

Tracking Solar Adoption by America's Top Brands

2022



About SEIA

The Solar Energy Industries Association® (SEIA) is leading the transformation to a clean energy economy, creating the framework for solar to achieve 30% of U.S. electricity generation by 2030. SEIA works with its 1,000 member companies and other strategic partners to fight for policies that create jobs in every community and shape fair market rules that promote competition and the growth of reliable, low-cost solar power. Founded in 1974, SEIA is the national trade association for the solar and solar + storage industries, building a comprehensive vision for the Solar+ Decade through research, education and advocacy. Visit SEIA online at www.seia.org and follow @SEIA on [Twitter](#), [LinkedIn](#) and [Instagram](#).

About this Report

Solar Means Business tracks U.S. solar photovoltaic (PV) installations that support commercial activities at U.S. facilities.

- The report focuses on America's largest companies, but includes available data for companies of all sizes.
- Systems can be located on-site and provide electricity to the facility directly, or off-site and offset grid electricity costs for a company through Virtual Net Metering, Physical and Virtual Power Purchase Agreements (PPA), Green Tariffs or similar arrangements.
- Both company-owned and third party-owned (PPA or lease) systems are included.
- All projects included involve the direct purchase of electricity from a specific installation. Arrangements in which the commercial buyer is only purchasing Renewable Energy Credits (RECs) from a project, or the commercial entity is a Tax Equity investor on the project without consuming electricity from the project are not included.
- The rankings in this report represent systems operating by the end of June 2022.
- All solar capacity data in this report are presented in watts (W), kilowatts (kW), megawatts (MW) or Gigawatts (GW) **direct current (DC)**. The storage capacity data presented in alternating current (AC) are labeled as such in the report.

This is the **9th edition** of this report and the first since 2020. You can find previous versions at www.seia.org/solar-means-business-report.

About this Report

This report **does not capture data on every commercial solar installation in the U.S.**, but every attempt has been made to ensure that the solar portfolios of America's largest corporate users are accurately represented.

- Rankings and analysis are based on system-level data for nearly 48,000 commercial solar PV systems
- Data in this report captures over 70% of all U.S. commercial solar capacity through June 2022

Data comes from a variety of sources:

- Directly from the system owners or hosts
- From installers, with permission of system owners or hosts
- From publicly available data sources such as state regulatory bodies, press reports and research reports

All data in this report can be cited to SEIA Solar Means Business 2022, unless otherwise noted.

Companies interested in submitting data for future editions of this report should visit solarmeansbusiness.com to download a project submission form

Key Findings

Top 10 Corporate Solar Adopters (MW)

| | | | |
|-----|---|---------------------|-------|
| 1. |  | Meta | 3,588 |
| 2. |  | Amazon | 1,115 |
| 3. |  | Apple | 987 |
| 4. |  | Walmart | 689 |
| 5. |  | Microsoft | 551 |
| 6. |  | Target | 515 |
| 7. |  | Cargill | 342 |
| 8. |  | Kaiser Permanente | 303 |
| 9. |  | Anheuser-Busch | 301 |
| 10. |  | Evraz North America | 300 |

Rankings Shift as Corporates Pursue Renewable Energy Goals

3.6
gigawatts

Through June 2022, Meta has installed more solar in the U.S. than any other business. At nearly 3.6 gigawatts (GW), the company has installed 3 times more solar than its closest counterpart.

Amazon and two-time former champion Apple round out the top 3 as tech-related companies take 4 of the top 5 spots and 7 of the top 15.





Photo Courtesy of Grid Alternatives

Corporate Solar Adoption Grows

- Nearly 19 GW of solar with commercial off-takers has been installed in the U.S. through June 2022, with half of that installed since 2020.
- Much of the recent growth can be attributed to the rapid expansion of off-site corporate solar procurement, which now represents 55% of all commercial solar use. Almost 70% of all off-site corporate solar has been brought online in the last 2.5 years.

On-site Solar Spotlight

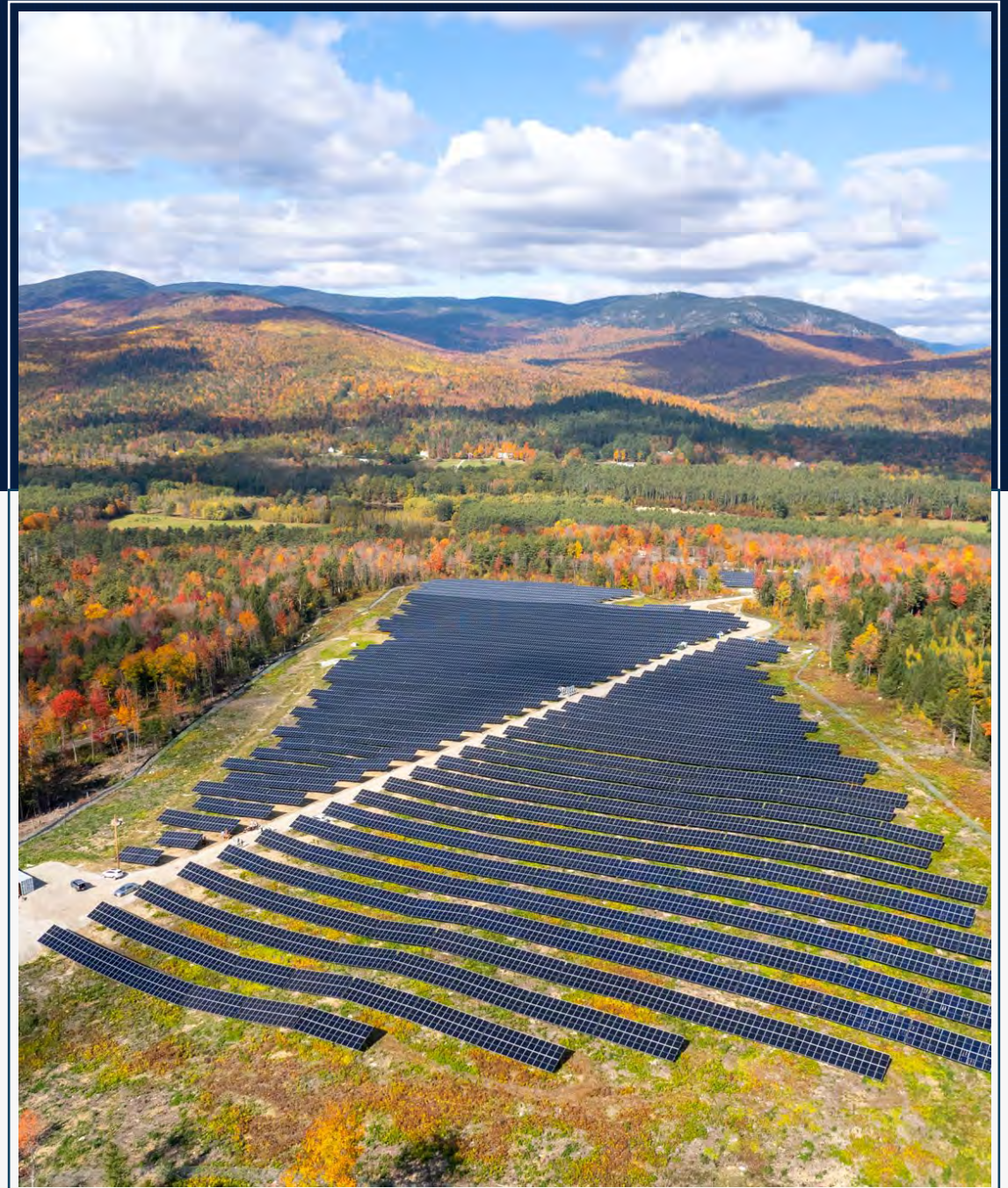
- Retailers Target and Walmart continue to stay near the top of the leaderboard and along with real estate firm Prologis, make up the top 3 companies for installed on-site solar.
- Growth in on-site commercial solar has been more modest compared to off-site solar, but remains steady, averaging 3% over the last 5 years.



On-site Solar Installation at Cubesmart in East Hanover, NJ. Photo Courtesy of Solar Landscape

Total commercial solar installations are expected to double again over the next 3 years with nearly 27 GW of off-site projects with corporate off-takers scheduled to come online by 2025.

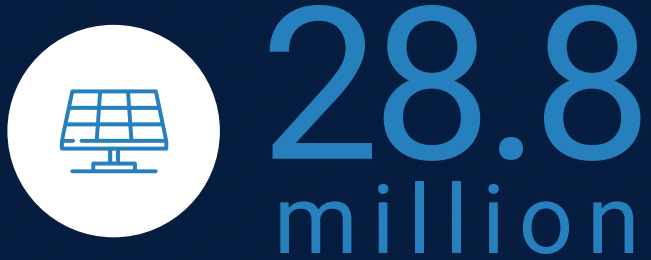
- Both on-site and off-site solar markets will be supported by the Inflation Reduction Act (IRA), which is expected to boost on-site markets by 24% over the next 5 years and off-site markets by 51%.
- In the near-term, challenges posed by trade disputes, supply chain friction and rising prices will likely lead to project delays.



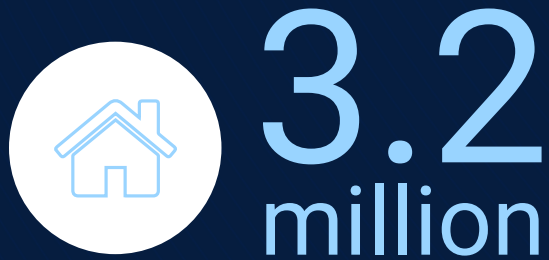
Off-site solar project in Bethel, Maine. Photo courtesy of Standard Solar.

Corporate Solar Users Make a Dent in Carbon Emissions

The systems tracked in this report generate

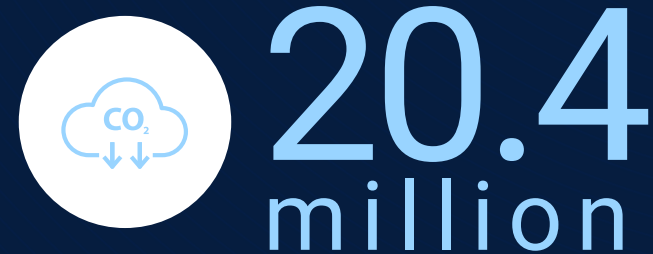


megawatt hours (MWh) of electricity
annually, enough to power



American homes

The solar generation from these
systems reduces CO2 emissions by



metric tons every year,
equivalent to taking



cars off the road



The emergence of large corporate renewable energy buyers has fundamentally altered the utility-scale solar space.

- Once reserved strictly for utilities, nearly a quarter of all large-scale solar projects installed in the U.S. in 2021 featured one or more commercial buyers.
- While participation in this space still requires extensive expertise and resources, developers, financiers and utilities are increasingly shaping their offerings to meet the needs of corporate buyers.

On-site solar at Monroe County Water Authority in Macedon, NY. Photo courtesy of Arevon.

Declining Prices, Renewable Energy Commitments Drive Commercial Solar Adoption

Over the past decade, the price of solar energy has fallen by



leading to an increase in commercial demand that continues to surge despite recent price increases

Corporates continue to expand their clean energy ambitions. Out of the top 25 companies ranked in this report, 18 are pursuing

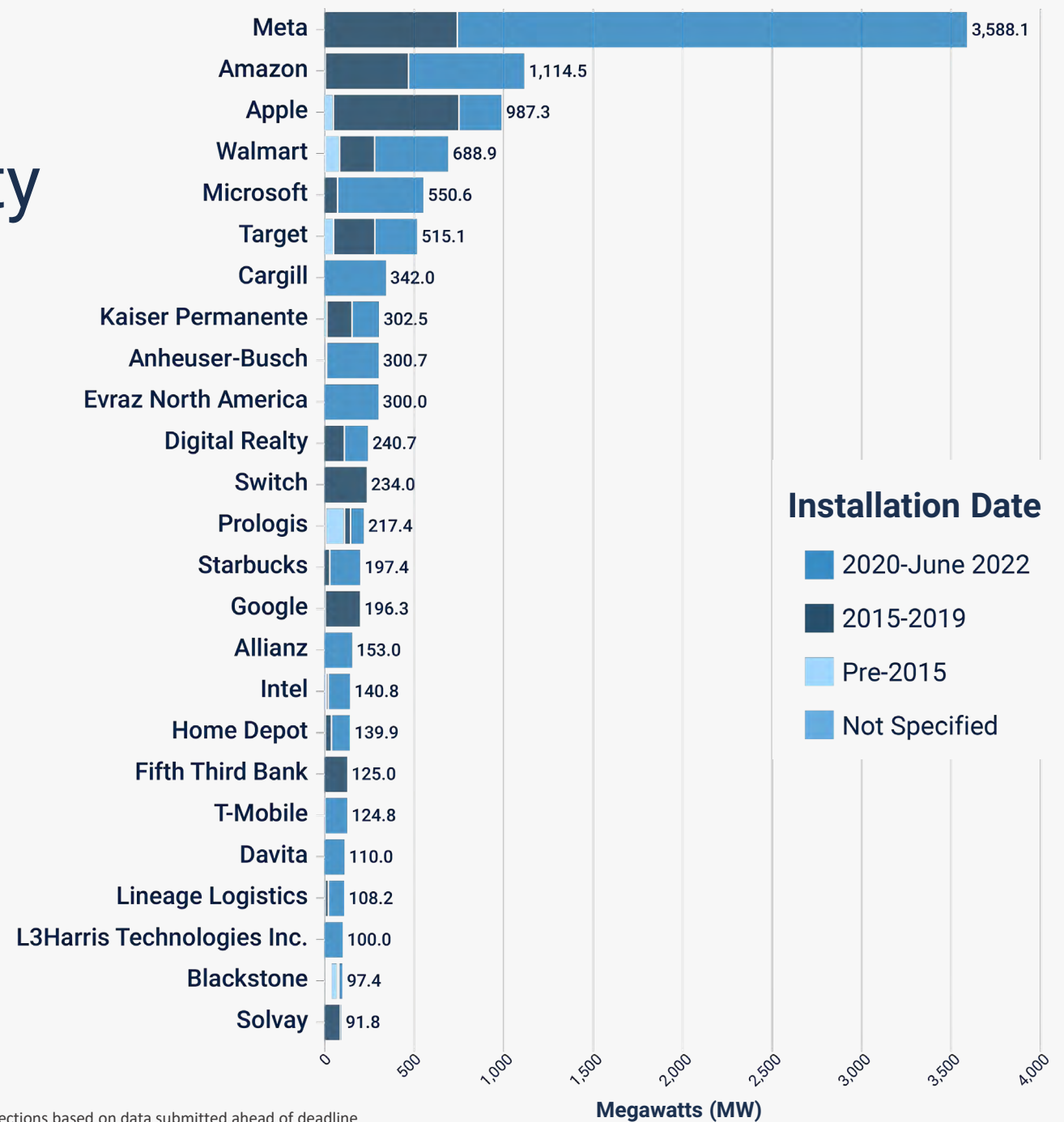


renewable energy or carbon neutral goals

America's Top Commercial Solar Users

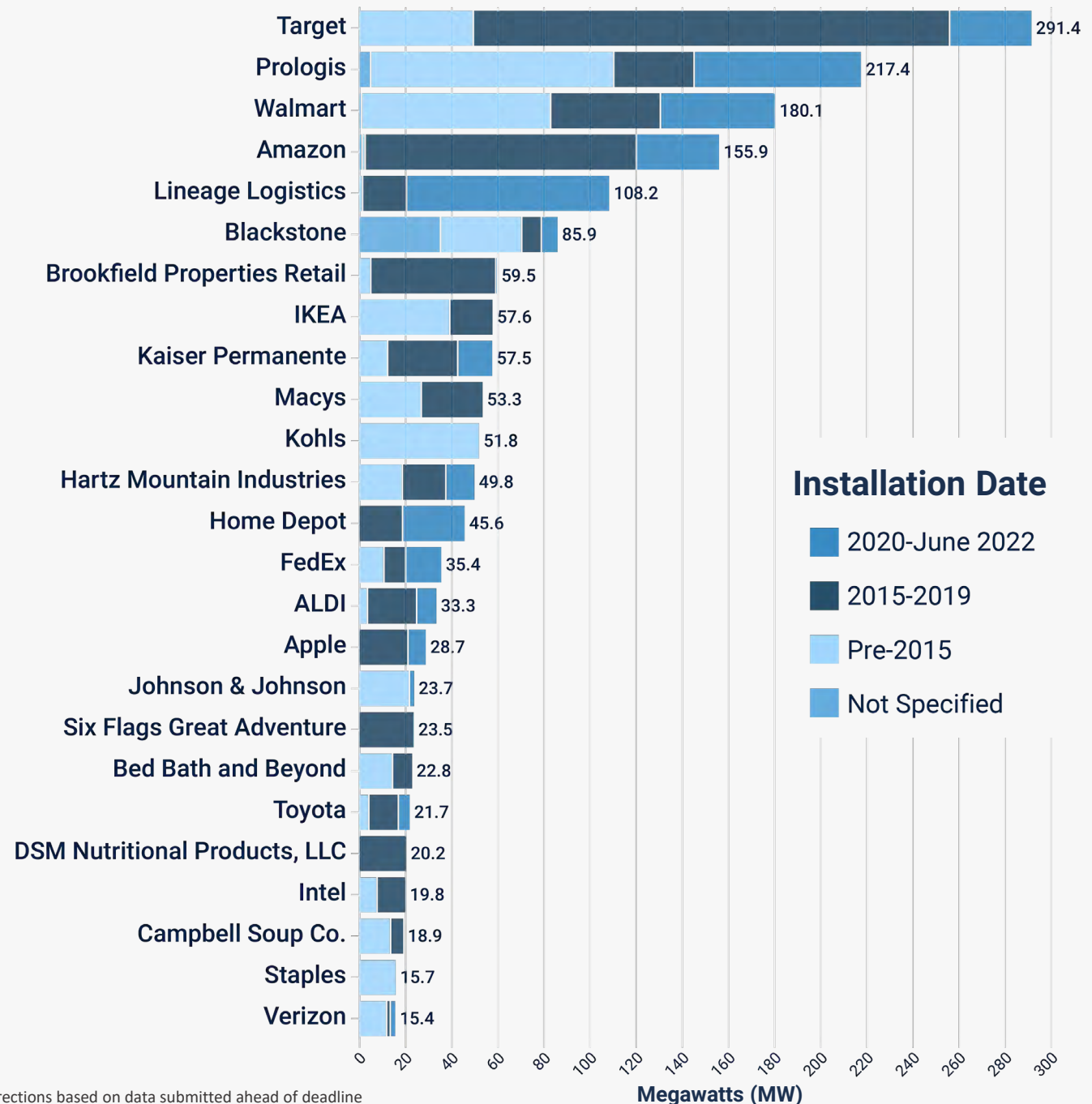
Top 25 Corporate Users by Total Installed Solar Capacity

- With over 3,588 MW installed through June 2022, **Meta** tops the list. The parent company of Facebook has grown its solar energy offtake by over 380% since the end of 2019, jumping from 9th to the clear #1 in solar energy installed. **Meta's** portfolio represents nearly 3% of all solar installed in the U.S., and with a significant level of contracted capacity still yet to come online **Meta** will be a leader in corporate solar adoption for years to come.
- **Amazon** remains #2 in solar capacity installed, having more than doubled the size of their operating solar portfolio since the end of 2019 to power its corporate offices, fulfillment centers, data centers, and physical stores.
- **Apple** and **Microsoft** rank #3 and #5, demonstrating that tech companies, with 4 of the top 5 spots, are heavily investing in solar to power their data centers.
- **Kaiser Permanente** ranks 8th with over 302 MW installed in support of their healthcare operations.
- 16 of the top 25 feature on the Fortune 500 rankings.



Top 25 Corporate Users by Total Installed On-Site Solar Capacity

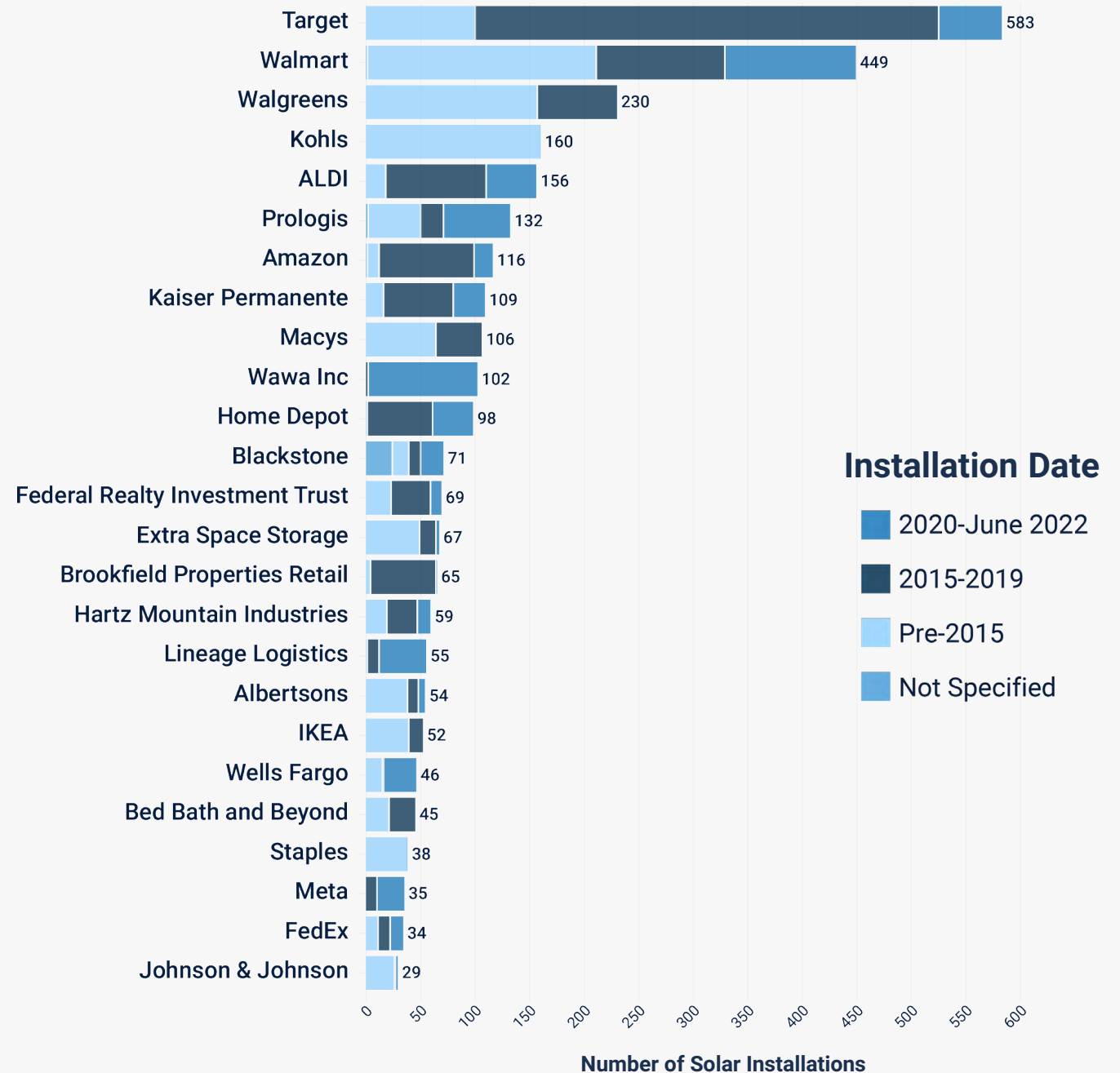
- **Target** continues to lead the way in on-site solar, maintaining its hold on the top spot for the 5th straight report
- **Prologis** added over 72 MW of on-site solar to its properties since the end of 2019, moving the real estate company from #3 to #2 on the rankings.
- **Walmart** ranks 4th overall and 3rd in on-site, as its diverse portfolio of solar installations keeps the company near the top of each list.
- With its 87.2 MW of on-site capacity installed since the start of 2020, the most of any company, **Lineage Logistics** takes the 5th spot.
- Real estate companies like **Brookfield Properties Retail** and **Hartz Mountain Industries**, as well as commercial retailers like **Home Depot** and **ALDI** make up much of the rest of the top 25.



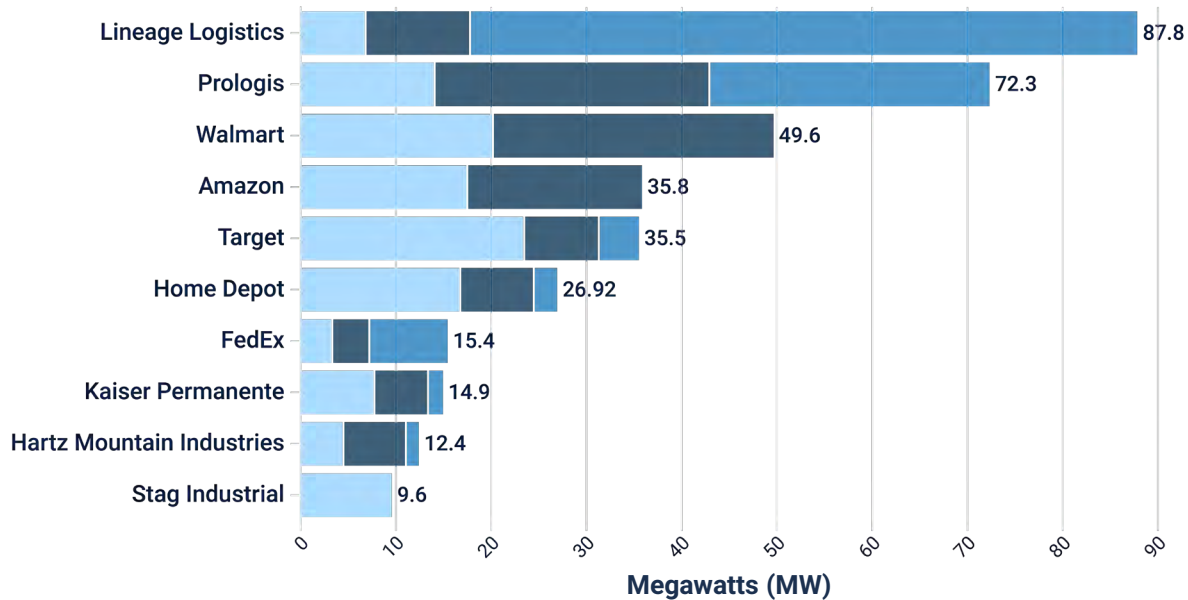
Updated on 12/14/22 to reflect corrections based on data submitted ahead of deadline

Top 25 Corporate Users by Number of Solar Installations

- Retailers **Target** and **Walmart** continue to lead in number of individual solar systems installed.
- Nearly 30% of **Target** stores have rooftop solar installations.
- **Walgreens**, **Kohl's**, and **ALDI** follow, rounding out an all-retail top 5.
- The top 5 remains identical to our previous report, as the capacity rankings are increasingly driven by utility scale off-site procurement.
- Retail and real estate companies dominate this list, as they take advantage of their numerous commercial properties to house mid-sized rooftop systems.

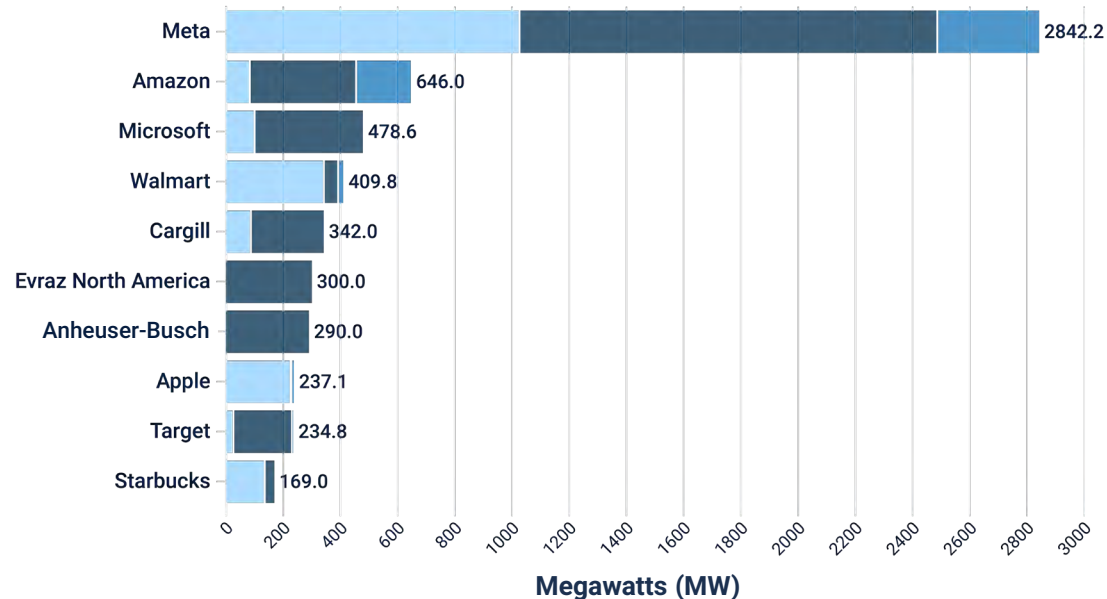


On-site Solar Capacity Installed Since 2020



Updated on 12/14/22 to reflect corrections based on data submitted ahead of deadline

Installed Solar Capacity Since 2020



Top Companies Since 2020

- **Meta** is far and away the leader in solar procurement since 2020, bringing more capacity online in both 2020 and 2021 than any other company over this entire 2.5-year period.
- Systems installed after 2019 make up nearly half of all corporate solar in the United States. 16 of the top 25 companies have installed more than half of their capacity in this period.
- 18 companies have installed 100 MW or more since 2020, while only 11 companies had installed 100 MW before 2020.
- Cold storage and logistics company **Lineage Logistics** leads the way for on-site installations with over 87 MW of solar installed since the beginning of 2020.

Installation Date



Top Companies by Industry Category



Tech

| System Host | Capacity (megawatts) | Overall Rank |
|--------------|----------------------|--------------|
| 1. Meta | 3,588.1 | 1 |
| 2. Amazon | 1,114.5 | 2 |
| 3. Apple | 987.3 | 3 |
| 4. Microsoft | 550.6 | 5 |
| 5. Switch | 234.0 | 12 |



Retail

| System Host | Capacity (megawatts) | Overall Rank |
|---------------|----------------------|--------------|
| 1. Walmart | 688.9 | 4 |
| 2. Target | 515.1 | 6 |
| 3. Home Depot | 140.0 | 18 |
| 4. IKEA | 57.6 | 31 |
| 5. Macys | 53.3 | 32 |



Manufacturing

| System Host | Capacity (megawatts) | Overall Rank |
|--------------------------------|----------------------|--------------|
| 1. Evraz North America | 300.0 | 10 |
| 2. L3Harris Technologies, Inc. | 100.0 | 23 |
| 3. Solvay | 91.8 | 25 |
| 4. Corning | 88.9 | 26 |
| 5. The Clorox Company | 71.6 | 27 |



Real Estate

| System Host | Capacity (megawatts) | Overall Rank |
|---------------------------------|----------------------|--------------|
| 1. Digital Realty | 240.7 | 11 |
| 2. Prologis | 217.4 | 13 |
| 3. Lineage Logistics | 108.2 | 22 |
| 4. Blackstone | 97.4 | 24 |
| 5. Brookfield Properties Retail | 59.5 | 29 |

Top Companies by Industry Category



Food and Beverage

| System Host | Capacity (megawatts) | Overall Rank |
|------------------------|----------------------|--------------|
| 1. Cargill | 342.0 | 7 |
| 2. Anheuser-Busch | 300.7 | 9 |
| 3. Starbucks | 197.4 | 14 |
| 4. Mondelez | 65.0 | 28 |
| 5. The Hershey Company | 26.7 | 46 |



Health Care

| System Host | Capacity (megawatts) | Overall Rank |
|--------------------------|----------------------|--------------|
| 1. Kaiser Permanente | 302.5 | 8 |
| 2. Davita | 110.0 | 21 |
| 3. Elevance Health Inc. | 35.0 | 39 |
| 4. Eli Lilly and Company | 10.0 | 74 |
| 5. Pfizer | 8.0 | 82 |



Financial Services

| System Host | Capacity (megawatts) | Overall Rank |
|--------------------------|----------------------|--------------|
| 1. Allianz | 153.0 | 16 |
| 2. Fifth Third Bank | 125.0 | 19 |
| 3. Bank of America | 36.5 | 38 |
| 4. Swiss Re | 35.0 | 40 |
| 5. Dow Jones and Company | 8.2 | 80 |



Entertainment

| System Host | Capacity (megawatts) | Overall Rank |
|------------------------------|----------------------|--------------|
| 1. Wynn Las Vegas | 24.0 | 48 |
| 2. Six Flags Great Adventure | 23.4 | 50 |
| 3. MGM Resorts | 8.4 | 79 |
| 4. PR Convention Center | 5.6 | 96 |
| 5. Walt Disney World | 5.0 | 103 |

Top Companies by Industry Category



Automotive

| System Host | Capacity (megawatts) | Overall Rank |
|-------------------|----------------------|--------------|
| 1. Toyota | 21.7 | 52 |
| 2. Volkswagen | 10.8 | 72 |
| 3. General Motors | 6.1 | 90 |



Logistics

| System Host | Capacity (megawatts) | Overall Rank |
|-------------------|----------------------|--------------|
| 1. FedEx | 37.5 | 36 |
| 2. Holt Logistics | 10.1 | 73 |
| 3. UPS | 6.7 | 6.7 |



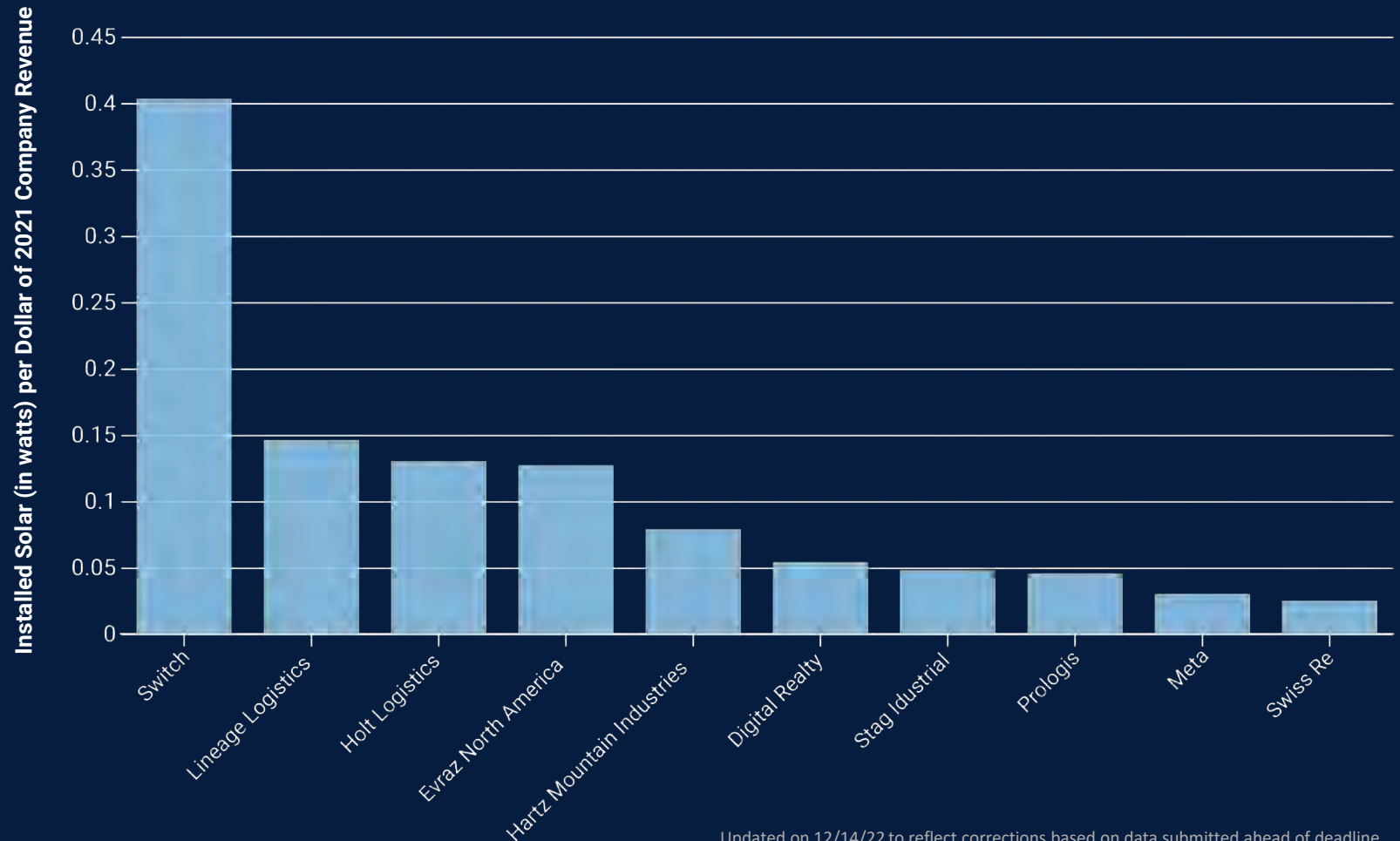
Telecom

| System Host | Capacity (megawatts) | Overall Rank |
|-------------|----------------------|--------------|
| 1. T-Mobile | 124.8 | 20 |
| 2. Verizon | 15.4 | 58 |
| 3. AT&T | 4.4 | 115 |



Top Companies by Solar Capacity Installed per Dollar of Company Revenue

- Companies of all sizes have made investments in solar energy, from the top of the Fortune 500 to mom-and-pop businesses.
- Data center company **Switch** has invested heavily in solar, bringing approximately 0.4 watts online per dollar of revenue.
- **Lineage Logistics** and **Holt Logistics** rank 2nd and 3rd with large on-site solar portfolios relative to their companies' size.
- Despite its large size, **Meta** comes in 9th on this list due to the scale of its solar investments.

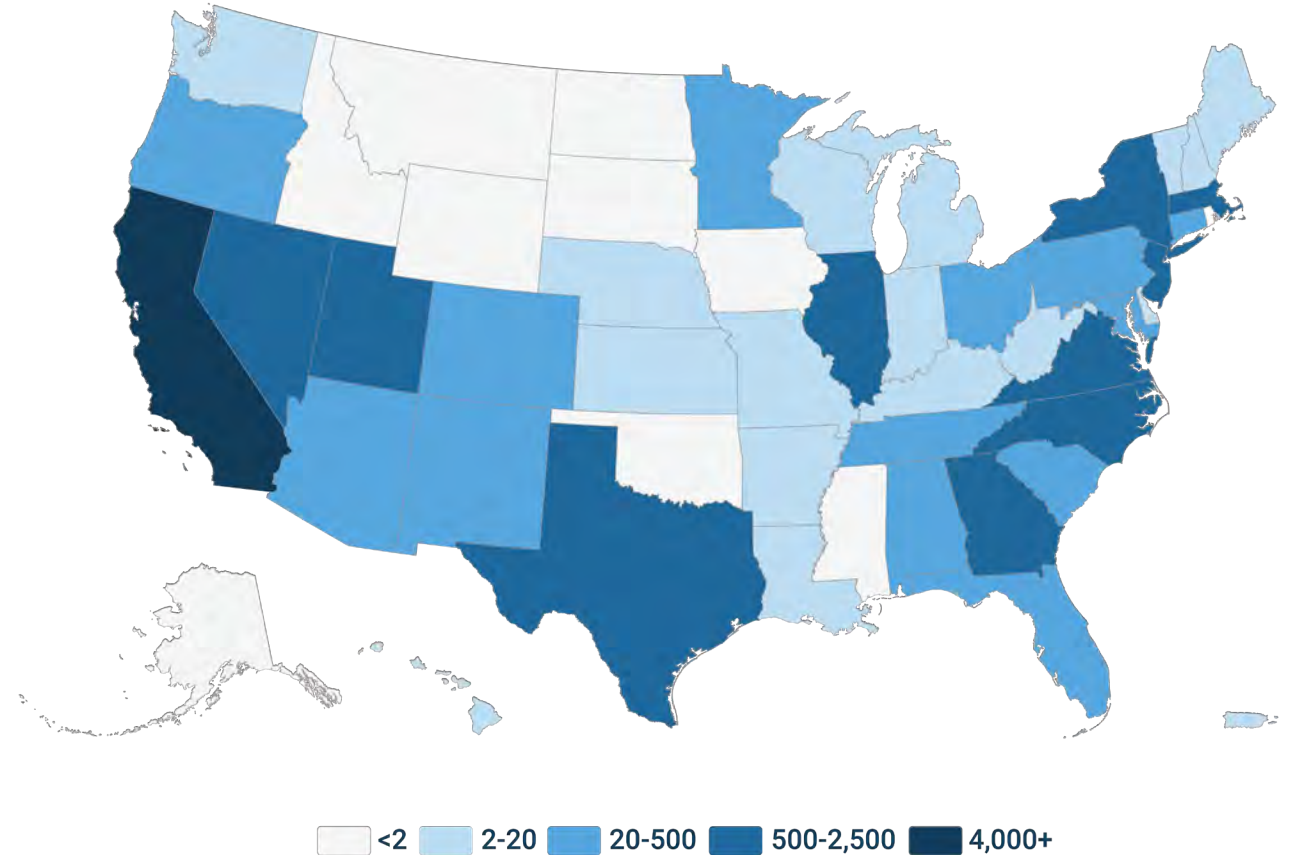


Corporate Solar Coast to Coast

Top Companies by State

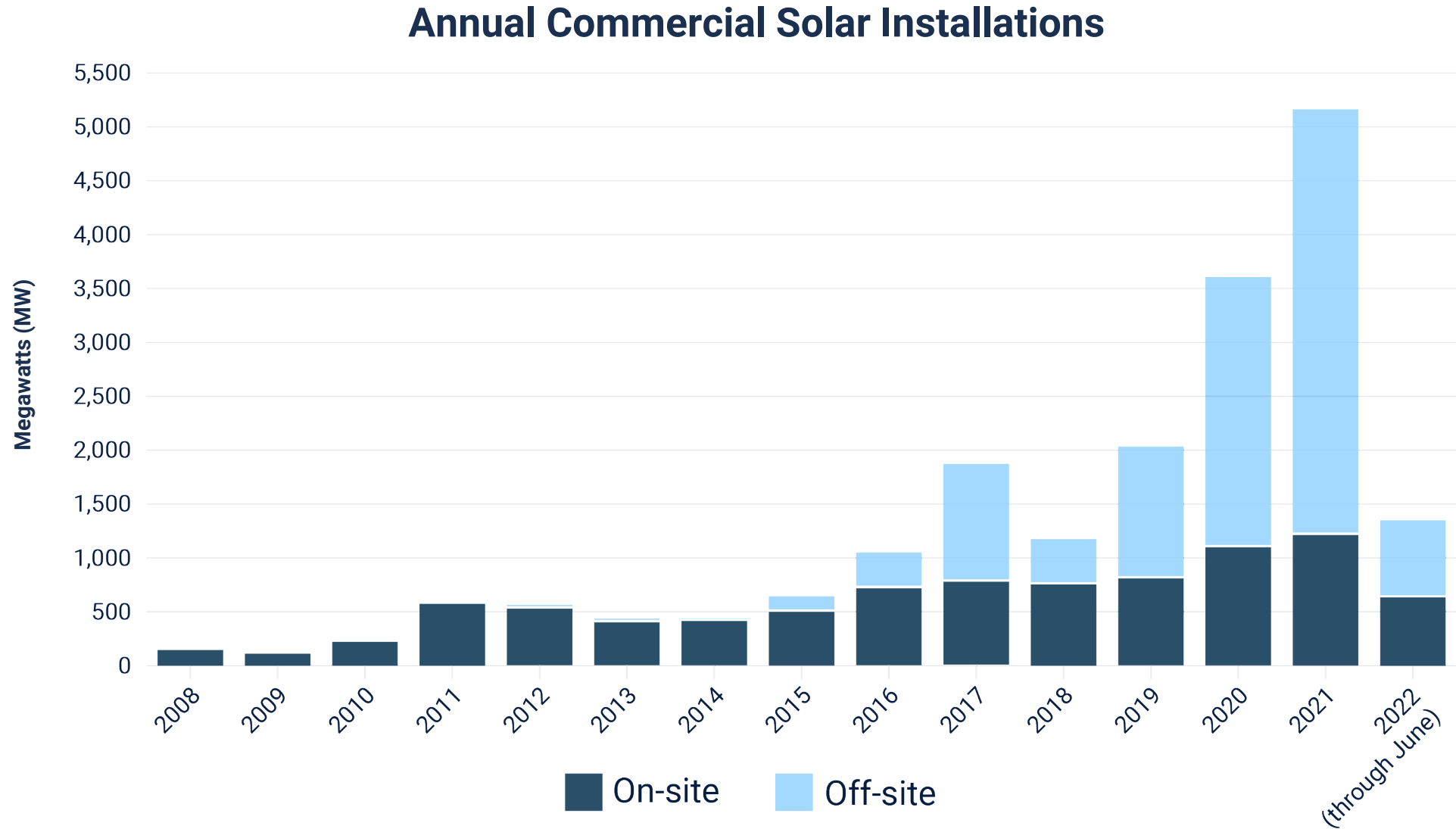
- California remains the top market for commercial solar with over 4,200 MW installed, representing a quarter of all corporate solar installations nationwide. Nearly 90% of the installed commercial capacity in the state is on-site.
- Rapid growth in off-site installations has benefitted states like Nevada, North Carolina, Virginia, Georgia, and Texas where tech firms have looked to procure large amounts of renewables to power their in-state data centers.
- **Intel's** 121 MW offtake from the East Line Solar project makes up over 1/3 of all corporate solar in Arizona.
- **Solvay's** 81.4 MW project in South Carolina accounts for more than 80% of the state's corporate solar capacity.
- As companies adopt 24/7 renewable goals, corporate solar adoption will continue to grow in low-capacity states as companies look to spread their renewable energy assets across a broader area.

Cumulative Commercial Solar Installations by State (MW)



Trends in Corporate Solar Procurement

Rapid Growth in Commercial Solar





Rapid Growth in Commercial Solar

- After mixed growth towards the end of the last decade, corporate solar installations have surged since 2020, mostly due to the growth of off-site procurement.
 - Of the 19 GW of corporate solar installed, more than half have been installed since 2020
 - 77% of the commercial solar installed over the last 2.5 years has been off-site
- The market for on-site solar installations has seen more modest but steady growth, averaging 3% over the last 5 years.
 - 2020 and 2021 were the two largest years on record for on-site commercial solar, with nearly 1.7 GW installed over that period
- While corporate solar installations have been deployed rapidly over the last 30 months, installation numbers would have been larger if not for the Covid-19 pandemic and subsequent supply chain challenges which have been further exacerbated by trade disputes
 - That combination of factors has led to reduced material and labor supply and higher prices, which in turn has led to project delays, particularly for off-site commercial solar.
 - As a result, 2022 off-site installations through June are far off the pace set in 2021, with many 2022 projects pushing operational dates to 2023 or later.

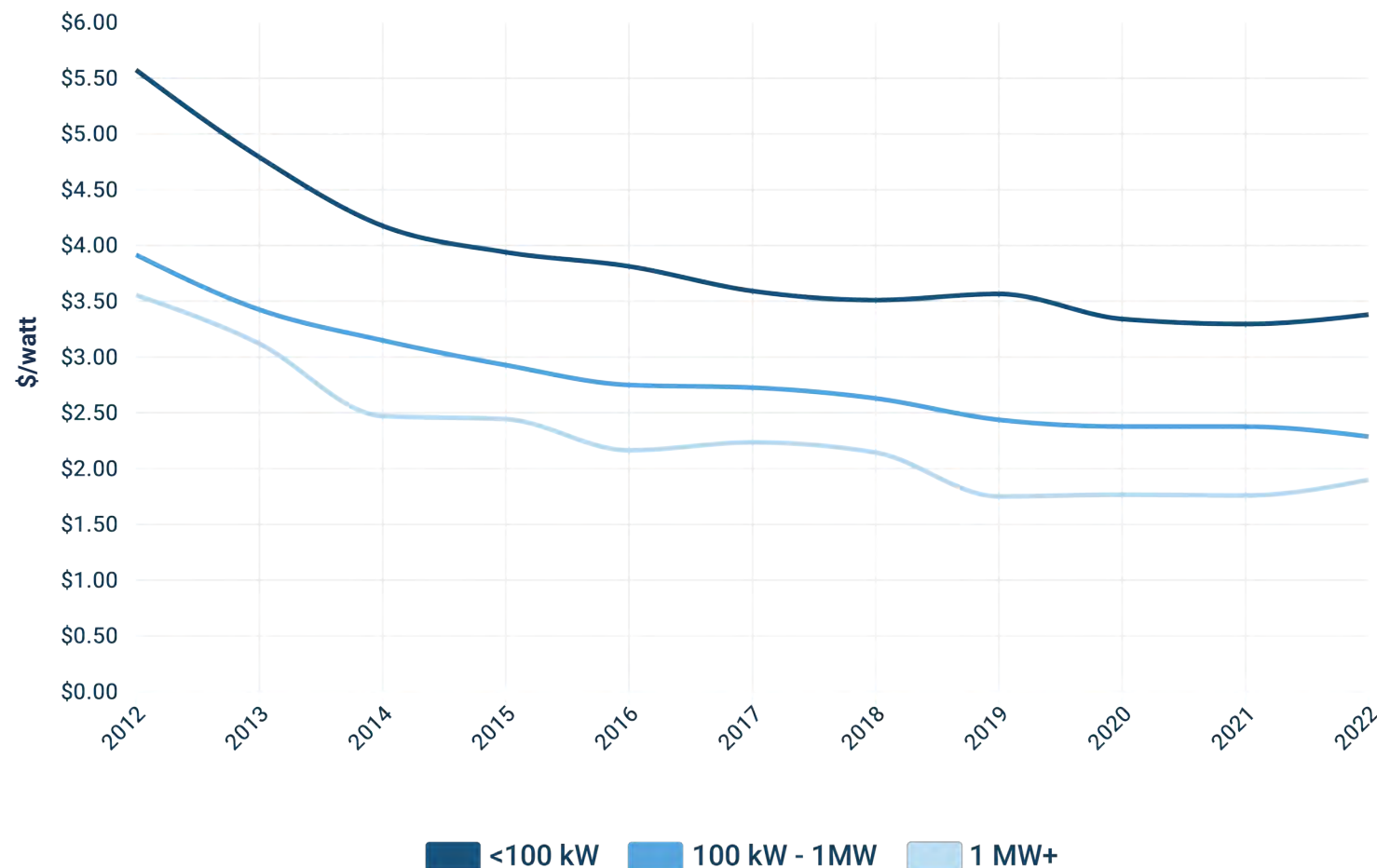
Photo courtesy of PPC Solar

Continued decreases in the cost of solar have been a primary driver of commercial solar installations over the last decade. For on-site projects in our dataset, the price to install a commercial system has dropped by 51% since 2012. Pricing for off-site systems has also fallen, with PPA prices for all utility-scale projects in the \$16 – \$35/MWh range over the last couple years, competitive with all forms of generation¹.

Deviating from long-term trends, commercial solar prices in our dataset have increased in 2 of the 3 size categories over the last year, with pricing for <100 kW and >1 MW systems at its highest level since 2019 and 2018 respectively. Installers are seeing increased module pricing stemming primarily from multiple regulatory trade actions that have reduced the availability of module imports and increased module pricing. Other hardware costs have increased due to widespread inflation while labor costs have increased significantly due to increased labor demand in the solar market and in line with the structural changes in the U.S. labor force brought on by the Covid-19 pandemic.

Price Declines Drive Growth

Average On-Site Installed Commercial System Price



Increasingly Ambitious Corporate Clean Energy Goals Lead to Solar Adoption

18 of the top 25

U.S. corporate solar users in 2022 have set goals for

carbon neutrality or

100% renewable energy

13 of the top 25 corporate solar users in this report have joined the RE 100, an initiative of businesses committed to 100% renewable electricity.

These goals have driven the massive growth in corporate solar adoption. Companies have competed not only in their respective industries, but in setting and achieving more ambitious climate and renewables goals than their peers.

Top brands have developed creatively structured goals that challenge them to more fully decarbonize and invest in the energy transition.

Increasingly Ambitious Corporate Clean Energy Goals Lead to Solar Adoption



1 GW

Prologis has committed to installing 1 GW of solar capacity to its buildings by 2025, and to neutralize carbon produced in the building construction process.

400% by 2030

Corning will increase its renewable energy use 400% by 2030.

CORNING

G



24/7 renewable energy goals

As carbon free energy has become more and more widely adopted, companies like **Google** and **Microsoft** continue to push the envelope by committing to 24/7 renewable energy goals, aiming to meet the entirety of their electricity demands, at all times, with renewable sources.

These goals challenge companies to find renewable generation sources capable of meeting their power needs around the clock, rather than purchasing RECs to offset carbon-emitting fuel sources that powered their operations in real time.

Climate Benefits Accrue as U.S. Businesses Turn to Solar



20.4

million metric tons
of carbon dioxide removed

equivalent to



4.4

million vehicles
off the road



337.5

million
trees planted



883.6

million trash bags of
landfill waste recycled



2.3

billion gallons
of gas not used

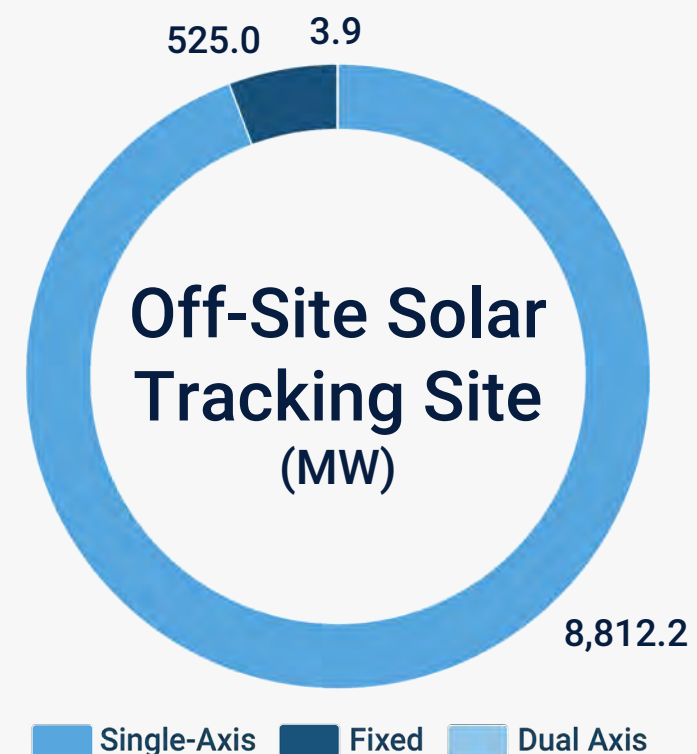
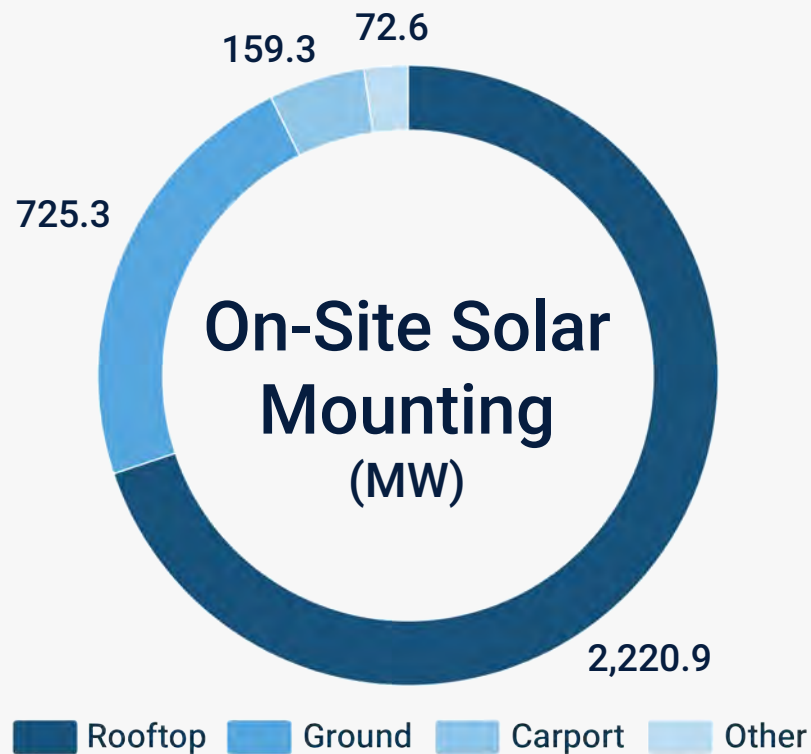
Climate Benefits Accrue as U.S. Businesses Turn to Solar

While companies choose to install solar for many reasons, most are motivated by the climate benefits the systems help provide through their role as a substitute for electricity produced by carbon-emitting sources. The systems tracked in this report offset 20.4 million metric tons of CO₂ annually, double the amount of offsets from our last release in 2019 and nearly 10 times the amount offset by commercial systems a decade ago.

The offsets generated by commercial solar installations represent 2% of all 2021 carbon emissions from commercial and industrial electricity use. With corporate solar installations expected to double again over the next 2-3 years, we can expect corporate solar use to offset an increasing share of carbon emissions from electricity generation.



Photo courtesy of Solar Landscape



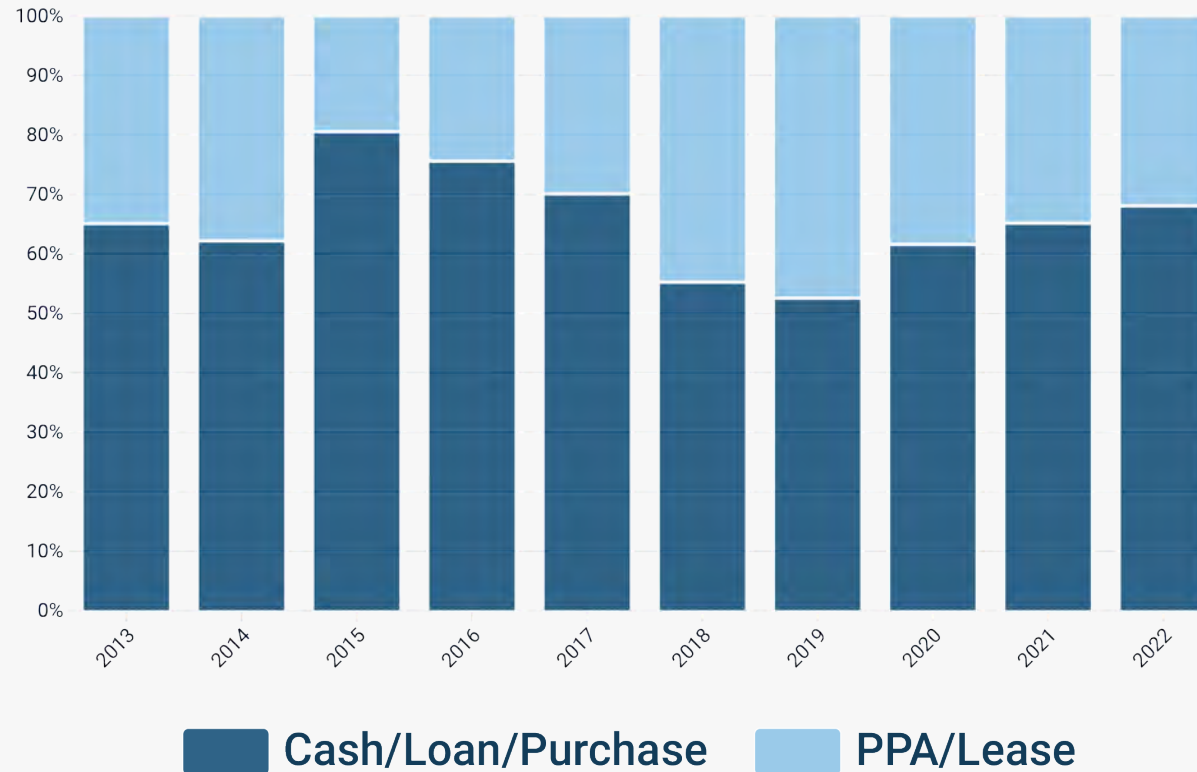
Mounting and Tracker Types

While the majority of on-site systems continue to utilize roof mounting, ground mounts have become more common as system sizes increase. Roughly 23% of all on-site capacity is ground mounted, up from 16% at the end of 2018. Carport and Canopy systems continue to be popular with customers looking to maximize their solar siting capability.

Over 94% of off-site corporate capacity utilizes single-axis trackers, in-line with a decade-long trend away from fixed-tilt systems. For all systems over 1 MWac (including non-corporate systems) single-axis tracker share has grown from 55% in 2018 to 87% in 2021. Fixed tilt mounting is now primarily utilized in smaller off-site systems which lack the economies of scale to justify the additional expense associated with trackers.

On-Site Focus: Changes in Ownership Structures

Share of Commercial Ownership Type



On-site Commercial systems primarily utilize two broad purchasing methods: direct ownership in which the building owner retains ownership of the system and associated tax credits and outputs (including both electricity and Renewable Energy Credits); and third-party owned in which the system installer or another third party retains ownership of the system and then sells electricity generated from the system back to the building owner. Customer-owned systems are financed up-front utilizing both debt and capital, with loans sometimes offered through the installer and their financing partners. Third-party owned systems have little or no up-front cost but require the execution of a PPA or lease agreement.

Third-party ownership has remained popular with commercial clients despite lending terms that have improved over time. Commercial loan offerings are not typically as attractive as those offered in the residential space due to increased underwriting costs in a more heterogeneous commercial market. Many businesses also prefer to account for their electricity expenses as an operating cost instead of a capital cost. That said, customer-owned systems have grown in market share from 52% in 2019 to 68% in 2022 as financiers grow more comfortable with the risk profile in this space and loan offerings improve. Decreasing system costs have also reduced the amount of capital expense associated with system ownership.

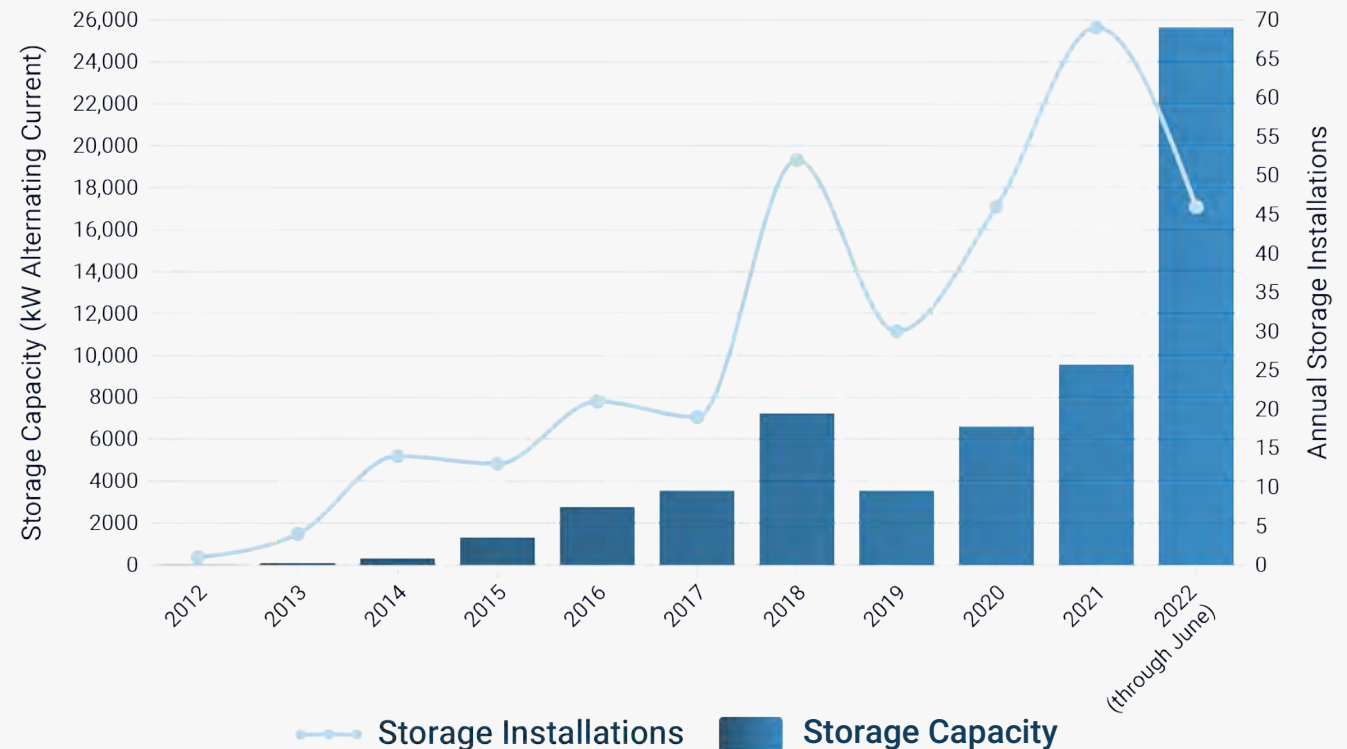
On-Site Focus: Increasing Storage Adoption

The number of commercial solar photovoltaic systems paired with battery storage has increased rapidly in recent years as battery costs come down, state and federal tax incentives are expanded and rate design changes in some states incentivizes self-consumption.

In California, the percentage of newly installed on-site commercial systems paired with storage has increased from 0.5% in 2015 to nearly 4% through the first half of 2022. Not only are more California PV systems being paired with batteries, but those that choose to install batteries are sizing the storage systems to capture larger amounts of their solar generation. Average battery size in 2022 through June was over 500 kWac, 4 times greater than the average battery size in any other year.

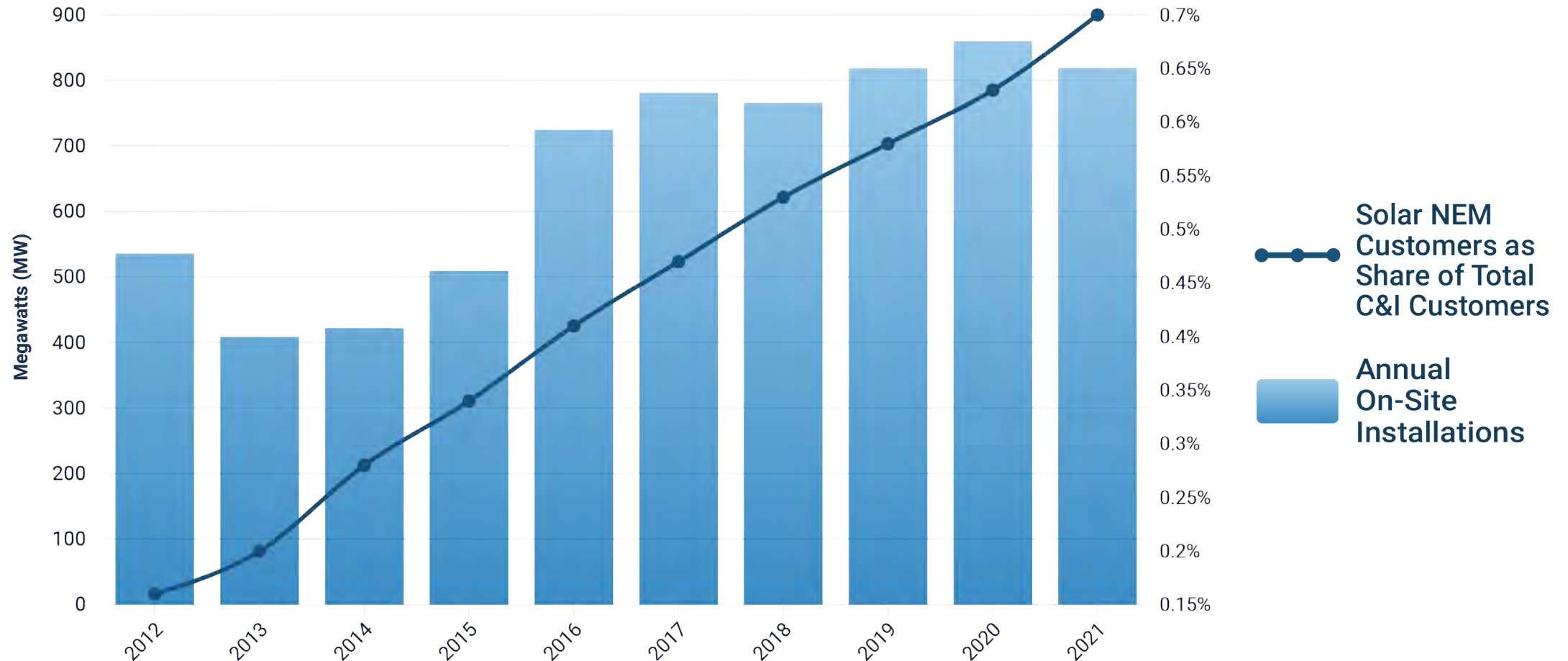
While few off-site commercial systems have been paired with storage thus far, several hybrid projects are in development and more are expected to enter the pipeline with utility-scale storage costs continuing to fall.

California Commercial On-Site Solar+ Storage Installations



On-Site Focus: Room for Growth

On-Site Commercial Growth and Penetration Rate



Source: On-Site Installations: SEIA; Share of C&I Customers: EIA

On-Site Focus: Room for Growth

While the on-site solar market has seen steady growth, the rate of growth has been slower than both the residential segment and the commercial off-site segment. On-site commercial installations have grown at an annual rate of around 3% over the last 5 years, compared with 11% in the residential segment.

On-site commercial installations have continued their modest growth despite declining state incentives for on-site installations and increased interest among large corporates in off-site adoption. Most importantly, challenges persist in financing on-site commercial installations as the systems lack the homogeneity (and perceived risk similarity) of systems in the residential space but also lack the scale of projects in the utility-scale space.

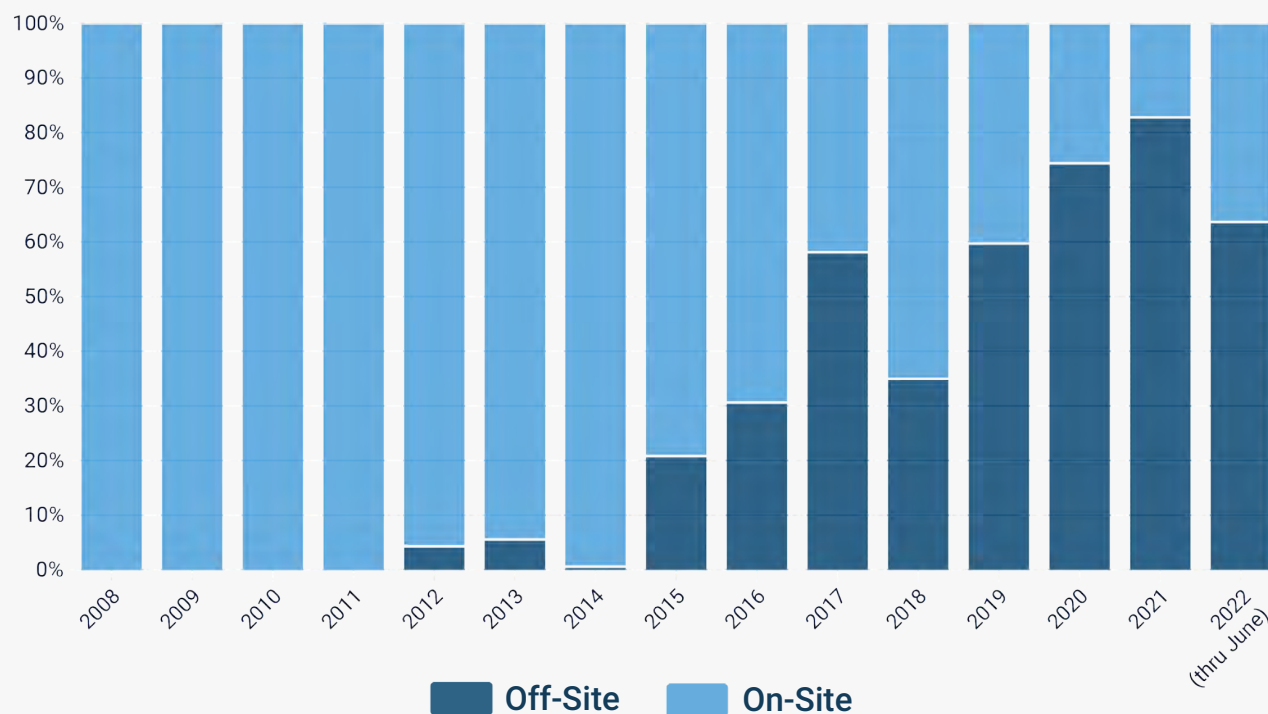
Still, penetration rates in commercial solar are very low, with only 0.7% of C&I electricity customers being served by a net metered or virtually net metered PV system. As financiers obtain more data on solar system performance and returns for a variety of commercial systems, more capital is expected to flow into that market, reducing financing costs. Decreasing system prices over the medium to long-term and new incentives as part of the IRA will also help to encourage growth in this space.

Photo courtesy of Fox Run Vineyard



Off-Site Focus: Evolving Procurement Strategies

**Share of Annual Installed Commercial Capacity
by Project Type**



The most significant change in the commercial solar landscape has been the rapid growth in off-site solar procurement. This segment, which includes commercial off-take of both community solar and utility-scale systems, has grown from 1.5 GW of total installed systems at the end of 2017 to more than 10 GW of installations through June 2022. In 2021, off-site systems made up 83% of all commercial solar capacity installed that year and roughly 8% of all new electric capacity installed in the U.S.

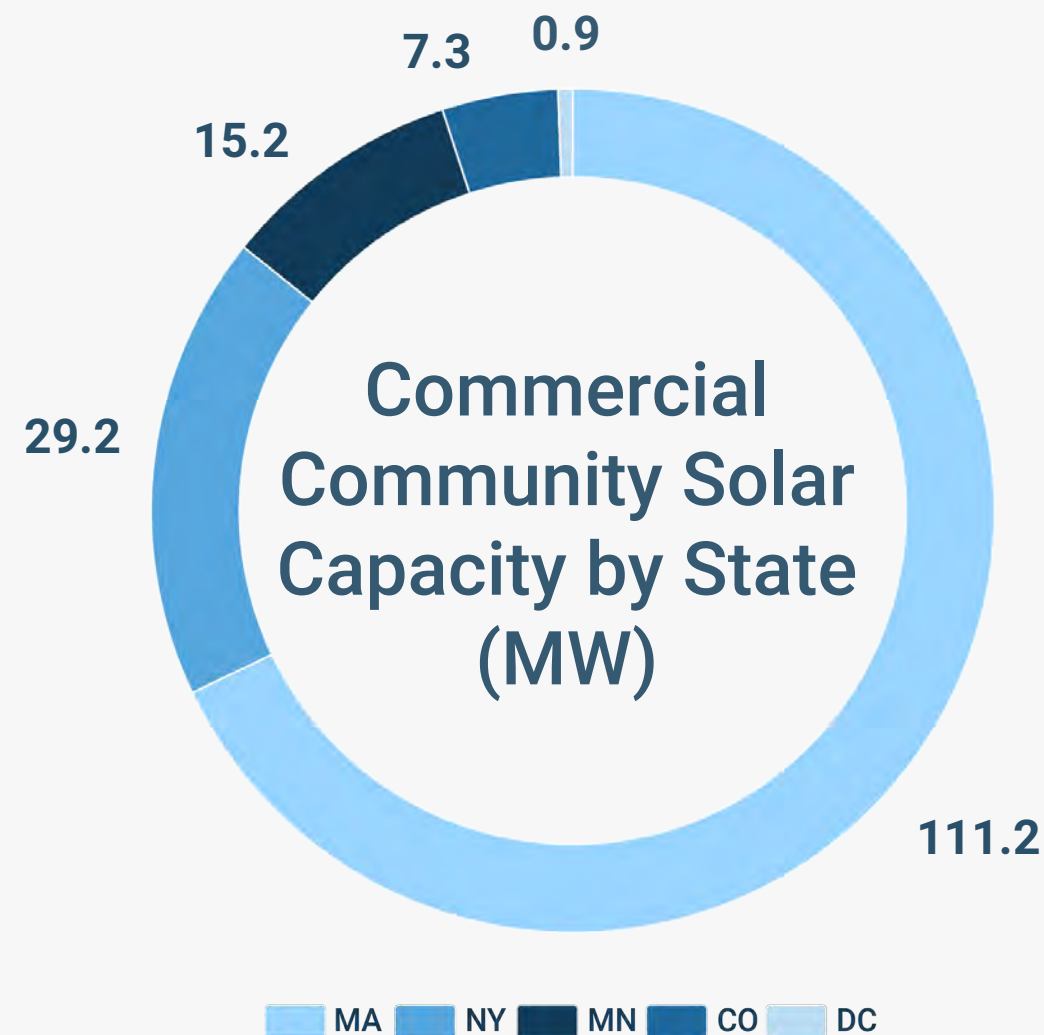
This growth has been driven by declining solar costs, increasingly ambitious corporate clean energy targets, and by an expanding menu of off-site procurement structures. While green tariffs and physical PPAs are still common ways for corporates to procure solar, synthetic/virtual PPAs are becoming increasingly popular and have given corporate off-takers and utilities more flexibility. In addition, while this report doesn't track tax equity investments that don't include the off-take of electricity, some corporates are taking ownership stakes in solar projects and then purchasing RECs directly from the project to help achieve their renewable energy goals.

Off-Site Focus: Community Solar

While off-site adoption has increased rapidly, not all companies have the internal resources to pursue complicated off-site PPA arrangements. For small and large companies alike, **community solar** has become an attractive way to procure smaller amounts of renewable energy with **lower financing costs**.

The community solar market has grown steadily over the past 5 years, from less than a gigawatt of installations at the end of 2017 to nearly **5 GW today**.² While the project subscriptions are sold to both residential and commercial customers, most projects typically feature one or more large anchor commercial customers to help reduce the developer's cost of customer acquisition.

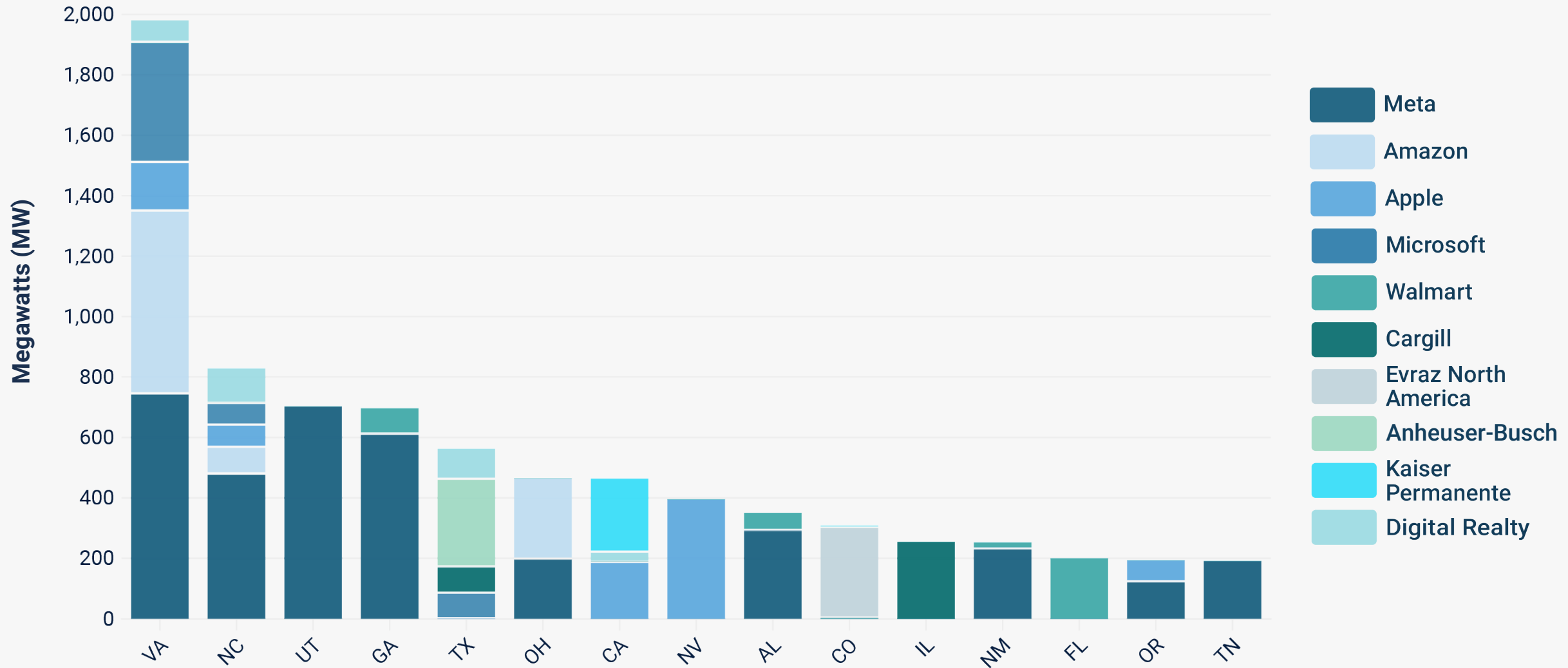
While lack of visibility into project subscribers limits the amount of commercial community solar data we're able to collect, the available data, which shows most community solar installations accruing in MA, NY and MN, largely mirrors what is seen in the broader community solar market. Going forward, growth in commercial community solar subscription will be dependent on the expansion of existing state community solar markets and the opening of new ones.



²SEIA/Wood Mackenzie U.S. Solar Market Insight Q3 2022

Off-Site Focus: New State Markets

Top 10 Off-site Corporate Solar Users by Project State



Off-Site Focus: Exploring New State Markets

The growth in off-site commercial solar has also led to shifts in the states in which large-scale solar is deployed. While markets like California, Texas and North Carolina have long been areas of interest for utility-scale solar developers, the growth in corporate demand for off-site solar has led to the development of markets in Virginia, Utah, Georgia, Ohio and Alabama.

Much of this demand is spurred by tech companies with data centers in those markets. This is the case in Virginia especially, where an estimated 70% of the world's internet traffic is moved daily, according to the Virginia Economic Development Partnership. In line with that demand for cheap and clean power, 2 GW of the 10 GW of off-site corporate solar installed are located in Virginia.

As companies expand their renewable energy goals and footprints, we can expect off-site corporate solar development to expand to additional states. The increase in 24/7 renewable energy goals in particular will force companies to explore geographically dispersed solar, energy storage and wind procurement, with increased competition in established markets leading some companies to seek development opportunities in untested markets.

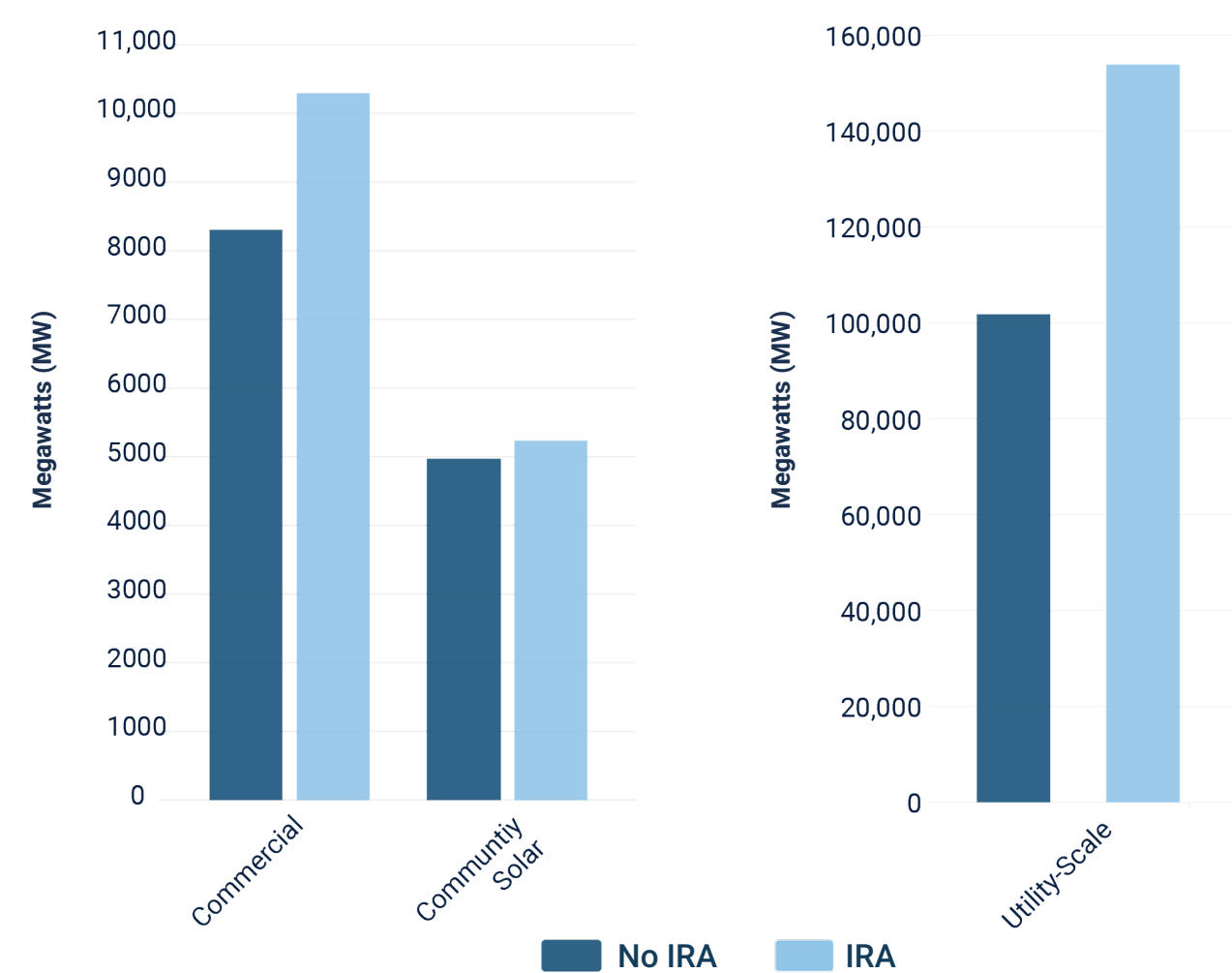


Solar and storage project, photo courtesy of Stem



Forecasting Growth: Impacts of the IRA

Five-Year (2023 – 2027) Forecasts by Market Segment



Source: SEIA/Wood Mackenzie U.S. Solar Market Insight Q3 2022

On-site solar installation at Prologis (Duke Realty) in Perth Amboy, NJ. Photo courtesy of Solar Landscape

Forecasting Growth: Impacts of the IRA

In August 2022 President Biden signed the Inflation Reduction Act (IRA), which among other things includes provisions that extend and enhance incentives for renewable energy. The extension of the Investment Tax Credit to at least 2032 provides long-term stability for the industry, while the flexibility to take the Production Tax Credit creates some additional opportunity for off-site projects in particular. Other provisions that will greatly benefit the commercial solar space include: the inclusion of interconnection costs into the ITC cost basis for projects up to 5 MW, an additional tax credit for siting in certain areas impacted by industrial and fossil fuel activity, an additional credit for projects sited in low-income communities, the ability to transfer tax credits, and a standalone credit for energy storage. The bill will also incentivize domestic solar manufacturing, which over time should ease some of the supply chain challenges that are increasing prices and slowing deployment at the moment.

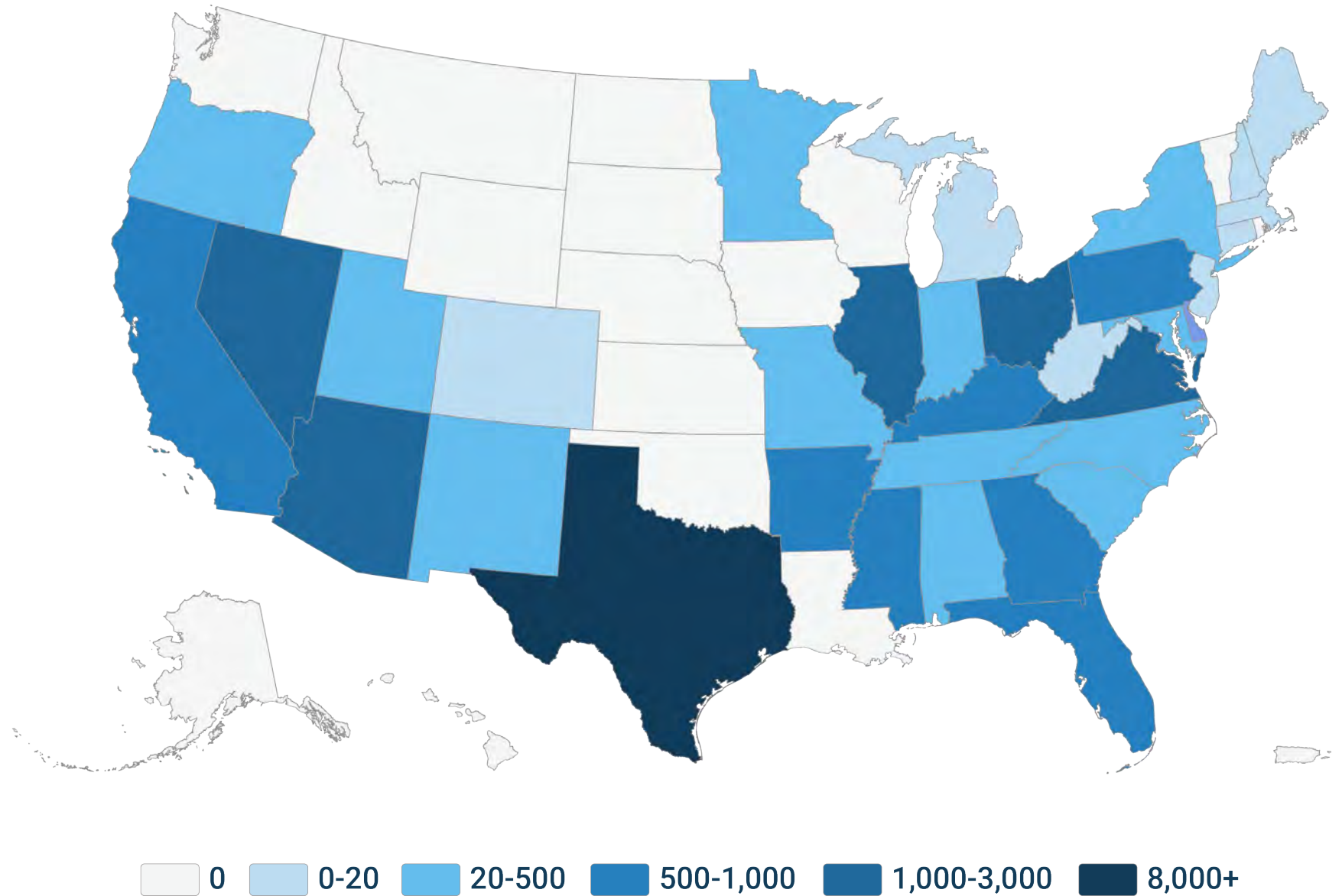
According to Wood Mackenzie, the IRA is expected to increase on-site commercial solar deployment by 24% over the next 5 years while utility-scale deployment (which includes off-site corporate procurement) is forecasted to increase 51% relative to a no-IRA scenario. More modest growth of 5% is expected in the community solar market over the same time frame, as those markets are less determined by federal policy and more by state community solar policy.

For more on how the IRA will support solar deployment, visit seia.org/ira

The installation of a ground mount array for the San Miguel County Ilium Sheriff in Telluride, Colorado. Photo Courtesy of PPC Solar



Commercial Solar Installation Pipeline by State (MW)





Forecasting Growth: The Contracted Pipeline Expands

After a record year for commercial off-site installations in 2021 and a near-record for on-site, 2022 was expected to be another banner year with contracted pipelines for off-site projects at an all-time high. Instead, a combination of trade disputes, supply chain challenges and inflation have raised prices for both materials and labor, with lack of product availability and interconnection challenges delaying many off-site projects and some on-site projects as well. For the industry as a whole, 2022 forecasts have been cut from 30 GW to 16 GW.³

However, many of the factors impacting the current slow down are expected to be resolved over the course of the next 6 – 18 months, with overall market growth expected to resume in 2023 and supply conditions to return to normal by 2025. With the IRA creating additional demand and domestic supply, the on-site commercial market can expect average annual growth rates of 11% between 2023 and 2027, while the utility-scale market (of which off-site corporate makes up 25 – 35%) can expect 45% growth over the same period.⁴

As part of this report, we've tracked nearly 27 GW of under development commercial projects, an all-time high. 95% of these projects are expected to come online by the end of 2024, though supply chain challenges are expected to delay commercial operation in many cases. Still, these projects represent nearly a third of all utility-scale capacity in the pipeline. One company alone, Amazon, has a contracted pipeline of over 10 GW, which is more than all but two states have installed to-date.

³SEIA/Wood Mackenzie U.S. Solar Market Insight Q3 2022

⁴Ibid

On-site solar at a Weck's Restaurant Albuquerque, NM. Photo courtesy of NM Solar Group.

Thank You to Our Data Providers



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Questions?

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