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INVESTOR WATCH: WHY GENON IS TURNING OFF POWER PLANTS

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One of the largest IPPs in North America wants to pursue a repowering strategy at legacy coal sites. Others are looking to do the same. But some industry experts have their doubts, reports Onofrio Castiglia

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"The sound was incredible," says David Bennett as he looks up to a silenced coal-fired boiler at the Dickerson Generating Station in Maryland, northwest of Washington.

Sixty-three-year-old Bennett started working at the plant in 1982 when it was owned by public utility Pepco. But in August last year IPP owner GenOn stopped coal operations, making the need for his ear plugs a formality rather than a necessity.

In the year since, GenOn has announced additional coal plant closures in Maryland, Pennsylvania and Ohio.

Some of those facilities are part of a repowering strategy GenOn's owner Strategic Value Partners (SVP) has been discreetly pursuing for three years, following its purchase of an equity stake through GenOn's bankruptcy in 2017.

GenOn is due to develop nearly 1.5 GW of battery storage combined with 100 MW of solar that would enhance generation capacity across its existing footprint of thermal assets in the PJM region.

Jonathan Sacks, a senior vice president at GenOn, says there is a growing movement among North American thermal power companies around not just re-powering, but co-location and expansion of existing sites to include solar and storage.

"You see it not just with us but there's a number of entities pursuing this," he says, noting Talen's JV with Pattern, to redevelop and expand existing sites.

"It's a big trend."

The list of examples is growing.

Longview Power is developing a 1,200 MW natural gas-fired combined cycle power plant and a 70 MW solar facility that will be built adjacent to its 700 MW coal-fired power plant in Maidsville, W.Va.; LS Power is constructing a 316 MW battery storage project on a portion of the Ravenswood Generating Station property in Long Island City, Queens, New York.; and Vistra is developing the 400-MW/1,600-MWh Moss Landing energy storage project in California, which is said to be the largest battery storage project in the world.

But examples of these assets being successfully monetized post-repowering are limited.

"Any owner today of a power plant over 20 years old is or is about to be looking at this," says Patrick Verdonck, founder at advisory firm Rhynland, which is working with GenOn on its repowering plan.

Like others, GenOn's aim is to squeeze additional value out of existing assets and generate shareholder returns.

In the last year, it has explored sales of at least two different thermal generation portfolios, and a repowering initiative could make them more attractive to a wider range of buyers. In October 2020, GenOn launched a sale of a 3,395 MW portfolio of merchant generation assets, including Dickerson, along with ash landfill sites located in the PJM Interconnection; and in June of last year, it launched a sale of another 2,382 MW portfolio, Heritage Power Holdings, the owner of 16 steam, combined-cycle gas turbine and combustion turbine power plants.

The repowering effort also runs alongside SVP's effort to take dividends on remaining asset portfolios.

GenOn recently raised USD 200m in debt financing for a dividend and recapitalizing of a 1.9 GW power generation portfolio in Maryland, which includes the oil- and gas-fired operations at both Chalk Point and Dickerson. The company has said that this relates only to operating assets and not repowering.

The debt-raise, which was downsized from USD 305m at launch, still represents the bank market's willingness to leverage and underwrite deals for thermal generation portfolios, potentially signifying a multi-year runway for GenOn and others to pursue repowering strategies while continuing to run adjacent plants.

Exploring options

Drivers with flatbed trucks have been coming to Dickerson to haul away scrap machinery and material, as crews tear up the plant.

Selling the scraps has been the sole source of revenue at the former coal facility, which now consumes power instead of producing it, says Bennett.

At Dickerson, 200 acres including the former coal station and adjacent facilities has been toured by several prospective buyers recently.

Data center and battery storage development have been discussed as possible options for the site, and about 10 acres that used to serve as the former coal yard could potentially host solar panels.

"GenOn's exploring as many options as it can," Bennett says. "Data centers are big; this is a good spot for that. They consume a lot of power."

But to match the plant's 537 MW coal output with solar would require fields of panels stretching toward the DC suburbs – land the facility just doesn't have, Bennet notes. As he spoke a red fox appeared from the grass, one of many examples of wildlife seen more frequently since the plant's shuttering.

A combination of solar and battery storage has been submitted to PJM because the land needs of all solar are far more than the available lands in the constrained suburban Washington D.C. region of Maryland, said one company executive.

The plot is part of a greater property that includes GenOn's gas and oil-fired Dickerson Power asset which is not currently for sale. The total lands are about 668 acres with over 200 acres zoned heavy industrial.

One source familiar with the operation says Dickerson could host 500 MW of storage for as little as USD 5m of upgrade costs.

"That's, like, almost unheard of, in PJM, to be able to put 500 MW on the grid for essentially a rounding error," the source says, adding that such projects typically have [USD 50m to USD 100m] of upgrade costs. "There's value there, it's just really hard to quantify."

An analyst at a large investment bank, says the returns a coal site converted to renewables and storage can generate are entirely case by case and highly site-specific.

"The vast majority of solar power plants are greenfield projects rather than conversions [or] repowerings, so there aren't many historical examples to look at," the analyst says.

Bennett is also running a decommissioning project at GenOn's former 670 MW Chalk Point coal units in Aquasco – about two hours' drive from Dickerson, on the other side of Washington.

He's enthusiastic for the repowering plan but expresses concerns about how it will work in practice.

"Who is going to supply the baseload power?" he says. "One of the advantages coal-fired power plants had over everybody else is, our fuel was right on site."

Ultimately, there must be faith in the new technology, he says.

"Battery storage is one thing that we should invest a lot in, but then you're still going to [need] some peaking power out there somewhere."

Legacy advantages

Thermal stakeholders across the US and in Europe are currently considering how to realize the full value of many legacy sites, which are attractive for their existing transmission capabilities, access to water and site permit, among other things.

GenOn's 3,628 MW coal footprint across five sites in the PJM creates some obvious candidates for redevelopment. Of that, about 2,400 MW – comprising three coal facilities in Maryland – would be best for repowering projects, according to one advisor observing the situation.

According to a company executive, the potential for co-development exists at other of GenOn's generation sites across PJM.

Besides Dickerson and Chalk Point, there is the 1,477 MW Morgantown facility in Newburg, Maryland, which has a landscape and building structure like Dickerson, but there is currently talk of regional economic development officials wanting to put a casino there.

GenOn's legacy sites have been related to utilities including Dominion and Pepco for decades – with each company holding easements or owning adjacent generation and transmission infrastructure – which would imply less public resistance to a repowering project than a large greenfield development.

"You throw some batteries down next to a gas turbine and people don't even realize," Sacks says. "But

changing a zoning designation can become difficult politically."

The IPP has been working on desktop designs to maximize the excess land that it owns at properties and sites around PJM and California.

"The first thing we did is a prelim environmental analysis to identify areas that would be wetlands or habitats for sensitive species, and we basically designed layouts incorporating solar and energy storage to maximize the acreage and development opportunities that we have," Sacks says.

At Dickerson, PJM allowed GenOn to retain interconnection rights, so when the IPP shut down the coal generation there it simultaneously submitted an interconnection application.

"It has grandfathered [interconnection] rights and we're hoping to maintain those," Sacks says.

"In PJM for example, there are a few times a year that you can submit an application," he says of greenfield development.

It can take up to three years to get through the interconnection process, he says. Then, at the back-end of that process, stakeholders may be responsible for network upgrades and transmission upgrades that the utility must construct but the developer must pay for.

"And it's on the utility's timeline, and they may tell you it's multiple years before then can implement your upgrades," Sacks says.

"So one of the advantages that we've seen play out is that our sites, and sites like ours, don't require a ton of upgrades."

GenOn must still go through the process, "but you're not looking at a USD 100m bill to have your work done," Sacks says. "The [interconnection] process is the number one risk for developers of a new project – because it takes so long and it's extremely difficult, if not impossible, to have somebody other than PJM run the analysis."

"The value of a solar storage development on a coal site relative to a greenfield site is improved to the extent that you can avoid interconnection costs that you might otherwise incur," says one advisor. But the source notes those savings are typically offset by the cost of remediation.

GenOn's advisor Verdonck points to physical infrastructure such as substations and transmission lines, but also rights of the owner of the assets to put power on the grid. Those rights have different names in different regions: in California they're called deliverability; in PJM they're called CIRs (Capacity Interconnection Rights).

"You have on the interconnection side a physical benefit, which reduces costs, but then you also have entitlements," he says.

Legacy sites – particularly coal-based power plants – have historically hosted generation technologies that are heavily polluting. To build batteries on a coal site typically requires no water, no carbon emissions, and so massively improves the environmental footprint, creating a receptive permitting environment among regulators.

"We've gotten favorable results from the interconnection process," Sacks says. "The sites are obviously favorably zoned. There's that type of utility usage in play, so you don't have a lot of the land-use issues with greenfield development."

Those North American states which have traditionally been the most receptive to renewable energy development will likely offer the best near-term opportunities for repowering.

“The location matters,” Verdonck says. “You’re going to see the most interesting repowerings happen at assets that have locational advantage, primarily being located proximate to load.”

Legacy power generation in geographies less receptive to the renewables transition is going to be more interesting story later, he adds.

Plant manager Bennett says sites that are “clearly industrial” and away from population centers, such as Dickerson and Chalk Point, will likely be best for repowering.

The Potomac River Generating Station in Alexandria, Virginia and Avon Lake in Ohio are being eyed by communities for redevelopment projects that will afford access to the public, such as parks or shopping malls. Potomac River, leased by GenOn and formerly owned by Pepco, was recently sold to an Illinois redevelopment firm which has announced intentions for mixed residential and commercial use.

“If anything, you want to put retail in there,” Bennett says of Potomac River. “[In Avon Lake] you can do improved city infrastructure.”

GenOn’s 54 MW Ellwood and 1,491 MW Ormond Beach natural gas plants in California have multi-year RA contracts (Ormond was authorized to continue to operate through 2023 by the state of California last year), and the 1,145 MW Bowline facility in New York will be selling power for a while yet.

“Obviously the coal-fired facilities are the ones,” Bennett says of repowering development.

Once viable, sell

Any repowering plan still carries significant development risk.

An interconnection process is typically required to change the nature of the generator (something that independent system operators will want to study) and the permits for an existing generator do not typically cover batteries.

Once interconnection approval and a PPA are obtained, the project is viable.

It’s possible GenOn (and other companies in similar positions) may seek to sell the assets at this stage.

“There are opportunities to divest a project prior to operation that are attractive to a developer,” says one industry executive with knowledge of the sector.

In 2018 Strategic Value Partners, which did not respond to request for comment, monetized the Riverside energy-from-waste (EfW) plant in London with Commerzbank and EQT Credit after taking over the business in August 2015 via a debt-for-equity swap as part of a High Court sanctioned restructuring.

It also acquired the SH 130 Concession Company following a Chapter 11 bankruptcy, removing USD 1.4bn of debt.

Ultimately, any owner of a legacy coal site is going to have to explore all options for monetizing their assets, and yet it’s still not clear whether state policy will facilitate repowering efforts in every case.

“It’s not going to work at every site,” says a source familiar with GenOn’s repowering efforts of putting solar and storage at shuttered coal facilities. “It’s not a panacea."

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