Solar In the Lower Nine

What is Solar Power?

Although solar systems come in a variety of forms, the vast majority of New Orleanians with solar systems have opted for photovoltaic (PV) arrays, systems that convert solar radiation (sunlight) into electricity that can be used to power homes and businesses.

Why Solar in the Lower Nine?

Since Hurricane Katrina and its devastating aftermath, the Lower Ninth Ward has committed to rebuilding its community sustainably. To that end, residents, community organizations, and outside groups have embarked on reconstruction and education projects that emphasize the varied and inextricable ties that link environmental protection, human wellbeing, and community empowerment.

In doing so, the community has demonstrated that the Lower Ninth Ward, like the river and wetland ecosystems that surround it, brims with resilience and dynamism.

Projects like the Bayou overlook have served as invaluable assets in both the rebuilding and rebranding of the Lower Nine. Offering residents and visitors a vantage from which to see the wetlands that have historically sustained and protected the neighborhood, the observation deck has made visible the link between the community and its natural environment.

Photo by Make it Right

Like the deck, solar panels have come to symbolize the community's growing commitment to environmental sustainability. They reflect the neighborhood's attempts to reduce energy costs and slash carbon emissions, and they remind us that sustaining the community requires protecting not only the immediate habitat – the bayou and the river – but also the planet as a whole.

This report illustrates the growing popularity of solar in the neighborhood. And the spread of renewable energy systems in the Lower Nine reminds us that small communities, when they commit to growing sustainably, can have a huge impact on environmental and social health.

LOWER 9TH WARD CENTER FOR SUSTAINABLE ENGAGEMENT & DEVELOPMENT

River to Bayou

SIERRA CLUB FOUNDED 1892

Sunshine in the Nine

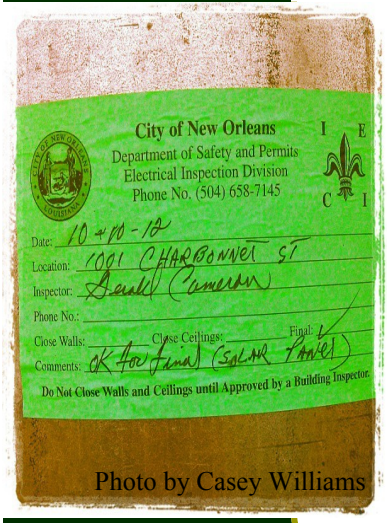

Photo by Casey Williams

As they drive across the St. Claude Bridge, visitors to the Lower Ninth Ward glimpse, almost immediately, solar panels clinging to roof after roof. The visibility of these panels has done much to broadcast the neighborhood's commitment to sustainability .

Some have hypothesized that the Lower Ninth Ward produces more solar energy than any other neighborhood in New Orleans.

In order to test this hypothesis, we collected information about the quantity and size of solar panel installations in the Lower Nine, attempting to determine with as much accuracy as possible the total solar capacity of the neighborhood. Doing so has helped us evaluate the progress the neighborhood has made in reducing its energy consumption.

Regardless of how the Lower Nine stacks up against the rest of the city, the community's willingness to embrace environmental sustainability measures like solar power makes it an example that communities across the country can look too when trying to build in ways that promote environmental health, human dignity, and social justice.

Over a 25 year period, the Lower Ninth Ward has the capacity to produce over 50 million kWH of electricity.

What we Found: Quick Numbers

Total solar permits issued in New Orleans:
2594

Percentage of homes in the Lower Nine with solar panel permits:
12%

Lower Nine arrays installed by the Make it Right Foundation:
95

Solar permits issued for the Lower Ninth Ward:
247

Solar permits for the Lower Nine as a percentage of city total:
10%

Estimated monthly savings per household:
$45

Residential solar energy capacity for the Lower Nine, approx:
1424 kW

CO2 prevented from entering the atmosphere by the Lower Nine, approx. (over 25 years):
38,790 tons

Major Conclusion:

The Lower Nine has over 5 times more solar arrays per capita than the rest of the city

[All data are for the period between January 2007 and March 2013]

Benefits of Solar


Photo by Casey Williams

Solar power holds considerable potential for residents in the Lower Ninth Ward. Given the size of state and federal tax credits, homeowners who install solar panels in addition to making basic improvements to home energy efficiency stand to significantly reduce their carbon footprint and save considerable sums on their monthly energy bill. Entergy estimates that solar panels can save homeowners in New Orleans between $35 and $55 per month. Residents living in homes built by the Make it Right foundation have monthly energy bills of about $50, and other Lower Ninth Ward residents have monthly bills as low as $25. The cost of energy varies from customer to customer, but, according to our data, those homes with energy efficiency improvements and solar panels have seen drastic reductions in energy costs. Moreover, switching to renewable energy sources reduces the amount of fossil fuel burned and CO2 released into the atmosphere, helping to counteract atmospheric warming and its devastating consequences.

The average monthly cost savings for residents with solar panels is about $45.

Potential Problems

Installers:

Some, but not many, residents in the Lower Ninth Ward have reported problems with solar panel installers. The problems often have to do with lengthy delays and installers' unresponsiveness to customer concerns. Given these reports, anyone considering installing solar panels should conduct extensive research to make sure that solar installers are offering the best deal possible. For those who plan to lease, make sure the terms of the lease agreement are clear and that the accumulated savings will be greater than the long-term cost of leasing.

Premature Installation

In order to maximize savings and CO2 reduction, solar panel installations should be done in concert with other energy efficiency measures. Installing a solar array without making basic efficiency improvements may saddle residents with an additional bill while failing to significantly reduce monthly energy expenses.

Energy Efficiency Strategies

Home energy efficiency improvements reduce energy consumption and lower electricity costs. In the Lower Ninth Ward, several organizations work to improve the energy efficiency of local homes by conducting home energy assessments, installing energy efficient light bulbs, and making basic repairs to ducts and Heating and Air Conditioning Systems.

These organizations include, but are not limited to: Make it Right, the Lower Ninth Ward Center for Sustainable Engagement and Development (CSED), and Green Light New Orleans.

According to data provided by the CSED, educational and qualitative Home Energy Assessments (HEA) have been performed on **214** homes in the Lower Ninth Ward; radiant barriers have been installed in **145** homes; ducts have been sealed on **19** homes, and weatherizations have been performed on **72** homes.

According to data from Green Light New Orleans, in the 70117 zip code – which includes the Lower Ninth Ward, as well as parts of the Bywater and Marigny – Green Light has installed 33,573 Compact fluorescent light bulbs (CFLs). Over the life of the bulbs (3 yrs), they have the capacity to reduce 15,007,131 million pounds of CO2.

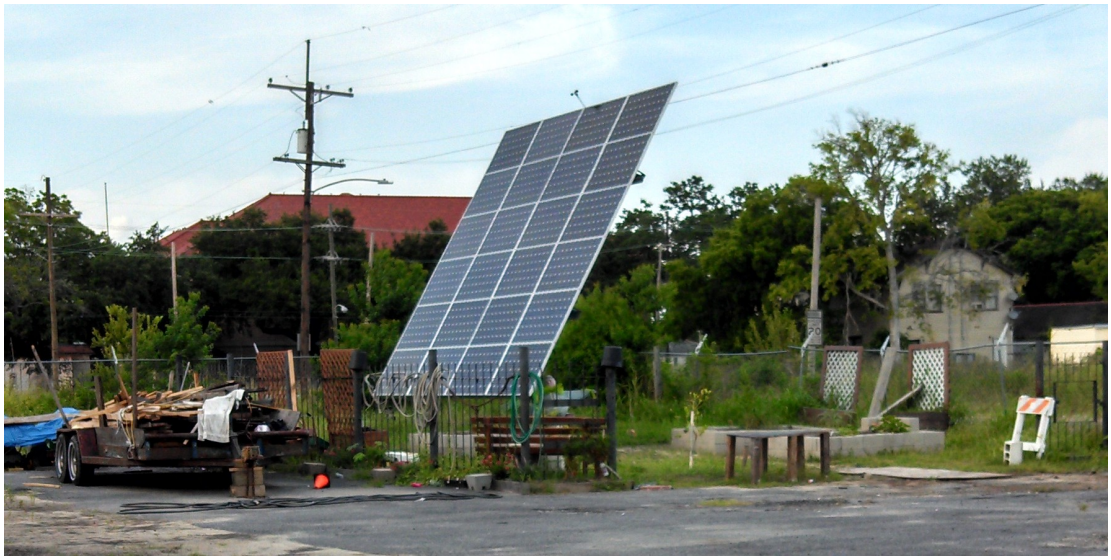

Photo by Casey Williams

The solar system at The Lower Ninth Ward Village. In order to maximize solar energy production, the panel rotates to face the sun as it moves across the sky.

Photo by Casey Williams

The three houses on Andry St. built by Global Green all have PV solar energy systems. Like the houses built by Make it Right, these houses are designed to maximize energy efficiency.

Solar Tax Credit

Photo by Casey Williams

On the open market, solar arrays typically cost between $15,000 and $25,000. With state and federal tax credits, the price per array can drop to between $3,000 and $5,000. In Louisiana, the solar energy tax credit is fifty percent of the cost of each solar energy system, including installation cost. The maximum amount of credit that can be claimed per system is $12,500. The federal government offers a personal tax credit of 30% for any solar energy system, and there is no maximum credit that can be claimed by individuals. It is possible for individuals who purchase solar systems to reclaim up to 80% of the total cost in tax credits.

Although the federal tax credit will remain intact for the foreseeable future, new legislation passed by the Louisiana General Assembly will eliminate the state solar tax credit in 2018. Individuals leasing systems past that date will remain eligible to claim the tax credit, however. Homeowners who install a leased system before January 1, 2014 will be able to claim 50 percent of the cost up to $25,000, while those who install a system after that date will be able to claim 38 percent of the same amount. Amendments to the bill will significantly reduce existing benefits to leasing companies.

Companies that lease solar panels to homeowners, will be able to claim 50% of the first $25,000 in costs until the end of the year, when the credit will decrease to 38% until it is phased out completely in 2018. The amendments also limit the amount solar leasing companies can charge customers per watt, reducing the maximum per-watt cost to $4.50 in 2014, $3.50 the following year, and $2.00 in the final two years for which the tax credit remains available.

Mike Murphy of Solar Alternatives calls these changes "healthy," claiming that the amendments to the tax credit limit the ease with which leasing companies can take advantage of the system. "I believe," he states, "the recent changes to the solar tax credit by the Louisiana legislature are healthy for our solar industry."

He goes on to say:

"Solar businesses are being proactive in suggesting the sunset of the state tax credit because–while we needed the state's incentive as a catalyst–we are working toward the near-term goal of competing in the marketplace without the state's subsidy. Furthermore, the legislature evened the playing field between solar companies that provide leases versus solar companies that provide systems for ownership. The new legislation … diminishes the credit that compensates solar leasing companies. Therefore, for the majority of solar customers in Louisiana who realize the value of solar as an investment, we're maintaining the most generous solar tax credits in the nation and, with costs continuing to come down, there's never been a better time for investing in solar."

Learn more about incentives for renewable energy at:

http://www.dsireusa.org/

Tax Credit: Quick Facts

Federal Tax Credit:

30% of cost, no limit

Louisiana Tax Credit:

50% of cost, up to $25,000

State Tax Credit Disappears in:

2018

Will individuals leasing systems after 2018 remain able to claim a tax credit?

Yes, if they began the lease before 2018

Tax Credit available to leasing companies after 2014:

38%, until the credit expires in 2018

Maximum cost per watt charged by leassing companies:

2014: $4.50

2015: $3.50

2016/2017: $3.00

Purchasing Solar: Step by Step

Whether you install a solar system or not, reducing your energy consumption can save you money.

If done correctly, solar can save homeowners a substantial amount of money on their monthly energy bills. To decide if solar is right for you, you should conduct independent online research, talk with friends and neighbors who have solar energy systems, and consult with potential installers. Following these simple steps can help you figure out whether installing a solar energy system is worth the time and money.

1) Figure out how much sunlight your home receives

You can use the New Orleans solar energy calculator to estimate the amount of sunlight your home receives, how much energy you can expect a solar system to produce, and how much money you can expect to save, In order to use this calculator effectively, you should have some idea of the size of the system you want to install and the approximate pitch of your roof. To use the calculator, you can visit http://neworleanssolarmap.org/ .

This fact sheet from Solar Power NOLA contains additional information about sunlight in New Orleans: http://www.solarpowernola.com/site.htm

2) Talk with friends, neighbors, and community leaders.

Many people in the Lower Nine have solar energy systems. Customer experiences can vary widely, but talking with as many people as possible can help you decide whether or not you want to install a solar system. Ask neighbors about the installation process, the positives and negatives of the experience, and their current cost and energy savings.

3) Decide if you want to purchase or lease.

With state and federal tax credits, solar panels are becoming more and more affordable to purchase up front. However, many solar customers in the Lower Nine choose to lease. This can be a good option. However, it is important that you spend ample time researching potential leasing companies.

4)Find a reputable installer

The Gulf States Renewable Energy Industries Association maintains a list of solar installers on its website. You can use the interactive map to find a solar installer near your home.

http://www.gsreia.org/membership/find-a-solar-installer/

Also check out the solar contractor checklist on the next page for more information on how to select a solar panel installer.

5) Consult with your installer

The installers are the experts. If you've chosen a reputable installer, they will work with you to select the appropriate size and placement of your solar system, help you secure the necessary permits, and make sure the installation goes smoothly.

6) Contact Entergy for information about net-metering.

To connect your solar system to the energy grid, you must set up net-metering with Entergy. Visit these websites to learn more about how to set up net-metering with Entergy.

Net-metering information: http://www.entergy-neworleans.com/your_home/net_metering.aspx

Entergy's solar fact sheet: http://www.entergy-neworleans.com/solar/faq.aspx

Solar Fact Sheet

Sunlight

Because it receives abundant sunlight throughout the year, New Orleans is one of the best locations for solar energy production in the country. Daily ratable sunlight – sunlight that can be converted into electricity by a PV cell – for New Orleans is between 3.5-5 hours. This means that a 4kW system can generate between 14 and 20 kWh of electricity per day.

Payment Options

Many customers purchase solar panels outright, typically paying around $5,000 dollars after claiming state and federal tax credits. However, a sizeable number of customers choose to lease solar panels. Under most leasing agreements, customers pay a leasing company in monthly installments, which allows customers to reap the benefits of solar energy production – lower energy bills and reduced fossil fuel use – without paying the high upfront cost. The leasing company owns the panels and claims the tax credits, theoretically passing the savings onto the customers by maintaining low monthly payments.

Is it right for me?

Some argue that homeowners should install solar panels only after making energy efficiency improvements to their home. It is true that, in concert with basic efficiency improvements, solar panels can help save homeowners a considerable amount of money. By themselves, homeowners may not save as much as they might like or expect.

However, because state solar energy tax credits will disappear in the next five years, homeowners considering solar may want to install solar arrays soon. Regardless of the order in which they make improvements, residents should always seek out a comprehensive, multi-layered plan to reduce energy consumption.

Contractor Checklist

Here are some questions to consider when deciding on a solar panel installer:

1)Do they have a current Louisiana state contractor's license, with designations of statewide and solar energy installer? Check the LA Contractor's Board website.

2) Did they provide proof of current and up to date Workers' Compensation Insurance and General Liability insurance?

3)Are they accredited with the Better Business Bureau (BBB)?

4) How many jobs have they installed?

5) Do they provide stamped drawings meeting wind load and all other local building code requirements?

6) Are they affiliated with the manufacturer?

7)Do they buy direct?

8) Did your contractor explain the difference between a power production and manufacturer's warranty?

9) Do they provide a PV Watts analysis from the National Renewable Energy Laboratory (NREL)?

10) Is the contractor NABCEP certified?

11)Do they offer a Power Production Guarantee?

12)What is the contractor's warranty on their workmanship?

13)Do they use sub-contractors?

14) Does the contractor offer a low price guarantee?

15) Will the solar contractor provide you with an extensive portfolio of their work?"

Checklist borrowed under fair use from website of South Coast Solar, a solar installer based in New Orleans, LA.

www.southcoastsolar.com

Contact the CSED or the Sierra Club

Lower 9th Ward
Center for Sustainable Engagement and Development

5130 Chartres St.
P.O Box 770407
New Orleans, LA 70117

Phone (504) 324 9955
Fax (504) 267 5583
Tues/Sat 10am—4pm

Darryl Malek-Wiley, Head Organizer
Louisiana Environmental Justice Program

716 Adams Street
Suites 5 & 6
New Orleans, LA 70118

Tel: 504-861-4835
Tel: 504-861-4836

Photo by Casey Williams

Data collected and report produced by
Casey Williams, Duke University student
and Sierra Club intern.