The proliferation of rooftop solar energy systems on San Diego County homes in the past decade has been a bonanza for the solar industry, but as a growing number of these homes come on the local real estate market, it presents new challenges and opportunities for sellers, buyers and their agents.

With San Diego ranking as the nation’s number 2 solar city (number 1 is Los Angeles), San Diego County has nearly 80,000 single-family homes with solar photovoltaic (PV) systems, and installations are increasing rapidly. According to solar experts at the Center for Sustainable Energy (CSE), solar on local homes shot up by 75 percent in 2015 over 2014, even though California Solar Initiative rebate incentives are no longer available.

San Diego Businesses Strive for Zero Waste

Zero waste — the elimination of nearly all waste that now goes into landfills — is increasingly becoming the goal of San Diego County governments, private companies, school districts and colleges and universities. Not only does it make sense for the environment, but it’s good

San Diego Solar Homes

Buying and Selling — Understanding the Added Value

The proliferation of rooftop solar energy systems on San Diego County homes in the past decade has been a bonanza for the solar industry, but as a growing number of these homes come on the local real estate market, it presents new challenges and opportunities for sellers, buyers and their agents.
Third Party:

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Building rating systems are one of the tools that can be used in establishing goals and processes to achieve high performance projects. They can provide a framework for transparency, consistency of terms and concepts, and an incremental positive change when setting organizational and building sustainability targets.

For more than 20 years, LEED (Leadership in Energy and Environmental Design) has been the standard for a ‘whole building’ approach to sustainability. With performance categories such as Integrative Design, Alternative Transportation, Sustainable Sites, Energy and Atmosphere, Water Efficiency, Materials and Resources, Indoor Environmental Quality, and Innovation – LEED has provided a roadmap to capitalizing on performance synergies between a building’s systems and an integrative design approach among project stakeholders.

San Diego currently has 633 LEED certified projects equaling 63 million square feet of LEED certified space.

LEED v4 is the latest iteration of this framework and brings new, higher performance thresholds and aims to push the market towards the next level of sustainable transformation. With California’s energy code already driving the future baseline to net zero, LEED can be an add-on to track other areas of a building’s environmental and social impact. LEED can be applied to various project typologies such as homes, schools, new and existing commercial buildings, neighborhoods and more. San Diego currently has 633 LEED certified projects equaling 63 million square feet of LEED certified space.

WELL Building Standard® is a new system focused on the health and well-being of occupants. It measures the impact of a building on all human bodily systems. Performance metrics are grouped into concept categories such as air, water, light, comfort, nourishment, fitness and mind. WELL provides an evidence-based roadmap that aims to create a built environment that improves the nutrition, fitness, mood, sleep patterns, and performance of its occupants. With an average of 93 percent of a building’s operating costs related to the personnel salaries, it’s human productivity that is the next frontier in top performing workplaces. WELL v1 is available for new and existing buildings, new and existing interiors, core and shell, and a pilot certification is available for other project types. With only seven WELL certified projects in the U.S., we are still waiting for the first one in San Diego.

The Living Building Challenge™ (LBC) is the most rigorous building performance standard. Rooted in the concept of regenerative design, it aims to create buildings and communities that are completely net positive to the environment.

The Living Building Challenge™ (LBC) is the most rigorous building performance standard. Rooted in the concept of regenerative design, it aims to create buildings and communities that are completely net positive to the environment. To be certified under the LBC, projects must meet a series of ambitious performance requirements over a minimum of 12 months of continuous occupancy. The system is driven by imperatives in the areas of: place, water, energy, materials, health and happiness, equity, and beauty. With only 11 certified projects in the U.S., California is still waiting for its first one. The Net Zero Water requirement of the system remains one of the most challenging for California’s dry climate and policy framework. Projects are already looking at solutions such as composting toilets, onsite blackwater treatment and indoor reuse to achieve the stringent requirement.

There are more than 600 global certification and rating systems. This rapidly changing and growing market gives many options to apply exact measures that fit a particular project. When looking at the best approach for your project, consider reviewing more than one system and picking the goals and metrics that best align with your team and project goals. After all, the dynamically growing sector of building certifications is a reflection and response to the dynamic and ever advancing market.

Submitted by the San Diego Green Building Council

Paulina Lui, LEED AP O+M, ND
LBC Ambassador
Executive Director of the San Diego Green Building Council

For information on how you can participate in this project and sponsorship availability, contact us at: 858.277.6399 or email sdbj@sdbj.com.

SAN DIEGO BUSINESS JOURNAL
The California Solar Initiative has substantially achieved its objective of stimulating widespread adoption of solar energy and creating a self-sustaining market,” said Ben Airth, CSE’s renewable energy programs manager. “Projections show solar will continue exponential growth as system costs decrease and more San Diego residents seek to lower their utility costs, so it will be increasingly common for homes with solar to be in sales transactions.”

Currently, about 220 homes with solar PV are sold each month in the county, often changing ownership seamlessly. However, financing and ownership arrangements can contribute to a more layered sales process.

What is Solar Worth?

Solar PV systems are not as simple as most home upgrades to validate during a sales transaction. While the system is a high-priced asset that loses value over its expected 30-year lifespan, it also provides a steady, strong stream of energy cost savings on monthly electricity bills.

An average-sized home PV system in San Diego has about a 4- to 6-kilowatt generation capacity and costs around $20,000, which can be reduced to about $14,000 by taking advantage of a 30 percent federal tax credit. Figuring an annual home electrical utility cost of $2,000, the simple payback would take six to eight years, leaving a very impressive 20 years or more of essentially free solar electric power (with a nominal monthly utility fee).

Who Owns the System?

More than half of the county’s total residential solar was installed within the past three years. This boom resulted from the growing popularity of solar leases and power purchase agreements (PPAs), also known as third-party owned solar. They are financing mechanisms that basically eliminate homeowner upfront costs, opening the solar market to those who have been excluded due to a lack of access to capital.

Since 2013, more than 70 percent of local residential systems have been installed with leased solar. More recently, third-party owners have created financing arrangements that are more attractive and are basically loans, with homeowners retaining the tax credits and ultimately owning the PV system.

While leases still deliver considerable savings over utility electricity, they can complicate a home sale if the seller or agent does not understand how the lease transfer process works or the buyer doesn’t have a credit rating sufficient to take over the lease or the capital to buy it out.

According to J. Daniel Geddis, a designated green Realtor with One Mission Realty, solar PV is looked at as a positive item, but some buyers have a very poor understanding of what a lease entails. “Typically, when people get pre-
Four Ways:

1. **Change Up to LED-based Solid-state Lighting (SSL)**

   LED lighting can slash greenhouse-gas emissions while positively impacting the bottom line. The savings in energy and maintenance costs more than cover the upfront costs. According to the U.S. Office of Energy Efficiency & Renewable Energy, LEDs offer the potential for cutting general lighting energy use nearly in half by 2030, saving energy dollars and carbon emissions in the process. Their unique characteristics — including compact size, long life and ease of maintenance, resistance to breakage and vibration, good performance in cold temperatures, and instant-on performance — are beneficial in nearly every lighting application. From manufacturing facilities to office buildings, lighting upgrades help businesses reduce costs and sustain the environment.

   A typical low-flow faucet aerator emits less than 1.5 gallons of water per minute compared with 2.2 gallons for standard faucets.

2. **Take Steps to Conserve Water**

   Especially here in Southern California, think “go low-flow.” Whether restroom or break room faucets or showers, outfit fixtures with low-flow restrictors. A typical low-flow faucet aerator emits less than 1.5 gallons of water per minute compared with 2.2 gallons for standard faucets. A high efficiency toilet uses two gallons per flush to an older model’s five gallons. Also consider purchasing water-efficient equipment. Similar to replacing lighting, new equipment will pay for itself through water and water-heating energy savings.

   Get a water audit. Find out how much water your business uses and learn where to reduce consumption. Audits can also identify costly water leaks that should be repaired. Consider using a sensor-based irrigation system to control exterior water use.

3. **Establish Green Workplace Habits**

   Here are a variety of ways to encourage sustainability in the workplace. Incorporate the Three R’s: Reduce, reuse and recycle. Digitize documents and use file-sharing programs. Scan and shred. When you have to use paper, try post-consumer (PCW) paper. The recycled paper requires 45 percent less energy and makes half the waste of traditional paper. Provide BPA-free reusable water bottles or offer filtered water – it cuts down on plastic water bottle usage and provides a clean alternative to the tap. Green screen your office supply vendors – are they on the same environmental page you’re on? Shut down electronics at the end of the day. Use alternative transportation – make an effort to minimize your business’ carbon footprint by implementing an alternative transportation incentive program. Install electric vehicle plug-in stations for eco-minded employees and guests.

4. **Consider Switching to Solar**

   Taking advantage of the benefits of solar energy for powering your business will not only reduce your electric bill, but your carbon footprint as well. Renewable energy, like wind and solar power, is far better for the future of our planet than traditional power sources like coal, gas and oil. According to the Solar Energy Industry Association (SEIA), “solar energy is the cleanest and most abundant renewable energy source available, and the U.S. has some of the richest solar resources.”

   According to the Solar Energy Industry Association (SEIA), “solar energy is the cleanest and most abundant renewable energy source available, and the U.S. has some of the richest solar resources.”

   Switching to solar is one of the most important ways you can become a sustainable business. If you’ve been thinking about making the switch for a while now, but don’t know if solar is for your organization, give us a call or visit our website, and we’ll help you determine if solar makes sense for your business’ energy needs.

   Baker designed and installed a 59.89 kW rooftop solar system for San Diego-based Full Swing™ Golf. The installation of 226 Kyocera 265W solar modules will offset CO2 emissions from 6,443 gallons of gasoline consumed or 61,506 pounds of coal burned.

   Scott Williams, Director of Commercial Solar

   2140 Enterprise St., Escondido, CA 92029

   Better yet, reduce landscape water use by looking into synthetic turf. It requires minimal resources and maintenance while saving thousands of gallons of water.

   **Incorporate the Three R’s. Reduce, reuse and recycle.**

   LED lighting can slash greenhouse-gas emissions while positively impacting the bottom line.
Ben Hoen, a nationally recognized solar adoption expert at Lawrence Berkeley National Laboratory reported on studies that show seller-owned solar PV systems on homes in San Diego add a price premium of more than $4.30 per watt installed, meaning that a home with a 4-kilowatt system would increase in value by about $17,000.

approval for their mortgage loan, they tend to look at homes near the maximum they can borrow,” Geddis said. “So if they have to add a couple of hundred dollars a month for a solar lease, it may mean they can’t afford or don’t want to pursue the deal.”

Does Solar Add Value?

Ben Hoen, a nationally recognized solar adoption expert at Lawrence Berkeley National Laboratory, spoke at a real estate seminar on selling solar homes held at CSE in June. He reported on studies that show seller-owned solar PV systems on homes in San Diego add a price premium of more than $4.30 per watt installed, meaning that a home with a 4-kilowatt system would increase in value by about $17,000. He said that if everything works right, the home is valued for more and the lender will underwrite the added cost given the solar’s value.

While homes with leased solar do not command a sales premium, a recent study conducted by Hoen and CSE research staff showed leases had minimal impact on home sales among a small number of San Diego transactions, either in terms of pricing or time on the market, and the majority of leases were transferred to the buyer. The study discovered that real estate agents play a vital role in educating buyers about solar leases, yet in some ways their ability to do so is hampered by a lack of information and fear of legal liability regarding any system performance guarantee or utility bill savings.

Greening the MLS

According to Geddis, insufficient data about existing solar installations in the San Diego real estate industry’s multiple listing service (MLS) makes valuing a house and finding comparable houses difficult and time-consuming for agents and appraisers. MLSs are regionally based businesses, and their content is driven largely by local associations of real estate agents who play a vital role in educating buyers about solar leases...
the National Association of Realtors (NAR). In many areas of the nation, MLSs have added “green” fields that include details on solar as well as other features, such as energy and water efficiency.

In San Diego, CSE is engaged with the county’s three local associations of Realtors in an MLS green features initiative along with Sandicor (the county’s MLS provider) and local appraisers to make it easier to market, compare and appraise properties with solar and energy efficiency measures. Only a single check box located in the equipment category is currently available for indicating solar panels on the local MLS, and no specific place for any system details or ownership information.

David Myers, Southern California regional director for Build It Green, an organization that has trained more than 1,000 real estate agents on the value and benefits of green homes, says that greening the MLS is a “win-win” for everyone.

“National surveys show that more buyers demand homes with green and energy-efficient features and that they are willing to pay more for these homes,” Myers said. “The MLS is evolving to meet the needs of these buyers.”

Clearly, real estate agents are the gatekeepers in transacting energy-efficient and solar homes, so sellers of high-performance properties are better off with a broker who has green expertise and training.

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“National surveys show that more buyers demand homes with green and energy-efficient features and that they are willing to pay more for these homes. The MLS is evolving to meet the needs of these buyers.”  David Myers

Submitted by the Center for Sustainable Energy
Chuck Colgan is a writer at the Center for Sustainable Energy

Zero:
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Recycling is an important component of Point Loma Nazarene’s sustainability efforts.

Cox was one of 10 organizations to receive a Waste Reduction and Recycling Award in 2016 from the city of San Diego.

Cox was one of 10 organizations to receive a Waste Reduction and Recycling Award in 2016 from the city of San Diego. This year, the company statewide is diverting about 58 percent of its trash from landfills, but has set a goal of diverting 90 percent by 2024, Brickey said.

“Zero waste is a bit of a misnomer. You’re always going to have some quantity of trash,” Brickey said. “When you get to 90 percent, it’s considered zero waste.”

Still, the city of San Diego in its Zero Waste Plan adopted in 2015, set a goal of diverting 100 percent of its trash, including food waste, from landfills by 2040.

As interim measures, the city hopes to divert 75 percent of its trash by 2020 and 90 percent by 2035.

The city made strides toward
ANYWHERE, ANYTIME
ANY DEVICE

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Tickets: usgbc-sd.org

The San Diego Green Building Council is a local 501c3 community benefit non-profit, chapter of the US Green Building Council and host to the Living Building Challenge Collaborative.

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achieving its interim goal earlier this year when the City Council amended its franchise agreements with private trash haulers to require them to divert 25 percent of the trash they collect this year, rising to 50 percent by 2020, said Kenneth Prue, city recycling program manager.

“That was really a big step in helping us get there,” Prue said. “Will we reach absolute zero? It’s hard to say. It’s impossible to say today what the future will bring as recycling technology.”

The Zoo and Safari Park does everything from composting food waste and donating unused food to nonprofits to collecting used uniforms and clothing for redistribution and giving new workers electronic handbooks instead of paper books.

The San Diego Zoo and Safari Park, which also received a Waste Reduction and Recycling Award from the city this year, is already diverting about 90 percent of its trash, including food and other organic waste, and hopes to ultimately reach 93 to 98 percent, said Adam Ringler, director of performance improvement.

To get visitors to pitch in, both the Zoo and the Safari Park have more recycling bins than trash containers. “It’s a combination of little things that add up,” Ringler said.

Colleges and universities have long been leaders in the ecological movement, and establishing zero waste initiatives have been very much a part of that.

The University of California San Diego has set a goal of diverting 95 percent of its waste from landfills by 2020, said Sustainability Manager Sara McInstry.

“You can try to shoot for 100 percent, but it’s often that last little piece that can be the most expensive,” McInstry said. “You have to look at your return on investment.”

In addition to the usual recycling of paper, bottles and cans, UCSD reuses desks and other office equipment through a surplus sales office.

Working with vendors, UCSD has shifted to reusable pallets and trying to lessen the amount of material used in packaging. The university also composts organic waste.

“One of the things we’re also thinking about is, are there ways to turn some of our trash or food into energy,” McInstry said. “Biomass is something we’ve been thinking about. Our goal is to become carbon neutral in all of the buildings we own by 2025.”

At Point Loma Nazarene University, Sustainability Officer Trisha Stull said the school recycles about 20,000 pounds of material a week, from bottles and cans to scrap metal. There’s also an on-campus system for recycling electronic waste, and organic waste is composted on campus or compacted and sent to the Miramar Landfill for composting.

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Natalie Roberts-DeCarli, I Love A Clean San Diego senior director of operations, said businesses are getting the message about zero waste.

“It can be baby steps, just to get more and more sustainable in your office,” Roberts-DeCarli said. “It’s not just recycling. It’s reducing, reusing, and really trying to prevent anything that can be reused or recycled from ever entering the landfill.”

A Sample of Zero Waste Resources

- Zero Waste San Diego
  http://zerowastesandiego.org/
- I love a Clean San Diego
  http://www.cleansd.org/e_community.php
- City of San Diego Zero Waste Plan
- California Resource Recovery Association
  http://www.crra.com/
- State of California
  http://www.calrecycle.ca.gov/zerowaste/

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