Photovoltaic & Storage for Fall 2021, Part 3, States, Megafactory

By John Benson

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1. Introduction

This is Part 3 of a Three-Part Series photovoltaic (PV) and battery energy storage system (BESS) projects in the U.S. The first two parts are described and linked below.

This is First-Part of a Three-Part Series of posts. It started out as a single post, but quickly grew to twice my preferred length for a post. Then I discovered an amazing (and huge) report on the future of Solar Energy.

This report is based on a conclusion that I have held for several years: Solar Energy's amazing development and rapidly exploding deployments can only lead me to believe that it will accept a lion's share of renewable energy's displacement of greenhouse gas (GHG) emitting electric energy sources.

This post is a summary of DOE's "Solar Futures Study," the report described above.

https://energycentral.com/c/cp/photovoltaic-storage-fall-2021-part-1-roles

This is the second post in the three part series. My last post on this subject was in mid-June, and it was a real chore.

Because of the above described issue, I have made some slight changes to the process I use on this paper. The first is the duration of project and information accumulation period (3 months). The second change is that my criteria: a given project can either be battery energy storage system (BESS) project, a photovoltaic (PV) project, or a project that incorporates both of these systems, however at least one of the project's technologies must be over 100 MW. The other change is, I'm including the link for all information sources for projects, and verifying this link, but not putting in a full footnote reference for projects. Each link will be immediately under the information quoted from the article.

Section 2 was for the U.S. utility scale BESS and storage market in general. Each of the following sections is for the major projects and other information for a single state and these sections are in alphabetical order by state, up through Florida. Part 3, to be posted next Tuesday, will cover the remaining states.

https://energycentral.com/c/cp/photovoltaic-storage-fall-2021-part-2-us-and-states

Section 2, below is some late-breaking news on Tesla's first Megafactory, each of the following sections is for the major projects and other information for a single state and these sections are in alphabetical order by state, from Indiana through Wisconsin.

2. Megafactory

Four days before this paper was scheduled to post information on Tesla's Megafactory appeared. I believe it is important enough to slip this section in.

Tesla broke ground on its "Megafactory," a new production facility in California, so christened because it will produce the company's large-scale battery system Megapack.[1]

News of the previously unannounced factory was confirmed by the Lathrop Mayor Sonny Dhaliwal in a Facebook post that was deleted and re-posted. "We are proud to be the home of the Megafactory, Tesla's most recent expansion here," he said. "The future of green energy will be produced right here in our community…"

Megapacks, as well as Tesla's other energy storage products, were being manufactured at the electric automaker's so-called "Gigafactory" in Sparks, Nevada. This is the first facility dedicated to the Megapack, though it's unclear if production of Tesla's other storage products -- which include Powerwall and Powerpacks -- will shift to the new factory.

The new factory is a positive signal for the automaker's growing Energy division. As opposed to the Powerwall, which is a home consumer battery product, the Megapack is meant for utility-scale energy storage. Utilities building solar and wind farms are increasingly pairing these with large batteries to store excess energy to discharge to the grid later. Just last week, the Arizona electric utility Salt River Project brought online a 100 megawatt-hour Megapack project.

In a second-quarter earnings call in June, CEO Elon Musk confirmed that there was "significant unmet demand" for these storage products, adding that the Megapack was "basically sold out through next year." He also estimated demand for Powerwall to be in excess of 1 million units per year.

Much of the bottleneck isn't merely due to production capacity -- Musk also told investors that cell supply and the global semiconductor shortage were creating production ceilings.

"We use a lot of the same chips in the Powerwall as you do in a car, so it's like, which one do want to make?" he said. "Cars or Powerwalls? So we need to make cars, so that will -- Powerwall production has been reduced."

Author's Note: Both battery cell supply as well as integrated circuit (chip) supply appear to be easing, and should be OK next year (per Elon). I would hope that this new type of factory will be the start of Tesla applying some of the applicable techniques it uses to manufacture EVs to mass-produce Megapack cabinets in the face of rapidly rising demand. Go through the link below for a description of the Megapack.

https://www.tesla.com/megapack

From an earlier post: ***Lathrop Factory*** *-- Lathrup is a small town in San Joaquin County, just east of the southern San Francisco Bay Area. In 2014, Tesla started leasing warehouses there, as it is roughly halfway between the Fremont "mothership" factory and Gigafactory 1 in Nevada. Tesla has steadily expanded this campus over the years, built their own 500,000 sq. ft. facility, and have long-term leases on another (roughly) 500,000 sq. ft. It is believed that they have parts-manufacturing, warehouses, and a major hub for vehicle delivery to new buyers in this campus.* [2]

[1] Aria Alamalhodaei, Tech Crunch via Yahoo News, "Tesla's battery-manufacturing 'Megafactory' breaks ground in California," Sep 23, 2021, https://news.yahoo.com/teslas-battery-manufacturing-megafactory-breaks-153937916.html

[2] Fred Lambert, Electrek, "Closer look at Tesla's giant new building in Northern California" March 25, 2019, https://electrek.co/2019/03/25/tesla-giant-building-lathrop/

3. Indiana

AEP Energy and Doral Renewables signed a long-term renewable energy purchase agreement for the second phase of the Mammoth solar project in Indiana.

*The 360 MW **Mammoth Solar II** is part of the 1.65 GW Mammoth project being developed by Doral on roughly 12,000 acres in Starke and Pulaski counties in northern Indiana.*

The agreement follows a long-term renewable energy purchase agreement signed by the two in April for the first phase of the project, covering 480 MW.

Mammoth Solar II is expected to begin construction during 2022 and reach commercial operation in 2024.

https://pv-magazine-usa.com/2021/08/10/aep-energy-procures-more-capacity-from-mammoth-project-in-indiana/

AES Indiana said it plans to acquire a 250 MW solar + 180 MWh energy storage facility in Pike County, Indiana.

*The project in southwest Indiana would be connected to the utility's existing coal-fired Petersburg Generating Station. AES Indiana will acquire the project from a unit of NextEra Energy Resources, which will develop and build the **Petersburg solar project**.*

Indiana regulators must approve the project, which could enter service by May 1, 2024.

The utility is retiring two coal-fired units at the Petersburg plant in 2023, affecting around 630 MW of capacity. Last August, it reached a settlement agreement with the Environmental Protection Agency, the Department of Justice, and the Indiana Department of Environmental Management to resolve alleged Clean Air Act violations at the power plant.

Under the settlement, the utility agreed to spend $5 million on a non-emitting generation source to support the Petersburg plant's auxiliary load requirements and partially offset emissions.

*In June, AES Indiana received regulatory approval to acquire the **Hardy Hills** 195 MW solar project in Clinton County, northwest of Indianapolis. Construction on the Hardy Hills project is expected to begin in the fall and reach commercial operation in 2023. Invenergy will develop the project and manage construction.*

https://pv-magazine-usa.com/2021/08/02/aes-indiana-plans-to-add-solar-storage-at-a-plant-cited-for-clean-air-act-violations/

*Earlier this month, Leeward Renewable Energy acquired the rights to the 150 MW **Blackford Solar** project from developer Tri Global Energy. That project, located in Blackford County, Indiana, northeast of Indianapolis, was originated in 2019. Tri Global is in the process of securing permits before construction starts. The project is expected to enter service in 2023.*

*In May, RES announced the company was working with local officials in St. Joseph County to bring a 150 MW solar installation to the area, dubbed **Project Honeysuckle**. According to RES, Honeysuckle has been in the works for more than a year and the company is looking to begin construction in 2022 and finish in 2023.*

*In March, Northern Indiana Public Service Co. (NIPSCO) signed a build-transfer agreement for the 200 MW **Elliot Solar** project, set to be built in the southwestern part of the state with Capital Dynamics.*

*Later, the utility company announced 900 MW of solar across three projects: the 200 MW **Cavalry Solar project**, paired with 60 MW of energy storage; the 265 MW **Dunns Bridge Solar I** project; and the 435 MW of solar and 75 MW of battery storage **Dunns Bridge Solar II** project.*

*NIPSCO also signed a long-term power purchase agreement for 280 MW of the power generated by Capital Dynamics' upcoming **Gibson Solar** project and a build & transfer agreement for the 200 MW **Indiana Crossroads Solar Park**.*

https://pv-magazine-usa.com/2021/06/21/another-massive-solar-project-is-approved-in-indiana/

Nextracker said that Arevon Energy has selected its technology for an upcoming 1.5 GW portfolio of projects in Indiana and Nevada.

Nextracker will supply NX Horizon smart solar trackers with TrueCapture and NX Navigator software and control systems. The purchase price was not disclosed.

*Indiana will host three of the solar power plants: **Ratts 1** and **Ratts 2** (both 150 MW), and **Posey** (300 MW).*

https://pv-magazine-usa.com/2021/08/31/arevon-energy-taps-nextracker-for-1-6-gw-of-solar-projects/

4. Louisiana

… McDonald's, eBay sign up to purchase solar from 345 MW Louisiana project – pv magazine USA

*The two companies have signed on to purchase shares of the energy generated by Lightsource bp's upcoming 345 MW **Ventress Solar project**.*

McDonald's and eBay have both reached agreements with Lightsource bp to purchase power from what is planned to be Louisiana's largest solar project, located 30 miles northwest of Baton Rouge in Pointe Coupee Parish.

The installation in question is the 345 MW Ventress Solar project, set to start construction by the end of this year and slated for completion in 2023. Lightsource bp is developing the project and acting as owner-operator.

https://fintechzoom.com/fintech_news_ebay/ebay-mcdonalds-ebay-sign-up-to-purchase-solar-from-345-mw-louisiana-project-pv-magazine-usa/

5. Michigan

Invenergy said it completed term and construction financing for the 200 MW Calhoun Solar project, its first solar project in Michigan.

CoBank, Natixis, and Export Development Canada acted as lead arrangers for the financing, which includes a construction loan that converts into a back-leverage term loan, sponsor bridge loan, and letter of credit facility.

Located in Calhoun County in the south central part of the state, the project is under construction on 1,200 acres of land and is slated to enter service in 2022.

Chicago-based Invenergy has three separate long-term power purchase agreements with utilities for the output. Consumers Energy will buy 140 MW, Michigan Public Power Agency will buy 50 MW, and Lansing Board of Water & Light will buy 10 MW.

https://pv-magazine-usa.com/2021/09/02/invenergy-lines-up-finance-for-200-mw-michigan-project/

6. Nevada

Las Vegas-based NV Energy wants to add two solar plus storage projects, which would total 600 MW of energy and 480 MW of storage. The projects would replace the coal-fired North Valmy Generation Station, located in Winnemucca, Nevada, by 2025. The projects would be developed by Primergy Solar and would provide 16 permanent jobs once they enter service.

***Iron Point Solar Project** would be a 250 MW solar PV system paired with 200 MWs of battery storage. The project has an expected in-service date of December 2023. And **Hot Pot Solar Project** would be a 350 MW solar PV system paired with 280 MW of battery storage. The project has an expected in-service date of December 2024.*

https://pv-magazine-usa.com/2021/06/09/sunrise-brief-nv-energy-plans-to-replace-a-coal-plant-with-600-mw-of-solar-and-480-mw-of-storage/

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*The 250 MW **Citadel** project will be located outside of Reno, Nevada, and the 232 MW **Townsite** plant will be in Boulder City, Nevada.*

The projects are all expected to be operational by the end of 2023.

https://pv-magazine-usa.com/2021/08/31/arevon-energy-taps-nextracker-for-1-6-gw-of-solar-projects/

7. New Mexico

D. E. Shaw Renewable Investments said it closed its acquisition of and debt financing for the Arroyo Solar and Storage project.

Arroyo is a 300 MW solar and 150 MW/600 MWh battery energy storage system facility that is being developed in McKinley County, New Mexico near Gallup.

The first phase of the project is expected to enter service in June 2022, with full commercial operation anticipated for fall 2022. D.E. Shaw acquired the project from the original developer, Centaurus Renewable Energy.

Arroyo has two offtake contracts with Public Service Company of New Mexico for the solar and storage output…

Sundt Construction will build the solar facility, which will use Nextracker trackers… Tesla will supply and commission Megapacks for the facility, and New Mexico-based Affordable Solar Installation will construct the battery energy storage system…

https://pv-magazine-usa.com/2021/09/20/d-e-shaw-lines-up-financing-for-solar-and-energy-storage-project/

8. New York

*Construction of a 240 MW solar plant (**Rich Road** project) in the northern reaches of New York State was proposed by EDF Renewables. The proposed project would also entail the buildout of 20 MW/80 MWh of battery energy storage capacity.*

The northern NY facility, close to Ottawa, Canada, is expected to generate $24 million in direct payments for the Town of Canton, and St. Lawrence County's local school district and will be proposed through a combination of Payment in Lieu of Taxes and property tax payments, said EDF Renewables…

Before the project is built, 78 miles of transmission lines called the Moses-Adirondack line, constructed by the federal government in 1942, will need to be rebuilt. This phase is slated to be completed in 2023. Final project completion is currently scheduled for 2025.

https://pv-magazine-usa.com/2021/08/12/240-mw-pv-20-mw-storage-proposed-in-upstate-ny/

Chicago-based Hecate Energy filed an application with the New York State Office of Renewable Energy Siting (ORES) to build a $500 million, 500 MW solar farm in the towns of Elba and Oakfield, southwest of Rochester.

*If approved and built, the **Cider Solar Farm** would be one of the largest solar projects built in New York State.*

Hecate Energy said the proposed project would interconnect on-site to the New York Power Authority Dysinger – New Rochester 345kV transmission line to deliver power to the New York State electricity grid. The project would be built between 2022 and 2023, with a planned in-service date of late 2023.

https://pv-magazine-usa.com/2021/06/09/hecate-energy-plans-a-500-million-500-mw-solar-project-in-new-york-state/

9. Ohio

The Ohio Power Siting Board in just the last month has announced public hearings for six proposed solar projects, totaling more than 1.1 GW in potential capacity.

The projects, while not all guaranteed to advance, represent a new level of developer interest in the state. Some of the proposed capacities would rival the largest projects being constructed in the country's sunniest areas.

Among the six proposed projects include the 300 MW Birch Solar project proposed by Lightsource bp, and the 300 MW Yellow Wood Solar project, which would be developed by Invenergy.

*The **Birch Solar project** would be constructed in Allen and Auglaize counties, southwest of Toledo. Lightsource bp said that it intends to use 590W monocrystalline*

modules from Trina Solar, Power Electronics' PE 3350 inverters, and Array Technologies DuraTrack HZv3 trackers. The hardware specifics could change as the project advances.

*The **Yellow Wood Solar Project** would be constructed by Invenergy in Clinton County, midway between Cincinnati and Columbus. For this project, the developer said it would use modules from Longi, inverters from TMEIC inverter, trackers from NEXTracker, Soltec, or Array Technologies. Specific models were not disclosed, and the application outlined potential module and inverter substitutions.*

The remaining four projects are still of considerable size:

*The 100 MW **Marion County Solar Project**, set to be developed by Savion Energy, would include a 20 MW energy storage system. The project, planned for Marion County, just north of Columbus, would use Tier-1 solar modules, with applicants identifying Risen, Jinko, Trina, Longi as possible providers. Inverter mounting system specifics were not disclosed.*

*The 120 MW **Tymochtee Solar project** would be developed by Apex Clean Energy in Wyandot County, also north of Columbus. Hardware details were not available, other than it will use bifacial solar modules mounted on single-axis trackers.*

*The 117 MW **Dodson Creek Solar project** would be developed by National Grid Renewables in Highland County, east of Cincinnati. National Grid is considering Solar Ware, SMA, and SunGrow inverters; First Solar Series 6, Longi LR5, Vertex TSM-DEG 201C.20, Canadian Solar BiHiKu6 Mono, and JA Solar Deep Blue 3.0 modules, and Soltec, FTC Solar and NEXTracker trackers.*

*The 175 MW **Kingswood Solar project** would be developed by Vesper Energy in Xenia, Cedarville, and Miami townships, near Dayton. Hardware specifics have not been finalized, with the developer stating only that it would use Tier 1 solar modules. The inverter supplier and mounting system of choice have not yet been decided.*

https://pv-magazine-usa.com/2021/08/30/developers-target-ohio-for-big-solar-capacity-additions/

The Ohio Power Siting Board has approved applications filed by Fox Squirrel Solar, LLC and Powell Creek Solar, LLC to construct two solar projects, one of which will rank as one of the largest in the state and the other as one of the largest in the U.S.

*The smaller of the two projects is the 150 MW **Powell Creek Solar project**, which will occupy just under 1,000 acres within an approximately 2,000-acre site in Putnam County, south of Toledo.*

The project is being developed by Avangrid Renewables, a developer with more than 7,000 MW of owned and controlled wind and solar power facilities in the U.S.

*The larger project is the 577 MW **Fox Squirrel Solar project**, which will occupy approximately 3,444 acres within a 3,766-acre area located in Madison County, west of Columbus. As with Powell Creek, hardware specifics are not yet available, with the only information being that the modules will be ground-mounted.*

Fox Squirrel Solar is being developed by EDF Renewables. It is part of a 4.5 GW development pipeline that EDF acquired last autumn from North Carolina-based Geenex

Solar. The portfolio of project assets include 20 solar projects in various stages of development. The first projects expect commercial operation in 2023 with other projects to follow.

Fox Squirrel Solar's capacity is 50 MW greater than the state's entire installed solar capacity of around 527 MW.

https://pv-magazine-usa.com/2021/07/16/ohio-siting-board-approves-one-of-the-largest-u-s-solar-projects/

The Ohio Power Siting Board (OPSB) will hold an in-person public hearing regarding two solar systems among the largest planned for the state's near future: the ***Wheatsborough Solar project*** *and the* ***Sycamore Creek Solar project****.*

The Wheatsborough Solar project would be a 125 MW array, coupled with a 50 MW battery energy storage system (BESS) in Groton Township, Erie County, between Cleveland and Toledo. Sycamore Creek would be a 117 MW standalone project in Cranberry Township, Crawford County, also between Cleveland and Toledo.

The Wheatsborough Solar project is being developed by Apex Clean Energy, while the Sycamore Creek project is being developed by National Grid Renewables.

The hearings, which are set to take place at 6 p.m., EST on July 7 at Margaretta High School for Wheatsborough and 6 p.m., EST on July 22 at Bucyrus Public Library, are intended to give unaffiliated individuals an opportunity to provide testimony regarding the proposed facility, before OPSB decides whether to approve the project or not.

The installations would be among the largest in Ohio and Wheatsborough's paired battery would be the largest BESS known to pv magazine in the state. The projects would provide a significant boost to the state's overall installed solar capacity, which currently sits at roughly 530 MW, the majority of which came online in 2020.

https://pv-magazine-usa.com/2021/06/22/hearings-set-for-two-massive-ohio-solar-projects/

The Ohio Power Siting Board approved the applications for three utility-scale solar projects that are expected to bring more than 530 MW of combined capacity to the Buckeye State.

The projects are the 109.9 MW ***Mark Center Solar project****, the 125 MW Wheatsborough Solar project (****see prior post****) and its accompanying 50 MW battery energy storage system (BESS), and the 300 MW* ***Hardin Solar Energy III project****…*

The Mark Center Solar Project will occupy roughly 665 acres within an 877-acre project area in Defiance County, west of Toledo. The project is being developed by Candela Renewables, a developer formed by NextLight Renewable Power and First Solar alums Brian Kunz and Nik Novograd…

The biggest of the bunch, the 300 MW Hardin Solar Energy III project, will be located in Hardin County in south central Ohio. Developed by Invenergy, the project is the third in a group that includes the 150 MW Hardin Solar I project and the 170 MW Hardin Solar II project. Hardin II also includes a 60 MW lithium-ion BESS.

Modules will be mounted on single-axis trackers affixed to piles sunk 10 to 15 feet below grade. Invenergy said the depth of the footing notes is necessary "in areas with freeze thaw or loose soils, such as Hardin County."

https://pv-magazine-usa.com/2021/09/17/ohio-approves-more-than-530-mw-of-solar-additions/

10. Pennsylvania

Renewable energy developer Competitive Power Ventures (CPV) reached a power purchase agreement (PPA) with Hydro, an aluminum producer based in Oslo, Norway, for electricity generated by the 127 MW CPV ***Maple Hill solar*** *installation, which is expected to be one of the largest installations in Pennsylvania.*

Electricity will power Hydro's aluminum extrusion facility in Cressona, Pennsylvania, one of the largest of its kind in the world.

Maple Hill began construction earlier this year and will start providing power to the Hydro facility next summer. The solar field will consist of 237,000 Talesun bifacial panels on a single-axis tracking system to maximize energy production. The tracker provider has yet to be disclosed.

The deal marks Hydro's first long-term energy contract in the United States.

While Maple Hill would be a considerably large project just about anywhere in the country, it is especially so in Pennsylvania. When completed, it will represent roughly one-sixth of the state's entire installed solar capacity, which currently is around 787 MW, according to the Solar Energy Industries Association. Of that capacity, 265 MW entered service in 2020, with the majority of those projects being utility-scale.

In March, the state government executed a 15-year fixed-price supply agreement for seven new solar energy arrays, totaling 191 MW, that are being built by Lightsource bp, which also will own and operate the capacity. The move represented one of the largest solar commitments by any state government in the country, and the portfolio is expected to go into operation on Jan. 1, 2023.

The projects are part of the governor's GreenGov initiative, Project to Utilize Light and Solar Energy (PULSE).

https://pv-magazine-usa.com/2021/08/27/ppa-signed-for-output-from-127-mw-pennsylvania-solar-facility/

11. South Carolina

Santee Cooper is boosting its solar generation portfolio, coming to terms on a contract for a 27.5% share of 425 MW of new utility-scale solar set to become active in South Carolina in 2023.

Central Electric Power Cooperative, Santee Cooper's largest customer, finalized contracts with the same developers for the remaining share of about 308 MW.

The 425 MW will be coming to South Carolina across five projects and represents an addition of roughly 40% of the state's current installed solar capacity. Nashville-based Silicon Ranch will build, own, and operate two projects near Charleston in Georgetown

*County totaling 200 MW. The projects are named **Lambert I** and **Lambert II** and are expected to be operational in the fourth quarter of 2023.*

*Birdseye Renewable Energy, a developer based in Charlotte, North Carolina and subsidiary of Dominion Energy, is developing a 75 MW solar farm in Aiken County, named **Chester White**. Chester White is expected to be operational in the west-central part of the state in the fourth quarter of 2023.*

*Ecoplexus, a developer with offices in Durham, North Carolina, will build a 75 MW solar project in Williamsburg County, northeast of Charleston. That project will be named **Hemingway** and is expected to be operational in the second quarter of 2023.*

*The final project, a 75-MW solar farm near **Summerville**, in Dorchester County, will be developed by Johnson Development Associates, based in Spartanburg. The project, the only one of the group yet to be named, is expected to be operational in the fourth quarter of 2023.*

Although Santee Cooper and Central have contracted separately for their share of each project, Santee Cooper will manage the projects as part of its combined power system. As the aggregator for the state's individual electric cooperatives, Central represents about 72.5% of the system load.

This group of solar projects represents the first of three phases Santee Cooper is undertaking to ensure a greener mix in its generation portfolio. The two remaining phases, approximately 500 MW each, are scheduled for later in the 2020s and early 2030s.

The additions should also help Santee Cooper to improve its position as a solar player in the Southeast U.S. The newest edition of the "Southern Alliance for Clean Energy's Solar in the Southeast" report has Santee Cooper near the bottom of all the region's major utilities in terms of installed watts of solar capacity per electricity customer. The report's four-year outlook predicted some improvement for the utility, boosting its watts-per-customer ratio from 83 in 2020 to an anticipated 644 in 2024.

https://pv-magazine-usa.com/2021/06/23/santee-cooper-and-central-electric-power-contract-for-425-mw-of-new-south-carolina-solar/

12. Texas

*Constellation has come to terms on an agreement to buy power and project-specific renewable energy certificates (RECs) equal to 140 MW from the 200 MW **Big Star Solar Project**, currently under development in Bastrop County, Texas, just outside of Austin.*

The energy and RECs will be used to fill power agreements with PepsiCo, McCormick & Co., Best Buy and two Viacom-owned TV stations. Each customer signed an equivalent long-term agreement with Constellation to receive energy and RECs from the project as part of their retail electric supply contract.

The supply agreements were carried out through the Constellation Offsite Renewables (CORe) retail power product. The mechanism was developed to increase business' access to renewable energy purchases, without forcing the businesses themselves to go through the PPA process. The supply agreements for each company have a 10-year term, obviously starting once Big Star begins to deliver power.

Big Star Solar is expected to reach commercial operation in the second quarter of 2022. RWE Renewables is building the project, which will also come partnered with an 80 MW/120 MWh hour battery energy storage system. Hardware specifics on the project have not yet been publicized, nor have any specifics about the manufacturer or battery chemistry.

Energy generated from the Big Star solar project will allow McCormick to fully power both its Dallas manufacturing plant and distribution center with renewable electricity. It also will represent significant steps towards the other three companies' renewable energy and emission reduction objectives.

Both PepsiCo and Best Buy have made commitments to achieve net-zero emissions by 2040; Pepsi has an interim goal of achieving a 40% reduction in emissions by 2030.

https://pv-magazine-usa.com/2021/08/26/constellation-to-supply-a-host-of-corporate-customers-with-140-mw-of-texas-solar/

Buckeye Partners, a company that has evolved from an 1886 subsidiary of John D. Rockefeller's Standard Oil Company, has acquired a 270 MW, construction-ready solar project, dubbed ***Project Parker****, from OCI Solar Power.*

When construction is commenced later this year, Project Parker will be built on adjacent properties in Falls County, Texas, just south of Waco and will be comprised of more than 2,900 solar panels. Other hardware specifications, like the choice of mounting systems or inverters, have not yet been made public.

Prior to the project's acquisition, OCI Solar secured site control and completed all permitting and electrical interconnection agreements. Buckeye plans to start project design and construction later this year with the goal of bringing the project online in first quarter 2023.

Buckeye, which is now owned by IFM Investors, an Australian financial company, is in the process of transitioning itself as a company, having historically operated as network for the transportation, sale, and processing of liquid petroleum products. The company operates a "tank field" to store petroleum products within Falls County.

In a statement, Buckeye President and CEO Clark Smith said of the acquisition:

"As we continue to evolve into a more diversified energy company, acquisitions like Project Parker represent an opportunity to invest in growth that aligns with our business and ESG priorities, and leverages our existing expertise and capabilities."

https://pv-magazine-usa.com/2021/08/17/former-rockefeller-subsidiary-acquires-270-mw-solar-project/

Utility-scale renewables developer Intersect Power named Signal Energy as the engineering, procurement and construction (EPC) firm for ta solar project in Texas. The project will use the NX Horizon smart solar trackers and TrueCapture yield optimization software from Nextracker.

The 415 MW ***Radian project*** *in Texas is expected to begin construction later this year, and will enter service in 2022. Series 6 photovoltaic solar modules will be supplied by First Solar for the project.*

https://pv-magazine-usa.com/2021/07/21/intersect-power-names-equipment-suppliers-and-epc-for-california-and-texas-solar-projects/

SB Energy signed a 15-year power purchase agreement (PPA) with Texas midstream oil and gas company Energy Transfer.

*Energy Transfer will receive 120 MW of the 200 MW **Eiffel Solar** project, to be located in northeast Texas.*

San Francisco-based SB Energy is a unit of SoftBank, and expects to begin construction in the first half of 2022, with power delivery to Energy Transfer planned to start in January 2024…

*SB Energy also recently announced its 418 MW **Juno Solar** project entered service in western Texas. The project uses First Solar Series 6 modules and Nextracker Horizon single-axis trackers. It has long-term Power Purchase Agreements (PPAs) with a unit of Mitsui and the Lower Colorado River Authority.*

https://pv-magazine-usa.com/2021/09/01/sb-energy-signs-120-mw-solar-ppa-for-texas-project/

https://pv-magazine-usa.com/2021/09/01/watch-juno-solar-enters-service-in-texas-with-418-mw-of-capacity/

13. Virginia

Dominion Energy Virginia, in its annual clean energy filing with state regulators, has proposed a 1 GW portfolio of new solar and energy storage projects in the state to make progress toward the goals of the Virginia Clean Economy Act, which requires that 100% of electricity sales in Virginia come from clean energy sources by 2045.

Specifically, the proposal is divided between what would be Dominion-owned projects, and projects that would sell their generation to Dominion under power purchase agreements (PPAs). The Dominion-owned portion of the proposal comprised of 11 utility-scale solar projects, two small-scale distributed solar projects, one combined solar and storage project, and one stand-alone energy storage project…

Note from Author: These are mostly small to very small projects, but cumulatively are 1 GW. Please go through the link below for details.

https://pv-magazine-usa.com/2021/09/16/dominion-proposes-1-gw-of-new-virginia-solar-storage-by-2023/

14. Wisconsin

Chicago-based Invenergy won regulatory approval in Wisconsin in 2020 for a 200 MW solar, 50 MW storage facility. The company now is seeking approval to add another 60 MW of storage, bringing the total to 110 MW in batteries.

Invenergy asked the Wisconsin Public Service Commission (PSC) to reopen its decision in May. The PSC is now accepting public comments on the proposal as part of its environmental analysis of the project.

*In its application, Invenergy said the impact to the MISO grid by integrating a battery energy storage system at **Paris Solar Energy Center** will be positive. It said the storage system can act as an "electrical suspension" system for the grid, to smooth abrupt ups and downs in solar production that can occur on partly cloudy days. The battery system can furnish other grid services such as frequency response, voltage support, and output scheduling to potentially shift some afternoon production to later in the day, if needed, to correspond with peak demands, said Invenergy.*

The Paris Solar Energy Center, to be located south of Milwaukee, would produce enough power for 60,000 homes and would be among the largest proposed in the state of Wisconsin.

WEC Energy Group, parent company of utilities WE Energies, and Madison Gas and Electric filed a joint application in February to buy the Paris Solar Park for roughly $426 million. The companies are requesting to spend up to 10% more than that figure, and the acquisition process is still underway.

https://pv-magazine-usa.com/2021/08/03/invenergy-requests-to-more-than-double-energy-storage-in-wisconsin-200-mw-50-mw-proposal/

Wisconsin-based Alliant Energy and Burns & McDonnell have come to terms on a deal that will see the Kansas City-based firm provide the engineering, procurement and construction (EPC) services for three Alliant solar projects totaling 250 MW of capacity in Wisconsin.

*The projects are the **Bear Creek** solar project, a 50 MW installation being built in Richland County, west of Madison; the **North Rock** solar project, another 50 MW installation in Rock County near the Illinois border; and the **Wood County** solar project, an aptly-named 150 MW installation west of Green Bay…*

https://pv-magazine-usa.com/2021/09/09/burns-mac-tapped-as-epc-for-250-mw-wisconsin-solar-portfolio/