remain attached to the promise of spectacular growth over the coming decades.

"As renewable power becomes a lot cheaper – and coal, on a relative basis, is more expensive – there are coal plants all across the United States that are shutting down prematurely," said Andrew Lin, a managing director at DBRS, a credit-rating agency.

And that's good news for companies such as Algonquin Power & Utilities Corp., a \$7.2-billion player that owns and develops renewable powergeneration assets in Canada and the United States and also distributes energy services to customers.

"It's all about the economics," said Ian Robertson, Algonquin's chief executive officer.



Ian Robertson, chief executive officer of Algonquin Power, poses for a portrait outside their offices in Oakville, Ont., on April 11, 2019.

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“The ultimate political U-turn we’ve seen, with the change in administration in the United States from Obama to Trump, has done nothing to dampen the opportunity in renewable energy. Why? It is now being fuelled by an economic proposition rather than sustainability or environmental benefits. These benefits are, in many respects, coming for free,” Mr. Robertson said.

Mike Crawley, CEO of Northland Power Inc., which has wind farms and solar facilities in Canada, Germany and the Netherlands, agrees. “The cost of renewable power has been falling so dramatically that government intervention is not nearly as imperative to the sector as it was maybe 10 years ago,” he said.

Indeed, government incentives supporting renewable energy are mostly legacy policies from when wind and solar needed a helping hand. U.S. federal incentives are now being phased out.

The high level of confidence among executives should resonate with investors who have been startled by some of the recent political rhetoric. Investing in wind or solar generation, and the technologies that drive them, used to be a risky bet that was best suited to investors who simply wanted to align their money with environmental responsibility.

Now, though, the bet is looking increasingly attractive – to the point where it doesn’t require a socially conscious investing agenda. The bet also offsets simmering frustration with Canada’s struggling traditional energy sector, as a number of global investors distance themselves from the environmental risks associated with the oil sands.

The viability of renewable energy and its global surge underpins bullish enthusiasm for companies such as Brookfield Renewable Partners LP, Algonquin Power, Northland Power and Boralex Inc. – Canada’s leading green energy producers, which are positioning themselves for strong growth in wind and solar power across the world.

Sure, plenty of risks remain: Not all players will succeed as competition heats up and envisioned growth meets the sticky issue of generating strong returns. But it’s comforting to know some of the world’s biggest pension funds are on board, underscoring the potential among shrewd investors with long-term horizons.

The Canada Pension Plan Investment Board (CPPIB) created a power and renewables group in late 2017 to focus on investing in wind, solar, hydro and other energy assets in emerging markets and elsewhere, with the understanding that solar and wind power generation will double over the next seven to 10 years, accelerating the cost competitiveness of renewable energy. The group, led by Bruce Hogg, made investments totalling \$2.9-billion in its first year and expects to make a similar investment each year going forward.

“Within developed markets, we’re still seeing an energy transition from fossil fuels – specifically and most importantly coal – to renewables. But the lion’s share of where the capital is going to go is emerging markets,” Mr. Hogg said.

The Ontario Municipal Employees Retirement System (OMERS) is also involved. Last year, it acquired Leeward Renewable Energy, LLC, a U.S. windpower operator that has 19 wind farms in nine states, for a total installed capacity of 1.7 gigawatts.



CEO of Northland Power Mike Crawley poses for a portrait outside their offices in Toronto on April 10, 2019

CHRISTOPHER KATSAROV

OMERS is also backing ArcTern Ventures, a Toronto-based venture-capital firm that has raised \$150-million as it focuses on investments in early-stage clean technologies.

Murray McCaig, a managing partner at ArcTern, noted that the firm’s investments are not predicated on supportive political policy, but rather the ability to compete successfully against incumbents. Political tailwinds in the form of, say, a carbon tax or new environmental standards simply speed things along.

“We look at that as a cherry on top,” Mr. McCaig said.

Renewable power has come a long way in the past decade.

In 2009, the then-Liberal government in Ontario sought a global leadership role along with countries such as Germany and Spain. The province ushered in the bitterly contested Green Energy Act that year and began awarding highpriced, long-term contracts to wind and solar developers.

The province suffered from the curse of the early adopter, however, with the government hoping that a willingness to absorb high prices would translate into manufacturing jobs – which, for the most part, failed to materialize – while supporting a clean-energy mandate that included the phase-out of coal-fired electricity.

Renewable energy was expensive compared with traditional generation sources. Under Ontario's feed-in tariff, wind energy producers in 2009 were paid 13.5 cents a kilowatt hour under power-purchase agreements, while solar energy providers received as much as 80.2 cents for rooftop installations, contributing to a steep run-up in electricity prices in the province.

However, due to a combination of better technology and the benefits of scale, renewable-power prices have tumbled over the past decade and are now competitive with traditional sources of power in many jurisdictions, turning what was once a novel approach to energy generation into a big, viable business.

And not just in Ontario. In December, the Alberta Electricity System Operator – which runs the province's grid – announced that it had entered into three wind contracts for a total of 763 megawatts at an average cost of 3.9 cents/kWh. The Alberta government announced in February it had contracted for 100 MW of solar capacity at a price of 4.8 cents/kWh.

Prices are even lower in parts of the United States. Idaho Power stunned the energy industry two weeks ago by announcing a deal for 120 MW of solar power at a record-low price of just 2.2 US cents/kWh.

New York-based Lazard Ltd., a financial-advisory and asset-management firm, produces an annual survey of average electricity prices around the globe, a work that is considered the bible among industry executives because it calculates the levelized cost of electricity – the average price needed to break even over the life of a project. The takeaway from the most recent survey, released in November: Prices of electricity from large-scale solar and wind projects had declined to the point that, even without subsidies, they were at or below the cost of power from conventional sources such as coal, nuclear and even natural gas in some locations.

According to Lazard, the low-end cost for onshore wind is US\$29/mWh, compared with an average marginal cost of US\$36 for natural gas. The cost of utility-scale solar is almost identical to that of gas, Lazard said.

Renewable power fares even better when prices reflect the broad array of subsidies available, with the average cost of energy of US\$14/mWh for onshore wind and US\$32/mWh for large-scale solar – suggesting that subsidies help but are no longer a deal-breaker.

The levelized cost of wind power has dropped to a third of what it was in 2009, while solar costs have come down by a factor of eight, Lazard reported.

And renewable prices continued to fall since the second half of last year, said Elena Giannakopoulou, head of energy economics for Bloomberg New Energy Finance. She expects prices to continue to fall despite the imposition of U.S. tariffs on solar panels and the looming expiry of some U.S. tax breaks.

“Module prices keep getting cheaper and cheaper. And manufacturers need to keep pushing the price down, with a lot of innovation in the pipeline,” Ms. Giannakopoulou said.

Many observers point to improvements in battery storage as the next big step for renewable energy because they will resolve the challenges posed by intermittent wind and sunshine.

“Originally, that was a crazy-expensive proposition. But the price of batteries – and I think we can all thank Elon Musk for this – is falling dramatically,” Algonquin’s Mr. Robertson said. “The forecast for the decline in the cost of energy storage for 2018 was 8 per cent. They got 18 per cent. This will be a game-changer for renewable energy in the future.”

The size of the market for renewable energy is staggering. Sachin Shah, the CEO of Brookfield Renewable Partners, said during an investor day presentation last September that renewable energy captured some \$1.5-trillion in capital spending over the previous five years, adding a million megawatts of capacity to global grids. Investments in solar and wind comprised 75 per cent of the total.

But the potential is far larger. According to Mr. Shah’s estimates, replacing just half the thermal power in Brookfield’s core markets (Canada, the United States, Britain, China, India and others) with renewable energy would require an investment of about US\$5-trillion.

That’s not an outlandish scenario. Martin Grosskopf, a portfolio manager who oversees sustainable investing at AGF Investments Inc., pointed out that between 2010 and 2015, 1.7 GW of coal capacity was cancelled for every gigawatt commissioned – supporting the notion that the long-term political risks are actually stacked against coal, not renewables.

“There is a tremendous effort to phase out coal. And that’s only beginning,” Mr. Grosskopf said. “We are still early-stage, because the renewables market is still small relative to global capacity. But the growth in energy is in renewables. And from an investing standpoint, that’s what’s exciting.”

Investors have been rewarded. Over the past five years, Brookfield Renewable units have delivered total gains of 74 per cent, including dividends. That’s more than double the total return for the S&P/TSX Composite Index over the same five-year period.



Ryan Verrier, a manager at the Red Lily Wind Farm near Moosomin, Sask., inspects a turbine on April 10, 2019.

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Northland Power delivered gains of 79 per cent over five years, also with dividends, while Algonquin Power delivered an astounding 154 per cent – all of which suggests that renewable energy is enjoying some momentum.

No doubt, some of the interest in these stocks is being driven by impact investing – also known as socially responsible investing and ESG (environmental, social and governance) – where investors align their money with companies that benefit society and the environment.

But Tania Carnegie, who leads the impact ventures practice at KPMG in Canada, said many impact investors no longer see a trade-off between doing good and generating a strong return.

“In some cases, the investors we spoke with thought that the focus on investing in companies that are driving a positive environmental impact would enhance returns,” Ms. Carnegie said.

Though investors have been rewarded handsomely in recent years, there are probably more gains ahead given the outlook for sustained growth in the sector. Renewable generation – including hydro – accounted for 16 per cent of the U.S. energy supply in 2017 but is expected to grow dramatically in the coming decade. States such as California and New York have a renewables target of 50 per cent by 2030. Maryland matched that goal with legislation passed last week.

In Canada, Saskatchewan has committed to a 50-per-cent target by 2030, while Alberta’s NDP government set a 30-per-cent target for that year – although a UCP government would revisit that goal.

That doesn’t mean the green-and-clean sector is without risk, of course.

Although Tesla Inc. has seen its share price rise eightfold over the past six years on the promise of shaking up the automotive sector with its electric cars, the company is still burning through cash and has yet to report an annual profit.

Canadian Solar Inc., which makes solar photovoltaic modules, is operating in an industry that has faced U.S. import tariffs and an oversupply of panels from China, leading to a zigzagging share price over the past five years.

Renewable-power operators also face challenges. Building complex wind and solar projects brings operational risks. Acquisitions can lead to headaches over integration. And the growing interest in renewable energy has delivered competitive pressures and rising asset prices.

There are also occasional growing pains. Northland Power, for example, raised eyebrows last month, when its chairman and founder, Jim Temerty, sold about 63 per cent of his holdings in the company at a 9.3-per-cent discount (for estate-planning purposes, according to the company).

But the appeal of renewable-energy producers is strong, particularly for riskaverse investors who like to see strong profitability and steady payouts. In most cases, these companies are generating stable cash flows from long-term contracts. And they're paying big dividends, which is especially nice when interest rates are low and the economic outlook is cloudy.

Northland Power generated a profit of \$405.5-million in 2018, up 47 per cent from the year before. It is now expanding into Taiwan with the development of an offshore wind farm as part of its plan to undertake a new development roughly every year.

“The area where we see a lot of opportunity is in offshore wind development. There are more barriers to entry, because of the complexity of the development work and the complexity of the construction and operations,” Mr. Crawley said.

Algonquin, which generates and distributes electricity, reported its annual profit in 2018 increased 24 per cent from 2017, to US\$185-million. And its fourth-quarter adjusted EBITDA (earnings before interest, taxes, depreciation and amortization) sailed past analysts' expectations.

“Algonquin has now beaten or met consensus in nine of the last 10 quarters, which has proven the benefits of the diversity of its business and stability of its cash flows,” said Bill Cabel, an analyst at Desjardins Securities, in a recent note.

Brookfield Renewable, an arm of Brookfield Asset Management, boasts a 6.5- per-cent yield. But it's more than a cash geyser: The company has impressed analysts with its potential for scoring big deals as part of a goal to expand throughout North America, South America, Europe, Asia and Australia.

In 2018, Brookfield invested almost US\$500-million, commissioned 60 MW of new wind and hydro development and added 350 MW of development to its pipeline. In March, it struck a deal with TransAlta Corp.: It invested \$750-million in the Alberta power generator in exchange for a large stake in its hydro assets down the road – at an attractive discount, according to analysts – as TransAlta transitions from coal to renewable energy.

Dawn Farrell, TransAlta's CEO, said in an interview last week that changing political winds won't affect this shift. “If I woke up after the [Alberta] election and said, ‘It was all wrong. We should stay on coal,’ we would lose our biggest investors. They will not invest in companies that are going backward on carbon,” Ms. Farrell said.

“That ship has sailed.”

Ms. Farrell could easily be referring to a broader trend that is, in some cases, skipping over political boundaries.

Some 170 global companies, including U.S. giants such as Facebook Inc., Microsoft Corp. and Walmart Inc., have declared they will meet all their electricity needs with renewable energy by 2030 – by buying from developers that feed the electricity through the grid, partnering on projects that can power a server farm or industrial site directly, or by adding photovoltaic panels to sprawling rooftops of warehouses and retail outlets.

More surprisingly, several American Midwestern states that supported Mr. Trump in the 2016 presidential election are among the leaders in wind energy. Last year, Kansas got 36 per cent of its electricity from wind; Iowa, 34 per cent; Oklahoma, 32 per cent; and North Dakota, 26 per cent, according to the U.S. Energy Information Administration.

Yes, there is political support for renewable energy in the United States. Some 29 states have renewable-portfolio standards that include incentives for utilities to purchase renewable power and penalties for those that fail to meet the standards. California, for example, is aiming for 60-per-cent renewable power by 2030.

The U.S. government also provides generous tax incentives for both solar and wind that underpin the competitive economics for projects. These incentives are scheduled to lapse in the coming years, but there is strong bipartisan support to renew them.

But even in states with only modest or no renewable-power standards, utilities are embracing a transition to lower-carbon electricity. These utilities are facing increasing demands from their investors and customers for a lower-carbon footprint, tougher regulations in the future and the rising competitiveness of renewable sources of energy.

Arizona's Tucson Electric Power, which is owned by Fortis Inc., the St. John's-based company that ranks as Canada's largest investor-owned utility, expects to more than double its renewable-power portfolio over the next two years, with two wind projects and a solar project under way. A few years ago, the company set a goal of 30-per-cent renewable by 2030. It expects to be at 28 per cent by the end of 2022.

"We're seeing a lot of utilities committing to higher and higher goals – it's really ramped up over the last five years," said David Hutchens, CEO of Tucson.



The U.S. government also provides generous tax incentives for both solar and wind that underpin the competitive economics for projects.

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Idaho Power is shutting down coal facilities and announced an agreement two weeks ago to buy 120 MW of power from a new solar farm being built in the state. With the solar electricity priced at just 2.2 US cents/kWh, Idaho Power described the deal as the “least cost option.”

Darrel Anderson, CEO of Boise, Idaho-based parent IdaCorp Inc., said coal used to be the cheapest source of power in the company’s portfolio but is now the most expensive, underscoring why investors might be embracing the utility’s transition. IdaCorp shares have returned 108 per cent over the past five years, with dividends, beating the S&P 500.

Mr. Anderson added that he expects continued innovation and price declines in renewable technology – and more political pressure to eliminate greenhouse gas-spewing fossil fuels from the company’s fuel mix as the impacts of climate change become increasingly apparent.

“I don’t think the drumbeat is going to go away," he said. "It is only going to beat louder.”

With files from Jeffrey Jones