



Q2 2023 Earnings Call

August 2, 2023

Transcript

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Presenters

Patrick Jobin, Senior Vice President, Investor Relations
Mary Powell, Chief Executive Officer
Danny Abajian, Chief Financial Officer
Paul Dickson, Chief Revenue Officer

Q&A Participants

James West - Evercore ISI
Brian Lee - Goldman Sachs
Julien Dumoulin-Smith - Bank of America
Andrew Percoco - Morgan Stanley
Joseph Osha - Guggenheim Partners
Kashy Harrison - Piper Sandler & Co.
Colin Rusch - Oppenheimer
Tristan Richardson - Scotiabank
Philip Shen - ROTH MKM Partners
Jordan Levy - Truist Securities
Ameet Thakkar - BMO Capital Markets

OPERATOR

Good afternoon and welcome to Sunrun's second quarter 2023 earnings conference call. All participants have been placed on mute. Please note that this call is being recorded and that one hour has been allocated for the call, including the Q&A session. To join the Q&A session after prepared remarks, please press star 1 at any time. We ask participants to limit themselves



to one question and one follow-up question. I will now turn the call over to Patrick Jobin, Sunrun's Senior Vice President, Investor Relations. Please go ahead.

PATRICK JOBIN

Thank you operator.

Before we begin, please note that certain remarks we will make on this call constitute forward-looking statements. Although we believe these statements reflect our best judgment based on factors currently known to us, actual results may differ materially and adversely. Please refer to the Company's filings with the SEC for a more inclusive discussion of risks and other factors that may cause our actual results to differ from projections made in any forward-looking statements. Please also note these statements are being made as of today, and we disclaim any obligation to update or revise them.

On the call today are Mary Powell, Sunrun's CEO and Danny Abajian, Sunrun's CFO. Paul Dickson, Sunrun's Chief Revenue Officer, is also on the call for our Q&A session.

A presentation is available on Sunrun's investor relations website, along with supplemental materials. An audio replay of today's call, along with a copy of today's prepared remarks and transcript including Q&A will be posted to Sunrun's investor relations website shortly after the call.

And now let me turn the call over to Mary.

MARY POWELL

Thank you, Patrick.

Sunrun's team delivered a strong quarter. Our disciplined margin-focused growth strategy continues to position the company well for long-term success and generating cash.

Quarter Performance Summary

This quarter we beat – by a large margin – our volume guidance for Solar Energy Capacity Installed, but more importantly, we are rapidly accelerating storage adoption, growing our lead as America's clean energy company, one that delivers a superior value proposition to customers, and creates multiple value streams for our shareholders. We installed more than 100 megawatt hours of storage capacity in Q2, growing 35% compared to the prior year, and we now have more than 900 megawatt-hours of storage capacity installed across the country. We are accelerating our pace. Our storage offerings provide customers enhanced value and generate significantly higher margins for Sunrun today, while providing a foundation for considerable monetization in the years to come. Our strong attachment rate was nearly 18% of our installations across the country in the second quarter, and we expect this percentage to continue to increase rapidly.

In the second quarter, we grew our customer base to nearly 870,000 customers which represents 6.2 gigawatts of installed solar capacity. We added approximately 40,000 customers



this quarter, 7,000 with storage, with an improving Net Subscriber Value of over \$12,000, resulting in Total Value Generated of nearly \$400 million. Our rapidly accelerating storage attachment rate presents a powerful opportunity to grow our clean energy generation business by providing at-scale power plant capabilities across America. This quarter, we again set the all-time industry record for installed solar energy capacity. This scale, combined with a rapidly increasing storage attachment rate, presents a powerful utility-scale generation solution.

We grew Net Earning Assets by over \$400 million and increased our total cash position by \$78 million compared to the first quarter.

These strong financial and operating results are possible because of our experienced, committed team who is executing on our disciplined, margin-focused growth strategy.

Update on California

Ok, turning to the topic I know is on everyone's minds — California.

The most important news is that we are smashing our expectations for increasing the adoption of higher-margin storage offerings in California, and nationally.

In California, we have increased our battery-attachment rate, of both backup batteries and our Shift product, to over 80%. All of our battery products store solar energy when it's generated and dispatch it when it's most valuable. Over a third of our newly-sold battery systems also perform home backup, a doubling since the start of the year. The remaining two thirds of new battery customers represent our "Shift" product in California, which offers a strong value proposition for our savings-focused customers. Let me be perfectly clear, both storage products, Battery Backup and Shift, provide superior value to Sunrun than Solar-only customers did prior to the California policy transition.

Nationally, we are seeing storage attachment rates for new sales in excess of 30%. Our leading position in providing a backup storage offering to customers generates superior and expanding margins and market share gain opportunity. As this higher mix of storage sales flows through to installations over the next two quarters, we expect strong increases in Net Subscriber Values and Total Value Generated that will offset impacts from lower near-term California volume.

Training sales representatives to sell under the new policy construct has taken time. We are seeing significant increases in sales recently as sales representatives become proficient explaining the new product opportunities, and selling a bundle with up to 80% higher customer value than before. Because of this learning process, and because we are rapidly increasing our mix of storage which takes longer to permit and install, Q3 is a transition period. We are still growing at a strong pace. Q3 installations will still be up year over year, with a more profitable mix, and our outlook for the second-half is growing 9% year over year in volume, with even higher growth in value generated.

I am confident we will look back at this moment as another proof point of how we strengthen our market position by remaining customer-focused, disciplined and methodical when the broader market is faced with a challenge.

With California's market massively underpenetrated, we expect sales will accelerate further as our teams continue to optimize how they sell our offerings in the new environment and demand



continues to build following the dramatic pull-forward we saw early in the year leading up to the transition. Despite slower than anticipated sales in May, sales in June and July ramped at strong month-over-month rates in our direct business. We are down about a third compared to last year in July, with our direct business performing significantly better, and are seeing strong week over week improvements exiting the month. As consumers adjust to the new regulatory environment, and understand the value proposition that we are able to offer, I am confident this trend will continue, and we are on track for strong year-over-year growth in California.

While California gets lots of attention, it's important to note the benefits of running a diversified business which operates in many markets. Sales activities outside of California have been robust, growing by 25% in Q2 compared to the prior year, and this growth rate has been maintained through June and July. The bottom line is demand remains robust outside of California, California is improving, and we are offsetting the near-term volume dip in California with a mix of much-higher margin offerings. Our growth and value creation story is on track.

Driving Innovation, Expanding Differentiation

Shifting to an update on our other strategic priorities.

Our goal is to meet customers where they are on their clean energy independence journey and provide solutions to improve their lives. Our strategy is to integrate the best and most differentiated offerings available, and as appropriate, either develop these offerings alongside our partners or build the capabilities to fulfill them directly in-house.

Sunrun's leading work to aggregate residential batteries and form valuable, distributed power plants continues to advance. Our exclusive partnership with PG&E, called Peak Power Rewards, is the largest residential distributed power plant of its kind in the United States. Over the last quarter we grew that program further by adding 1,000 customers – we now have 8,500 customers participating with up to 34 megawatts available for dispatch. Starting yesterday, our participating fleet of home batteries has been supporting the grid by dispatching during critical peak times. The value of enrolling in the program, both for our customers, and for Sunrun, is compelling – both on a per customer basis and as a meaningful source of additional recurring revenue. As part of their enrollment in this program, customers receive \$750, which is entirely 'found money,' an additional and meaningful value above their initial expectations when subscribing with Sunrun. Together with our customers and PG&E, we are proving the value of our rapidly growing fleet of dispatchable energy assets.

As previously announced, we secured an exclusive contract with Puerto Rico's utility company, PREPA, to deliver 17 megawatts of baseload, daily-cycling power. Separately, working through the policy and regulatory process over the last five years, we have helped develop a rapid emergency response program that will be the first of its kind in the U.S., providing localized power when blackouts are impending. Sunrun stands ready to provide our distributed power plant services from thousands of customer rooftops as soon as the program is finalized in the coming months.

These programs are so important – expanding the value proposition for customers and providing incremental, recurring revenue streams to Sunrun, which are largely not reflected in our metrics today. Our growing experience with grid services increases our conviction that we can realize \$2,000 or more in per customer NPV from these assets, and the need for these programs will only increase as the grid ages and climatic events further strain its capabilities.



Of our nearly 870,000 customers, 65,000 have batteries today, representing 7% of our fleet. We expect to launch storage offerings for the remaining 93% of our customers in 2024 with a retrofit offering, while simultaneously increasing our attachment rate of batteries for new customers. We also plan to launch a storage-only offering to meet the demand from customers looking for resiliency but whose home might not be ideal for solar. Many look at Sunrun as a solar company, but we are now in a unique position to build a massive, nimble, controllable energy generation company that can also provide energy storage, advanced energy control technologies, smart panels from SPAN, EV charging and enable “mobile back-up storage” from electric vehicles, such as our partnership with Ford. Our dedicated, experienced sales teams provide a strategic advantage for Sunrun to lead in commercializing these opportunities.

Lunar Energy, the venture we invested in alongside SK Group, unveiled details of their first product in June. We are so excited to work with Lunar as a key partner to accelerate home electrification. We expect Lunar’s initial storage offering to be available in the coming quarters and their advanced grid services platform is a key differentiator for us as we build massive distributed energy plants across America.

SnapNrack, the independent solar racking technology company we own, also continues to innovate with leading solutions, including fast direct-to-deck mounting options for rooftop solar systems - called TopSpeed. SnapNrack’s products are sold broadly to the industry and leveraged by our teams as they dramatically increase installation efficiency.

Operating Efficiently & Leading with Financial Strength

We are focused on maximizing value for our shareholders by delivering strong margins which will support meaningful cash generation. Margins are expected to expand significantly in the coming quarters from pricing, product mix, and go-to-market decisions, a continued focus on operating efficiency, and tailwinds from ITC adders, hardware cost improvements, and a general easing of inflationary pressures.

We continue to make meaningful advances in our operational efficiency metrics, growing installation volumes while maintaining or reducing staffing levels throughout the organization. While there are numerous initiatives underway, a few noteworthy ones include our national roll out of our shift to job site delivery of equipment which enables job site reporting for our installation crews. We are seeing strong improvements in labor efficiency, employee satisfaction, and safety metrics from this process change.

We also recently made a meaningful investment in Artificial Intelligence. It’s too early to quantify potential benefits, but we believe it presents a unique opportunity to drive increased cost efficiency, reduced cycle times and improved customer experience.

As an example of our efforts to prioritize margins and balance growth, we recently optimized our strategy to encourage stronger uptake of storage across the country. We also reduced our direct operations footprint in Arizona, shifting to an Affiliate Partner-led go-to-market approach.

We are committed to driving meaningful cash generation in this business. We are targeting annual run-rate recurring cash generation of \$200 to \$500 million or higher in future quarters as further margin improvements are realized. Danny will expand upon this in his section.



At Sunrun, we are focused on managing both margins and volumes to maximize cash generation, as the ultimate and most clear value we can create for our shareholders. Importantly, we underwrite our new originations with a hurdle rate in excess of current capital costs. Sunrun has operated through a variety of cycles over its 16-year history, and has proven, time and again, to be the prudent operator that can drive sustainable, value-generating growth.

Celebrate our people

Last, but certainly not least, I want to celebrate our teams across the country, in the field and offices, who are helping accelerate this customer-led revolution in energy, and practicing our strong culture of doing it safely and efficiently. I am so thankful for the contributions from each and every Sunrunner who is helping drive this transformation.

This quarter, I would like to recognize outstanding performance from our Las Vegas branch which is our top-ranking team in the country, as measured by our safety, productivity, *and* customer satisfaction metrics. I also want to recognize our entire team for driving a world class Net Promoter Score of 68 at the time of install, comparable to the top brands in the country. I also want to thank our California sales teams who have continued to outperform our peers, drive a higher-margin mix, while providing a great customer experience. Crushing it on all of these operating fundamentals of our business is critical to driving long term value. We are proud of your contributions and your leadership at Sunrun!

With that, let me turn the call over to Danny for our financial update.

DANNY ABAJIAN

Thank you, Mary.

Today I will cover our operating and financial performance in the quarter along with an update on our capital markets activities and outlook.

Turning first to the results for the quarter on slide 10.

Volumes

In the second quarter, Customer Additions were approximately 39,800, including approximately 32,400 Subscriber Additions. Our Subscription mix represented 83% of our deployments in the period, a meaningful increase from 78% last quarter and the highest level in two years. Our recent sales activities, and the forthcoming benefits from the tax credit adders in the Inflation Reduction Act, which are only available to the solar subscription model, indicate the mix of Customer Additions is likely to continue to shift more toward Subscribers in the quarters ahead. Solar Energy Capacity Installed was approximately 297 megawatts in the second quarter of 2023, a greater than 20% increase from the same quarter last year, and significantly exceeding our guidance of 270 to 290 megawatts. Our installation teams executed well in the quarter and our Affiliate Partner channel outperformed significantly in Q2, as the strength of our subscription model captured increased share among dealers in the industry.

We have now installed over 65,000 solar and storage systems. We expect storage installations will grow rapidly in the quarters ahead and attachment rates will increase meaningfully as our recent sales are well in excess of 30% nationally, for reasons Mary mentioned earlier on the call.



Our backup battery offerings carry higher margins, typically by several thousand dollars per customer. We also expect our Shift offering to achieve margins that are higher than prior solar-only margins received in California under NEM2.

We ended Q2 with approximately 869,000 Customers and 725,000 Subscribers, representing 6.2 Gigawatts of Networked Solar Energy Capacity, an increase of 21% year-over-year. Our Subscribers generate significant, recurring revenue with most under 20- or 25-year contracts for the clean energy we provide. At the end of Q2, our Annual Recurring Revenue, or ARR, stood at over \$1.1 billion, up over 25% over the same period last year. We had an average contract life remaining of nearly 18 years.

Subscriber Value, Creation Cost, Net Subscriber Value & Total Value Generated

Turning to slide 12.

In Q2, Subscriber Value was approximately \$44,700 and Creation Cost was approximately \$32,400, delivering a Net Subscriber Value of \$12,321, in-line with our guidance of a sequential increase to the \$12,000 figure in Q1. Our Q2 Subscriber Value and Net Subscriber Value both continue to assume a 30% Investment Tax Credit and thus exclude any margin upside associated with the tax credit adders.

Although the ITC adder for Energy Communities will apply retroactively to January 1, 2023, we again did not reflect this value in our Net Subscriber Value for Q2 as we work through the implementation with our systems and complete all necessary steps with our capital providers, but expect to begin doing so in Q3. We currently estimate the Energy Community adder will apply to approximately 15% of new installations, even without adjusting our current geographic footprint.

We are seeing easing supply chain conditions and substantial unit cost reductions across our key hardware components, which should start to flow through our reported costs over the next few quarters as we work through our higher-cost inventory. On a like-for-like basis for a 7.5 kilowatt solar with backup battery system, hardware costs are expected to decline by nearly 15%, or nearly \$2,000 per system, over the next few quarters. These beneficial trends may be obscured by an increasing mix of storage, which carries higher net margins, but will increase hardware and install costs and therefore impact Creation Costs.

Total Value Generated, which is the Net Subscriber Value multiplied by the number of Subscriber Additions in the period, was \$399 million in the second quarter. This represents an almost doubling compared to the prior year, even without adjusting for the less favorable discount rate used this year.

Our present value-based metrics are presented using a 6% discount rate, which we last updated from 5% to 6% last quarter. As a reminder, we generally prefer not to update the discount rate frequently to enable ease of comparison across periods. Instead, we provide advance rate ranges that reflect current interest rates, enabling investors to calculate the obtainable net cash unit margins on our deployments. In addition to providing this heuristic, this quarter, for direct clarity we have added a pro-forma Net Subscriber Value using the capital cost observed for the quarter. In Q2, our average capital cost was approximately 7.25% which, on a pro-forma basis, results in Net Subscriber Value of \$8,104 and thus Total Value Generated of \$262 million, which is up 31% compared to Q2 of last year, which was presented using a 5% discount rate.



As Mary mentioned, our financial underwriting already takes into account a cost of capital well in excess of 6%.

Gross and Net Earning Assets, Cash Balance

Turning now to Gross and Net Earning Assets and our balance sheet on slide 13.

Gross Earning Assets were \$12.6 billion at the end of the second quarter. Gross Earning Assets is the measure of cash flows we expect to receive from Subscribers over time, net of operating and maintenance costs, distributions to tax equity partners in partnership flip structures, and distributions to project equity financing partners, all discounted at a 6% unlevered capital cost.

Net Earnings Assets were over \$4.4 billion at the end of the second quarter. Net Earning Assets is Gross Earning Assets, plus cash, less all debt. Net Earning Assets increased by over \$400 million this quarter, driven by strong Net Subscriber Values and more favorable working capital dynamics compared to the prior period, as we reduced inventory. Value creation upside from future grid service opportunities, and selling additional high value electrification products and services to our long-term customer base, are not reflected in these metrics.

As we've shared before, we regularly enter into interest rate swaps to hedge capital costs on our newly installed customers. We are principally exposed to interest rate fluctuations between customer origination through shortly after installation. Around the time of installation, our systems are financed with project-level non-recourse debt. Nearly all of this financing is insulated from near-term interest rate fluctuations, as our debt is either fixed-coupon long-dated securities, or floating-rate loans that have been hedged with interest rate swaps. As such, we do not adjust the discount rate used in Net Earning Assets to match current capital costs for new installations.

We ended the quarter with \$921 million in total cash, an increase of \$78 million compared to the prior quarter.

Capital Markets & Capital Runway

Turning briefly to our capital markets activities and outlook on slide 16.

We continue to maintain a robust project finance runway. As of today, closed transactions and executed term sheets provide us with expected tax equity capacity to fund over 330 megawatts of projects for Subscribers beyond what was deployed through the second quarter. Following transactions after the quarter closed, Sunrun has \$400 million in unused commitments available in its \$1.8 billion non-recourse senior revolving warehouse loan, to fund approximately 150 megawatts of projects for Subscribers. This strong capital runway allows us to be selective in timing our capital markets activity.

Given the increased scale of our business, we plan to upsize and extend our non-recourse warehouse loan in the coming few quarters, as we have done several times before. We are also actively evaluating various options to expand routes to efficiently monetize tax credits, including the substantial amount of tax credit adders we expect, by leveraging the new tax credit transferability provisions from the Inflation Reduction Act.

We currently see project-level capital costs at approximately 7.25%, which is a weighted average of our non-recourse senior and subordinated debt. Our cost of capital indications are



informed by both realized terms on our transactions as well as observable market data, such as longer-term Treasury yields as a proxy for our base rate and credit spreads across numerous transactions completed by us and our peers.

The deep relationships we have cultivated with many capital providers in multiple markets, our recognition as a high-quality sponsor, and the strong performance trends of our customers, affords us access to attractively-priced capital. Demonstrating this access, last week we closed a portfolio term-out involving a private senior securitization and a subordinated loan. Together with these financings, year-to-date, we have closed almost \$2 billion in project-level capital commitments.

Outlook

Turning now to our outlook on slide 17.

We continue to guide growth in Solar Energy Capacity Installed to be between 10 and 15 percent for the full year 2023, which we believe will result in market share gains. Last quarter we noted we might be around the high end of this range, but we now feel comfortable reiterating this range, as we plan for a persistently higher interest rate environment, our decision to exit certain lower margin markets, increased install cycle times from growth in storage attachment rates, and a slower than expected recovery in California. We continue to believe the market is very underpenetrated and can sustain long-term growth rates of 15%. In this strong long-term demand backdrop, our priority is to generate cash by continuing to increase customer values through growing storage adoption, among higher value products and services, and growing our scale and efficiency further.

In Q3, we expect Solar Energy Capacity Installed to be in a range of 255 and 275 megawatts. This decrease from the second quarter's level reflects the decline in California order volumes in Q2, which will impact installs in Q3. Our success in achieving substantially higher storage attachment rates on our sales nationally also results in longer install cycle times, which creates near-term lags to the rate of installation completions as storage attach rates migrate upward.

We expect Net Subscriber Values to be materially higher in the second half of the year compared to the first half, driven in large part by the much higher Net Subscriber Values from backup battery systems factoring into our mix, particularly in Q4 when we expect to see the strongest Net Subscriber Value of the year. We anticipate including the Energy Community ITC adders starting in Q3, while we expect the Domestic Content and Low Income adders are most likely to benefit us starting in 2024, although their benefit could materialize sooner. Offsetting these gains will be less favorable fixed cost absorption in Q3 resulting from lower volume, and potential near-term headwinds in our equipment distribution business.

Recent interest rate increases, inflationary pressures, and working capital needs have prevented us from generating meaningful cash generation. We responded to headwinds decisively with higher pricing and operating efficiency improvements. Since the start of 2022, the increases in cost of capital reduced realizable proceeds by greater than \$1 billion, and we faced higher input costs and a dynamic supply chain environment which resulted in a higher inventory balance. Given our actions, we are now targeting annual run-rate recurring cash generation of \$200 to \$500 million or higher in future quarters as further margin improvements are realized.



As we have described in the past, because we finance our growth using tax equity and non-recourse project debt, we measure cash generation as the change in our cash balance, excluding any changes to our parent-level debt, equity, and equity-like financings, as we highlight on slide 15. Because project finance timing can be lumpy, cash generation can also be lumpy quarter to quarter. We expect to provide more details on cash generation, including more specific guidance on timing, in the coming quarters, but want to be clear that this is the financial outcome we plan to deliver.

With that, let me turn it back to Mary.

MARY POWELL

Thanks, Danny.

I am so appreciative of our hard-working team whose incredible passion for the work we do and commitment to our purpose helped deliver another strong quarter of results. Our team is laser focused on accelerating the strong momentum, embracing this massive shift, and extending our lead as America's clean energy company, driving continued efficiencies across the business, and generating more value for our shareholders, our partners, and our customers.

Operator, let's open the line for questions.

Operator

Certainly. We will now be conducting a question-and-answer session. As a reminder, please ask one question and one follow-up. If you would like to be placed in the question queue, please press star, one at this time. If you would like to remove yourself from the queue, please press star, two.

One moment, please, while we poll for questions. Our first question is coming from James West from Evercore ISI. Your line is now live.

James West

Hey, good afternoon, guys. And congratulations on the massive pickup in battery attachment rate, very impressive. I have really two questions around that. First, on the--I think what you said earlier around margins that the attachments, the batteries, they come in at higher margins that are offsetting some lower volumes. Is it just an offset, or is it actually more than offsetting, somewhat temporary lower volumes?

Mary Powell

Yeah. I mean, again, like we are, as I said, so thrilled as well with the work of our team and the appetite of our customers. I mean, the reality is our customers want storage, and we're the company to deliver it. So, we're really excited by that, and we're excited about the momentum we see, going forward. And yes, they produce much higher value, every customer, because in essence we're selling two very significantly priced products now instead of one. Every customer is worth a lot more. But make no mistake, again, we see that the momentum is building on the sales side, and we expect to see--again hit our target for the year, hit our target range.

James West

Okay. Got it. And then, on grid services, which looks like a huge, huge opportunity for you guys, how do you see the evolution here? I guess, one, is that accurate? Two, how do you see the evolution of that playing out? I know you have PG&E working with you now. Do you think other utilities will be working with you soon?

Mary Powell

Yeah, 100 percent. I think as I described before, principally as a former utility CEO for so long, we just--we're building significant scale of power plant capability all across America at the exact, same time as you're seeing, James, where the grid is actually showing real stress and strain under increased heat, different climatic events. So yes, we absolutely expect to continue to see an uptick. It's why, again, as I mentioned, we're looking at sort of a minimum of \$2,000 NPV per customer from a grid services perspective but seeing a lot more potential as we look to the future.

James West

Okay. Got it. Thanks, Mary.

Operator

Thank you. The next question today is coming from Brian Lee from Goldman Sachs. Your line is now live.

Brian Lee

Hey, everyone. Good afternoon. Thanks for taking the questions. Maybe first one, just a follow-up on James' question about the high battery attach rate and the margin accretion potential there. I think in the past, you all have talked about maybe a couple of thousand dollars of incremental subscriber value for a battery plus solar customer as opposed to just the solar only. Not sure if that math still holds true. But, can you maybe give us a sense of what the incremental subscriber value accretion is? And then, maybe is it different between a backup battery customer versus a Shift battery customer? And then, I had a follow-up.

Danny Abajian

Yeah. Hey, Brian. This is Danny speaking. Yeah, it could be a few thousand dollars per customer, and as we blend to the mix. So, we said on the call, greater than 30 percent backup. And that's not just in California. That's a national event that's occurring. So, as we get that through our pipeline and deliver to install, as we've noted, like battery installations do take a little while longer. So, over the coming couple of quarters, we could see a few thousand dollars per customer magnitude of pickup, is what we're planning for.

Brian Lee

Okay, that's great. And obviously, that would feed into that substantially higher subscriber value as you're sort of guiding to here in the second half. Fair enough. Second question I had was around this--the \$200 million to \$500 million run rate annual recurring cash generation. It's a fairly wide range. I know it's lumpy, as you said. But, can you maybe just give us a sense of what's driving that wide range, how it impacts your financing strategy, if at all?

I just feel like we've seen this metric introduced in the past, but it's been tougher to get a sense of how consistent and maybe even the practical implications of what this metric is going to mean for you, going forward. And I now in the past or recent past, it's gone kind of in a negative direction. So, I'm just trying to get a sense for how you're thinking about this, implications-wise as well as how consistently you think you can maintain the cash generation, going forward. Thank you.

Danny Abajian

Yeah. Thank you for the question. And I would start by saying strategically, that is the target. That's what we're driving towards. That's what we're working towards. And in part of the commentary, we did also highlight the interest rate increases and some of the events of the last year that took us off that path, frankly. And it wasn't just the magnitude of the interest rate increases, but it was the speed with which it happened.

And then, coupling that with the dramatic rise we had in inventory balance, managing to supply chain, those were prohibitive to cash gen, although we have been increasing pricing and margins and cost efficiency in the business. So, as we chart out our future, kind of where we are now, and some of the assumptions we'll make on volume, backup battery mix, ITC adders, the general environment around cost of capital where, again, as Mary said, and I reiterated, we do plan the business now for our current cost to capital. So, we have recuperated the effective interest rate increases.

And as that has kind of maintained in a range, we look at that and a few other factors, like what's happening in the external environment on equipment costs. And as we put all that together, from a micro level, \$200 million to \$500 million becomes the target. And from a macro level, as we think about kind of the overall full cost stack annualized spend of the company and relate that on a percentage basis, like even net of working capital, we think that's a reasonable range for us to target and an expectation, frankly, that we have on ourselves.

Brian Lee

All right, appreciate that color. I'll pass it on. Thank you.

Operator

Thank you. The next question today is coming from Julien Dumoulin-Smith from Bank of America. Your line is now live.

Julien Dumoulin-Smith

Hey, good afternoon. Thanks for the time. Appreciate it. Nicely done here. Following up on that last question of the \$200 million to \$500 million range here of cash over time, can you talk a little bit more specifically about how lumpy that could be? I know you disclaimed in the remarks here that you're not reflecting anything better than the 30 percent tax credit. Transferability and monetization remains in flux. But, how much of a step function change could we see next year as domestic content, and especially attached with a higher tax rate on storage, really starts to impact numbers? When you say it's over the next two quarters, is this really just waiting to get that clarity on the tax credits to pivot to that kind of cash?

Danny Abajian

Yes. I think I highlighted some of the factors, like backup battery mix we observed in our sales, and that's a matter of putting that through a timing model and seeing the ramp on installs. So, that is not, I would say, in the basket of things that would cause lumpiness. ITC adders are obviously, as we mentioned, energy communities are about to be up and running kind of formally in the system, if you will.

And we'll talk more about that as we get--that's starting to get realized in the margins. And then, low income domestic content, those will phase in over time. We think the low income will be a single event, and domestic content would phase in over time. And we do have a little bit of uncertainty on the exact timing, but as we get more and more of that clarity, we will share it.

The lumpiness comment is more around the fact that we do have several term out events into the capital markets a year as we scale up deals, have them ready with fully installed pools of assets and turn them out into the capital markets. And sometimes, you might have a transaction that could be November, December, or January.

And you might get the cash event hitting in a slightly different period. So, that's not a quarterly target. That's an annualized target. That's why we're speaking on an annual number. But, I think the point was more to remind folks that we should look at it over many quarters as opposed to any one individual quarter.

Julien Dumoulin-Smith

Right, certainly. Sounds like it will filter up over the next few quarters, in particular. Just digging in on one of the silos here. When you think about the delta between the inventory number you cited and broadly current market prices of equipment, when and what is that delta when you think about it? And especially when do you get to that point in which you're recognizing current market pricing?

Danny Abajian

Yeah. So, I'll hit that one again. The--we have detailed the guidance on that timing. I would say using an example system more directionally, but you could see again on Slide 11 the decrease happens over the balance of the year and is probably more heavily noticed and present in Q1. And that's as we cycle elevated inventory levels. We are giving those numbers as reflecting current purchasing activity in the business. So, we have line of sight to the achievement that we show in Q1 with equipment prices getting substantially lower. That's just because we record the equipment costs on the install, and there's a time lag with the elevated inventory levels. So, it's a couple of quarters to see that come through.

Julien Dumoulin-Smith

Got it. And 7.25 percent, why that number?

Danny Abajian

It's math. We look at--our longer term capital costs are driven by a seven-year base rate, right? We--I look at that several times a day, more than I should. And then, credit spreads are a function of the market. Like we're not observing the data points every day, but there are several

deals in the residential solar market of very big scale that get done. I think there was a loan transaction that priced today that had a spread compression of over 50 basis points from its last transaction. So, we're reflecting all of these things as we, again, constantly evaluate the capital markets environment.

Julien Dumoulin-Smith

Excellent. Thank you. Congrats again.

Mary Powell

Thanks.

Operator

Thank you. The next question today is coming from Andrew Percoco from Morgan Stanley. Your line is now live.

Andrew Percoco

Great. Thanks so much for the time. Just wanted to circle in on the net subscriber value guidance for the back half of the year. Is there any way you can provide some kind of bookends in terms of how we should be thinking about it? Looking back to this time last year, you did see a pretty noticeable uptick in 3Q.

Should we think about order of magnitude relatively similar to what we've seen in 3Q of 2022? And maybe asked slightly different, how should we think about growth in total value generated in the back half of the year when you combine it with your customer growth? Thanks.

Mary Powell

Yeah. I mean, what you're seeing is, as we described, a really different like customer profile, moving forward. So, we are selling to much higher-margin customers. So, a big part of how we see value creation is in the context of the product mix that we're selling and that increasing storage attachment rate. And again, what we're seeing from just a sales perspective, funnel perspective, we're feeling really strong about the whole--the second half of the year and consistent with our guidance.

Danny, do you want to hit the more specific question on--.

Danny Abajian

--Yeah. Happy to give you a little bit of bridging here, which I think is helpful in the context of the value creation per subscriber going up but also the discount rate changing in that period of time. So, if you look at Q2, 2022 as the number you referenced, that's \$7,910 per customer. And as we talked about, if we adjust our PV6 metric to a PV7 and a quarter, we get to \$8,100, which is a couple hundred dollars higher year-over-year, despite interest rates increasing significantly over that period of time.

And then, if you look at the total value generated, and you do the same compare, and you take the current period total value generated and adjust it for discount rate and compare that

year-over-year, that number is up 31 percent, so substantial pickup year-over-year. And then, as far as the outlook, again reiterate the potential here with the battery attach lift is a few thousand dollars per customer. And then, we'll--as we get more clarity on the adders and other things, we'll talk more about that as well.

Andrew Percoco

Got it. That's helpful. And maybe just one follow-up question on the virtual power plant opportunity. You've made some interesting announcements over the last few days in this space. And I'm just curious, of the 900-megawatt hours or so of batteries that you have in the field, what percentage of that is already included in virtual power plant agreements? And it does sound like you have a decent amount of retrofit in storage growth, going forward, which is obviously an opportunity in itself, but just curious about the untapped potential in your existing customer base.

Mary Powell

Oh, the untapped potential is significant. And again, one of the things that has been a really strong value proposition, Sunrun has been strong in the face of grid services and figuring out how to leverage these assets from a grid perspective for many years. And we're really starting to see the acceleration of that and really--and seeing the acceleration of the appreciation of what these distributed power plants can do from a grid perspective.

So really, right now, it's a relatively small percentage in terms of the total available megawatt hours we have control of. And that's one of the things that is so exciting when we think about the potential ahead. It's a huge part of why we also are really looking forward to launching retrofits for our existing customer base. We already have a significant list of customers that have let us know that they want to be--they want a storage device. And then, we also are going to be doing storage-only solutions for customers as well.

Andrew Percoco

Got it. Super helpful. Thanks so much.

Operator

Thank you. The next question is coming from Joseph Osha from Guggenheim Partners. Our line is now live.

Joseph Osha

Thank you. And hello, everyone. I have two completely unrelated questions. The first, can I read into your comments that, barring extraordinary circumstances, you are not going to be raising recourse capital or equity to fund growth? Is that kind of what I'm hearing is the corollary to this commitment to generate cash?

Mary Powell

Yes. That's what you're hearing.

Joseph Osha



Great, very unequivocal. Thank you. And the second question related to Lunar, just so that I understand. Is it the case that, at least in some installations, you can use the inverter there to drive a panel string? I'm trying to understand what exactly that product is.

Mary Powell

Paul, do you want to speak to Lunar?

Paul Dickson

Yeah, of course. So, we're really excited about the Lunar product. The install efficiencies of pairing the inverter with the battery create a lot of opportunity for us to speed up our installations and actually deploy full battery backup in more consumer situations. So, we're excited about the operational efficiency as well as the ability to apply in more situations.

Joseph Osha

But that, just to clarify--is it the case that I can use that inverter to drive a string of panels if I want to?

Paul Dickson

Yes.

Joseph Osha

Okay. Thank you very much.

Operator

Thank you. The next question today is coming from Kashy Harrison from Piper Sandler. Your line is now live.

Kashy Harrison

Good afternoon, and thank you for taking the questions. So first one for me, there is very helpful color around equipment costs. And I wanted to broaden the discussion to customer acquisition costs of California. You've indicated sales are down maybe a third year-over-year and smaller installers--you're outperforming smaller installers post NEM.

And so, I'm wondering if this creates an opportunity for the industry and run to maybe solve for improved economics by reducing customer acquisition costs, just given where we are in the cycle and where economics are in California. Or is that maybe not necessarily possible because there's still enough alternative opportunities for sales teams to go if commission dollars come down?

Paul Dickson

Yeah. I think we continue to see people recognizing the value of selling at Sunrun. We've seen a 5.5 percent, 6 percent decrease in CAC over the last six quarters, so sequentially CAC has

fallen every quarter the last trailing six quarters as our net subscriber value is increasing. So, you're seeing that kind of translation take place actively historically, and we forecast that taking place going forward as well.

Kashy Harrison

Thank you. And then, maybe just for my follow-up, just--and apologies if I missed this in the initial prepared commentary. But, just looking at the guidance, I think it implies a pretty big sequential uptick at the midpoint to maybe just over 310 megawatts by the fourth quarter. Can you maybe walk us through what drives the confidence in that sequential improvement and perhaps how much of the outlook is currently de-risked by signed agreements?

Paul Dickson

Yeah. So, outside of California, we've been seeing 25 percent growth year-over-year in sales activity, and so we're seeing really strong growth outside of California. Speaking specifically inside California, we saw strong outpacing of growth quarter-over-quarter throughout the period. And entering into the latter weeks of the end of the quarter and the first few days of this quarter, we're seeing--I would categorize it as explosive sales activity from our teams there, bolstering our confidence in the number.

Kashy Harrison

Thank you.

Operator

Thank you. The next question today is coming from Colin Rusch from Oppenheimer. Your line is now live.

Colin Rusch

Thanks so much, guys. Within the sales process, can you talk a little bit about the trends on the conversion rates that you're getting in terms of leads converting into actual sales and then also on the system size, particularly in California, as you transition into NEM 3.0?

Paul Dickson

Yeah. So, a lot of competitors inside California are downsizing systems because they don't have a Shift solution. So, the way to preserve customer savings, given the time of use rate situation is to size down on systems. Our portfolio has not experienced that as we are deploying nearly--a little--in excess of 80 percent of the systems we're deploying have either a Shift or full battery backup, so we're not as susceptible to that decrease system size dynamic. Conversion rate is something we watch continually and are very focused on. And driving up conversions and customer experience is a constant focus for us.

Colin Rusch



Thanks so much. And then, as you look at monetizing the virtual power plant and those assets, I guess it's still relatively nascent. Can you talk a little bit about the pricing dynamics and the potential to increase the functionality of the portfolio and monetize those assets at a higher level on a go-forward basis?

Mary Powell

Well, as we said, right now, we look at it as a value of \$2,000 NPV per customer with the opportunity to just grow that going forward, to your point. So again, anything that's new takes time in the like energy generation space. And I feel very heartened by the fact that you now have one of the largest utilities in America partnering on a substantive project that is very high profile. It is leading to many other conversations. So again, we see it as nothing but continued upside, not just for Sunrun and our shareholders but for customers.

Again, back to that California program that I talked about with PG&E, customers who went ahead and went with us for solar and storage for all sorts of financial and resiliency reasons, for basically a few months access to their storage, they have \$750 of found money, which dramatically impacts the value proposition and the way customers see it. So again, I see this as a really strong, growing opportunity for Sunrun and our customers and our shareholders.

Colin Rusch

Okay. Thanks so much, guys.

Operator

Thank you. The next question is coming from Tristan Richardson from Scotiabank. Your line is now live.

Tristan Richardson

Hey, good afternoon. Maybe just kind of curious, you talked about prioritizing some markets and the strength you're seeing in the direct channel business and obviously the long-term strategy to grow the direct channel business. Maybe if you could touch on the partner challenge and just kind of what you're seeing there, what we've heard from big-box retailers, et cetera, foot traffic. Just maybe curious on outside the direct channel.

Paul Dickson

Yeah. So, we had, as you saw, really strong performance from our affiliate partners, as we call them, in our business this last quarter. We continue to see strong demand to get onto our platform but have long held kind of a strategy around biasing towards scale versus driving towards attracting the smaller, long tail players. We have a really heavy focus on customer experience as well as installation quality.

And so, while demand remains, and I would say with this transition of the IRA adders, growing demand for dealers to join our platform, holding those standards kind of throttles that volume and ensures we're able to maintain installation quality and the customer experience that we require.

Tristan Richardson

Helpful. Thank you. And then, just on the \$2,000 NPV on the battery side, I mean, should we think of that as a high-level number that incorporates some of the cost savings you're seeing in the hypothetical example you gave? Or should we think that there could be upside with \$2,000 over some medium-term period of time?

Danny Abajian

Yeah. And are you referring to the grid services number? Or was it the backup attach?

Tristan Richardson

Backup attach, sorry.

Danny Abajian

Yeah. So, yeah, on the backup, it's--I think it's a weighted impact of a few thousand dollars per customer as we get the attach rate up overall in the business. But, if you are actually walking one system from solar only to backup, it could be a little more meaningful than that.

Tristan Richardson

Yeah, helpful. Thank you guys very much.

Operator

Thank you. The next question is coming from Philip Shen from ROTH MKM. Your line is now live.

Philip Shen

Hey, everyone. Thanks very much. I think my question is I want to explore the guidance cadence a bit more. So, over the past five years, your Q3 installations are typically up on average 18 percent quarter-over-quarter but your guiding Q3 installs to be down 11 percent quarter-over-quarter.

And then, for Q4, historically, over the past five years, the cadence is down 10 percent quarter-over-quarter. But then, the implied Q4 installers are now up 18 percent. I know you talked about it a little bit already but was wondering if you could talk bigger picture about that cadence, what's driving the weaker Q3 guide on a historical basis, and then the reacceleration for Q4? Thanks.

Mary Powell

Yeah. Just to be clear, for Q3, we're going to be up year-over-year, is what we're guiding to, and up year-over-year for the entire year, obviously, as well. That said, I think we hit pretty clearly like what we're seeing is that we had this dip. And it happened at the same time that we're selling much higher-value, multiple-product systems to customers. So, that also impacts sort of the installation and cycle timing. So, that's way, as I hit--we see Q3 as solid but really a transition quarter as we're moving into, again, multiple products for a very strong percentage of our overall customers.

Philip Shen

Great. Thanks, Mary.

Mary Powell

Yeah.

Philip Shen

And then, shifting over to 2024 and California, so I know you don't have guidance out, and you won't give guidance on this. I'm not asking for guidance. But looking in California here, our work suggests you guys are doing really well in California with NEM 3 originations. You guys talked about it today. And we have a sense that maybe you guys can break--you guys will be flat year-over-year growth on originations maybe in Q3, or, if not, maybe in Q4. I was wondering if you could talk through that at all a little bit.

And then, to the degree that you are flat year-over-year on that growth, Q3 and Q4 of last year, there are strong periods. That is a leading indicator for what 2024 could be for you guys. So, I was wondering, you currently have this 10 percent to 15 percent growth for this year. For next year, do you think there's an opportunity for you guys to accelerate in 2024? Or do you think this 10 percent to 15 percent growth pace feels like the right level? Thanks.

Mary Powell

Yeah. So as I mentioned, I mean, when we look at California, and we look at what's happening outside California, again, I think we hit that pretty hard. We're seeing really significant growth outside California, and we're seeing volume in California, and we're seeing it uptick. And we see that California is actually massively underpenetrated, particularly when you think about the opportunity to, again, bring multiple products to California customers.

So again, we guided, we're rock solid on our 10 percent to 15 percent guide that we gave for this year. And we don't see any reason to believe that--again, consumer interest is very active for what we're selling, and we continue to see, again, tremendous opportunity in California and the rest of the country, looking forward.

Philip Shen

Great. Thanks, Mary.

Operator

Thank you. The next question is coming from Jordan Levy from Truist Securities. Your line is now live. Pardon me, Jordan. I cannot hear you. Would you mind raising your volume or speaking through the microphone?

Jordan Levy

Yeah. Can you hear me?

Operator

Please proceed. Yes.

Jordan Levy

Thanks. Hey, good afternoon, guys. Just wanted to get your thoughts. You pointed out the affiliate channel as kind of a key outperformer for install, and you also mentioned the changes you made in Arizona. I just wanted to get your updated thoughts as to any further opportunities there to lean more heavily on the affiliate channel and some of the trends you're seeing in that market.

Paul Dickson

Yeah. I think we see a lot of opportunities for the affiliate business. We've got phenomenal partners that create and generate 25 percent to 30 percent of our business. And as I stated earlier, we see strong demand for partners to join our platform and are constantly working on adding partners to that platform who meet our criteria around customer experience and installation quality. But, it's a piece of our business that we have long since held and are very excited about continuing to focus on and grow.

Jordan Levy

And was that kind of one of the key drivers behind the sequential decrease in sales and marketing per customer?

Paul Dickson

Yeah. So, in our affiliate business, the sales cost is recognized outside of CAC as far as the installation cost but neutralized for that kind of one-time event, which caused the steeper decline this quarter. As previously referenced, we've seen six sequential quarters of CAC over subscriber value declining.

Jordan Levy

Thanks so much for taking my questions.

Paul Dickson

Thank you.

Operator

Thank you. The next question is coming from Ameet Thakkar from BMO Capital Markets. Your line is now live.

Ameet Thakkar

Thanks for sneaking me in. Just coming back to the \$200 million to \$500 million kind of cash generation, appreciating that it will come in kind of different times and forms and fashion, but is all of that cash going to be available to you kind of unencumbered, or will there be kind of cash traps associated with that, et cetera?



Danny Abajian

Yeah. We view that as kind of the non-restricted amount of cash, so we do have a growing restricted balance as we reserve in our project finance deals. But, we weren't thinking about that cash, really the non-restricted, as you called it the unencumbered amount.

Ameet Thakkar

Okay. And then just real quick, you guys have mentioned a couple of times about other states and regions that have kind of accelerated in terms of kind of your sales through there. I was wondering if you could kind of share which states have kind of been most impactful relative to prior periods? Thank you.

Paul Dickson

Yeah, sorry. Can you repeat that question? Are you asking which states that we're seeing strong growth in or future growth states that we're operating in?

Ameet Thakkar

Yes, which states are you seeing strong growth in now?

Paul Dickson

Yeah. So, outside of California, we've seen that 25 percent blended growth. Our Northeastern states are weaning out, pulling those averages up. So, we have really robust activities in Massachusetts and Illinois, specifically.

Ameet Thakkar

Thank you.

Operator

Thank you. That concludes the time we have allocated for Q&A. You may now disconnect. We do thank you for your participation today.

Forward Looking Statements

This communication contains forward-looking statements related to Sunrun (the "Company") within the meaning of Section 27A of the Securities Act of 1933, and Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, but are not limited to, statements related to: the Company's financial and operating guidance and expectations; the Company's business plan, trajectory, expectations, market leadership, competitive advantages, operational and financial results and metrics (and the assumptions related to the calculation of such metrics); the Company's momentum in its business strategies including its ESG efforts, expectations regarding market share, total addressable market, customer value proposition, market penetration, financing activities, financing capacity, product mix, and ability to manage cash flow and liquidity; the



growth of the solar industry; trends or potential trends within the solar industry, our business, customer base, and market; the Company's ability to derive value from the anticipated benefits of partnerships, new technologies, and pilot programs; anticipated demand, market acceptance, and market adoption of the Company's offerings, including new products, services, and technologies; expectations regarding the growth of home electrification, electric vehicles, virtual power plants, and distributed energy resources; the Company's ability to manage suppliers, inventory, and workforce; supply chains and regulatory impacts affecting supply chains; the Company's leadership team and talent development; the legislative and regulatory environment of the solar industry and the potential impacts of proposed, amended, and newly adopted legislation and regulation on the solar industry and our business; the ongoing expectations regarding the Company's storage and energy services businesses and anticipated emissions reductions due to utilization of the Company's solar systems; and factors outside of the Company's control such as macroeconomic trends, bank failures, public health emergencies, natural disasters, acts of war, terrorism, geopolitical conflict, or armed conflict / invasion, and the impacts of climate change. These statements are not guarantees of future performance; they reflect the Company's current views with respect to future events and are based on assumptions and estimates and are subject to known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements to be materially different from expectations or results projected or implied by forward-looking statements. The risks and uncertainties that could cause the Company's results to differ materially from those expressed or implied by such forward-looking statements include: the Company's continued ability to manage costs and compete effectively; the availability of additional financing on acceptable terms; worldwide economic conditions, including slow or negative growth rates and inflation; volatile or rising interest rates; changes in policies and regulations, including net metering, interconnection limits, and fixed fees, or caps and licensing restrictions and the impact of these changes on the solar industry and our business; the Company's ability to attract and retain the Company's business partners; supply chain risks and associated costs; realizing the anticipated benefits of past or future investments, partnerships, strategic transactions, or acquisitions, and integrating those acquisitions; the Company's leadership team and ability to attract and retain key employees; changes in the retail prices of traditional utility generated electricity; the availability of rebates, tax credits and other incentives; the availability of solar panels, batteries, and other components and raw materials; the Company's business plan and the Company's ability to effectively manage the Company's growth and labor constraints; the Company's ability to meet the covenants in the Company's investment funds and debt facilities; factors impacting the home electrification and solar industry generally, and such other risks and uncertainties identified in the reports that we file with the U.S. Securities and Exchange Commission from time to time. All forward-looking statements used herein are based on information available to us as of the date hereof, and we assume no obligation to update publicly these forward-looking statements for any reason, except as required by law.