



**SUNRUN**

2018 Impact Report





# About Sunrun

Sunrun (Nasdaq:RUN) is the nation's leading home solar, battery storage, and energy services company. With a mission to create a planet run by the sun, Sunrun has led the industry since 2007 with its solar-as-a-service model, providing clean energy to households with little to no upfront cost and often at a savings compared to traditional electricity. Sunrun's Brightbox home battery service manages household solar energy, battery storage, and utility power with smart inverter technology. The company designs, installs, finances, insures, monitors, and maintains the systems, while families receive predictable pricing for 20 years or more.

For more information, please visit our website at [www.sunrun.com](http://www.sunrun.com).

## About This Report

Our mission is to create a planet run by the sun. This means that everyone, from solar installers and sales people to CEO Lynn Jurich, shows up to work because they are driven by passion and purpose. Yet mission alone does not make change. At Sunrun, we feel the urgency of the public's desire for a 100% renewable and resilient energy future. Our roofs have the potential to harness the sun's abundant energy through solar panels, and home batteries can store that power for when it's needed, delivering clean energy that powers our lives. A future where energy is affordable and accessible for all.

Our purpose goes beyond putting solar panels on rooftops—it extends to our internal values as well. Sunrun operates to have a positive impact on society by creating meaningful local jobs, contributing to healthier communities, and helping to build a safer, cleaner and more resilient future energy system for everyone. In doing so, we have a responsibility to minimize our environmental impact in all aspects of our operations, provide a safe and diverse place to work for our employees, and ensure robust corporate governance practices.

This is our second annual Impact Report. We are pleased to show improvement from last year and will continue to evaluate and understand the impacts of our business on the world around us. We see this report as a holistic resource for ourselves, our shareholders, our partners, and our customers to measure our success as a sustainability-focused business.

## Table of Contents

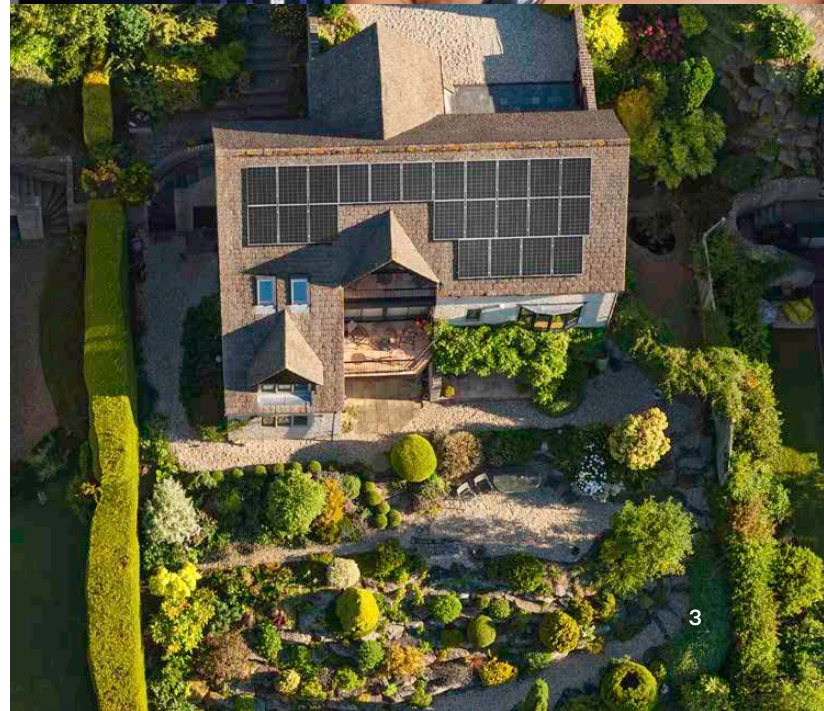
Vision and Values.....	3
Our Impact.....	6
Making Solar Affordable and Accessible.....	10
Environmental Stewardship.....	20
Living Our Values.....	27
Corporate Governance.....	41
Appendix.....	43

# Vision and Values

## A Letter from Our Founders

Since we started Sunrun 12 years ago, the energy industry has changed dramatically. Our belief that we need to build a safer, cleaner, more resilient, and more equitable energy system has not. Nor has our commitment to embracing sustainability and responsibility in all aspects of our operations. We address society's needs through the work we do and the way we run our company: by creating meaningful local jobs and equitable opportunities, contributing to healthier communities, and offering services that improve the environmental health of our planet. Our approach is to benefit everyone: our customers, our employees, and the communities in which we operate, as well as our business and financial partners.

We remain excited about the path ahead and our ability to continue to affect positive change. Solar panel and battery costs have dropped significantly, while the cost to move energy across heavy transmission lines from centralized locations has continued to increase. We've worked tirelessly to make solar and batteries both affordable and accessible, goals that we will pursue in 2019 and beyond. By using panels on the roof to generate solar power and a battery in the garage to store it, we are building a cleaner and more resilient energy future. Emissions-free, local power is a win-win-win for customers, utility companies, and policymakers alike by ensuring that energy can be shared during outages and times of peak use.





America's solar journey has steadily brought us closer to building a planet run by the sun, and all along, we have remained optimistic.

Our approach is to benefit everyone: our customers, our employees, and the communities in which we operate, as well as our business and financial partners.

That's because Americans *want* clean energy. This was the main finding from a recent survey commissioned by the Edison Electric Institute (EEI), a utility trade group. The study found that 74% of those polled believe we should be using solar "as much as possible," and that consumers reject the idea that power can be either reliable or clean but not both. When the Intergovernmental Panel on Climate Change (IPCC) released its climate report at the end of 2018, the conclusions reiterated the consensus on the urgent necessity of clean power, pushing us further to develop new energy solutions and business models. The planet is warming, but energy consumers and providers are both choosing a path toward clean, reliable, and renewable power.

To be optimistic is not to say we are unaware of the challenges we face over the next few decades. Rather, we are encouraged to see the sheer volume of people who are demanding change. In the words of climate and energy reporter David Roberts, "It's going to get worse, but nobody gets to give up hope or stop fighting."

Those words never rang truer than in 2018, which marked another year of strong growth and innovation for our company. Sunrun is proud to be the nation's leading residential solar, storage and energy services company, delivering clean, affordable solar energy to more than 233,000 households throughout the nation. This year we also brought our home solar service to Illinois and Puerto Rico, and we expanded our offerings in Florida and Massachusetts. Above all, we have progressed towards making solar affordable and accessible to people across the country. Sunrun has committed to develop a minimum of 100 megawatts of solar on affordable multi-family housing, where 80% of tenants fall below 60% of the area median income, during the next decade. This commitment will directly benefit at least 50,000 households, and we intend to expand these programs in other states. The most harmful impacts of climate change are felt by the most vulnerable communities, and so our vision of a just and clean energy future starts with them.

Looking forward, it's clear that home solar and batteries will play a key role in our future energy system. Since launching Brightbox in late 2017, we've installed nearly 5,000 home batteries across the country, and we are seeing an increase in consumers who are eager to create and store their own power. By keeping the lights on in homes and communities during extreme weather, home solar and batteries can build a safer, more reliable energy system for everyone. The opportunity to take that power and build a community energy network, in concert with utility partners across the nation, will usher in a new era of clean, resilient power.



**Lynn Jurich**

Co-founder  
Chief Executive Officer



**Edward Fenster**

Co-founder  
Executive Chairman

## Our Values

There is a revolution happening in the energy industry, and Sunrun is leading it.



### Human-centered

Humanity is at the core of our business—our customers, our team, and our partners are all incredible human beings.



### Integrity

To be on our team means to operate with absolute integrity.



### Curiosity

Our team has boundless curiosity.



### Passion

Passion is an irresistible driving force at Sunrun.



### Courage

We exhibit courage and fortitude.



### Impact

The work we are doing as a team will forever alter the world.

No matter where you work or who you are at Sunrun, these traits drive us all to come to work and do our best. As Sunrunners, we promise to embody these values every day and bring them to our customers.

## Our Mission

Our mission is simple: to create a planet run by the sun. This is an important step in confronting climate change, the biggest threat to our planet. According to the National Renewable Energy Laboratory (NREL), we could meet 40% of our nation's energy needs with rooftop solar alone.<sup>1</sup> Now is the time to undertake this mission in accordance with our values.

We use a human-centered approach to deliver solutions that do the most to fulfill our mission. This core philosophy is complemented by our values.

## Our Vision

We believe that home energy should be yours to control. You can harness the sun's abundant energy to power the coffee maker in the morning. You can store that energy and light up the dining room at night. With solar panels on your roof and batteries in your home, power is in your hands.

Our climate is changing, and our energy system needs to change with it. Delivering electricity across long power lines from big power plants causes more power outages, rate increases, and dangerous conditions. At Sunrun, we know there is a better way. By generating and storing energy in our homes, we can share power across neighborhoods and our entire energy system. We have been building this future for over a decade, and every year it grows brighter.

Now is the time to make your own energy. Share it with your neighbors. Build a clean, affordable, reliable energy future for the whole nation.

**Let's change the way we power our lives.**

# Our Impact

## Our Year in Numbers

With Sunrun, going solar gives households the freedom to create their own energy and take control of their energy future. It's also about protecting the planet for future generations and creating quality jobs in our communities. Since 2007, we've grown from a startup with small but meaningful impacts on the energy system, to an industry leader with significant and growing impact.



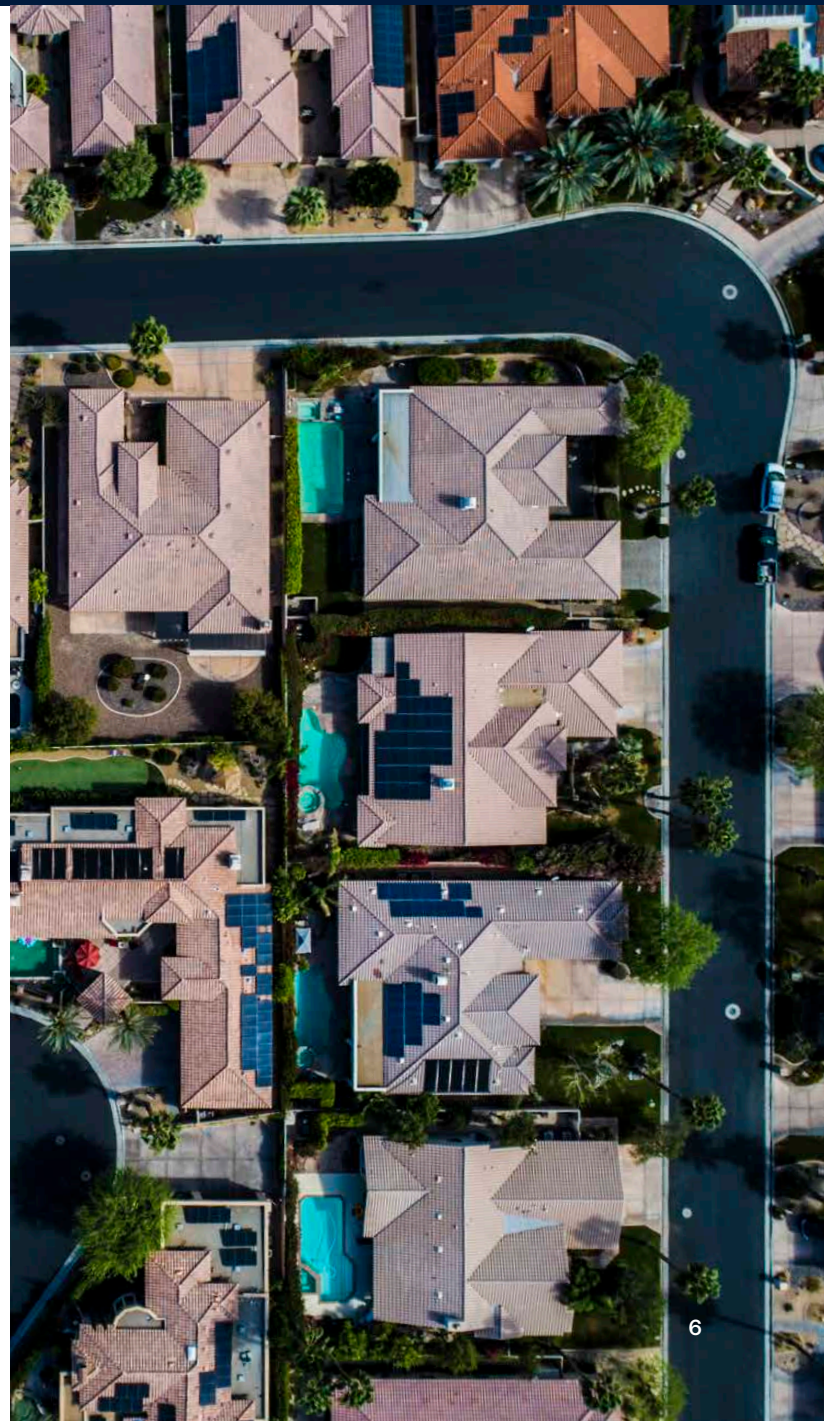
Sunrun installs a new solar system  
**every 2.3 minutes**  
on average.

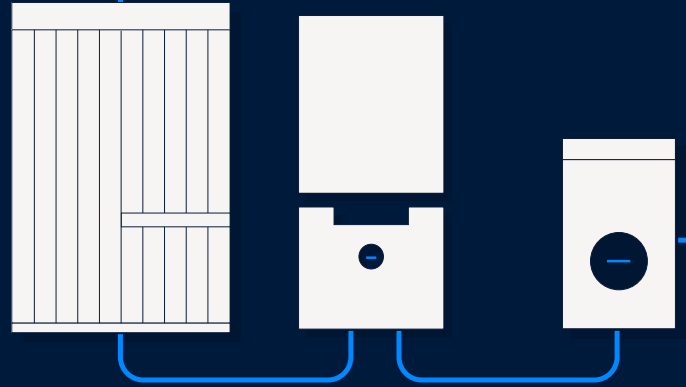
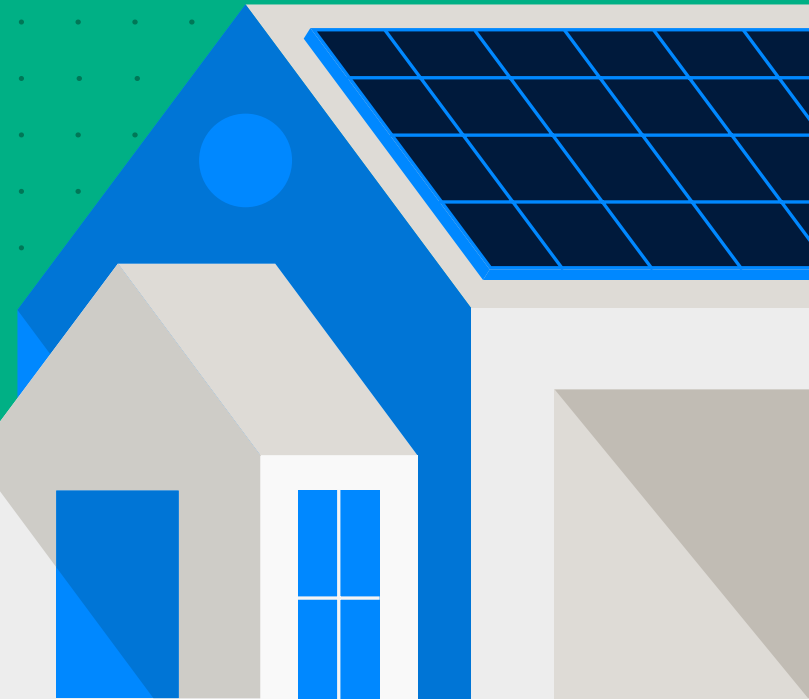


We have deployed  
**1,575 megawatts**



and now have  
**233,000 customers**  
as of the end of 2018





We have installed nearly  
**5,000**  
Brightbox systems

thus far and expect solar with Brightbox installations to grow quicker than solar-only.



Our systems have produced  
**over 5 billion**  
kilowatt-hours of clean energy.<sup>2</sup>



Sunrun's systems have allowed consumers to save more than  
**\$300 million**  
on electricity bills.<sup>3</sup>



Sunrun's systems have prevented greenhouse gas (GHG) emissions totaling

**3.7 million**  
metric tons

of carbon dioxide equivalent (CO<sub>2</sub>e), an amount comparable to



eliminating more than  
**9 billion**  
passenger vehicle miles



OR recycling nearly  
**1.3 million**  
tons of waste.<sup>4</sup>

The GHG emissions prevented by Sunrun's systems through 2018 are also comparable to the emissions prevented by not burning



**421 million**  
gallons of gasoline



OR **1.86 million**  
metric tons of coal<sup>5</sup>



In 2018, Sunrun was recognized by Comparably for  
**Best Company Culture, Best CEO,  
 & Best Company for Women.**

Fortune magazine named our CEO Lynn Jurich one of the 40 Under 40 in business.

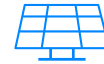


As part of our commitment to being global citizens and doing business legally and ethically, we adopted our first ever

**Vendor Code of Conduct**  
 on January 1, 2019.



Sunrun committed to and achieved  
**100% gender pay parity**  
 for its employees in 2018, becoming the first national solar company to do so.

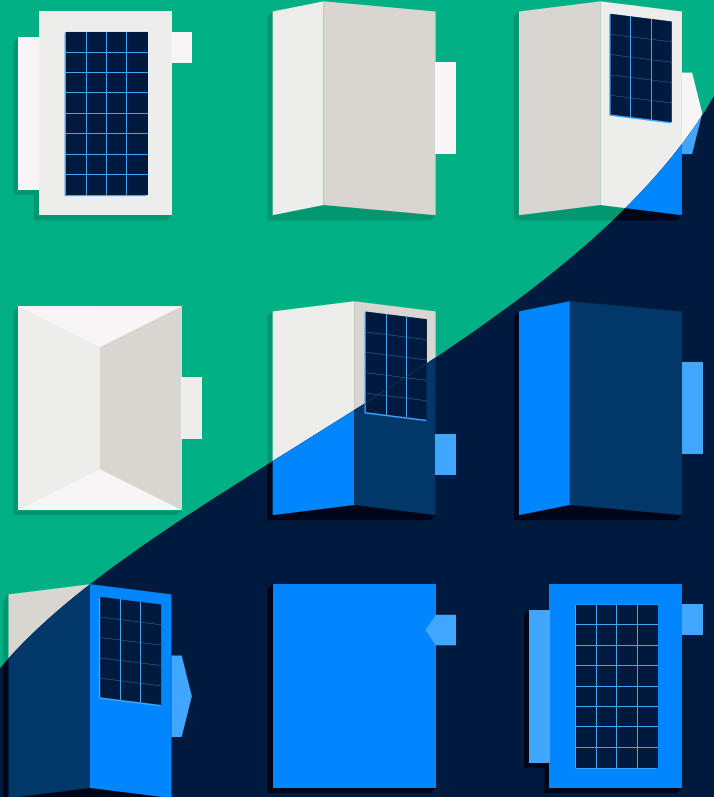


Sunrun supported GRID Alternatives in installing more than  
**2,000 home solar systems**  
 over the past few years. These installations have prevented the emission of more than 120,000 tons of GHGs into the atmosphere and will save our customers more than  
**\$64 million in energy costs**  
 over their lifetimes.<sup>6</sup>



Sunrun announced a commitment to develop a minimum of  
**100 megawatts of solar**  
 on affordable multi-family housing, where 80% of tenants fall below 60% of the area median income, over the next decade in California. This will directly benefit more than **50,000 families.**

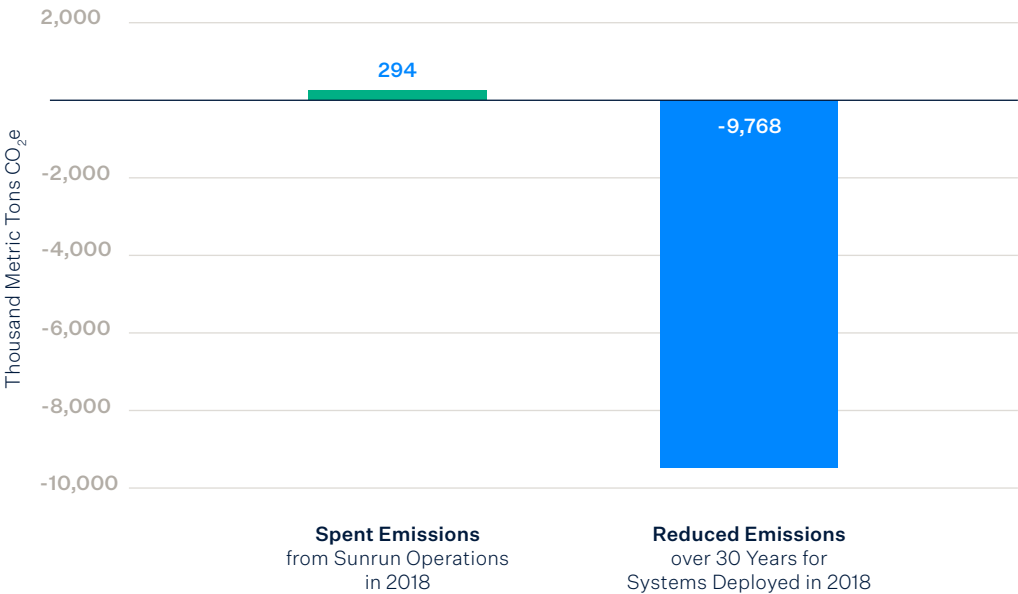
Sunrun negates significantly more emissions than we produce, making Sunrun one of the few companies in America that has a negative carbon footprint.





In 2018, the estimated GHG emissions from our operations and the related operations of our partners and suppliers totaled 294,000 metric tons of CO<sub>2</sub>e. Furthermore, the systems we deployed in 2018 are expected to reduce GHG emissions by nearly 10 million metric tons of CO<sub>2</sub>e over 30 years. Our total fleet of installed systems, which exceeds 1,575 megawatts, is expected to reduce GHG emissions by more than 41 million metric tons of CO<sub>2</sub>e over 30 years. Sunrun negates significantly more emissions than we produce, making Sunrun one of the few companies in America that has a negative carbon footprint.

2018 System Deployments - Net Carbon Balance



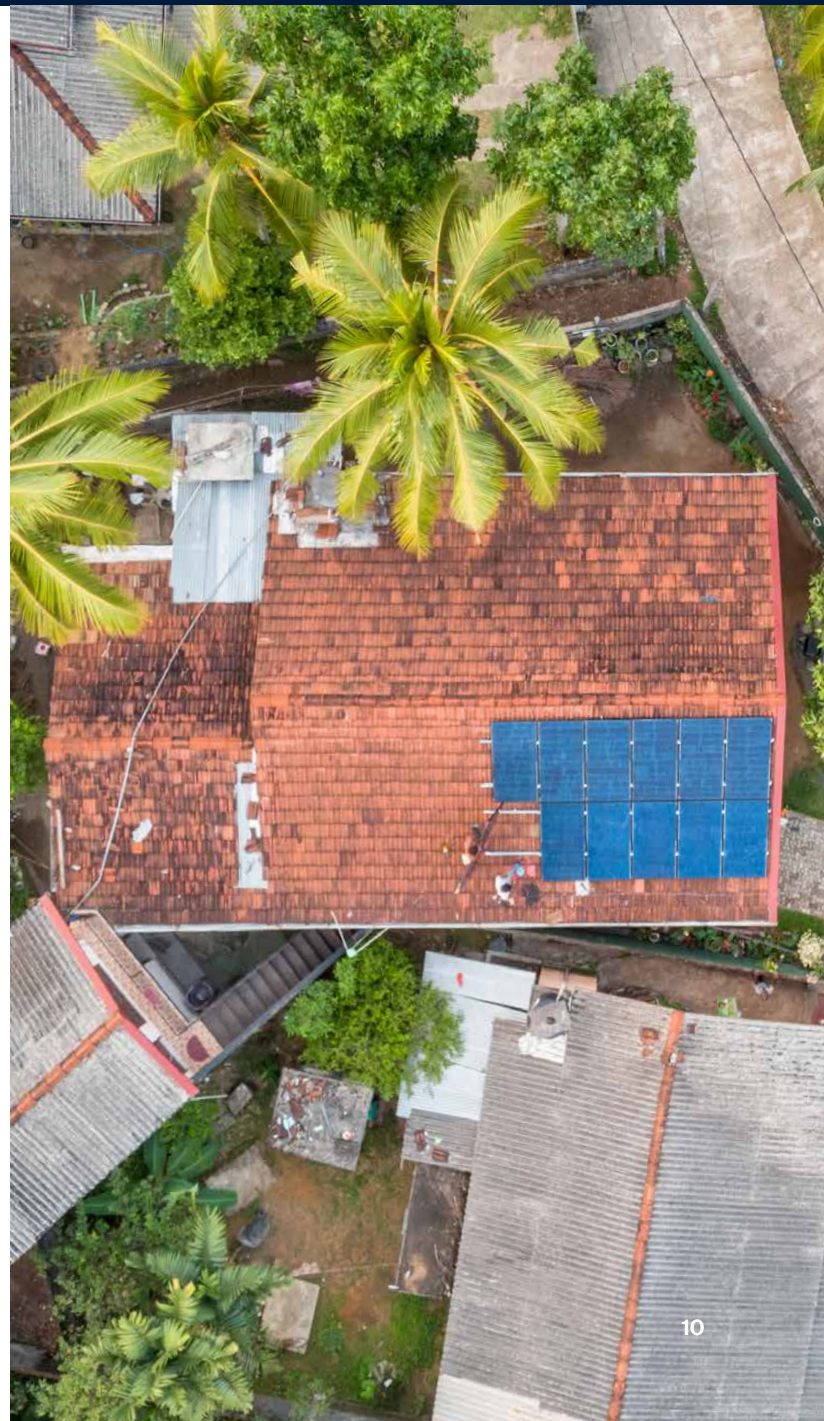
See page 19 for further details on emissions and our environmental impact along with the method used for each calculation.



# Making Solar Affordable and Accessible

The American public wants 100% renewable energy, and Sunrun can and will be a catalyst for this future. Our commitment to making solar affordable and accessible for all is evident in our business model, our efforts to reaching low- and moderate-income Americans, and the public policy work we've done throughout the year. We believe solar power should be available to everyone, and we work every day to make this ambition a reality. This fundamental idea shapes both Sunrun's business philosophy and the ethical and ideological basis of what we do.

The idea of harnessing the sun's energy is inherently equitable—and one that should be a universal right to pursue.





# Leading the Charge

## Promoting Affordable, Clean, Reliable Energy

Sunrun plays an important role in growing and protecting the rights of solar energy consumers by supporting federal, state, and local government efforts aimed at transitioning into the clean, climate-resilient energy economy of the future. These efforts promote solar energy with rebates, tax credits, and other financial incentives that enable Sunrun to lower its prices and catalyze Americans' adoption of solar energy.

During 2018, Sunrun successfully influenced the adoption of several key measures supporting solar and home battery deployments, helping to build energy equity by increasing access to clean solar energy for low- and moderate-income communities while opening doors to new markets well suited to benefit from our products and services.

## Increasing Access to Solar

Sunrun is committed to increasing access to solar and home batteries. We constantly seek opportunities to maximize state and local rebate programs for low-income families. For the past six years, we have partnered with GRID Alternatives (GRID) to bring more solar to low-income families in California, the Mid-Atlantic, and the Midwest. In 2018, we expanded our partnership with GRID to support the Solar Equity Initiative spearheaded by the NAACP (National Association for the Advancement of Colored People) to bring more solar to low-income communities of color, thereby pursuing our commitments to access, equity, and diversity. We also launched our initiative to bring solar to residents of multi-family affordable housing in California.

Sunrun's customers have saved over \$300 million on electricity bills, with the majority of them making no upfront investment.<sup>7</sup> At the same time, they support their communities by helping create local jobs, clean air, and a healthier environment. Sunrun is building a consumer-centered energy system that doesn't leave anyone behind.

## Creating Healthier Communities

A study from the Clean Air Task Force and the NAACP found that although disadvantaged people consume the least energy per capita, they are disproportionately affected by pollution from fossil-fuel energy production. This pollution can cause people to suffer short- and long-term health complications, such as asthma, allergies, and cancer, and to experience higher mortality rates. In fact, 138,000 asthma attacks leading to over 100,000 missed school days annually can be attributed to the oil and gas industries.<sup>8</sup> With compromised immune systems and limited resources, men, women, and children in these communities are much less likely to take advantage of educational and career opportunities, which traps them in the cycle of social injustice exacerbated by climate change.

Increased use of clean energy from rooftop solar and home batteries will reduce GHG emissions and harmful pollution from fossil fuels, thereby helping alleviate smog, acid rain, water contamination, and climate change.







California

In 2018, Sunrun committed to developing 100 megawatts of solar on affordable housing in California by 2028, which will directly benefit over 50,000 households. Sunrun has installed solar energy systems on affordable multi-family dwellings through the California Public Utilities Commission’s Multi-Family Affordable Solar Housing (MASH) program and will continue to serve affordable multi-family residents through MASH’s successor program, Solar on Multi-Family Affordable Housing (SOMAH). Sunrun’s commitment aims to satisfy one-third of the SOMAH program’s goal of 300 megawatts of solar on affordable housing by 2030. SOMAH was developed by Assemblymember Susan Eggman, who commended Sunrun’s commitment to the program, saying, “It has taken years of work from stakeholders, staff, and the CPUC to get this program running, and I look forward to getting it launched as soon as possible.” Eggman added, “This policy was designed to ensure that families in low-income and disadvantaged communities can also reap the benefits of the booming solar energy industry in California, and the closer we get to these first installations, the closer the benefits are to these deserving families.”



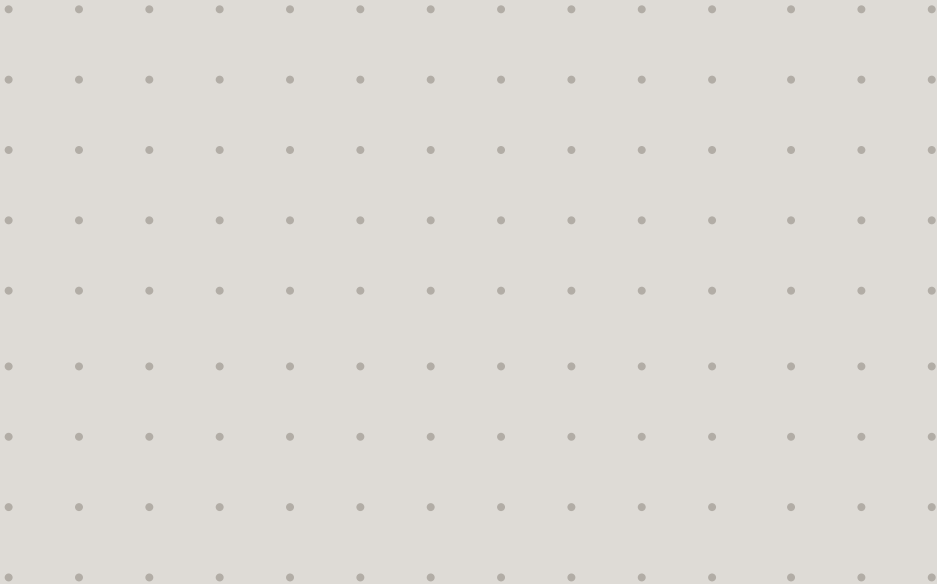
Nevada

Under Nevada’s RenewableGenerations rebate program, Sunrun offers a discounted price on home solar systems to families with a household income below 80% of the area median income. Because eligible households receive twice the incentive to go solar that other households receive, the program has significantly expanded access to Sunrun’s solar service offering.



Connecticut

In 2018, Sunrun installed 124 projects under the Connecticut Green Bank’s low-to-moderate-income (LMI) incentive program. This effort supports Connecticut’s push to expand residential solar into the LMI markets and to ensure that the state’s 300-megawatt renewable energy target benefits households at all income levels.



# GRID Alternatives



Sunrun's policy team installs solar on a family home in Oakland in January 2018.



## Partnership with GRID Alternatives

In 2018, Sunrun expanded its partnership with GRID Alternatives (GRID), which greatly helped GRID to reach the historic milestone of bringing solar to 10,000 families who need it most. GRID is a national leader in making solar power and jobs accessible to underserved communities. The partnership between Sunrun and GRID, now in its sixth year, supports job training and solar installations for low-income families and traditionally underrepresented communities.

In 2018, Sunrun and GRID outfitted 1,000 low-income families with 4.5 megawatts of solar installations, which are expected to provide these families with \$25 million in lifetime savings. These solar projects have also prevented 56,000 tons of GHG emissions in communities that bear the brunt of environmental pollution and health disparities. The nearly 110,000 hours of job training delivered by Sunrun and GRID have provided opportunities for people to acquire new skills and prepare for careers in the solar energy industry.

## Solar Equity Initiative

Sunrun is a proud supporter of the Solar Equity Initiative, a national effort spearheaded by the NAACP to expand access to solar energy in low-income neighborhoods and communities of color. The initiative aims to provide skills training for solar jobs, strengthen policies related to solar equity, and install solar panels on houses and community centers. Sunrun committed to perform six of those installations, working with GRID, the Solar Energy Industries Association (SEIA), United Methodist Women, Vote Solar, and other industry partners.

The program kicked off in January 2018 with an installation at the Jenesse Center, a Los Angeles shelter for women and children survivors of domestic abuse. Together with representatives of Sunrun, GRID, and the NAACP, women at the shelter helped install panels while learning about the benefits of solar. The Jenesse solar array brings benefits to the surrounding community, offsetting about 90 tons of GHG emissions, which is equivalent to taking 17 cars off the road or planting 2,000 trees.<sup>9</sup> The solar panels are also a financial boon for the center. We expect them to provide lifetime savings of more than \$48,800, which will allow the center to put more of its resources toward the life-saving services it has provided for the past 35 years.





Above: Policy Team installing solar on Oakland family home in January 2018, Below: GRID and NAACP install solar for the Love family in San Diego

In December 2018, 18 job trainees from GRID San Diego, the NAACP's San Diego branch, and the Alliance for African Assistance received hands-on experience installing solar for Othelma and Ora Love of southeast San Diego as part of the Initiative. The Loves can expect to save \$50,000 on energy over the life of their 4.3-kilowatt solar energy system—money that will do a great deal to help the family cover essential expenses.

### Expansion to Washington, DC.

Sunrun and GRID have installed 13 systems in the Mid-Atlantic region. In 2018, Sunrun expanded its partnership with GRID to join GRID Alternatives Mid-Atlantic in broadening access to solar in Washington, DC. Sunrun will serve as the third-party provider of solar installations for low-income families throughout the city, through the Solar Works DC program administered by GRID Alternatives Mid-Atlantic.





# Encouraging Cleaner, Smarter Energy

## Extending Energy Storage Incentives

Complementing California's mandate to achieve 100% renewable energy, Sunrun worked to extend the Self-Generation Incentive Program (SGIP) through SB 700, a bill passed in 2018 to provide an additional \$800 million of rebates for customer-sited energy storage. The extension of the program supports the rapid deployment of advanced energy storage technologies, including home batteries, in California.

The purpose of SGIP is to provide financial incentives for energy storage technologies that contribute to GHG emissions reductions, demand reductions, improved efficiency and reliability of the distribution and transmission system, and reduced ratepayer costs. Collectively, these technologies increase the reliability of the electric system and spur the adoption of distributed energy resources (DER) technologies. To increase access to battery storage, the SGIP program carves out 25% of funds for California's disadvantaged and low-income communities.

## California Wildfires

During the past 40 years, California's wildfire season grew longer, and the frequency of large fires increased fivefold. Six of the top 10 most destructive wildfires in California's history took place between 2015 and 2018. While this may seem abnormal, it is really the new normal.

Part of the problem is that our electricity system was designed for a different reality. Running high-voltage wires to communities in wildfire-prone areas is like sending a lightning bolt through dry tinder. Under certain conditions should too much electricity flow through a power line, it can increase sag, and in combination with other factors such as vegetation under or near the line, weather conditions, or proximity of other power lines, increase the risk of creating sparks that cause fires. That means the more than 642,000 miles of high-voltage transmission lines and 6.3 million miles of distribution lines in this country are potential triggers for disaster.

Rooftop solar and batteries can allow utilities to safely reduce the flow of electricity through power lines, or potentially even de-energize them completely, to ensure changes made to the network in response to fire risks do not create additional hazards and without interrupting the supply of power to consumers. More local solar and batteries will reduce the overall strain on our national energy infrastructure and give grid operators and line workers enough time to make repairs and other changes that keep the lights on.



## Mandating Solar on New Homes

In 2018, the California Energy Commission (CEC) voted to adopt a policy requiring nearly all new homes to incorporate rooftop solar—the first state-level requirement of this kind in the country. In collaboration with the SEIA and the California Solar and Storage Association (CALSSA), Sunrun engaged with policymakers to explain the benefits of the rooftop mandate, which includes home solar and battery options to give consumers more clean energy choices.

Once the new policy takes effect, the number of new homes that are built each year with solar panels is expected to jump from 15,000 to around 100,000.<sup>10</sup> The expansion of home solar and battery solutions in California can reduce homeowners' monthly electric bills while contributing to statewide efforts to increase the reliability and efficiency of the electric grid.

## Advocating for the Consumer

Home batteries are flexible, resilient assets that can meet many of the needs of our transitioning grid. The competitive market provides unique solutions for different grid needs—but access to that value is limited. In 2018, Sunrun promoted and contributed to policies in Massachusetts, Vermont, New York, and New Hampshire that unlock the value of residential solar and batteries.

Sunrun promoted “Bring Your Own Device” (BYOD) programs that allow homeowners to connect their home battery systems to the grid and thereby provide benefits to the grid. Under BYOD programs, home batteries can reduce demand on the grid during peak periods and make it easier for utilities to meet customers’ energy needs while lowering costs for all ratepayers.

## Promoting Solar-Friendly Policies

Across the country, Sunrun advocated in 2018 for consumer-friendly, pro-solar policies such as net metering, which allow consumer-owned home solar to provide more benefits to our energy system. Examples of our advocacy include the following:



**IN NEW HAMPSHIRE,** Liberty Utility proposed a pilot program under which it would purchase, own, and deploy 1,000 Tesla Powerwalls home battery systems. Sunrun mounted an 11-month campaign that led to a settlement with Liberty to ensure that the utility does not control all behind-the-meter assets. Under the settlement, Liberty will briefly own and deploy a small number of home battery systems so that it can learn to predict peaks. The utility will then launch a statewide BYOD program, while Sunrun can act as an aggregator for up to 500 batteries.



**IN MASSACHUSETTS,** Sunrun successfully advocated for the removal of all demand charges to solar customers, restoring stable and predictable rates.



**IN NEW JERSEY,** Sunrun helped secure an extension of the Solar Renewable Energy Credit (SREC) Registration Program, which will ensure a strong solar market while the state legislature and regulators create a successor policy to keep clean energy growing in the state.



**IN SOUTH CAROLINA,** Sunrun worked to eliminate the cap on net metering. The legislation fell short in the end, but a compromise was reached to extend the cap temporarily and develop a long-term solution.



**IN FLORIDA,** Sunrun petitioned regulators at the Public Service Commission to clarify a state policy allowing third-party ownership of solar equipment. This policy ruling greatly expanded access to solar.



**IN WASHINGTON, DC,** Sunrun successfully advocated for the rejection of utility-proposed, anti-consumer demand charges on all residential electricity consumers.

## Protecting Consumer Rights

Sunrun is committed to meeting the highest consumer protection standards. We work hard to ensure a culture of compliance at every level, and we support and engage in legislative and regulatory consumer-protection efforts across the country.

In 2018, Sunrun participated in efforts to safeguard consumer rights in coordination with trade associations such as the SEIA and CALSSA. For example, through the use of disclosure forms, consumers can now better understand the fundamentals of solar and know what to expect from their solar energy system during its lifespan. Sunrun also promoted SEIA’s Residential Consumer Guide to Solar Power. Meant to give consumers the tools to use when considering solar, the guide reviews how solar works, homeowner options, questions to ask solar companies, and tips for resolving disputes. A Spanish-language version of the guide is also available for free online.

Sunrun also engaged with elected officials, state consumer advocates, public utility commissions, solar companies, financial institutions, lead generators, federal agencies, and other organizations nationwide to promote consumer protection policies that benefit all solar customers.

# Continuing Growth

In 2018, Sunrun expanded into new markets and introduced additional pricing and service options as part of our commitment to ensuring that more households have access to clean, affordable, and reliable home solar energy.



## FLORIDA

We launched solar-as-a-service and Brightbox in Florida this year, making home solar more affordable for Floridians and enabling them to keep the lights on when the grid goes down. We were restricted to selling solar energy systems, typically at high upfront prices, until the Public Service Commission (PSC) unanimously voted to allow Sunrun to offer solar-as-a-service. This decision allowed Sunrun to become the first solar company that offers Floridians widespread third-party sales, along with the opportunity to go solar with little to zero money down on a 25-year service agreement.



## ILLINOIS

In April 2018, Sunrun expanded its home solar service to Illinois. As a result of policies such as the Future Energy Jobs Act, which demonstrates the state's strong commitment to clean energy, Illinois residents can now more easily invest in rooftop solar. The Future Energy Jobs Act reduces financial barriers for households who want to be a part of the clean energy movement.



## PUERTO RICO

Puerto Rico is ideally suited for solar energy. On an island, residential solar is particularly attractive because its use of existing infrastructure keeps costs low and maintenance at a minimum.

In the aftermath of Hurricanes Irma and Maria in September 2017, nearly all of Puerto Rico lost power. Thousands of residents were without power, and those who did have basic electric services experienced frequent blackouts. Sunrun was one of the first national solar companies to send aid to Puerto Rico in the aftermath of Hurricane Maria. Following the storm, Sunrun partnered with the not-for-profit organizations Empowered By Light and GivePower to equip fire stations with solar and battery systems that allowed them to provide emergency services during the longest blackout in American history.

Starting in June 2018, Sunrun offered solar-as-a-service and Brightbox to households in Puerto Rico. We partner with local sales and installation teams to deliver services, which create skills and employment opportunities for the island's residents.

Sunrun remains engaged in policy discussions about aggregating the energy stored in home batteries and deploying a portion of that energy during power outages or periods of peak demand. This approach would make Puerto Rico's energy system more resilient, while also providing households with a backup power source.

## Puerto Rico

In Puerto Rico Sunrun supports policymakers' proposal to generate 100% of the island's electricity from renewable sources by 2050. The Puerto Rico Energy Public Policy Act (Senate Bill 1121) would make Puerto Rico just the third U.S. jurisdiction to set such a bold clean-energy goal.





# Brightbox

## Bringing Value to the Grid

During an outage, Sunrun's Brightbox battery system can power the home, providing households with a new degree of site-level resilience.

Brightbox can also optimize battery storage and solar production for some customers by allowing them to reduce their consumption of grid power when electricity rates are especially high. These customers can realize considerable energy savings on their electric bills by using the energy stored in Brightbox systems during high usage times. All customers stand to benefit from Brightbox's ability to deliver reliable power during outages. By the third quarter of 2018, more than 25% of new California customers in Sunrun's direct business chose to add batteries. We installed nearly 5,000 Brightbox systems by the end of 2018 and expect installations with Brightbox to grow more quickly than solar-only installations.



## Grid Resilience

Severe weather is the leading cause of power outages in the United States, accounting for 87% of outages and affecting 50,000 or more consumers from 2002 to 2012, according to the U.S. Energy Information Administration.<sup>11</sup> Studies of such events also reveal the cost of extreme weather events. In 144 such events from 1980 to 2012, the United States suffered damages of \$1 billion or more from each event.<sup>12</sup>

Prolonged power outages result in still more costs. Power outages cost American households approximately \$150 billion per year in expenses related to food loss, shelter, emergency supplies and equipment, and lost wages.<sup>13</sup>

An estimated 70 percent of energy infrastructure in the United States is nearing the end of its useful life.<sup>14</sup> Instead of paying some \$90 billion per year to replace outdated poles and wires, we should rebuild and upgrade our grid using innovations in clean technology. Rooftop solar and home batteries offer affordable, scalable solutions that diversify our power sources, providing resilience in the face of extreme weather.

# Customer Story

PAUL McMASTER



Paul and Debbie McMaster in front of their Florida home.

“The power was only out for about an hour but it gave us the assurance that the Brightbox battery works just like we hoped it would.”

PAUL McMASTER

Paul and Debbie McMaster knew they wanted to invest in a home solar and battery system after living through four hurricanes in a single season in Clearwater, Florida. Before learning about Sunrun on the evening news, however, they thought they couldn't afford to get solar on their home. “The leasing caught my attention because I didn't want to have to buy panels that would take me their full lifespan to pay for,” Paul recounted. After seeing that Sunrun offers a home battery, Paul made the call. Remembering his consultation with a Sunrun representative, Paul says he told her “we were getting a battery. She didn't even have to ask.... I wanted something to keep the power on during an outage besides noisy, smelly, dangerous generators.” Having used their Brightbox during a brief power outage, Paul and Debbie couldn't be happier knowing the Brightbox really works. Now they have peace of mind about their ability to weather the next hurricane with backup power.



# Environmental Stewardship

## Climate Change and Emissions

Sunrun recognizes climate change as an opportunity. Climate inaction threatens global security and stability, and bringing solutions to bear on the issue has always been the driving force behind our mission to build a planet run by the sun. We are proud to be among the pioneers of the new energy economy, and we remain committed to combating climate change by reducing GHG emissions, modernizing energy infrastructure, and providing an affordable and reliable option for those seeking secure, clean energy to power their lives in an increasingly resource-constrained world.

### Sunrun's Climate Change Strategy

While our business exists to accelerate the transition to a low-carbon, climate-resilient economy, we also appreciate that climate risks which could disrupt or compromise our operations exist and will persist. That is why we are moving to expand our capacity for assessing and responding to climate risks associated with future global-warming scenarios. Only through tireless efforts to deploy our products and services and to adhere to our evolving environmental and social policies can we insulate ourselves, our partners, and our communities from the consequences of unchecked climate change.



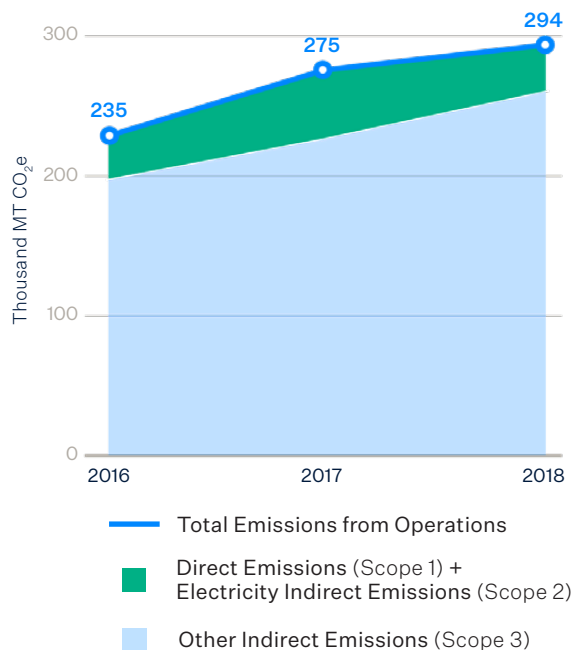


## Reducing GHG Emissions

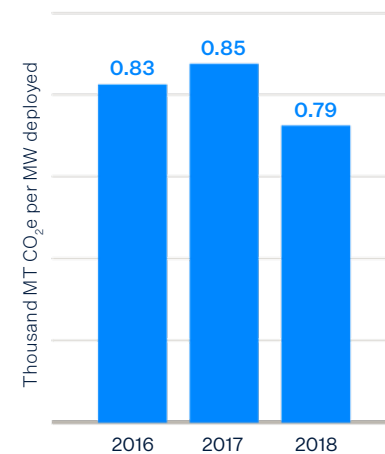
Sunrun's solar energy systems offset GHG emissions every moment that they deliver clean energy to our customers. During 2018, we deployed more than 372 megawatts of solar to more than 49,000 customers. These systems could generate nearly 14 billion kilowatt-hours of clean energy during the next 30 years, enough to prevent the emission of nearly 10 million metric tons of CO<sub>2</sub>e (based on estimates from the U.S. Environmental Protection Agency). This quantity is more than 33 times greater than the quantity of CO<sub>2</sub>e emitted to deploy these systems, which means that Sunrun negates significantly more emissions than we produce.

Sunrun's GHG emissions estimates draw on the guidance provided in the GHG Protocol Corporate Standard.<sup>15</sup> Our emissions inventory includes direct (scope 1), indirect (scope 2), and other indirect (scope 3) emissions, covering emissions attributable to Sunrun's company-owned and -operated vehicle fleet, occupied offices and warehouse space, equipment-lifecycle considerations and the supporting activities of our partners. We prepared our first emissions inventory in 2017 and have applied the same methodology in preparing our 2018 inventory so the two can be compared readily. Please refer to the Appendix for more details on our calculations and the assumptions behind them.

### Greenhouse Gas Emissions



### Carbon Emissions Intensity



## Emission Types

### SCOPE 1 EMISSIONS

Vehicle fleet and on-site natural gas consumption for Sunrun and our partners

### SCOPE 2 EMISSIONS

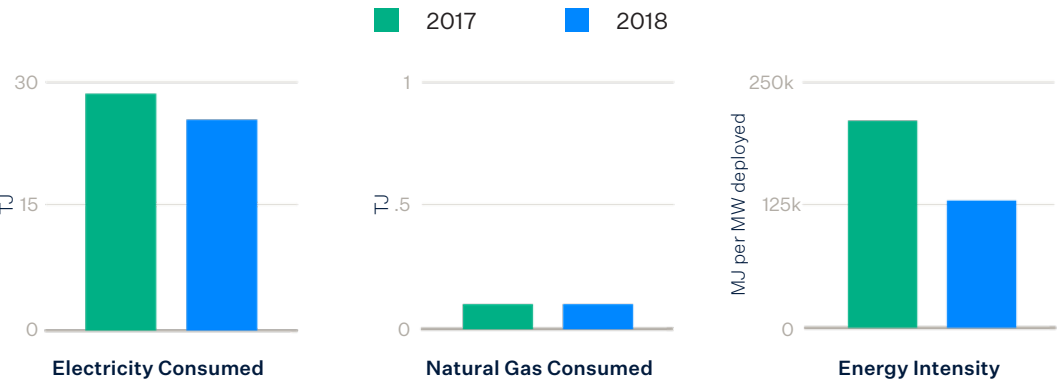
Leased offices and warehouses of Sunrun and our partners

### SCOPE 3 EMISSIONS

Module manufacturing, balance-of-system (BOS) components, and material transportation



Energy Consumption

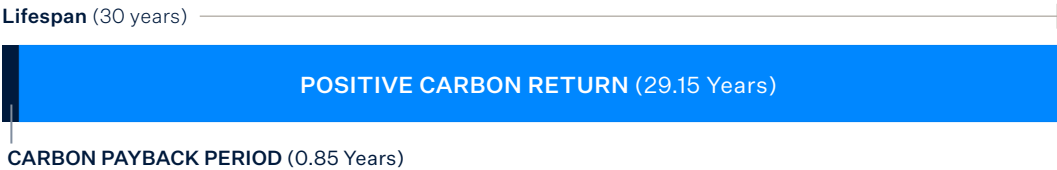


\*excludes partner operations and installations

Positive Carbon Returns

Once Sunrun’s solar energy systems begin operating, positive carbon returns accrue rapidly. We have calculated that our deployed solar energy systems prevent more GHG emissions than they emit over their product life cycle, resulting in a net-positive carbon balance. After operating for just 10 months, a Sunrun solar energy system will prevent the emission of as much GHGs as were emitted to build and install the system. Because Sunrun’s systems are expected to produce clean energy for 30 years, our systems prevent the release of harmful GHGs for 97% of their lifetime.

Carbon Payback Period



\*Emissions Considered: Operations + Supply Chain + End-of-Use



Sunrun’s cumulative deployed systems of **1,575 megawatts** are estimated to offset more than **41 million metric tons** of CO<sub>2</sub>e emissions over 30 years.



For each metric ton of CO<sub>2</sub>e that Sunrun emitted in 2018, the solar energy systems that Sunrun deployed in 2018 are expected to prevent more than **33 metric tons** of CO<sub>2</sub>e emissions over 30 years.



For each metric ton of CO<sub>2</sub>e emitted by Sunrun in 2018, our entire fleet of solar energy systems has already prevented more than **12 metric tons** of CO<sub>2</sub>e emissions from entering the atmosphere.



## Preserving Clean Air and Water

Solar energy offers a means of preventing emissions of nitrogen oxides, sulfur oxides, methane, and ozone that result from the combustion of fossil fuels. The electricity produced by systems that Sunrun deployed in 2018 effects a meaningful reduction of these harmful pollutants by lowering households' consumption of fossil-fuel electricity. In addition, solar and other renewable sources of electricity emit fewer GHG emissions per kilowatt-hour during their lifecycles than fossil fuels.<sup>16,17</sup>

In addition to preventing the release of air pollutants, Sunrun systems do not consume large amounts of freshwater like fossil-fuel power plants do. Cooling traditional power plants requires the withdrawal of more freshwater reserves than any other activity. Solar energy production helps lessen this freshwater consumption by reducing the use of energy from thermoelectric sources.

## Air Pollution Prevented and Freshwater Conserved

TYPE OF EMISSIONS (Thousand MT Co <sub>2</sub> e)	2016	2017	2018	Since 2008
Nitrogen Oxide (Metric Tons Prevented)	569,000	793,000	1,041,000	<b>33,451,000</b>
Ozone (Metric Tons Prevented)	620	860	1,130	<b>3,626</b>
Sulfur Dioxide (Metric Tons Prevented)	1,390	1,940	2,540	<b>2,400</b>
Water Consumption (Avoided Millions of Gallons)	17	24	31	<b>101</b>

## GHG Emissions Comparison

GENERATION SOURCE	CARBON DIOXIDE EMISSIONS (g/kWh)
<b>Sunrun System</b>	<b>21</b>
Coal	979
Natural Gas	470



# Environmental Management

We offer clean, reliable, and affordable solar and home battery solutions as an alternative to energy sources powered by environmentally damaging fossil fuels. While our products and services emit fewer GHG emissions than they prevent, the broader environmental footprint of our operations must also be considered. As the largest solar provider in the United States, we hold ourselves accountable for managing all our environmental impacts in a way that improves the wellbeing of the planet.

That is why we are committed to developing and implementing an environmental policy and an environmental management system (EMS) that prioritize continual improvement, as specified by the ISO 14001 management standard. We also study our environmental impacts across our value chain so that we can define environmental performance metrics and improvement targets.

## Equipment Recycling

As we deploy more systems, we also bear a greater responsibility for managing the end of the systems' useful lives. We are integrating product end-of-life considerations into our EMS and are preparing to decommission, recycle, resell, or redeploy our energy systems. Sunrun uses monocrystalline and multicrystalline photovoltaic modules, thereby avoiding the mounting concerns about hazardous materials present in alternative chemistries such as thin-film modules. We are prepared to sustainably dispose of modules, batteries, inverters, and other electronic equipment used in installations through partnerships with third-party recycling and refurbishment vendors. These vendors are certified under the Responsible Recyclers R2:2013, OHSAS 1800:2007, and ISO 14001:2007 standards.

As the largest solar provider in the United States, we hold ourselves accountable for managing all our environmental impacts in a way that improves the wellbeing of the planet.

## Facilities

With 51 facilities across 16 states, Sunrun adheres to a framework of sustainable policies for its built environment. These policies encourage environmental conservation, including the reduction of GHG emissions, and contribute to employees' comfort and wellbeing.

We recognize the first step is to build and operate our facilities in a manner that maintains a high level of environmental efficiency. We are proud that our two largest corporate facilities (San Francisco and Denver) are both LEED (Leadership in Energy and Environmental Design) certified, while another corporate facility in Scottsdale is BOMA (Building Owner and Manager Association) certified.

Standard design specifications that call for low-VOC (volatile organic compounds) coatings, flooring made from 100% post-consumer-use materials, and Energy Star appliances and office equipment also help ensure a uniform implementation of our sustainability framework for facilities. Additionally, over 74% of our facilities have traditional, pallet, and e-waste recycling.



We have investigated the energy use and cost reductions from replacing traditional fluorescent lighting with LED lighting and using occupancy sensors and light dimmers. In a pilot study at one facility, these equipment changes reduced energy consumption by 43%. Building on this finding, we are exploring options to install LED lighting and adopt other energy-saving measures at additional facilities.

Sunrun has also set in motion national contracts and programs to foster transparency, efficiency, and consistency. We are establishing contracts for solid-waste oversight and the collection of batteries and fluorescent light bulbs. A national contract for integrated pest management and regional contracts for quarterly maintenance of HVAC (heating, ventilation, and air conditioning) systems have been established for all facilities to maximize energy efficiency and cost reductions.

One of our objectives for 2019 is to engage Sunrun employees in the pursuit of improvements in environmental performance. We are developing standard sustainability labels that will be implemented across the company's facilities. These labels are meant to promote employee awareness and set behavioral expectations and best practices in waste reduction, recycling, composting, water conservation, and energy efficiency.

### Vehicle Fleet

Sunrun's vehicle fleet continues to expand as we grow and enter new markets. In line with our commitment to environmental sustainability, Sunrun will ensure that all the sedans we add to our fleet, including sedans used in sales and branch operations, are hybrid models. Prior to 2018, only 9% of our vehicles were hybrids. Considering all planned vehicle retirements and purchases, this number will climb to 47% by early 2019. Transitioning to hybrids will lead to a number of benefits including reduced emissions of ozone-depleting substances and GHGs, improved vehicle longevity, and fuel cost savings.

Additionally, Sunrun-operated fleet vehicles will be outfitted with new telematics systems that will allow for further operational improvements. The telematics systems will enhance driver safety by identifying and tracking unwanted behaviors such as hard braking, speeding, and rapid acceleration. It will also allow us to track vehicle travel patterns across our operations, leading to future opportunities for route optimization. Together, these developments will result in a safer, more efficient, and environmentally responsible vehicle fleet.

# Vendor Sustainability

Sunrun works with vendors that share our commitment to creating a better, greener, and kinder planet. That’s why we included policies on environmental protection and sustainability as well as responsible mineral sourcing in our first Vendor Code of Conduct, which we adopted in January 2019.

## Responsible Mineral Sourcing

Sunrun expects its vendors to provide our company only with products that contain responsibly sourced commodities. Vendors that supply products containing minerals (including but not limited to cobalt, wolframite [titanium], cassiterite [tin], tungsten, and gold) sourced from conflict-affected and high-risk areas must ensure that the sourcing of these minerals does not knowingly contribute, directly or indirectly, to armed conflict, including terrorist financing or human-rights violations. Sunrun expects vendors to source minerals in a manner consistent with the Organization for Economic Cooperation and Development’s (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

Sunrun recognizes that cobalt, a mineral used in some types of batteries, presents an increased risk of being sourced from areas associated with unfair labor practices. Because of this, we choose to work with battery manufacturers that share our commitment to responsible mineral sourcing. Additionally, Sunrun will evaluate battery innovations that may further reduce the mineral content of batteries.

## Partnering with LG Chem

We are proud to partner with LG Chem, a subsidiary of LG, as a provider of batteries for our Brightbox systems. LG promotes human rights, safe working environments, ethical behavior in procurement, and robust management systems through its supplier code of conduct and is considered a leader in supply-chain responsibility. LG’s Green Program Plus is a program aimed at helping the company’s suppliers to improve their environmental performance and their management of supply-chain risks. LG is also recognized by the UN Global Compact for its policies to prevent the use of conflict minerals or derivative metals from the Democratic Republic of the Congo.





# Living Our Values

## Health and Safety

Sunrun believes access to a healthy and safe workplace is a fundamental human right, and ensuring the safety of Sunrunners, our customers, and local communities is Sunrun's first priority. Our comprehensive health and safety program goes beyond the requirements of all state and federal regulations.

### Creating a Culture of Safety

As part of Sunrun's commitment to safety, we launched ongoing campaigns to create a culture where employees feel a sense of responsibility for the safety and wellbeing of their teammates. Our Why We Work Safely campaign urges employees to adhere to safe working practices whether they are on a rooftop, on the road, or in the office.

Our Caught Working Safely campaign empowers employees to report any near-miss incidents to their supervisors so that appropriate measures can be taken. Sunrun also maintains an anonymous hotline for employees to report safety incidents or concerns. These efforts contributed to a nearly 3% reduction in Sunrun's near-miss frequency rate (NMFR) from 2017 to 2018.



## Comprehensive Safety Training and Certification

Sunrun's learning management system offers safety training courses for all OSHA-required safety topics and other topics specific to Sunrun. All of these courses are customized for the solar industry and reflect best practices for construction safety.

Newly hired solar installers, electricians, and site assessors must complete two full days of safety and quality training before they can participate in an installation. Once new hires are awarded Sunrun's Construction Safety Certificate and Commercial Vehicle Safety Certificate, they receive state-of-the-art personal protective equipment appropriate for their job function. In addition to new-hire training, Sunrun provides weekly toolbox talks, ongoing certifications, and regular safety bulletins. Installers receive an average of 40 hours of documented training in their first year of employment.

External certification programs further support Sunrun's commitment to best-in-class safety. All energized electrical work is performed by licensed journeyman or master electricians, depending on the state. Sunrun's Safety Department is staffed by two Certified Safety Professionals (CSP) credentialed through the Board of Certified Safety Professionals (BCSP). Leaders in Sunrun's quality department hold PV Installation certifications from the North American Board of Certified Energy Practitioners (NABCEP) and OSHA 30 cards. All construction supervisors and foremen maintain CPR certification.

## Verification and Compliance

Sunrun ensures compliance with safe practices through vehicle monitoring, safety inspections, and auditing of quality assurance (QA) photographs. The telematics devices in each of our fleet vehicles constantly transmit data on speed, driving behavior, and location to a central database. Supervisors use the data to monitor employees' driving habits so they can instruct them in safe driving techniques. In addition, Sunrun takes photographs to document installation practices on 100% of its job sites and audits those photos to ensure that our work is performed to high standards. Sunrun's safety and quality departments also conduct random job-site and facility audits to verify compliance and comprehension of training.





## New Safety Initiatives

Sunrun will extend its safety program further into the build partner network in 2019. Many smaller solar electric contractors cannot accommodate a full-time staff member to manage health and safety and struggle to build an effective safety culture on their own. Starting with inspections of third-party installation job sites, the Sunrun safety team will coach partners in how to comply with OSHA regulations while maintaining highly efficient construction operations.

## Worker Participation in Health and Safety

Sunrun's management team meets every month to participate in an environmental, health, and safety committee meeting. EHS committee meetings were well attended in 2018 by operations managers, construction supervisors, and directors of support functions. Safety incident trends, policy changes, and employee suggestions are discussed in an open forum where everyone is encouraged to participate. The minutes of these meetings are distributed to branch office supervisors, who then share the information with their employees at weekly safety toolbox talks. Workers are encouraged to discuss safety issues with their foremen every morning at their crew huddles.

## Product Safety

Sunrun's Safety and Logistics departments collaborate on the selection of all new products. When a new chemical is considered for use in field, office, or warehouse environments, Sunrun first evaluates the health and environmental hazards documented on the safety data sheet published by the chemical's manufacturer. Only products that can be safely handled with basic personal protective equipment are accepted for use by Sunrun employees.





## Safety Record

Sunrun's safety record continues to improve as we focus on injury prevention and recovery management. Historical safety incident rates, near-miss frequency rates (NMFR), work-related fatalities (WRF), and experience modification rates (EMR) are presented below. Sunrun's total recordable injury rate (TRIR) showed an 18% improvement in 2018, to 3.2, and is comparable to the residential construction industry's TRIR of 3.3, as reported by the U.S. Bureau of Labor Statistics. This improvement, as well as the 51% improvement in lost-time incident rate (LTIR) from 2017 to 2018, is attributable to the efforts of Sunrun's dedicated incident management staff.

### Occupational Health and Safety Metrics

	2014	2015	2016	2017	2018
Experience Modification Rate (EMR) (WCIRB)	1.19	0.71	0.67	1.02	1.15
Experience Modification Rate (EMR) (NCCI)	0.67	0.61	0.87	0.63	1.03
Near-miss Frequency Rate (NMFR)	0.86	0.85	1.54	2.86	2.78
Work-related Fatalities (WRF)	0	0	0	1	0
Total Recordable Injury Rate (TRIR)	2.02	4.07	4.74	3.92	3.21
Lost-time Incident Rate (LTIR)	0.22	1.20	1.54	0.76	0.37
Days Away, Restricted, or Transferred Rate (DART)	1.30	3.13	3.94	2.96	2.41

## Vendor Health and Safety

Our commitment to ensuring safe and injury-free workplaces extends to our vendors. Sunrun's Vendor Code of Conduct requires that all vendors provide workers with a safe and healthy work environment. We require vendors to comply with all applicable health and safety laws, regulations, and practices, including those relating to occupational safety, emergency preparedness, occupational injury and illness, industrial hygiene, physically demanding work, machine safeguarding, sanitation, food, and housing. We also require vendors to ensure that all required permits, licenses, and registrations are obtained, maintained, and kept up-to-date and that all workers are qualified and equipped to perform activities safely and responsibly.

To ensure that vendors abide by Sunrun's Vendor Code of Conduct and applicable laws and regulations, we may conduct periodic vendor audits. When an audit uncovers a violation, Sunrun may terminate its relationship with the vendor and impose restrictions on future business unless the violation is promptly corrected. Sunrun aims to survey vendors that comprise at least 80% of total value transacted with Sunrun, along with new vendors, seeking affirmations that each vendor is aware of and compliant with the Vendor Code of Conduct.



## Employee Development and Wellness

Sunrun is dedicated to providing training, education, and development to all of our employees. We offer cross-functional training, beginning with new-hire orientation and covering all levels up to advanced leadership training for senior managers. All employees receive multiple professional development check-ins with their managers throughout the year, which supplement annual performance reviews.

Training options include a robust library of online curricula, such as electronic learning modules from third parties and more than 200 custom Sunrun-developed eMods, which range from two-minute how-to videos to complex, multi-hour training programs. We have created more than 1,000 learning assets, which are available to employees at all times to help them perform their jobs safely and successfully. We also offer licenses to Lynda.com, an on-demand learning solution designed to provide our employees with the tools to take charge of their development, gain new skills, and advance their careers.

Our new Learning Management System, Litmos, has 10,000 active users, who recorded 50,000 course achievements by the end of 2018. We now have access to user engagement data, including analytics on knowledge checks, that allow us to make sound decisions regarding curation of learning content and provide learning data for the organization as a whole.

For managers, we have developed two comprehensive training programs. More than 540 employees have completed the Leadership Fundamentals program, which focuses on developing new managers. For experienced and senior leaders, Leadership Success is a multi-month program intended to create the best leaders in business.

### Employee Satisfaction

We want to make Sunrun an exceptional place to work. To measure employee engagement and satisfaction, we conduct a company-wide survey twice a year. Responses are anonymous to encourage employees to provide honest, candid feedback. In 2018, Sunrun was recognized by Comparably for Best Company Culture.

# Camp Fire



Photo from the customer's home during the Camp Fire evacuation

“Everything happened really fast. She was starting to panic, so we tried to keep her focused. We knew we had to help.”

**RYAN PARSONS**  
Sunrun Employee

## Camp Fire Evacuation

For Ryan Parsons and his solar panel installation crew, November 8 started like any other day. The crew arrived at Sunrun's warehouse at around 6:00 am, loaded their trucks, and left by 6:15 am to install a solar energy system at a customer's home. Plugging the address into Google Maps, they settled in for the 90-minute drive to Paradise, California.

Ryan describes the weather that day as unusually windy, with gusts nearing 40 miles per hour. What he and his crew didn't know was that shortly after they left the warehouse that morning, a fire started just miles away from their destination, and the strong wind was fanning it. “As we were driving, there was a huge plume of smoke in the distance. But we didn't know where it was, so we kept going,” recalled Ryan.

As the crew approached the customer's home, the scene grew darker, even though no clouds obscured the sun. That was when they realized they were getting closer to the fire. “When we pulled into the neighborhood, a woman honked at us and yelled at us to stop,” said Ryan. “But there were no firefighters around and the fire wasn't visible, so we decided we should check on the customer.... Continuing was just instinct. We didn't really think about it.”

When the crew arrived at the home, the customer answered the door. Along with her family, she had woken up 5 minutes before the evacuation notice. “Everything happened really fast,” remembered Ryan. “She was starting to panic, so we tried to keep her focused. We knew we had to help.”



Ryan ran outside to monitor the situation while his team helped the family gather important documents and start loading their car. Time began to blur as they focused on escaping to safety, but Ryan recalls standing outside and seeing the red glow in the sky. “That was when I knew we had to go,” he said. “I yelled to the team and pleaded with her, ‘We have to get out of here!’”

With no time left, the crew helped the family into their car and returned to their trucks. “We pulled out of the driveway and they followed us,” recalled Ryan. “We just did what we had to do.” The team learned soon after that the customer’s house burned down 45 minutes after they left.

Ryan Parsons has been with Sunrun for ten years, Nick Baatrup has been with the company for seven, and Dasean Hale has been a Sunrun installer since July 2018. The other team members there that day were Micah Garley, Rick Hernandez, and Emmanuelle Jaramillo.

The Sunrun Team in Sacramento, California



# Benefits Program

Our competitive benefits program provides employees with the means to ensure the wellness of both themselves and their families. Full-time employees are eligible for the Sunrun benefits package, which includes medical, dental, vision, life, and disability insurance. It also includes an employee stock-purchase plan (ESPP) and a 401(k) retirement plan. In 2018, we added a company match feature to the 401(k) plan, under which Sunrun matches each employee's contributions up to a specific percentage, to attract and retain talent at all levels of the organization and help individuals invest for their future.

We believe it is important for our employees to spend time with their families and focus on personal well being. In addition to 11 paid holidays and traditional paid time off, Sunrun offers these additional leaves:



## VOLUNTEER DAYS

2 paid days per year to allow our employees to help build stronger communities



## MILITARY LEAVE

10 days of paid leave for active service



## FLEXIBLE HOLIDAY

1 annually



## BABY BONDING

10 weeks of paid parental leave, available to both men and women at 100% of their base salary, with no interruption in the accrual of seniority

# Wellness and Balance

Sunrun also offers all full-time employees an array of comprehensive wellness benefits. We keep these benefits cost-effective for employees, regularly leading our industry peers in the quality and the cost of benefit plans.

## These benefits include:

- Health webinars
- Stress relief services
- Maven maternity and paternity program for new parents with 24/7 maternity concierge services, on-demand digital clinics, and online community forums
- On-site flu shots and wellness checks at facilities with large workforces
- Smoking cessation programs
- Telemedicine services for fast assistance with general health needs
- Blood drives
- Fitness center discounts
- Weight Watchers memberships
- Employee assistance program
- Mental health counseling



# Diversity and Inclusion

At Sunrun, we believe in a culture that values and respects diversity and inclusion. We are committed to ensuring diversity of thought, style, culture, and skills. Our unique perspectives are esteemed and celebrated.

## Gender Diversity

Women are paving the way for future generations at Sunrun. In an industry traditionally dominated by men, Sunrun is dedicated to empowering women and developing a gender-balanced workforce. In 2018, Sunrun was included on Comparably's annual list of Best Companies for Women.

Women comprised 38% of Sunrun's Board of Directors and 50% of our senior management team in 2018. Our organizational leadership included approximately 27% women. Approximately 23% of all Sunrun employees are women. Sunrun expects this overall percentage to increase as we strive to recruit workers on a gender-blind basis.

## Supplier Diversity

At Sunrun, we aim to provide equal opportunity for businesses owned by historically underrepresented communities to bid on supply chain contracts. This includes minority-, women-, disabled-, veteran-, and LGBTQ-owned businesses. As stated in our Vendor Code of Conduct, vendors are expected to demonstrate a commitment to inclusive business practices, including diversity in their workplaces, and to deliver innovative solutions that reflect the diverse experiences, thoughts, and identities represented throughout their business.

In 2018, we took more steps to develop supply chain management processes to improve our performance with respect to supplier diversity. Establishing ourselves as a committed market participant with respect to supplier diversity aligns with our internal values and will help ensure we maintain our license to operate, all while supporting broader diversity initiatives in the industry and the markets we serve.

## Oshaylee “Osh” Thomas

Osh Thomas joined Sunrun as a solar installer in 2014 after working for cable and mail-delivery service companies. In the past four years, Osh has worked her way up to the position of foreman, leading an all-female installation crew in Las Vegas, Nevada. “This is not just my job,” says Osh. “This is my career.”

After Sunrun's Nevada branch closed in 2015, Osh was relocated to Denver. However, she was always set on rejoining her Las Vegas crew and was rehired in 2017 when the branch reopened. “With Sunrun, there is always room to grow,” she says. Her construction supervisor saw Osh's potential and encouraged her to become a lead installer, and finally, a foreman. At previous companies, she remained an installer for 7 years. It was only when she moved to Sunrun that she found room to advance in her career.

“When I first joined Sunrun in 2014, I thought, ‘Wow, this is such a great company to work for!’ Now, in 2018, I still don't want to work for anybody else,” says Osh.

As a female installer in a predominantly male field, Osh feels supported by both her female and her male colleagues. She says that the other foremen help her understand the ins and outs of the job, supporting her across the board. “No one is trying to stop your growth,” adds Osh.

Now, with encouragement from her construction supervisor, Osh plans to return to school to obtain an electrical license that will further bolster her career.



(Left to right) Sunrun CEO Lynn Jurich with Osh Thomas, Ka Sundra Smith, and Yesenia Gomez.



# Pay Parity



“Fair and equal pay for all genders and races is a fundamental human right and integral to the Sunrun ethos. In the United States today, the workplace inequity that exists is unacceptable. On average, women are paid 80 cents on the dollar compared to men. Taking real action to address the issue is the right thing for our business, our communities, and our society.”

**LYNN JURICH** | SUNRUN CEO

Sunrun is committed to providing equal and fair pay to all employees. In 2018, we became the first solar company to achieve 100% pay parity for our employees, regardless of gender, who perform work in similar locations across the United States.

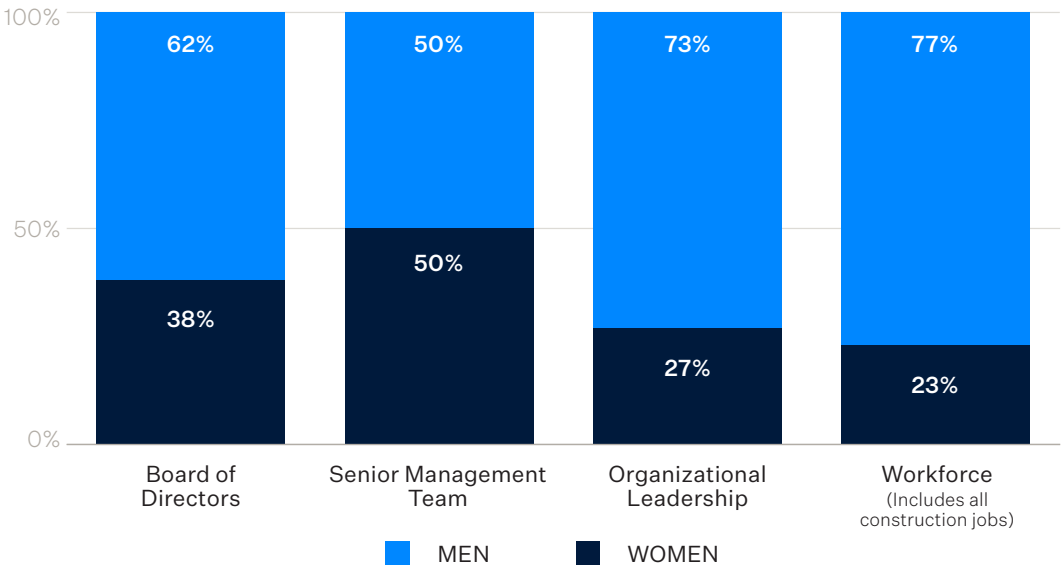
Sunrun is the first national solar company to achieve this goal. We signed the White House Equal Pay Pledge in 2016. As part of that pledge, we conduct an annual company-wide gender pay analysis to identify and address equal pay issues. We also provide equal parental leave for both male and female employees, and we lead the industry in gender diversity at the executive and board levels.

In 2016, Sunrun also voluntarily stopped asking candidates nationwide for salary history, more than a year before California enacted AB 168, which made it illegal for an employer to rely on past salary history when making compensation decisions for new hires.

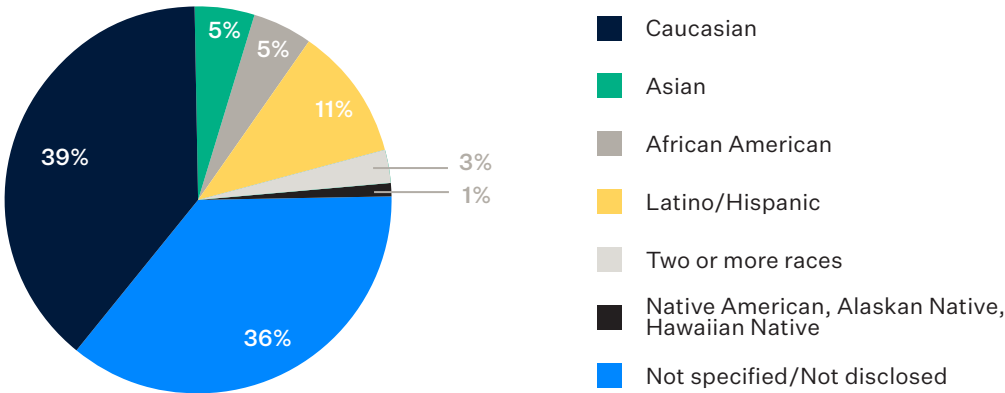
“We are building a company that furthers the greater good through environmental stewardship, smart and profitable growth, local community enrichment, and an employment experience that advances the lives of all of our team members. The issue of fair and equal pay is as important to men as it is to women at Sunrun,” said Chris Dawson, Sunrun’s Chief Operating Officer. “This is a continuous journey. Achieving pay parity is not the end game. We will continue to evaluate the fairness of all of our employment practices and to look for ways of remaining at the forefront of corporate America’s efforts to ensure that all people are treated equally. Our values extend to everyone we engage with on our journey to create a planet run by the sun—our employees, our partners, and our customers.”

# Diversity within Sunrun

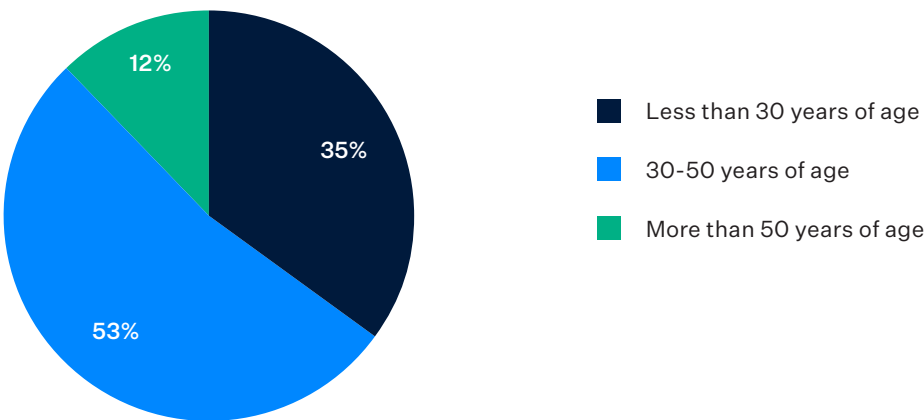
Gender Diversity within Sunrun



Ethnic Diversity within Sunrun



Age Diversity within Sunrun



### Talent Acquisition

At Sunrun, we follow targeted diversity recruitment practices and candidate sourcing strategies in an effort to create an internal workforce that mirrors the diversity of our customer base. We are intentional about recruiting a diverse workforce by sourcing a diverse slate of candidates, creating diverse talent pipelines, and attending diversity and inclusion career fairs and workforce development workshops. We have also created a messaging platform that highlights our diversity and inclusion efforts and initiatives in order to attract diverse candidates. To hold ourselves accountable, we have created performance metrics for diversity recruitment, we analyze employee demographic data, and we embed diversity and inclusion into our organizational goals.

“Integrity is one of Sunrun’s pivotal values spanning across the entire organization. It permeates how we engage with customers and local communities, to how we find our employees. A workforce that reflects our diverse nation is fundamental to the integrity that we espouse.”

LYNN JURICH | SUNRUN CEO

### Military Veterans and Service Members

By the end of 2018, Sunrun had hired 19 self-identified veterans. This is an increase of nearly 58% from the previous year, attributable to the veteran-specific recruitment measures we have taken. In 2018, we partnered with Direct Employers, a diversity and inclusion recruitment platform, and Empower America, an exclusive veteran hiring partner, and we continued to work with GRID Alternatives Troops for Solar and Sun Shot.

Veterans are loyal employees, inspiring leaders, and great team members, which is why Sunrun is pleased to hire them at all levels of the company, including leadership.

At Sunrun, eligible active-duty, national guard, and reserve employees receive 10 paid days per year for military duty or leave. This allotment exceeds government requirements, including those specified by the Uniformed Services Employment and Reemployment Rights Act (USERRA). Additionally, Sunrun has established a veteran affairs board, consisting of veterans at or above management level, to oversee veteran affairs in the areas of diversity and inclusion, recruitment, and public policy.

Photo: Lee Rodrigues, a military veteran, has become a solar advocate since joining Sunrun as a senior instructional designer.







Left: Women in Tech meeting, Right: Solar industry worker Greg Gebhardt at the Rally to Save South Carolina Solar Jobs in 2018.

## Employee Network and Affinity Groups

Sunrun has created several employee affinity groups to help promote a culture of inclusion and belonging. Every employee at Sunrun is welcome to join.

### Sunrun Women's Network

The Sunrun Women's Network facilitates the advancement of women at Sunrun. By sharing information, best practices, education, and experience, members of the network help one another develop leadership skills and pursue career-advancing opportunities that are needed to drive Sunrun's success. The network is dedicated to helping women discover and use their unique talents to help create a planet run by the sun. It provides women with opportunities to attend events, hear guest speakers, and collaborate on projects.

### LIBERTY: Veterans and Active Military

LIBERTY recognizes and supports those who have served. LIBERTY provides veterans, active-duty military, military families, and their supporters with an opportunity to network, collaborate, and make an impact across Sunrun.

### Women in Tech

The Women in Tech group strives to bring people together in order to network, mentor, and recognize the achievements of women in engineering. This group also holds monthly meetings, book club events, and career development workshops.

### LGBTQ Affinity Group

The Sunrun LGBTQ Affinity Group's purpose is to further and sustain the full equal treatment of Sunrun's lesbian, gay, bisexual, and transgender communities by raising awareness internally and externally. The LGBTQ affinity group provides resources, programs, and services that foster inclusion, empower LGBTQ members and their allies, and promote a human-centered safe space that reflects Sunrun's core values.

# Green Team



Above: Third annual green team park and river clean up, Below: Office waste diversion initiative

## Office Waste Diversion

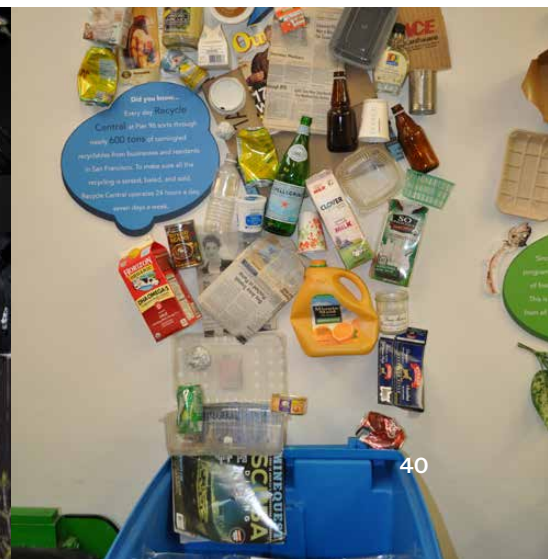
To help the city of San Francisco achieve the goal of sending zero waste to landfill by 2020, the SF Green Team redesigned the office waste-bin infrastructure. The new system expanded access to compost and recycling bins and removed individual bins from beneath desks in order to lessen unsorted waste. The initiative reduced landfill waste and saved the janitorial staff an additional two hours of work each evening.

## Choose to Reuse

Sunrun's San Francisco office has historically used an average of 50,000 pieces of disposable cutlery each year. To increase the supply of reusable cutlery and provide Sunrun employees with information about the impacts of single-use cutlery, the Green Team purchased sets of reusable cutlery and placed them in the kitchen spaces. This effort reduced single-use cutlery consumption by 40%, producing an annual cost savings of nearly \$1,400.

## Third Annual Green Team Park and River Clean Up

The Denver Green Team ran its third annual park and river clean up in downtown Denver. Twenty-seven Green Team volunteers collected 67 pounds of recyclable materials, 37 pounds of e-waste, 263 pounds of trash, and 50 hypodermic needles for a total of 336 pounds of diverted litter. This event also touched on many facets of sustainability, including health and wellness, community outreach, employee engagement, environmental stewardship, and brand recognition.

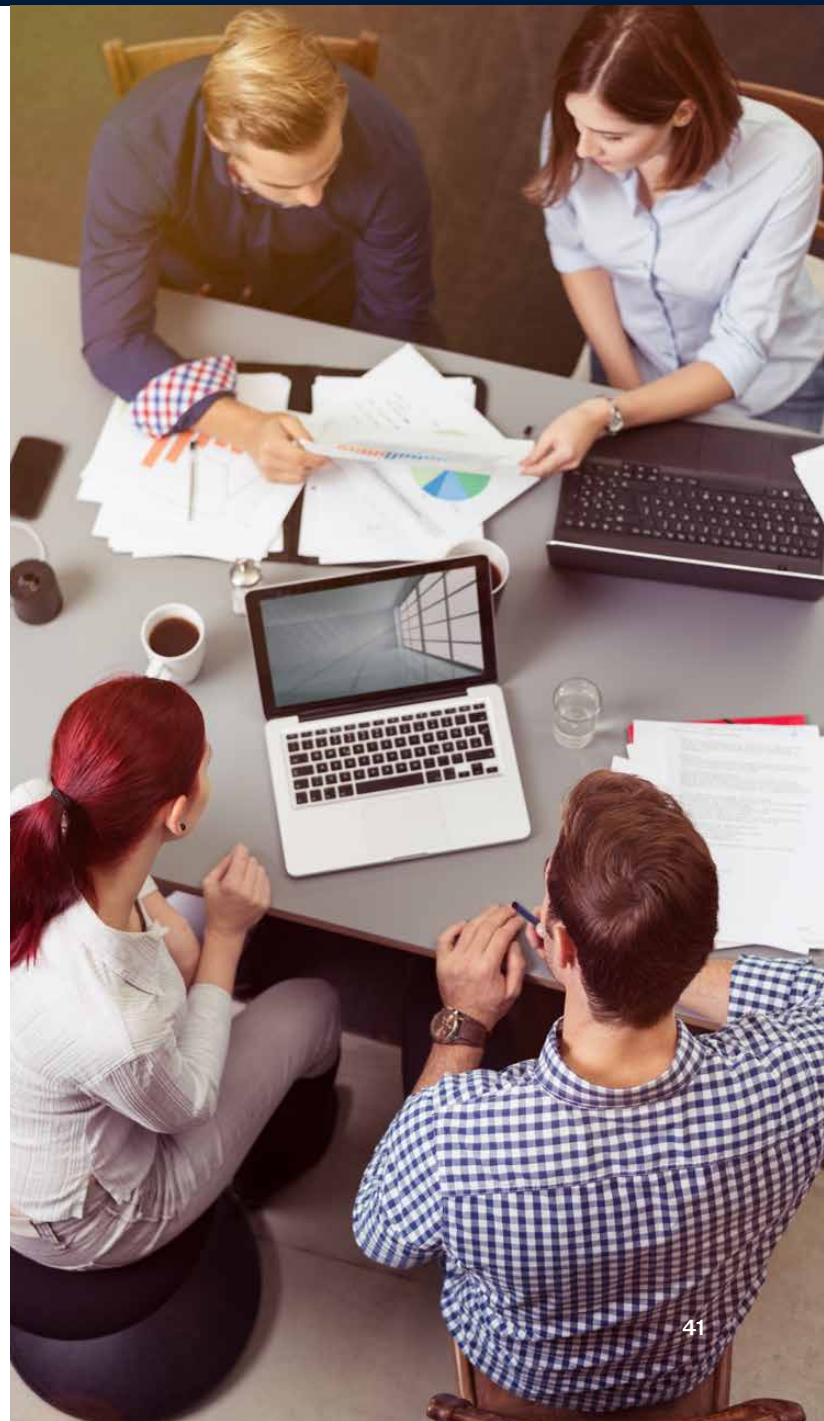




# Corporate Governance

Sunrun is committed to achieving and maintaining a best-in-class corporate governance structure. The company expects all its employees to act according to the highest standards of honesty and ethical conduct. We strictly comply with our Code of Business Conduct and Ethics and all applicable laws and regulations in the countries and regions where we do business. Sunrun creates value for customers and builds relationships based on trust by dealing fairly with customers, suppliers, government agencies, competitors, and employees. We also promote accountability internally by holding regular staff meetings and sharing financial performance and company updates with employees.

Sunrun maintains a strong open door policy, a confidential employee hotline administered by an independent company, and an employee relations team in our human resources function that is dedicated to thoroughly and fairly investigating all employee complaints.





## Board of Directors

The Board of Directors makes recommendations and conducts unbiased evaluation and supervision of management activities. It maintains an independent majority at all times and comprises eight members, all but two of whom are independent. Steve Vassallo serves as Lead Independent Director and is responsible for overseeing separate meetings of the independent directors. Our co-founder Edward Fenster has served as Chairman since March 2014. The Board has three female members, including our CEO Lynn Jurich.

The Board has three committees. The Audit Committee assists the board in ensuring we uphold the highest standards of financial integrity through accounting transparency and conformance. The Compensation Committee seeks to align executive compensation with shareholders' interests and corporate goals. The Nominating and Corporate Governance Committee oversees the evaluation of the Board and assists in recommending new members and developing and maintaining corporate governance policies.

## Vendor Integrity and Ethics

We require our vendors to act with integrity and to adhere to our Vendor Code of Conduct. This Vendor Code of Conduct, along with Sunrun's Code of Business Conduct and Ethics, prohibits undisclosed conflicts of interest, money laundering, and whistleblower retribution.

## Whistleblower Protection

Sunrun is committed to maintaining high standards of financial integrity and takes very seriously all complaints and concerns regarding accounting, internal accounting controls, auditing, and other legal matters, including violations of Sunrun's Code of Business Conduct and Ethics. Sunrun prohibits retribution or retaliation in any way against any person who has in good faith made a complaint or reported a concern or against any person who assists in any investigation. Sunrun also requires that vendors strive to allow their workforces to raise similar concerns without fear of retaliation.

*For more information on corporate governance matters, including shareholder rights, Sunrun's approach to management compensation, and board structure, please see Sunrun's annual proxy statement, which is filed with the SEC and available on the company's Investor Relations website at [investors.sunrun.com](http://investors.sunrun.com).*

# Appendix

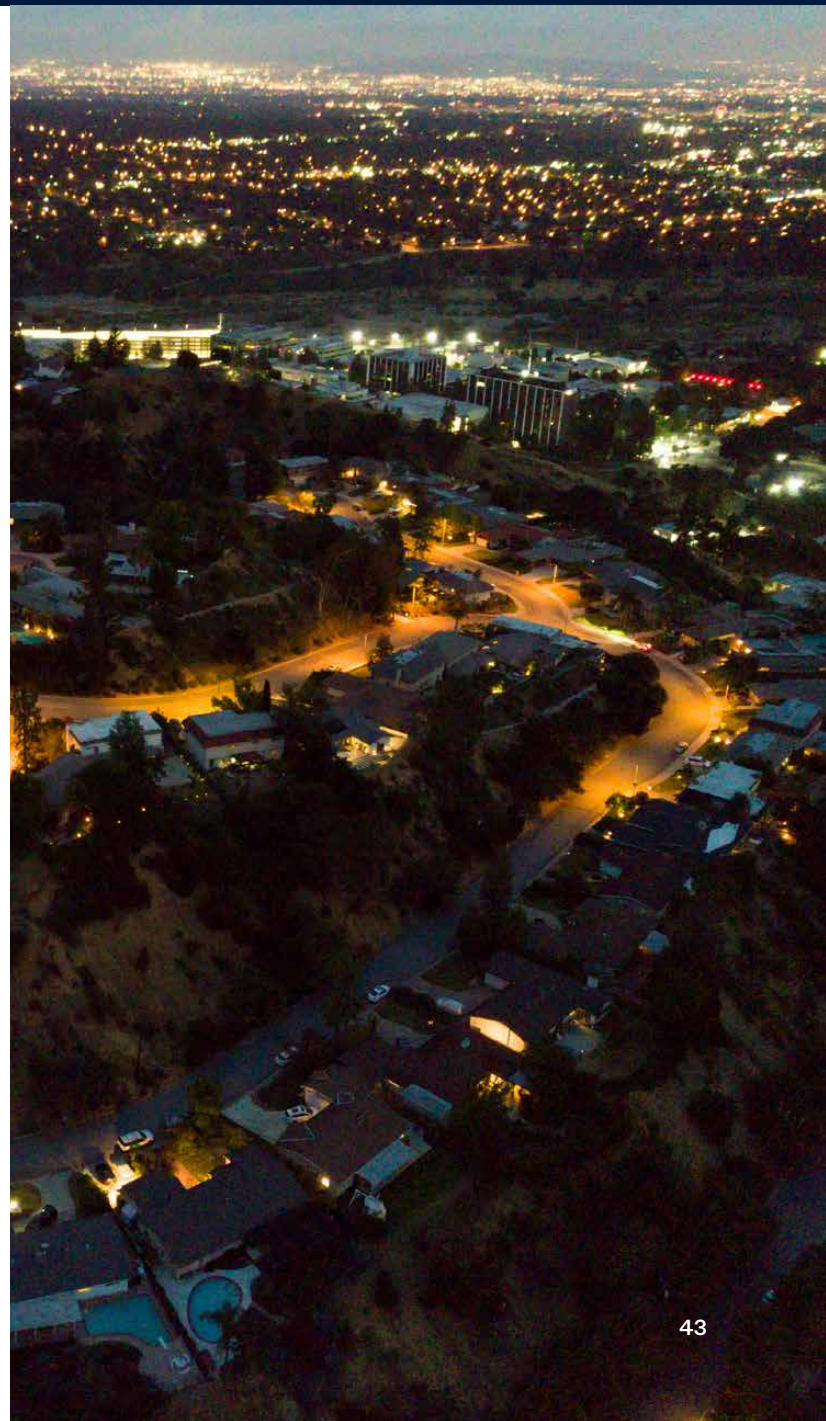
## Glossary

**CUSTOMERS** refers to all residential homeowners (i) who have executed a Customer Agreement or cash sales agreement with us and (ii) for whom we have internal confirmation that the applicable solar system has reached notice to proceed, or “NTP,” net of cancellations.

**CUSTOMER AGREEMENTS** refers to, collectively, solar power purchase agreements and solar leases.

**MW DEPLOYED** represents the aggregate megawatt production capacity of our solar energy systems, whether sold directly to customers or subject to executed Customer Agreements, for which we have (i) confirmation that the systems are installed on the roof, subject to final inspection or (ii) in the case of certain system installations by our partners, accrued at least 80% of the expected project cost.

**NOTICE TO PROCEED (NTP)** refers to our internal confirmation that a solar energy system has met our installation requirements for size, equipment, and design.



# GHG Accounting Data Sources and Methodology

## GHG Emissions

**Reported scope 1 emissions** include vehicle fleet emissions, which are based on data from Sunrun's fleet-management group, and emissions from on-site natural-gas consumption, which are based on average office and warehouse square footage figures outlined in the U.S. Energy Information Administration's (U.S. EIA) 2012 Commercial Building Energy Consumption Survey (CBECS). An emissions factor in metric tons of CO<sub>2</sub>e per megawatt deployed was calculated for Sunrun's operations across various eGRID regions and applied to partner megawatts deployed across various eGRID regions to estimate partners' emissions attributable to their vehicle fleets and their natural-gas consumption in offices and warehouses.

**Reported scope 2 emissions** include those from purchased electricity, which are calculated for both Sunrun and our partners in an analogous fashion to scope 1, using figures for office and warehouse square footage as outlined in the U.S. EIA's 2012 CBECS. An emissions factor in metric tons of CO<sub>2</sub>e per megawatt deployed was calculated for Sunrun's operations across various eGRID regions and applied to partner megawatts deployed across various eGRID regions to estimate partner emissions attributable to electricity consumed in offices and warehouses.

**Reported scope 3 emissions** are based on a study by one of Sunrun's major module suppliers, which outlines emissions figures for a module that aligns well with the average module wattage deployed by Sunrun over the reporting period. An additional 20% factor was added to this calculation to account for emissions attributable to balance-of-system (BOS) components, drawing from information in a 2011 report from the International Energy Agency, Life Cycle Inventories and Life Cycle Assessments of Photovoltaic Systems.

## Extended Carbon Calculations

Carbon balance calculations are based on derated expected production over 30 years and actual kilowatt-hour production to date. All kilowatt-hour values are translated into metric tons of CO<sub>2</sub>e emissions avoided using the GHG equivalencies calculator provided by the United States Environmental Protection Agency.

The carbon payback period is derived by taking Sunrun's 2018 carbon footprint, adding an additional 5% to account for product end use, and dividing that figure by watts deployed in 2018. This gives us the carbon footprint of the average system, which, when divided by the expected carbon offset of the average system after one year, results in the carbon payback period.

Calculations for the comparison to fossil fuel are based on average Sunrun system size deployed in 2018, expected average system production derated at 0.06% per year over 30 years, and Sunrun's 2018 carbon footprint. Fossil-fuel figures for other sources of energy were taken from a 2013 study by the National Renewable Energy Laboratory (NREL), Life Cycle Greenhouse Gas Emissions from Electricity Generation.

Calculations for prevented air pollution and water consumption are derived from expected average system production derated at 0.06% per year over 30 years for systems deployed in 2016, 2017, and 2018. Energy production was equated to prevented air pollutants and water consumption using information provided by the U.S. Geological Survey<sup>18</sup> and eGRID's Year 2010 Summary Tables.



# ESG Disclosure Reference Tables

We have used certain Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB) sustainability reporting guidelines to help inform what we disclose. The following table is presented to help readers find information that Sunrun has disclosed in reference to GRI and SASB standards.

## Reference Table to Global Reporting Initiative Standards

DISCLOSURE	DISCLOSURE LOCATION
<b>GRI 102: General Disclosures</b>	
<b>Organizational Profile</b>	
<b>102-1</b> Name of the organization	Sunrun Inc.
<b>102-2</b> Activities, brands, products, and services	Form 10-K, pgs. 3-8
<b>102-3</b> Location of headquarters	Form 10-K, pg. 21
<b>102-4</b> Number of countries where the organization operates	United States
<b>102-5</b> Nature of ownership and legal form	Form 10-K
<b>102-6</b> Markets served including geographic locations where products and services are offered, sectors served, types of customers and beneficiaries	Investor Relations Website > Events and Presentations > Sunrun Investor Presentation
<b>102-7</b> Scale of the organization	Form 10-K
<b>102-8</b> Information on employees and other workers	Form 10-K
<b>Strategy</b>	
<b>102-14</b> Statement from senior decision-maker	Impact Report, pg. 3
<b>Ethics and integrity</b>	
<b>102-16</b> Values, principles, standards and norms of behavior	Investor Relations Website > Corporate Governance > Code of Business Conduct and Ethics
<b>102-17</b> Mechanisms for advice and concerns about ethics	Investor Relations Website > Corporate Governance > Code of Business Conduct and Ethics, Whistleblower Policy
<b>Governance</b>	
<b>102-18</b> Governance structure	Proxy Statement pg. 8, Investor Relations Website > Corporate Governance > Governance Highlights
<b>102-22</b> Composition of the highest governance body and its committees	Proxy Statement pg. 8-10, Investor Relations Website > Corporate Governance > Governance Highlights > Committee Composition
<b>102-23</b> Chair of the highest governance body	Proxy Statement pg. 8, Corporate Governance Guidelines pg. 1
<b>102-24</b> Nominating and selecting the highest governance body	Proxy Statement pgs. 10-11, Corporate Governance Guidelines pg. 2
<b>102-25</b> Conflicts of interest	Corporate Governance Guidelines pgs. 3-4
<b>102-28</b> Evaluating the highest governance body's performance	Corporate Governance Guidelines pg. 4
<b>102-35</b> Remuneration policies	Proxy Statement pgs. 11-25
<b>102-36</b> Process for determining remuneration	Proxy Statement pgs. 11-25
<b>102-37</b> Stakeholders' involvement in remuneration	Proxy Statement pgs. 11-25

## Reference Table to Global Reporting Initiative Standards (Continued)

DISCLOSURE	DISCLOSURE LOCATION
<b>Reporting Practice</b>	
<b>102-45</b> Entities included in the consolidated financial statements	Form 10-K
<b>102-49</b> Changes in reporting	Form 10-K, "Recently Issued and Adopted Accounting Standards"
<b>102-50</b> Reporting period	Investor Relations Website > Events and Presentations
<b>102-51</b> Date of most recent report	Investor Relations Website > Events and Presentations
<b>102-52</b> Reporting cycle	Form 10-K
<b>102-53</b> Contact point for questions regarding the report	Investor Relations Website > IR Contacts
<b>102-55</b> GRI content index	Impact Report, pg. 45
<b>GRI 201: Economic Performance</b>	Annual Report
<b>GRI 302: Energy</b>	
<b>302-1</b> Energy consumption within the organization	Impact Report, pg. 22
<b>302-3</b> Energy intensity	Impact Report, pg. 22
<b>302-5</b> Reductions in energy requirements of products and services	Impact Report, pg. 25
<b>GRI 305: Emissions</b>	
<b>305-1</b> Direct (scope 1) emissions	Impact Report, pg. 21
<b>305-2</b> Energy indirect (scope 2) GHG emissions	Impact Report, pg. 21
<b>305-3</b> Other indirect (scope 3) GHG emissions	Impact Report, pg. 21
<b>305-4</b> GHG emissions intensity	Impact Report, pg. 21
<b>305-5</b> Reduction of GHG emissions	Impact Report, pp. 7-9, 21-23
<b>305-6</b> Emissions of ozone-depleting substances (ODS)	Impact Report, pp. 23, 25
<b>305-7</b> NOx, SOx, and other air emissions	Impact Report, pg. 23
<b>GRI 401: Employment</b>	
<b>401-2</b> Benefits provided to full-time employees that are not provided to temporary or part-time employees	Impact Report, pg. 34
<b>401-3</b> Parental Leave	Impact Report, pg. 34
<b>GRI 403: Occupational Health and Safety</b>	
<b>403-1</b> Workers representation in formal joint management-worker health and safety committees	Impact Report, pg. 29
<b>403-2</b> Types of injury and rates of injury, occupational diseases, lost days, absenteeism, number of work-related fatalities	Impact Report, pg. 30

## Reference Table to Global Reporting Initiative Standards (Continued)

DISCLOSURE	DISCLOSURE LOCATION
<b>GRI 404: Training and Education</b>	
<b>404-1</b> Average hours of training per year per employee	2017 Impact Report, pg. 25
<b>404-2</b> Programs for upgrading employee skills and transition assistance programs	Impact Report, pg. 31
<b>404-3</b> Percentage of employees receiving regular performance and career development reviews	Impact Report, pg. 31
<b>GRI 405: Diversity and Equal Opportunity</b>	
<b>405-1</b> Diversity of governance bodies and employees	Impact Report, pg. 37
<b>405-2</b> Ratio of basic salary and remuneration of women to men	Impact Report, pp. 8, 36
<b>GRI 406: Non-Discrimination</b>	Available on Sunrun's Investor Relations Website > Corporate Governance > Code of Business Conduct and Ethics

## Reference Table to Sustainability Accounting Standards Board Standards

TOPIC	DISCLOSURE LOCATION
Materials Sourcing <b>(RR0102-15, RR0102-16)</b>	Impact Report, pg. 26, Vendor Code of Conduct (available on Sunrun's Investor Relations Website > Corporate Governance)
Description of risks associated with integration of solar energy into existing energy infrastructure and discussion of efforts to manage those risks <b>(RR0102-09)</b>	Impact Report, pp. 10-18
Discussion of risks and opportunities associated with energy policy and its impact on the integration of solar energy into existing energy infrastructure <b>(RR0102-10)</b>	Impact Report, pp. 10-18
Discussion of the management of environmental risks associated with the polysilicon supply chain <b>(RR0102-16)</b>	Impact Report, pp. 24, 26, Vendor Code of Conduct (available on Sunrun's Investor Relations Website > Corporate Governance)



# References

1. Pieter Gagnon, Robert Margolis, Jennifer Melius, Caleb Phillips, and Ryan Elmore, *Rooftop Solar Photovoltaic Technical Potential in the United States: A Detailed Assessment* (Golden, CO: National Renewable Energy Laboratory, 2017), available at <https://www.nrel.gov/docs/fy16osti/65298.pdf>.
2. Production through December 31, 2018.
3. Based on Sunrun's monthly and prepaid lease customers using (i) estimated pre-solar utility bills minus (ii) estimated post-solar utility bills and any annualized payments to Sunrun through December 31, 2018.
4. Environmental Protection Agency, "Greenhouse Gas Equivalencies Calculator," last modified December 2018, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.
5. Ibid.
6. <https://gridalternatives.org/sunrun-partnership>
7. Based on Sunrun's monthly and prepaid lease customers using (i) estimated pre-solar utility bills minus (ii) estimated post-solar utility bills and any annualized payments from Sunrun through December 31, 2018.
8. Lesley Fleischman and Marcus Franklin, *Fumes Across the Fence-Line: The Health Impacts of Air Pollution from Oil & Gas Facilities on African American Communities* (Boston, MA: Clean Air Task Force; Baltimore, MD: National Association for the Advancement of Colored People; September 2016), available at <http://www.naacp.org/climate-justice-resources/fumes-across-fence-line>.
9. Lynn Jurich, "We All Have a Right to Clean, Affordable Power," Sunrun, February 12, 2018, <https://www.sunrun.com/home-solar-blog/solar-industry-insights/naacp-clean-affordable-power>.
10. Julia Pyper, "It's Official. All New California Homes Must Incorporate Solar," Greentech Media, May 9, 2018, <https://www.greentechmedia.com/articles/read/solar-mandate-all-new-california-homes>.
11. Stephen Lacey, "Resiliency: How Superstorm Sandy Changed America's Grid," Greentech Media, June 10, 2014, <https://www.greentechmedia.com/articles/featured/resiliency-how-superstorm-sandy-changed-americas-grid>.
12. *Economic Benefits of Increasing Electric Grid Resilience to Weather Outages* (Washington, DC: Executive Office of the President, August 2013), available at [https://www.energy.gov/sites/prod/files/2013/08/f2/Grid%20Resiliency%20Report\\_FINAL.pdf](https://www.energy.gov/sites/prod/files/2013/08/f2/Grid%20Resiliency%20Report_FINAL.pdf).
13. "The Cost of Power Outages in the U.S.," Kohler Generators, [https://www.kohlerpower.com/home/common/pdf/RES\\_Infographic.pdf](https://www.kohlerpower.com/home/common/pdf/RES_Infographic.pdf).
14. *Transmission & Distribution Infrastructure* (Harris Williams & Co., Summer 2014), available at [https://www.harriswilliams.com/sites/default/files/industry\\_reports/ep\\_td\\_white\\_paper\\_06\\_10\\_14\\_final.pdf](https://www.harriswilliams.com/sites/default/files/industry_reports/ep_td_white_paper_06_10_14_final.pdf).
15. World Business Council for Sustainable Development and World Resources Institute, *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition* (Geneva: World Business Council for Sustainable Development; Washington, DC: World Resources Institute, March 2004) available at <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>.
16. National Renewable Energy Laboratory, "Life Cycle Greenhouse Gas Emissions from Electricity Generation," January 2013, <https://www.nrel.gov/docs/fy13osti/57187.pdf>.
17. National Renewable Energy Laboratory, "Life Cycle GHG Emissions from Conventional Natural Gas Power Generation: Systematic Review and Harmonization," September 2012, <https://www.nrel.gov/docs/fy13osti/57229.pdf>.
18. "Thermoelectric Power Water Use," U.S. Geological Survey, last modified June 26, 2018, <https://water.usgs.gov/watuse/wupt.html>.

