GRANT'S
INTEREST RATE OBSERVER®
Vol. 40, No. 10c 233 Broadway, New York, New York 10279 • www.grantspub.com MAY 27, 2022

Mostly cloudy

Evan Lorenz writes:

Get ready for blackouts this summer. That was the warning last week from North American Electric Reliability Corp., overseer of the continental grid. Following is a look at the reasons for that dire prediction as well as a bearish analysis of a pair of renewable energy firms, Hannon Armstrong Sustainable Infrastructure Capital, Inc. (HASI on the New York Stock Exchange) and Sunrun, Inc. (RUN on the Nasdaq).

Drought plays a part in the troubles plaguing electricity generation across broad swaths of the United States and Canada, according to a May 18 Bloomberg dispatch. Hydroelectric production needs rainfall, as you'd expect, but fossil-fired plants are likewise constrained when the Missouri River can't serve up its normal quotient of cooling water. And to the extent that black smoke blocks the sunshine, drought-induced wildfires stymie solar generation, too.

Then there's public policy. In compliance with the national green agenda, utilities shut portions of their carbon-spewing, coal- and gas-fired generating plants to make way for renewables. While the early retirement of those fossil-fuel assets is on schedule—in the Midwest, 2.3% of generating capacity has been cut since last summer—installation of new solar and wind farms is lagging. Supply-chain slowdowns and a tight labor market feature in this part of the story, as does a Department of Commerce anti-dumping investigation.

In 2012, the Obama administration slapped tariffs as high as 250% on Chinese-produced solar panels. American consumers accordingly switched suppliers. Earlier this year, Auxin Solar, a U.S.-based panel maker, petitioned the government to validate its suspicion that panel vendors in four Asian countries had circumvented the tariffs by importing Chinese parts.

If the department takes the petitioner's side, the Biden administration may be forced to respond with retroactive tariffs. Since it's American importers who would bear the cost of that decision, domestic solar installers and utilities are biting their nails in advance of the verdict. Companies like Sunrun are amassing extra inventory and hunting for panel makers in safe jurisdictions. This is a headache that the Biden administration would rather not have, but officials say their hands are tied by federal statute.

Longer term, solar and wind face a bigger threat from the deterioration of their own economics. From 2010 through 2020, the levelized cost of electricity (LCOE) for solar declined to 7 cents per kilowatt hour (kwh) from 40 cents, per natural-resource investors Goehring & Rozencwajg Associates. Nor was it the march of progress that delivered those savings. Give credit, rather, to cheap energy, low interest rates, smooth-functioning supply chains and other vestiges of yesteryear.

"For example, we calculate that half of the 33-cent drop in solar LCOE between 2010 and 2020 was the direct result of lower energy input and capital costs," G&R explain. "Our models suggest it takes 100 [gigajoules] of thermal-equivalent energy to manufacture and install 1,000 [watts] of solar capacity. Between 2010 and 2020, energy prices fell from approximately $14 per GJ ($80 per oil-equivalent barrel) to $2.80 per GJ ($20 per oil-equivalent barrel). The total direct cost of energy fell by over $1,000 per installed kw—from $1,400 to less than $300, representing more than 10 cents of the 33-cent total LCOE drop. The assumed cost of capital fell by one-third from 7.5% to 5.0%, resulting in another 5-cent drop.

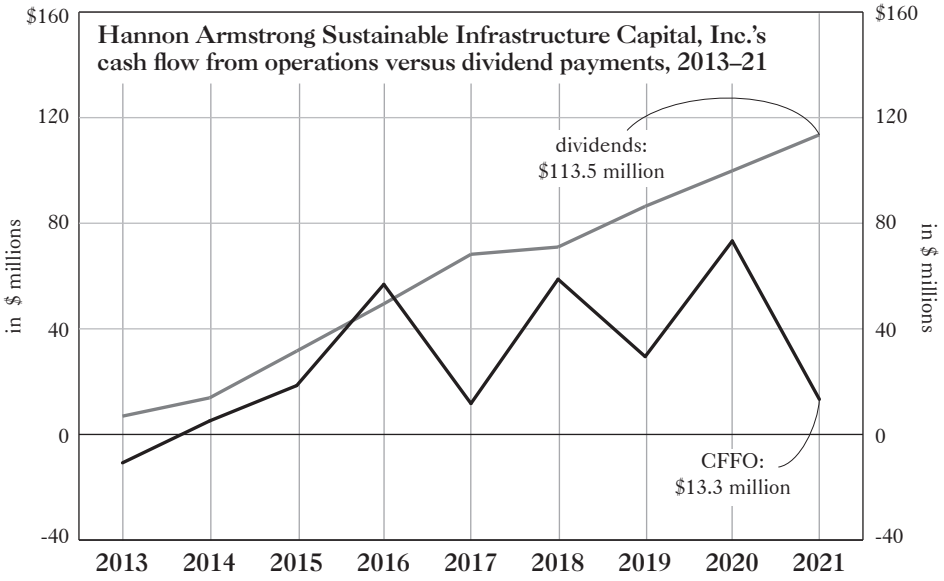
"Furthermore, the commonly chosen 2010 starting point for solar is misleading, as it incorporates artificially high starting polysilicon prices due to a short-term supply-chain shortage," the duo continues. "We estimate this likely accounts for another 5–10 cents in LCOE reduction over the past decade. Therefore, 20–25 cents of the 33-cent total reduction in solar costs are directly attributable to lower energy prices, lower costs of capital, and one-time distortions in the polysilicon markets. Between 60%–75% of the cost saving attributed to the so-called learning curve can be explained away by these three factors." (G&R walk through similar math for wind power.)

Triple-digit oil prices and percolating interest rates have accordingly taken their toll on the economics of renewable energy. Bloomberg reports that the price of solar-grade polysilicon has jumped to $33.24 per kilogram from $6.27 two Mays ago. On account of "price competition and the rising cost of raw materials," the LG Electronics, Inc. solar-panel manufacturing plant in Huntsville, Ala., is on track for a June 30 shutdown.

. . .

At the nexus of formerly cheap energy and formerly stunted interest rates

Dividends outpace cash flow



source: company reports

stands our first pick not to click. Hannon Armstrong, founded in 1981 and public since 2013, is a real-estate investment trust that doesn't really own real estate.

It's a green REIT, as its IR chief, Neha Gaddam, tells me, dedicated to making "investments that are climate-positive." It invests in the "clean energy space," wind projects, energy storage, large-scale solar, "sustainable infrastructure," etc. So it's a unique institution with a fashion-forward mission. Which college endowment—which ESG fund—would not welcome such a beacon of contemporary right-thinking into its portfolio? In fact, the environmentally conscious investor can hardly avoid it, given that the shares are embedded in each of the following indices: WilderHill New Energy Global Innovation Index, MAC Global Solar Energy Index, Nasdaq Clean Edge U.S. Liquid Series Index, Cleantech Index, Bloomberg Goldman Sachs Global Clean Energy Index, Nasdaq OMX Green Economy Index, Tortoise Decarbonization Infrastructure Index.

As of March 31, Hannon managed $3.7 billion in on-balance-sheet investments. Such holdings—around 320 names in all—typically sit near the bottom of its investees' credit stack; $1.9 billion of the portfolio comprised equity investments, typically preferred stock. Hannon, in addition, looked after $5.3 billion's worth of securitized loans; management fees, advisory fees and gains on sale also figure in the income mix.

By some metrics, business appears to be booming. Measured year over year, the on-balance-sheet portfolio grew by 28% and the pipeline of prospective deals by a third, to more than $4 billion. Braced up by strong demand, management issued guidance, spanning 2021–24, for "distributable earnings per share" to grow by 10%–13% and dividends by 5%–8% a year.

As of the first quarter, net debt summed to $2.4 billion, or 8.9 times trailing Ebitda. Over the past 12 months, operating income covered interest expense by 2.2 times. Hannon is rated double-B-plus, the observation deck of junk, by Fitch Ratings and S&P Global Ratings.

The unique Hannon Armstrong business model appeals at least to Wall Street. Out of the 11 analysts on the case, just one says sell. Short interest sums to 8.9% of the equity float, indicating a certain amount of skepticism off Wall Street. In the past 12 months, insiders have sold a net 181,098 shares for proceeds of $10.9 million.

The broad 2022 market selloff notwithstanding, HASI is priced to deliver a 4% dividend yield (versus the 4.4% on offer in investment-grade-rated bonds) and to command a multiple of enterprise value to Ebitda of 35.6 times.

The rich valuation is testament to Hannon's bedazzling green wrapper more than to its fundamental business merits, we say. To start with, cash flow does not cover the dividend. Now, under law, a REIT is bound to distribute 90% of taxable income in shareholder dividends every year. However, since coming public in 2013, Hannon has distributed $572.7 million in dividends versus a cumulative cash flow from operations of $224.4 million. In the first quarter, it posted a deficit in cash flow from operations of $31.9 million against a $31.8 million dividend payout.

What's plugged the gap is share issuance, largely through at-the-market offerings, in the cumulative sum of $1.6 billion. Naturally, the share count has exploded, to 86.9 million as of May 3 from 16.5 million at the 2013 IPO.

It's not a bug but a feature of the Hannon business model that more project financings mean a deeper cash shortfall. This is because of the way renewable projects are financed. At the top of the capital stack sit what are called "tax equity" investors. Pure and simple, these are U.S. corporations that, to capture the tax credits on offer, receive most of the cash flow over the first five to 10 years of a project's life.

As a REIT, Hannon is inherently tax-efficient. Having no use for investments that shield the bottom line from the depredations of the tax man, it provides its customers with opportunities at the junior end of the capital structure. For senior investors to capture the tax credits associated with renewable projects, the company told me, tax equity clients typically sweep the majority of cash flows for the first five years of a solar project and the first 10 years of a wind project.

Hannon will need to issue a lot more stock if management is to hit its guidance. "Our next 12-month pipeline is about $4 billion, and we disclose deals where we are actively engaged in conversations with clients where we think there is a good chance of closing a deal," Gaddam tells me. "Historically, we've closed about 50% of the pipeline. Some deals get delayed or fall away.

"Assuming we do about $2 billion in originations per year," Gaddam goes on, "we tend to target a debt-to-equity ratio of 1.5 to 2 times; it's a combination of debt and equity. On a $2 billion

Hannon at a glance
all figures in $ millions except per share data

	TTM*	2021	2020	2019	2018
revenue	$219.9	$213.2	$186.9	$141.6	$139.4
net income	120.9	126.6	82.4	81.6	41.8
earnings per share	1.41	1.51	1.10	1.24	0.75
diluted shares	89.1	87.7	74.4	64.8	52.8
cash flow from operations	-0.5	13.3	73.3	29.5	58.8
dividend payments	117.6	113.5	99.9	86.4	71.0
cash	133.3	226.2	286.3	6.2	21.4
debt	2,516.8	2,492.9	2,189.0	1,393.8	1,313.9
total assets	4,221.7	4,148.3	3,459.1	2,387.3	2,154.9

*12 months ended March 31, 2022

source: company reports

transaction, I think we would probably do $400 million of equity and the rest debt." For a sense of scale, the most the company has raised in a single year through equity issuance was in 2021, $298.1 million; $3.2 billion is the current market capitalization.

To judge by the scant information available about the company's equity investments—a few balance-sheet and P&L items to be gleaned from the footnotes to Hannon's 10-K and 10-Q reports is all—it's not so clear that those holdings are prospering. The companies and assets that constitute this portfolio generated losses from continuing operations of $97 million in 2019, $239 million in 2020 and $582 million in 2021.

Jupiter Equity Holdings, LLC, a joint venture between Hannon and French energy company ENGIE S.A., which owns nine wind farms and four utility-scale solar projects, accounted for $450 million of last year's loss. Gaddam says that much of this red ink relates to the marking to market of certain derivative positions, although what, exactly, those derivative positions were hedging she declines to say. At year-end 2021, Jupiter was Hannon's single largest investment with a carrying value of $563 million.

A first-quarter decline in the yield on the Hannon portfolio, to 7.3% from 7.7% a year earlier, elicited a not-entirely-self-explanatory comment on the May 3 earnings call: "This reduction was primarily the result of a change in distributable earnings' accrual rates for two grid-connected projects due primarily to congestion in the southwest power pool, which resulted in a modest reduction of our long-term IRR expectations for these investments." Given that Hannon's portfolio has more than 320 different projects, one wonders how a slip in the returns on just two could have such a large impact on the portfolio's overall yield. In a follow-up call, management said that the effects of rounding and the amortization of other higher-yield projects also played a role.

. . .

We do, however, have detailed financials on Sunrun. Since we had our say in the issue of *Grant's* dated March 23, 2018, the shares have moved against us by 163.9%, a moonshot that compares with a 63.8% rise in the S&P 500, in both cases including reinvested dividends.

You'll recall that Sunrun is the nation's largest installer of residential solar panels and that its preferred financing technique is the 20-year lease. The long-tailed payments stream creates a nice cash-flow-producing asset for the company. As for Sunrun's customers, it gives them certainty about future electric bills and spares them the shock of a big installation expense. As of March 31, Sunrun had installed 4.9 gigawatts of solar capacity across 689,774 rooftops.

Like Hannon, RUN is a green-investing mainstay. It features in many of the same ESG indices as the REIT and is also a component of the Cleantech Index, the Alerian Solar Energy Index and the S&P Global Clean Energy Index.

One year ago, Sunrun and Ford Motor Co. announced a partnership that fused home electricity generation with the all-electric Ford F-150 Lightning truck. RUN, as the designated preferred installer of the Ford Charge Station Pro and the Ford Intelligent Backup Power systems, will support the transformation of the new F-150 into a mobile backup

Sun block

source: The Bloomberg

home generator. The arrangement not only opens a fresh revenue opportunity for Sunrun, but also affords its sales agents the chance to cross-sell Ford customers on a solar lease.

Sunrun's business, like Hannon's, would seem to be humming along. Measured year over year, energy capacity across Sunrun's leases expanded by 27% in the first quarter, which fact led management to raise guidance for growth in energy capacity for the full year, to 25% from 20%.

Generally accepted accounting principles tell a less flattering story. The big reason is that, whereas Sunrun incurs the costs of building a rooftop system upfront, it earns revenue over 20 years. Thus, in the first quarter, net losses to shareholders registered $87.8 million and free cash flow a deficit of $683.5 million. (Hannon, incidentally, has furnished over $200 million in mezzanine loans used to fund more than 30,000 Sunrun customers.)

Sunrun, recasting the GAAP narrative, discounts all customer payments at a 5% rate (down from 6% when we first wrote), assumes no defaults and predicts that every customer renews his or her lease for an additional 10 years after the initial 20-year term. In the first quarter, lessees so appraised were valued at $37,004 versus a cost of $29,863, yielding a net subscriber value of $7,141. In aggregate, by its telling, Sunrun manages $4.5 billion in net earning assets compared to a current market capitalization of $4.7 billion.

Acknowledging a rise in the cost to build new systems, management has begun increasing prices and says it expects net subscriber value to go up by $3,000, to $10,000, by the third quarter.

With 17 of the 21 analysts rating the stock a buy and only one a sell, Sunrun has its Wall Street fans, though with 17.7% of the float sold short, it's clear (as it is with Hannon) that doubts prevail elsewhere. For their part, insiders sold 498,902 shares over the past 12 months for proceeds of $22.1 million.

Despite a balance sheet that, as of March 31, bulged with $8.2 billion in net debt (much of it secured against leased solar panels rather than by a Sunrun guarantee), those obligations are unrated at the corporate level. In the first quarter, the company posted a $181.5 million operating loss before $92.3 million in interest expense.

The uptick in the cost of borrowing is causing more than a few investors to question the company's assumed 5% discount rate. On the May 4 call, management said its latest securitization of customer leases had achieved a cost of 4½%, but that includes 100 basis points of savings derived from an interest rate swap. The earnings presentation contained some hypothetical examples of how rising rates could deflate net subscriber value. Thus, a rate of 5.25% would correspond with a decline of $750, a rate of 5.75% with a decline of $2,100, or two-thirds, in the latter case, of the previously announced price hike.

There are other ways to calculate the profitability of Sunrun's leasing business. You can estimate the gross cash flows from leasing by taking the revenue from customer agreements, subtracting the direct costs of those agreements (both line items are on the income statement) and adding back depreciation and amortization expenses (from the cash flow statement). This excludes the revenues and costs from solar-system sales and expenses like marketing, research and development and general and administrative costs.

James S. Chanos, founder and managing partner of Kynikos Associates, L.P., elaborated in a series of tweets under the handle @WallStCynic:

> In the $RUN 1Q that Leasing [net operating income] figure was $114M vs $106M in 1Q 2021. It was actually DOWN from $116M in the 4Q. During the 1Q, Sunrun's capital employed increased $700M(!), from $15.1B to $15.8B. See the problem? At an annualized $456M, $RUN's leasing NOI is producing panel cash-on-cash returns of less than 3% on average capital employed! This is well below the debt/equity rates they are financing these deals at with third-parties. And it has been getting worse lately.

In other words, Sunrun's leasing business generated a 2.9% annualized return on capital employed in the first quarter, and that was before general corporate expenses. It would appear that the company is unable to generate a profit even at interest rates as low as the 4.5% that management paid on the last securitization, which includes the benefit of the aforementioned swap.

As we go to press, the Sunrun senior unsecured zero converts of 2026 are trading at $73.19 for a yield to maturity of 8.7%. Nor is our sparring partner the only solar company to face higher financing costs—the senior unsecured 5⅞s of 2026 of peer Sunnova Energy Corp. are priced to yield 9.2%.

Sunrun lowered the discount rate it uses to calculate net customer value by 100 basis points on the Feb. 25, 2021 earnings release, or nine months into Tom vonReichbauer's tenure as chief financial officer. VonReichbauer, 40, is slated to retire this month, two years after taking the job. Perhaps it's also time to retire his rate assumptions.

•